CITY OF PHOENIX

ACCESS AND ADAPTIVE MANAGEMENT PLAN

Submitted to:
City of Phoenix

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PEC
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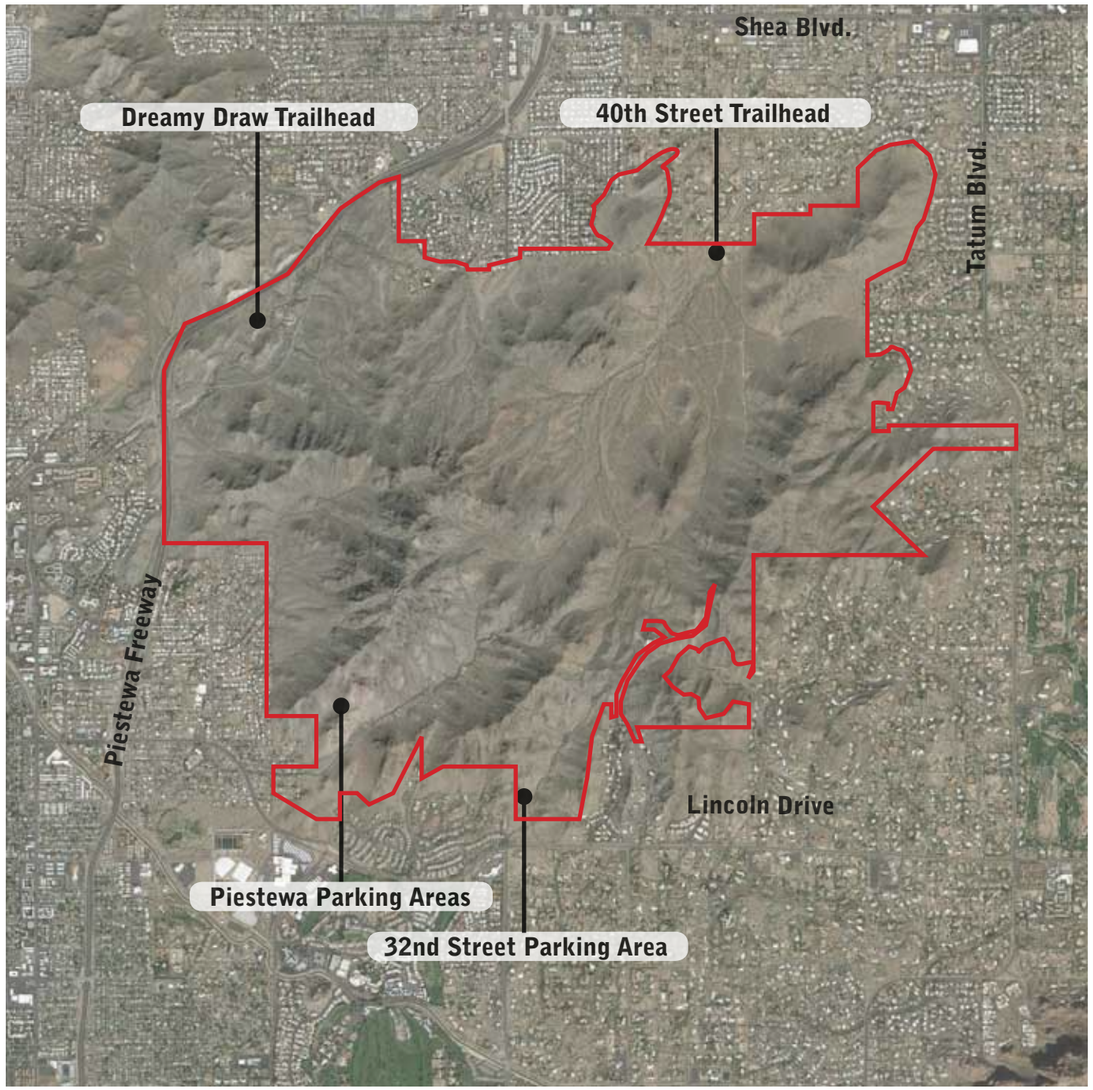

Figure 1 Overview map of the project area and individual study sites.

Executive Summary

Since 1973, the City of Phoenix has been preserving the biological, hydrological, and geographical nature of the Phoenix Mountains Preserve, a 4,857–acre urban park and preserve in the Phoenix metropolitan area, while offering recreational opportunities for local and non-local users.

In November 2014, the City of Phoenix (City), contracted with Project Engineering Consultants, Ltd. (PEC) to prepare an access and adaptive management plan for the Phoenix Mountains Preserve to continue the preservation of the park and improve the existing features. The proposed study area is the southern portion of the Phoenix Mountains Preserve located east of the Piestewa Freeway, north of Lincoln Drive, west of Tatum Boulevard, and south of Shea Boulevard (see **Figure 1**). The project team consisted of the City, PEC, and InRoads Info. Together, we developed potential solutions and strategies to improve the preserve with minimal impacts to natural, visual, and cultural resources. Then, preliminary design plans were prepared to address public concerns with trail usage, infrastructure improvements, and accessibility to the various trail heads. As part of this process, the project team conducted evaluations of the cultural resources, biological resources, wetlands and water of the United States, and existing infrastructure within the preserve. In addition, the following tasks were executed for potential improvements within the park:

- Map existing features and analyze opportunities and constraints
- Conduct online public surveys and compile data to understand the public's concerns regarding the preserve and its resources
- Analyze the existing trail system within the park to determine appropriate management techniques
- Conduct four public meetings to engage the public in the planning and analysis process
- Develop conceptual improvement plans for the trailheads

The aforementioned tasks provided the project team with sufficient data to analyze potential and existing trailheads and supply the City with recommendations that would account for the needs of the community. Through manual counts and portable traffic counters, the project team monitored trail use at various times and days of the week. According to these counts, approximately 972,230 individuals visit the park annually (for more information, see Section 3.6, "Traffic").

Subsequent to the traffic counts, the project team collected 1,429 online and on-site survey responses to identify user conflicts experienced at the preserve. Through these responses, the project team found that the preserve could benefit from infrastructure improvements, additional parking, and improved signage and way-finding throughout the park. With the provided recommendations (see Section 4.2, "Parking Areas, Trailheads, and Access Roads"), a small capital improvement plan will be prepared to phase out the various trailheads. Once phases have been established, the City will select a design team to develop a risk management plan. This plan will address potential strategies to minimize user conflicts (see Section 4.3, "Trails"). Based on the suggested strategies, the City will establish connections to new trails that will present minimal risks to the public and environment. These recommendations will ultimately improve the trail user's experience of the Phoenix landmark.

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Chapter 1

Introduction

Figures 1.1 and 1.2 The Phoenix Mountains Preserve is home to hundreds of habitats. The City of Phoenix enlisted PEC to provide design plans that outline design concepts that will protect the natural environment of the preserve.

1.1 Purpose and Objectives

The purpose of the access and adaptive management plan for the Phoenix Mountains Preserve is to provide the managing agency (City of Phoenix) with a thorough evaluation of the existing conditions in the preserve and potential strategies to manage and improve it (see **Figure 1.1**). The access and adaptive management plan is an evolving document that should/can be updated and revised at any time to meet current demands or changing conditions. The plan will be used by the managing agency and the public to accomplish the following objectives:

- Determine appropriate uses in the preserve;
- Develop strategies to manage and protect resources;
- Allocate resources to the improvement of substandard features; and
- Establish systems to monitor and evaluate the ongoing status of resources and the effectiveness of management strategies.

The access and adaptive management plan was created out of the need to assess the condition of the preserve based on an ever-growing user group. The following tasks were completed as part of the study and compilation of this document:

- Review of environmental resources
- Evaluation and analysis of existing infrastructure
- Survey and location of utilities
- Traffic counts
- Distribution of a public opinion survey and compilation of results
- Evaluation and analysis of existing trails (see **Figure 1.2**)
- Completion of conceptual designs for trailhead improvements
- Completion of multiple public open houses

Chapter 2

Study Recommendations

2.1 Recommendations/Design Concepts

Following the completion of opportunities and constraints analyses, traffic studies, a topo survey, utilities mapping, public surveys, and an environmental resource evaluation, the following design concepts have been completed and are recommended as potential designs for implementation at the Phoenix Mountains Preserve.

The design concepts were completed following the other analyses and evaluations discussed later in this report. The project team developed multiple drafts which were reviewed and revised based on comments and input from the City of Phoenix and the public.

The City provided conceptual images for the proposed improvements to ramadas and entry monuments (see **Figures 2.1, 2.2, and 2.3**).

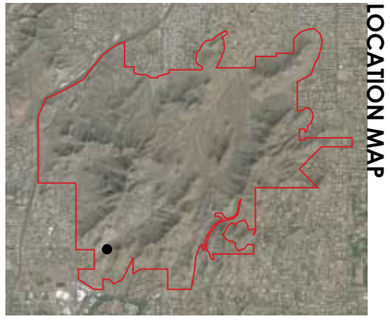
Figures 2.1, 2.2, and 2.3 Conceptual designs for ramadas, entry monuments, and picnic areas were previously completed by the City of Phoenix and are shown here as examples of proposed structures. Renderings Courtesy of Swan Architects.

AMENITY	EXISTING	PROPOSED
PARKING STALLS	24	22
RAMADAS	0	0
RESTROOMS	0	0
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

2.2 Unnamed Parking Area 1

Existing Parking Area

Unnamed Parking Area 1 features an intermittent wash separating the parking area from adjacent trails to the southeast. With steep slopes and vegetation growth surrounding the wash, buildout of this parking area is limited. In addition, signage is minimal, making it hard for visitors to locate trail connections and be safely guided through vehicular traffic. The parking area also contains a turnaround area; however, heavy traffic forces the space to be used as a parking stall, preventing accurate use of this feature.



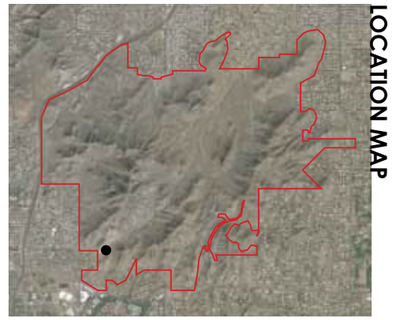
LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	24	22
RAMADAS	0	0
RESTROOMS	0	0
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

Proposed Parking Area

The primary concerns with Unnamed Parking Area 1 stem from substandard drive aisles and lack of designated crossings. To address these concerns, the following improvements have been proposed:

- Of the 24 existing stalls, 22 would be retained and increased in size to meet current City standards.
- The drive aisle would be increased to a consistent 26 feet in width, whereas the previous aisle varied from 15 feet to 26 feet.
- To provide more safety for pedestrians using this parking area to access the summit trailhead, a pair of raised crosswalks are proposed as potential solutions.
- The intermittent wash to the southeast of the trailhead is a natural resource that is threatened by foot traffic and erosion from pedestrians accessing trails; To prevent this erosion and protect the wash, a free span pedestrian bridge is shown as a potential option.



AMENITY	EXISTING	PROPOSED
PARKING STALLS	86	108
RAMADAS	9	8
RESTROOMS	1	2
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	0	0

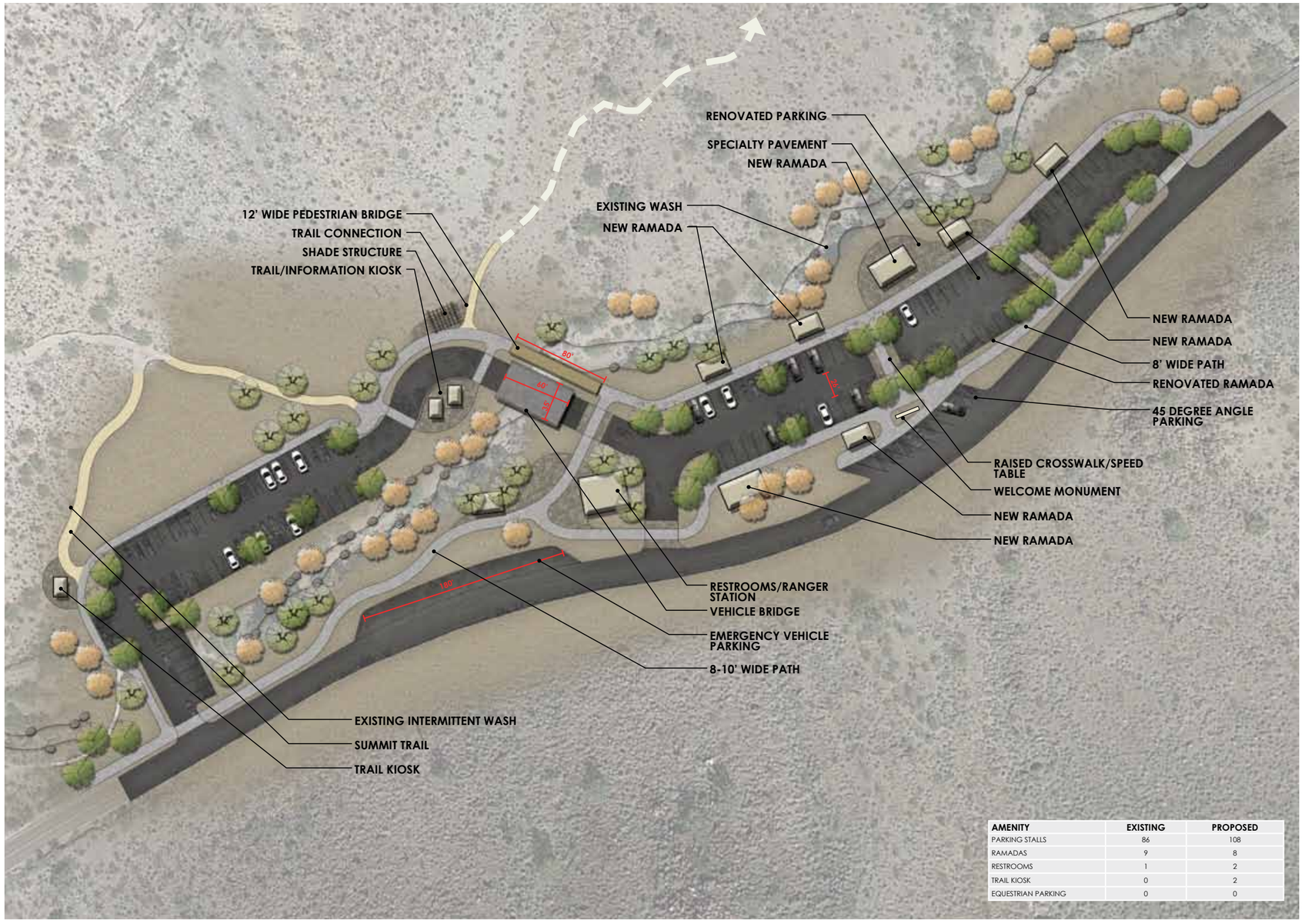
2.3 Summit and Navajo Parking Areas

Existing Parking Area

The Summit and Navajo Parking Areas are often visited by both bike and pedestrian users. With insufficient space for vehicular traffic and non-designated crosswalks for pedestrians, safety issues are a primary concern within these areas. The limited, deep parking stalls neglect to present suitable space to accommodate more vehicles. These areas are frequented by a significant amount of the overall visitors at the preserve and must integrate features that will provide sufficient space to reduce vehicle and pedestrian conflicts.

The parking areas also feature overgrown vegetation and an intermittent stream corridor. While vegetation could be removed or trimmed to allow buildout, the steep slopes of the stream corridor limit possible recommendations for buildable areas.

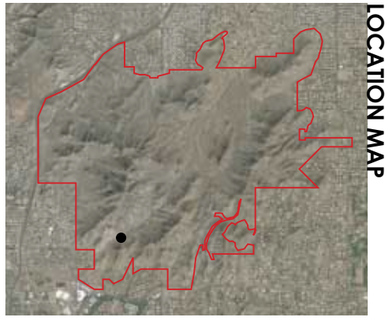
LOCATION MAP



AMENITY	EXISTING	PROPOSED
PARKING STALLS	86	108
RAMADAS	9	8
RESTROOMS	1	2
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	0	0

Proposed Parking Area

These parking areas are more heavily used than any other in the park due to the proximity of the parking areas to the base of Piestewa Peak. Increased drive aisle width and uniformity, increased parking stall sizes, and uniform turn radii have been proposed as improvements for these parking areas. Because these two parking areas are so closely related and share features and amenities, a vehicular and pedestrian bridge spanning the intermittent wash has been proposed to both protect the natural resource and provide a safe, designated crossing for users. The ramadas and restrooms should be renovated or reconstructed to improve their usability and allow them to fit into the new parking design. A total parking increase of 22 stalls and a designated place for emergency vehicles has been proposed.



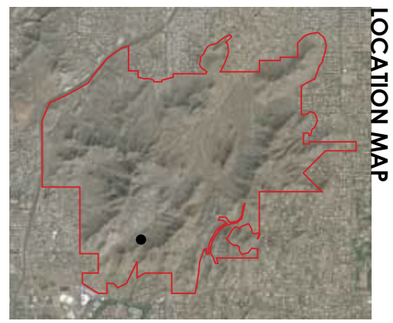
LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	37	63
RAMADAS	4	4
RESTROOMS	1	1
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

2.4 Mojave Parking Area

Existing Parking Area

The existing parking area would benefit from way-finding features due to the sparcity of paths and directional signage. Also, steep slope separations and non-designated connections conflict with accessibility of the area. Lastly, vehicular safety conflicts often occur due to the narrow access drives and parking isles.

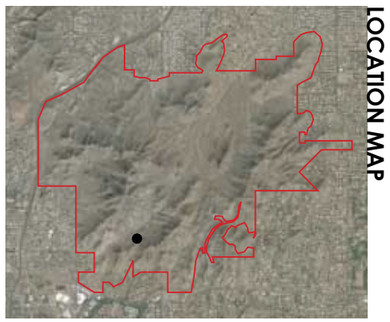


LOCATION MAP

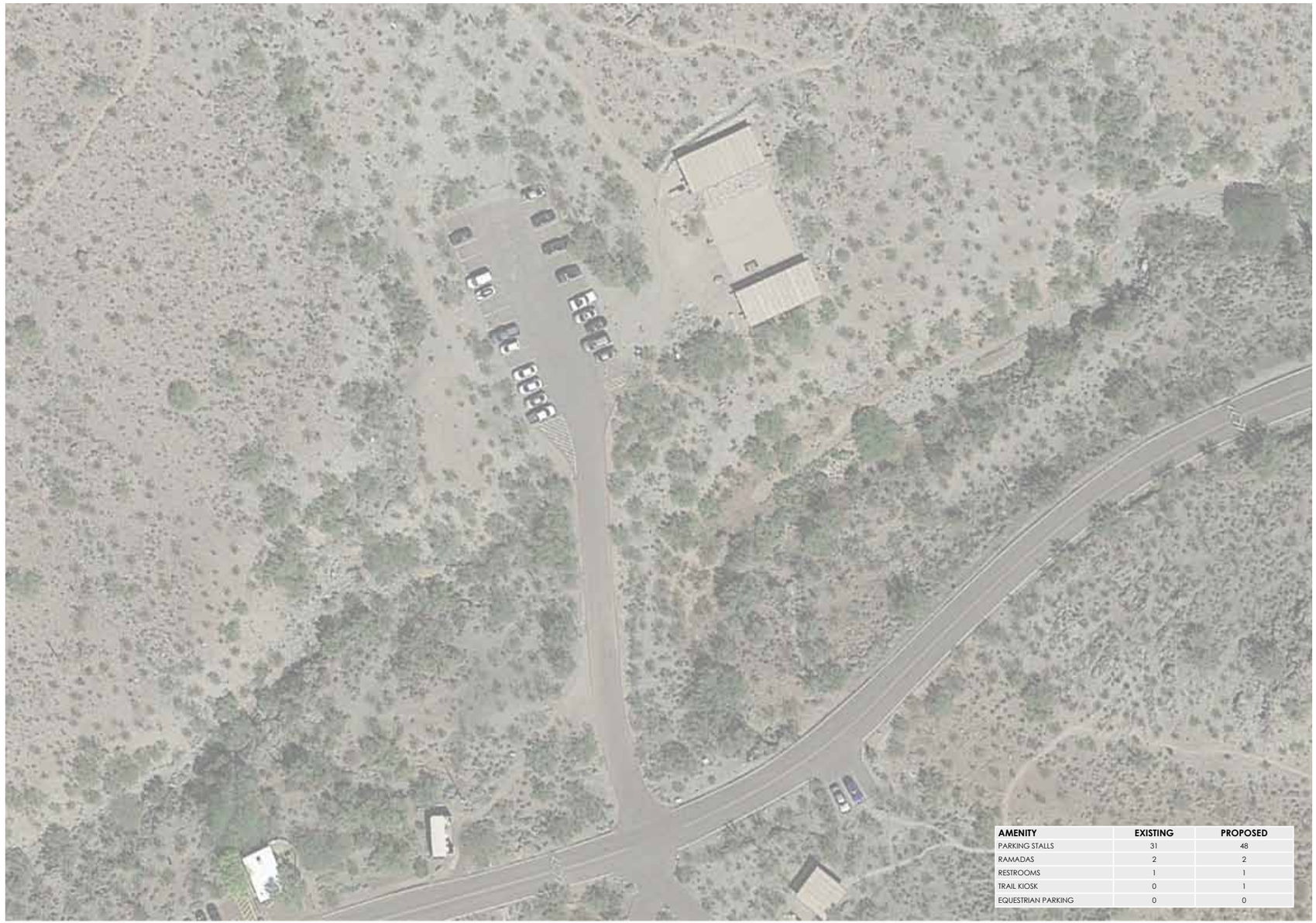
AMENITY	EXISTING	PROPOSED
PARKING STALLS	37	63
RAMADAS	4	4
RESTROOMS	1	1
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

Proposed Parking Area

Steep slopes and various intermittent washes limit the available space for expansion or renovation in the Mojave Parking Area. However, many of the parking stalls and access drives were substandard and made ingress and egress to the parking areas difficult. The concept design proposes to renovate the parking area with minor increases in overall capacity but major improvements to circulation, pedestrian paths, and retaining walls. The plan also proposes to renovate the existing ramadas and implement specialty paving in the gathering areas to encourage the use of the space for larger group gatherings and events.



LOCATION MAP

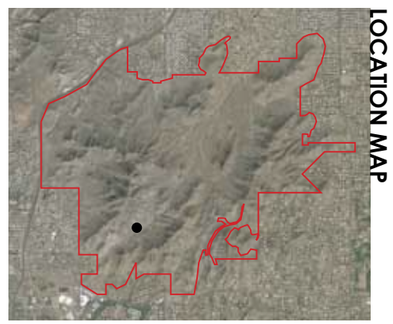


AMENITY	EXISTING	PROPOSED
PARKING STALLS	31	48
RAMADAS	2	2
RESTROOMS	1	1
TRAIL KIOSK	0	1
EQUESTRIAN PARKING	0	0

2.5 Hopi Parking Area

Existing Parking Area

With a narrow corridor between the parking area and the retaining wall, pedestrians often face safety concerns with navigating through vehicular traffic. To access trails, pedestrians must travel through parking isles. Vehicular travel is another concern within this area. Due to a small turn around area, vehicular traffic is often faced with difficulty in navigating through the area. In addition, the intermittent wash in the area features steep slopes and uneven terrain that may conflict with possible buildout of the area.

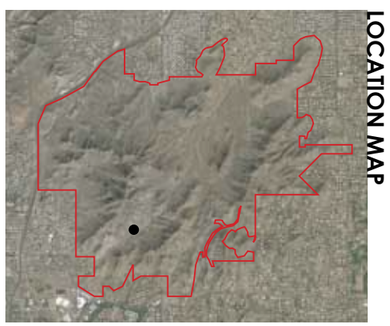


LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	31	48
RAMADAS	2	2
RESTROOMS	1	1
TRAIL KIOSK	0	1
EQUESTRIAN PARKING	0	0

Proposed Parking Area

The current dead end design of the Hopi Parking Area hinders vehicular travel. Existing retaining walls limit pedestrian circulation from the parking lot to the surrounding trails. The proposed concept plan would implement a looped parking system with a pedestrian path that accesses all areas of the parking lot. This system will eliminate pedestrian and vehicle conflicts and allow for more efficient circulation. The existing ramadas should be renovated and reconstructed to fit the new layout. A restroom is proposed for this area so users no longer have to walk to the restroom near the ranger station. These improvements, along with new trail kiosks, are intended to invite more users to the Hopi Parking Area when planning to hike the Summit Trail.



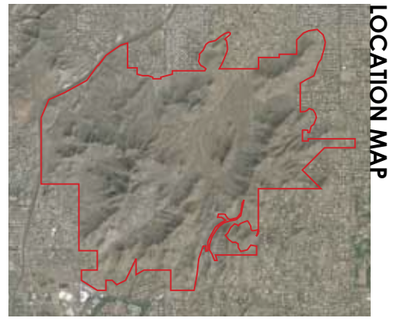
LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	25	56
RAMADAS	5	3
RESTROOMS	1	1
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

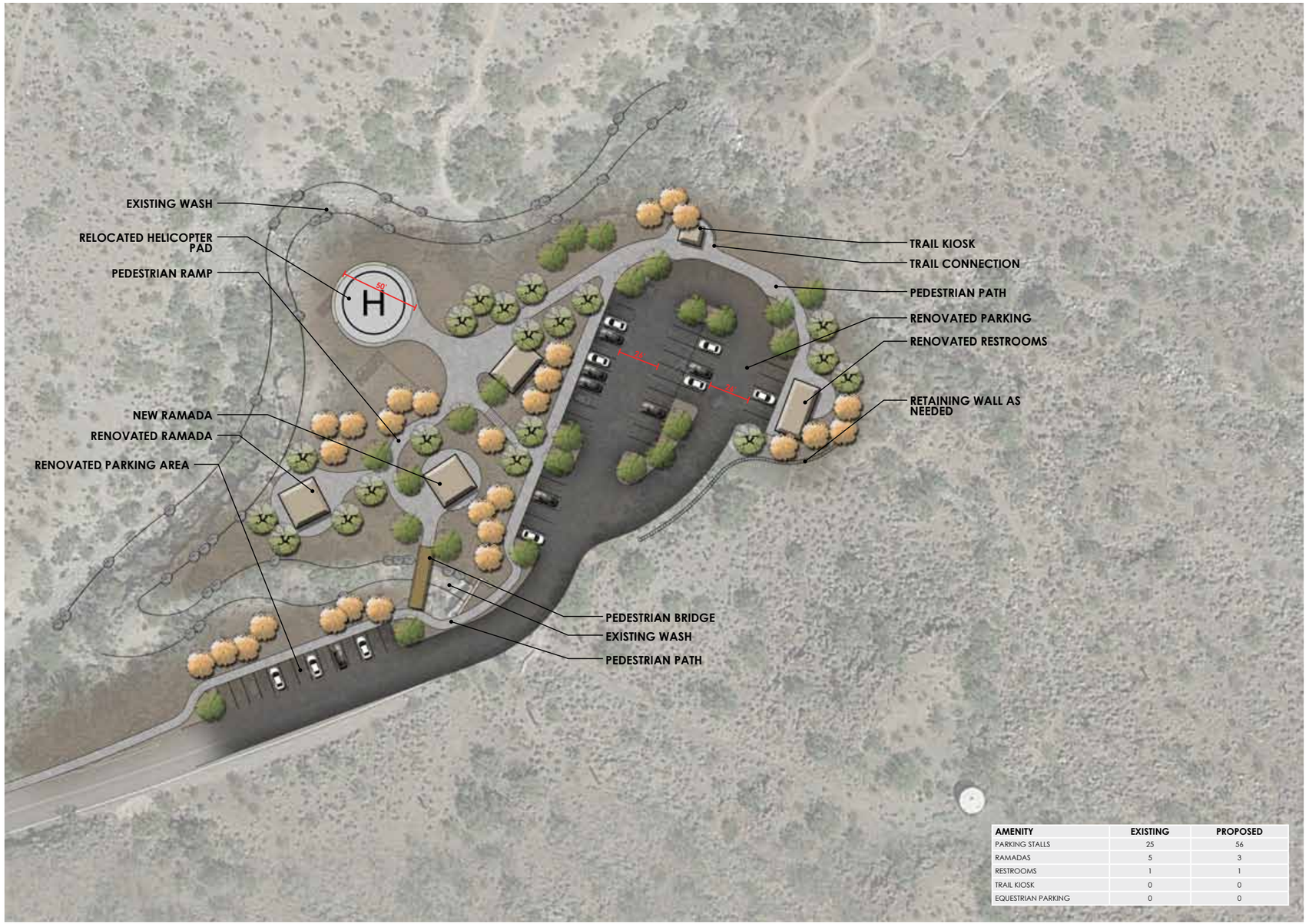
2.6 Apache Parking Area

Existing Parking Area

The Apache trailhead features various intermittent washes and drainages that limit connections to surrounding trails and parking areas. These connections are also limited by the sparsity of designated crossings/paths and signage to guide pedestrian traffic to various infrastructure of the trailhead. In addition, pedestrians must travel through a rocky and steep path to access the trailhead which often causes safety concerns. The trailhead could benefit with safe and reliable connectivity of the parking area and amenities to designated trails.



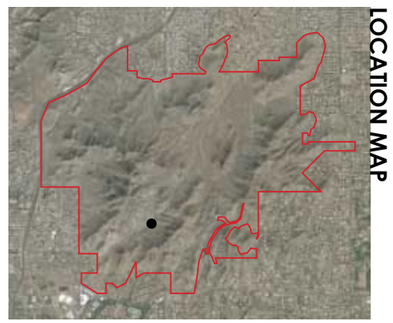
LOCATION MAP



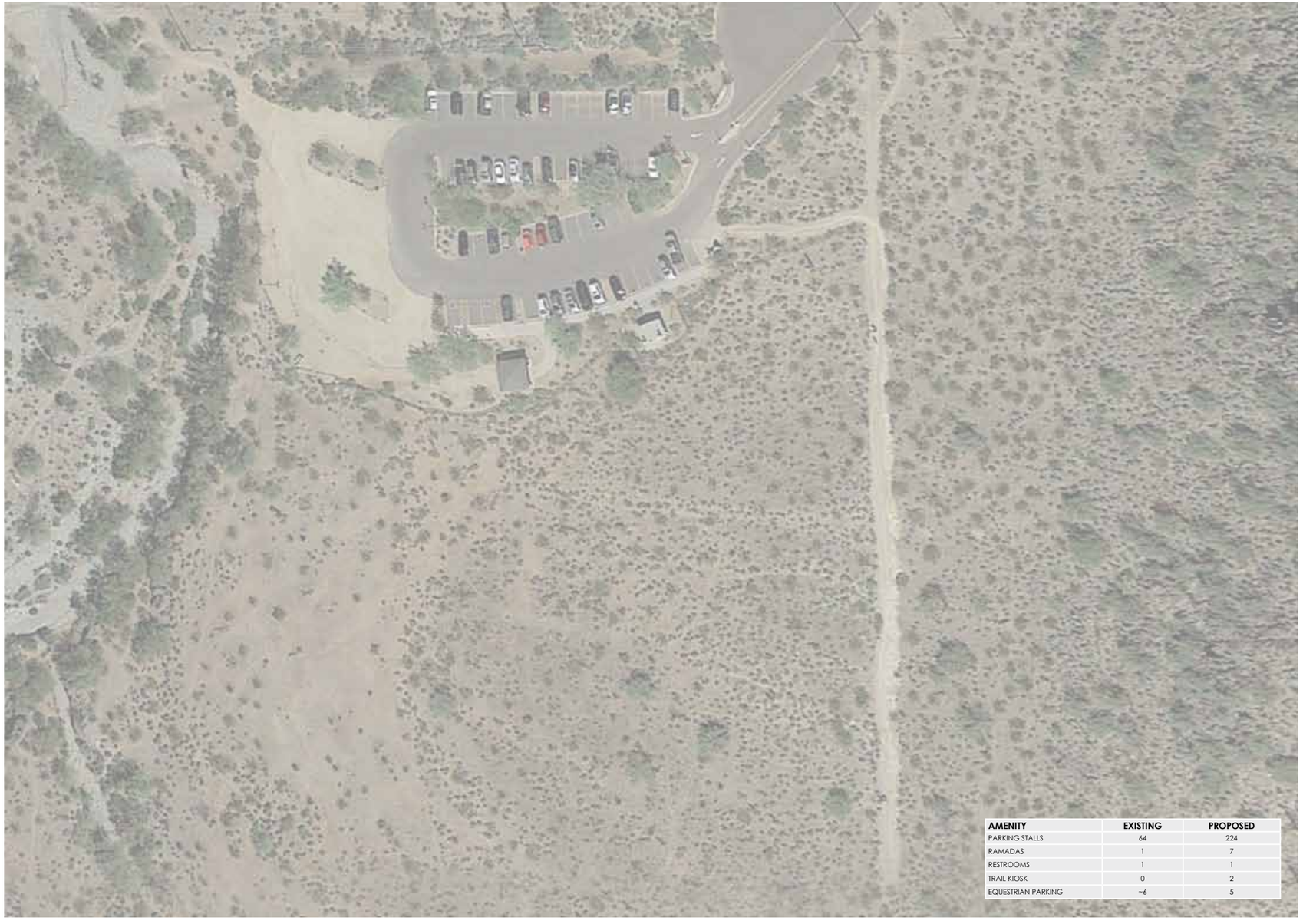
AMENITY	EXISTING	PROPOSED
PARKING STALLS	25	56
RAMADAS	5	3
RESTROOMS	1	1
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

Proposed Parking Area

The Apache Parking Area is used by many visitors who wish to explore the central areas of the preserve. However, the parking lot is obstructed by the helicopter landing pad that is frequently used for rescues in the preserve. The space used for the helipad limits the capacity of the parking area. During rescue operations, the parking area is not accessible by users to maintain a safe clear zone for the helicopter to land. By relocating the helicopter pad to unused space near the existing ramadas, the proposed redesign will offer more parking for visitors and a better separation for the helicopter pad. The concept plan also proposes a pedestrian bridge from the lower parking area to the ramada/ gathering area. This will allow access to the ramadas from both parking areas while protecting the intermittent wash from unnecessary foot traffic.



LOCATION MAP



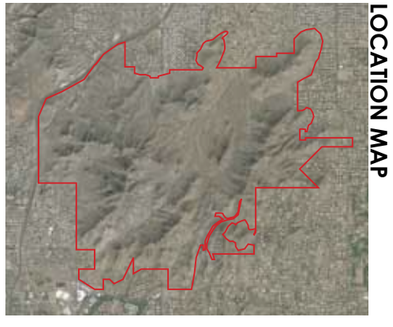
AMENITY	EXISTING	PROPOSED
PARKING STALLS	64	224
RAMADAS	1	7
RESTROOMS	1	1
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	~6	5

2.7 40th Street Parking Area

Existing Parking Area

The 40th Street Parking Area offers significant opportunities for improved signage, parking, regulations, etc. The trailhead is frequented by hikers and few equestrian users; however, during peak times, users are forced to park along 40th Street to avoid pedestrian and vehicle conflicts.

Various drainage swales and washes are located in the trailhead area and prevent potential buildout to the north and west side. The existing equestrian parking area is bare due to the non-existent trailers present at this portion of the preserve. Research suggests that standard parking stalls should be incorporated to account for the various hikers present within the area.

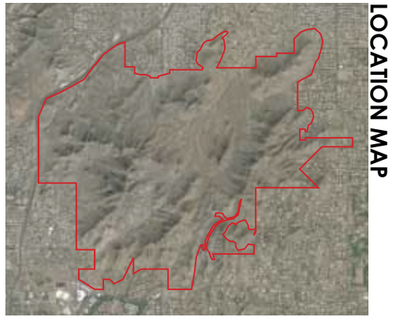


LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	64	126
RAMADAS	1	2
RESTROOMS	1	1
TRAIL KIOSK	0	1
EQUESTRIAN PARKING	~6	5

Proposed Parking Area

The 40th Street Parking Area offers the newest amenities and most functional layout of any other trailhead included in the study. The parking area lacks some capacity, which has been addressed in the conceptual redesign with an increase of 160 parking stalls. The City hopes the increased parking capacity will alleviate some of the traffic to the Piestewa Area. To complement the additional parking stalls, the proposed trailhead would have six new ramadas and two new trail kiosks. The equestrian parking area in the area would be renovated and consolidated into five, 65 foot by 13 foot stalls, each capable of accommodating up to a four horse bumper pull or gooseneck trailer.



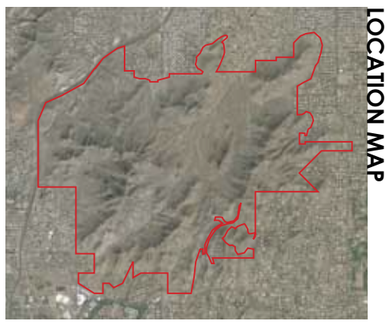
LOCATION MAP

AMENITY	EXISTING	PROPOSED
PARKING STALLS	25	107
RAMADAS	0	2
RESTROOMS	0	1
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	0	0

2.8 32nd Street Parking Area

Existing Parking Area

The 32nd Street parking area is adjacent to nearby neighborhoods, thus causing conflicts with traffic entering and exiting the trailhead. The narrow access drive and small turn-around area prevents safe vehicular travel. Also, the simplistic nature of the preserve does not provide aesthetically pleasing features of the preserve. With natural buffers and improvements to accessibility of the preserve, an increase of visitors to this particular trailhead would likely occur.

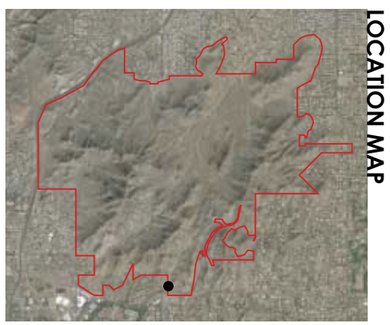


LOCATION MAP

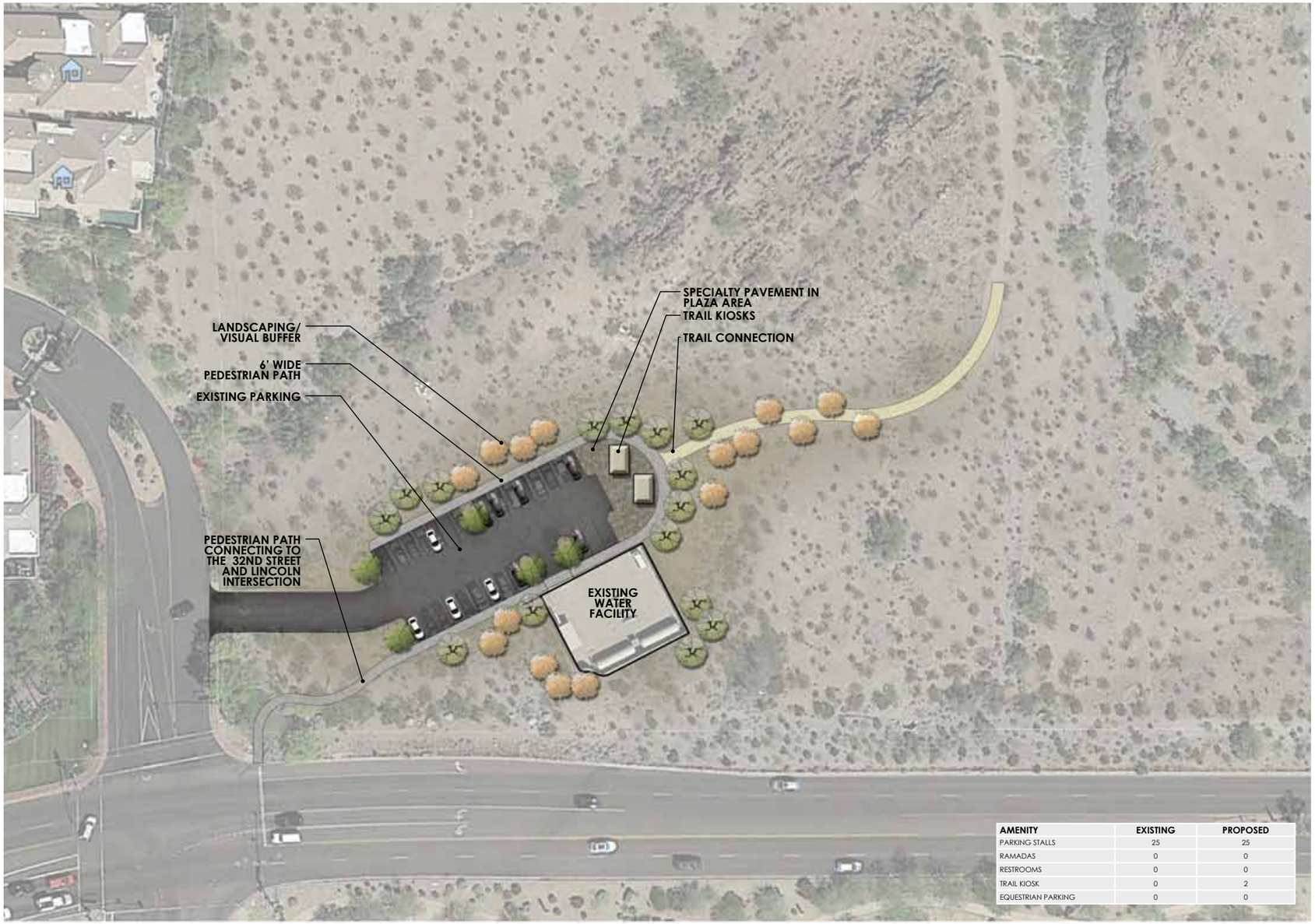
AMENITY	EXISTING	PROPOSED
PARKING STALLS	25	107
RAMADAS	0	2
RESTROOMS	0	1
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	0	0

Proposed Parking Area

Improving the capacity of the 32nd Street Parking Area while providing visual buffers from the surrounding neighborhoods and commercial areas was the principal goal of this conceptual redesign. The design proposes to close off the ingress/egress onto 32nd street and create a new access point to the trailhead from Lincoln Avenue. The parking capacity would be increased to allow for more visitors. The conceptual redesign proposes two ramadas, two trail kiosks, and a restroom to improve user experience and provide rest areas for picnics and group events. To provide privacy for the neighborhood, various landscape berms with dense vegetation have been proposed for around the new trailhead.



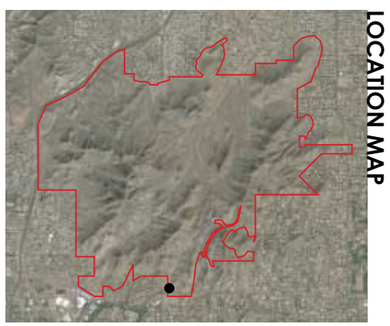
LOCATION MAP



AMENITY	EXISTING	PROPOSED
PARKING STALLS	25	25
RAMADAS	0	0
RESTROOMS	0	0
TRAIL KIOSK	0	2
EQUESTRIAN PARKING	0	0

Proposed Parking Area (Basic)

Two concepts were proposed for the 32nd Street Trailhead. The first included a more aggressive approach to renovation with improved parking, a new ingress/ egress area, and new public amenities. To capture the public's opinion regarding other alternatives, a more basic concept was also developed and is illustrated here. The basic concept leaves the parking lot exactly how it is regarding the capacity and the location of the ingress/egress. The only additions will be improved visual buffers around the parking lot and trail kiosks with a gathering area near the beginning of the trail.



LOCATION MAP

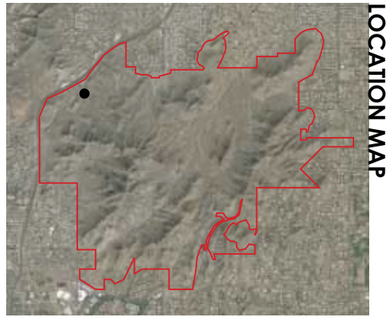
AMENITY	EXISTING	PROPOSED
PARKING STALLS	63	160
RAMADAS	2	2
RESTROOMS	1	1
TRAIL KIOSK	0	3
EQUESTRIAN PARKING	~5	5

2.10 Dreamy Draw Parking Area

Existing Parking Area

The current parking area lacks signage, amenities, and information kiosks. Implementing these features would improve the visitor's experience at the trailhead. As such, designated paths and crossings are unclear due to no indication of access into specific trails.

The trailhead also features signs of erosion near the parking area and along the trail. The signs of erosion take away from the trail appearance. In addition, steep slopes are located around the parking area and limit opportunities for expansion. Aesthetically pleasing features and parking expansion could resolve current issues experienced at the Dreamy Draw parking area.



LOCATION MAP

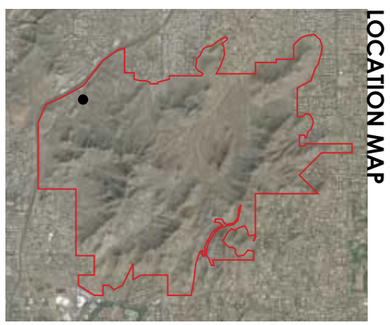
AMENITY	EXISTING	PROPOSED
PARKING STALLS	63	160
RAMADAS	2	2
RESTROOMS	1	1
TRAIL KIOSK	0	3
EQUESTRIAN PARKING	~5	5

Proposed Parking Area

Improved capacity and safety were primary goals for this parking area. The total parking capacity will be increased from 63 stalls to 160 stalls while also providing a layout that is more user friendly and efficient. Trail kiosks would help users more readily find information regarding the surrounding trails and amenities.

Although not shown on the plans, the City would like to incorporate more lighting and security cameras into the redesign of the Dreamy Draw Parking Area. Pedestrian lights, street lights, and even emergency beacons, such as those popular on university campuses, have been considered.

Renovations are proposed for the ramadas and restrooms at the parking area. New facilities such as bicycle racks, a gathering plaza, and a pedestrian bridge to cross the wash have all be proposed. The equestrian parking area would be renovated and consolidated into five, 65 foot by 13 foot stalls, each capable of accommodating up to a four horse bumper pull or gooseneck trailer. As with 40th Street, the redesign of Dreamy Draw should attract more people to relieve some of the congestion in other areas of the park.



LOCATION MAP

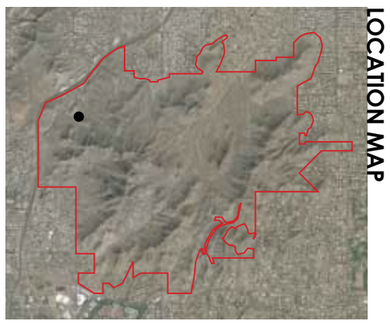
AMENITY	EXISTING	PROPOSED
PARKING STALLS	0	100
RAMADAS	0	0
RESTROOMS	0	0
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

2.11 Dreamy Draw Spillway

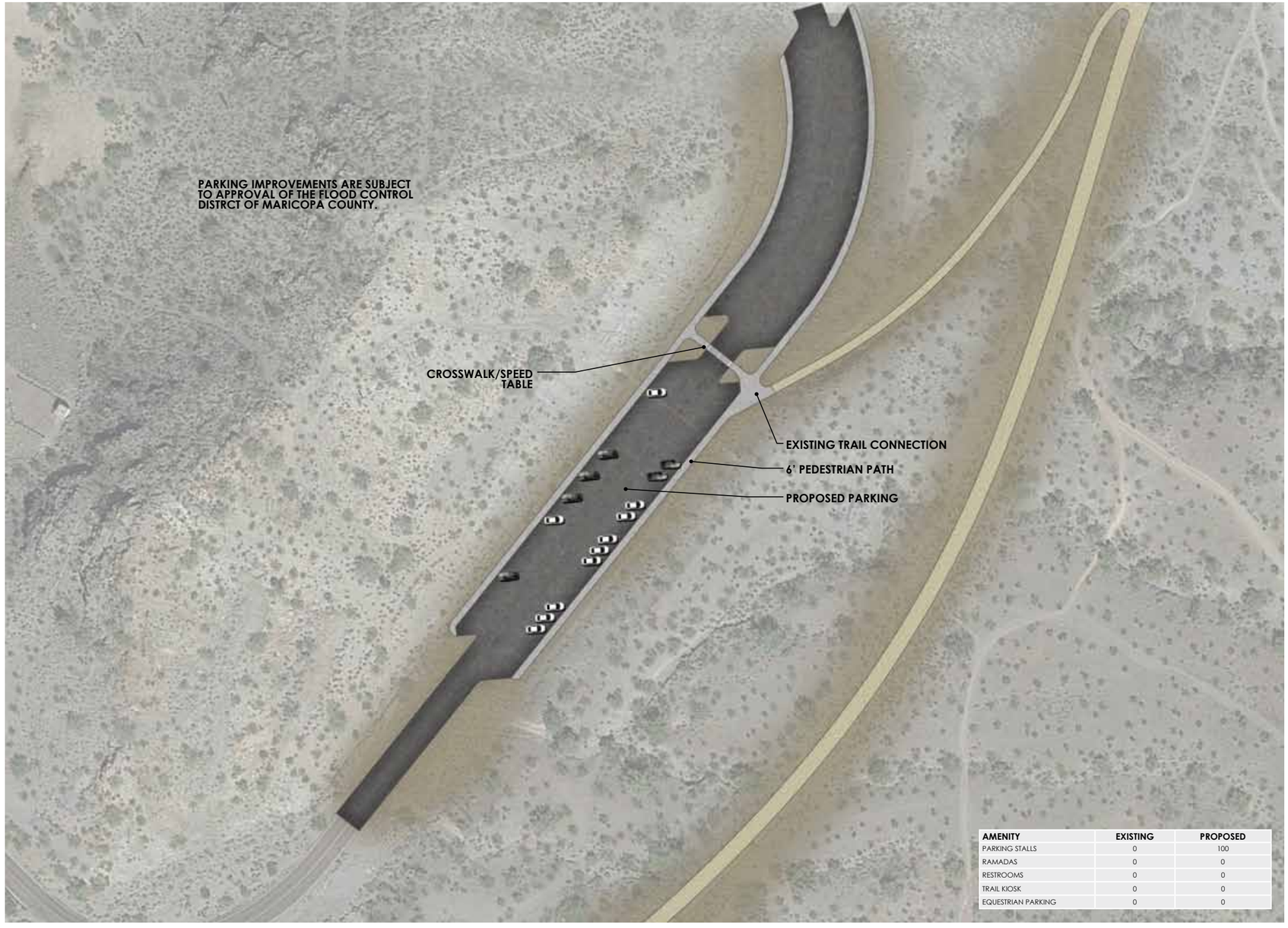
Existing Parking Area

Current features of the Dreamy Draw spillway include a significant wash located on the border of the trailhead parking area. The spillway area has been designed to prevent flooding; features have been regulated by the Army Corps of Engineers and must be conserved and protected. In case of an emergency overflow channel restriction, parking is prohibited in certain areas.

The spillway becomes overcrowded on peak days and hours. Additional parking stalls should be considered for these occasions. Signage should also be incorporated to locate surrounding trails.



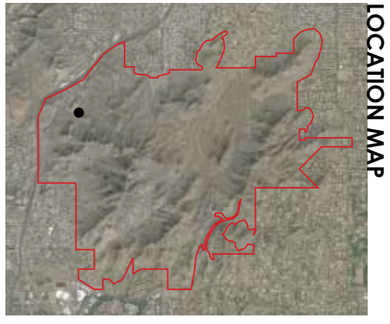
LOCATION MAP



AMENITY	EXISTING	PROPOSED
PARKING STALLS	0	100
RAMADAS	0	0
RESTROOMS	0	0
TRAIL KIOSK	0	0
EQUESTRIAN PARKING	0	0

Proposed Parking Area

Despite the increased parking proposed for the main Dreamy Draw Trailhead, the City of Phoenix would still like to see more parking in the Dreamy Draw area. If approved by the Flood Control District of Maricopa County (FCDMC), the concept plan proposes to implement approximately 100 parking stalls south of the main trailhead in the emergency spillway area for the Dreamy Draw Dam. Because the corridor is used as an emergency spillway, the infrastructure will be minimal with simple sidewalks and angled parking. To keep the corridor clear of obstructions in the event of a major flood, no landscape islands or berms will be implemented.



LOCATION MAP

Chapter 3

Approach and Findings

3.1 Location and Physical Characteristics

The study area is 4,857 acres and is located south of Shea Boulevard and north of Lincoln Drive in Phoenix, Arizona. The study area lies within the Phoenix Mountains Preserve in Township 3 North, Range 1 West, Sections 10, 11, and 12. Elevations in this location range from 1,300 feet to 2,550 feet (397 meters to 778 meters) above sea level.

The preserve's highest point is located at Piestewa Peak (see **Figures 3.1, 3.2, and 3.3**). Piestewa Peak (previously named Squaw Peak) was the first of many parks to be preserved and consists of small mountains and adjacent foothills. The park contains hiking trails, public access areas with parking, ramadas, restrooms, and nearby horse stables.

Figures 3.1, 3.2 and 3.3: The City is concerned with the natural environment of the Phoenix Mountains Preserve. To protect the natural habitat within, PEC has gathered natural, visual, and cultural resources to form appropriate design plans for both designated and non-designated trails.

Figures 3.4 and 3.5 These photos show examples of vegetation common to the area.

3.2 Environmental Resources

Biological Resources

The soils on the preserve have been heavily disturbed through recreation, historic settlement, and community expansion; however, much of the preserve remains undisturbed. Shrub-steppe vegetation, including cholla cactus (*Cylindropuntia* spp.), mesquite (*Prosopis* spp.), palo verde (*Parkinsonia* spp.), and saguaro cactus (*Carnegiea gigantea*), is primarily native to and grows in the area (see **Figures 3.4 and 3.5**).

Visual Resources

Topographic maps, General Land Office (GLO) maps from the Bureau of Land Management (BLM), and historic aerial photographs were examined previous to conducting the study. The 1965 Sunnyslope 7.5–foot topographic map shows Squaw Peak Drive, a trail to the summit of Piestewa Peak, and several dirt roads in the Dreamy Draw area. An 1868 GLO map of Township 2 North Range 3 East shows the study area labeled as "Barren Mountains Unfit for Cultivation." A GLO map of Township 3 North Range 3 East from 1932 shows the Rico claims. Maricopa County aerial photographs from 1930, the earliest available, show various trails through the study area but no particular development. Squaw Peak Road and park improvements, such as ramadas and parking lots, first appear in a 1969 aerial photograph.

Cultural Resources

A literature search was conducted January 7, 2015 on the Arizona AZSITE online cultural resources database to identify previously documented archaeological sites or areas of historic importance within the study area. The literature search found three archaeological sites that have been previously recorded near the study area:

- AZ T:8:199, the original trail to the summit of Piestewa Peak (formerly Squaw Peak);
- AZ T:8:53, the Rico mercury mining site; and
- AZ T:8:54, a mercury mining site.

None of these sites were present within the study area. Recreational structures within the park were also evaluated (See Appendix F).

Water Resources

During the evaluation of the preserve, potential water resources were reviewed. The National Wetland Inventory (NWI) database was received on December 19, 2014. The NWI database identified no potential jurisdictional waters of the United States within the project area. Jurisdictional waters of the United States including the Arizona Canal and small ponds were identified within 1 mile outside of the study area. Various intermittent washes were visually identified within the study area. Open water in the wash only occurs during significant precipitation events and does not generate wetland habitat.

Figures 3.6 and 3.7: Accessibility of the preserve has caused numerous safety concerns. New trails will connect with existing trails. Some trails will be designated as one-way access to avoid future conflicts.

3.3 Parking, Trailheads, and Access Roads

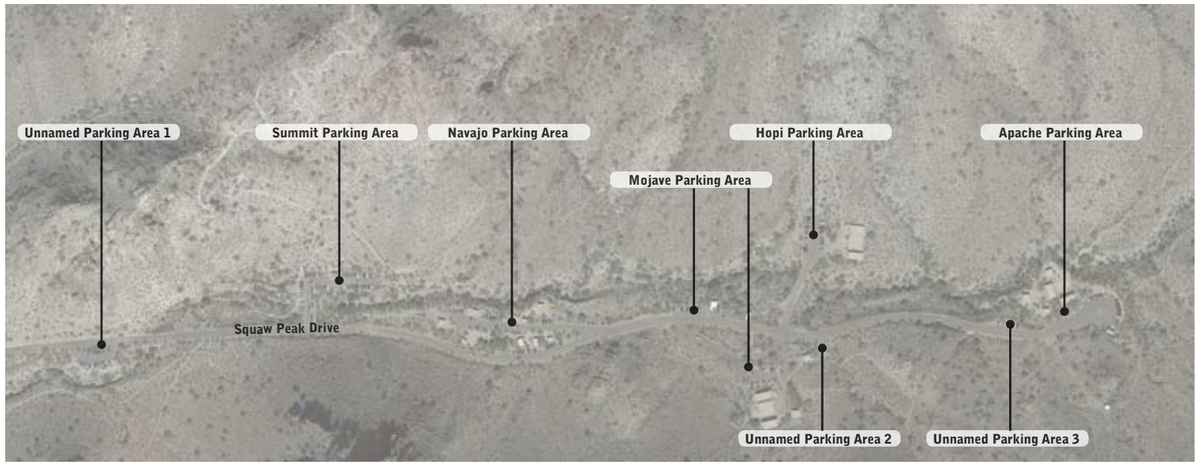
In November 2014, on site reconnaissance of the four main trailheads was performed in the preserve. These site visits included driving to each trailhead and navigating the parking areas in a vehicle. Multiple parking stalls were used to obtain an understanding of the experience users have when visiting the park. Investigators walked to each trailhead and between trailheads to assess potential vehicle pedestrian conflicts and other opportunities and constraints in the pedestrian vehicle circulation system (see **Figures 3.6 and 3.7**).

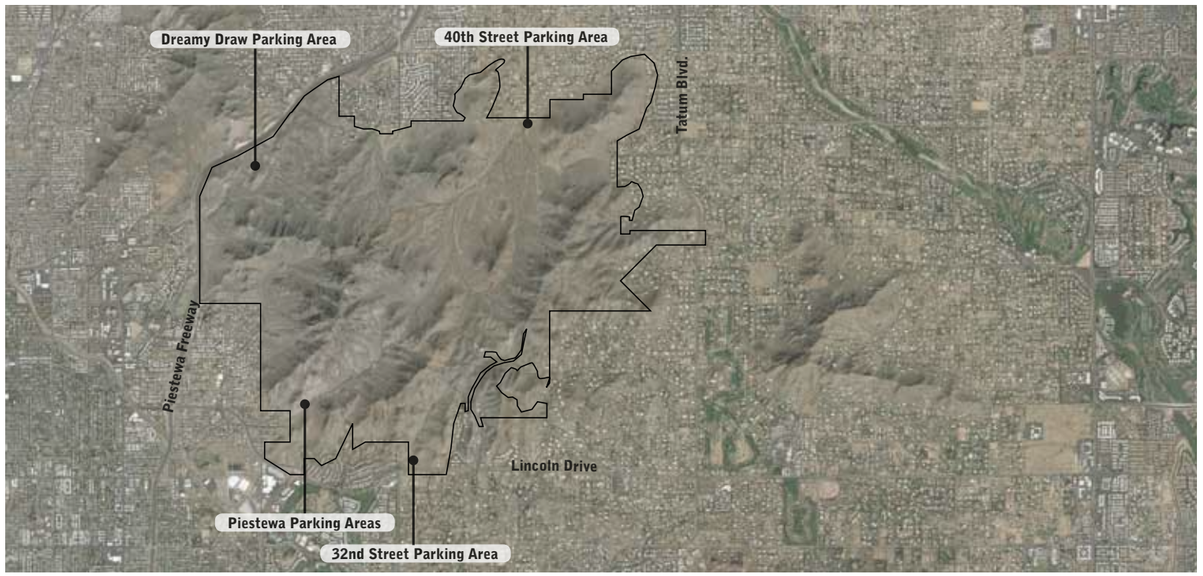
In addition to assessing the circulation system in each of the trailheads, the condition, location, and use of existing infrastructure such as ramadas, restrooms, maintenance buildings, signs, trash receptacles, and walkways was evaluated. Measurements of existing infrastructure were taken to aid in redesign. Topographic surveys of each parking area were also performed.

Following the evaluation of infrastructure and the built environment, the environmental resources surrounding the parking and trailhead areas were evaluated. The presence of intermittent washes, erosion areas, steep slopes, vegetation, and other features were noted and added to the evaluation diagrams along with comments and observations. The diagrams were reviewed and revised based on feedback from the project team. During the initial public open houses, blank maps were given to the public to allow them to draw and diagram potential opportunities and constraints. These comments were also reviewed and incorporated into the final diagrams.

Following is a list of the opportunities and constraints that were identified:

- Most parking aisles and stalls do not meet width and depth standards currently set forth by the City of Phoenix.
- Parking, although generally available, can require a wait time during peak use in the Piestewa area.
- Parking areas are generally difficult to navigate due to layout.
- Intermittent washes and steep grades are the main obstructions for improvements.
- Most structures and public amenities are well located but are in poor structural and aesthetic condition and are in need of renovation.
- All parking areas have ample opportunities for organized trailhead areas.
- Parking areas outside of the Piestewa area need to be expanded to relieve local roads and neighborhood streets from visitors.





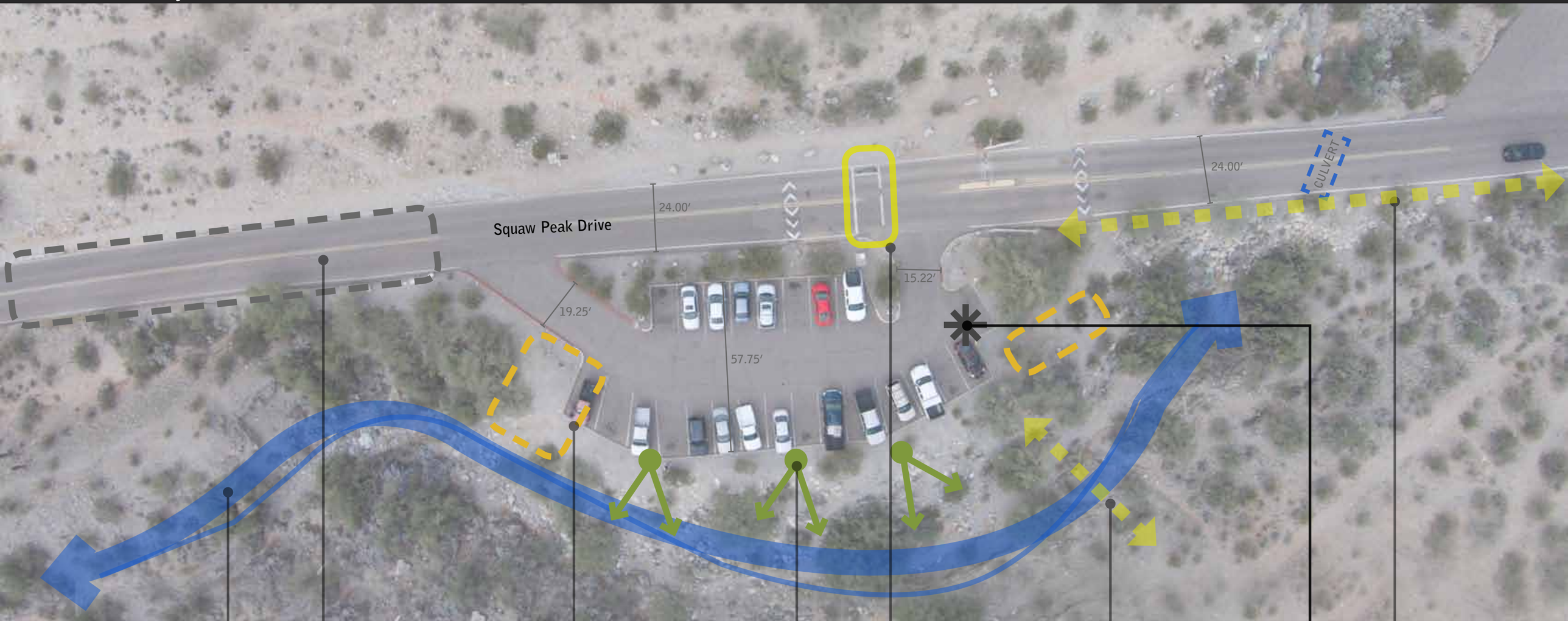
Figures 3.8 and 3.9: Trailhead location maps.

Trailhead Overview

The Phoenix Mountains Preserve is centrally located in Phoenix, Arizona. Trails are accessible from all sides of the preserve, through neighborhoods and major trailheads. As part of the access and adaptive management plan, nine major trailheads were evaluated, and potential improvements were suggested.

Six of the trailheads (Unnamed 1, Summit, Navajo, Hopi, Mojave, and Apache) are located in the Piestewa Peak area and are accessible via Squaw Peak Drive in the southwest quadrant of the preserve (see **Figure 3.8**). The 40th Street and Dreamy Draw trailheads are the two largest trailheads and are located in the northern limits of the preserve (see **Figure 3.9**). The smallest of the trailheads (32nd Street) is located in the southern limits of the preserve at the intersection of 32nd Street and Lincoln Avenue.

		Features					
Trailhead	Parking Area	Parking Stalls	ADA Accessible Stalls	Restroom Facilities	Ramada Structures	Utility Structures	Equestrian Parking
Piestewa Peak	Unnamed Parking Area 1	24	No	No	No	0	No
	Summit	48	1	No	1	0	No
	Navajo	33	4	1	8	0	No
	Mohave	36	1	1	4	2	No
	Hopi	30	1	1	2	0	No
	Apache	23	2	1	5	0	No
Dreamy Draw	Dreamy Draw Area	61	2	1	2	1	Yes
32nd Street	32nd Street Parking Area	23	2	0	0	1	No
40th Street	40th Street Parking Area	61	3	1	1	0	Yes



An intermittent wash separates parking area from adjacent trails to the southeast. Steep slopes surrounding the wash limit the buildable area. The slopes near the parking lot could benefit from some type of retention to prevent erosion.

Roadway widening or the construction of a designated bicycle and pedestrian path would benefit users accessing the park by means of bicycle or foot. This trailhead would then be essential to connect those users to the network of trails within the park.

This parking/ trailhead interface with buildable slopes could be used to its full potential for trail connections, interpretive signage, parking expansion, or other amenities.

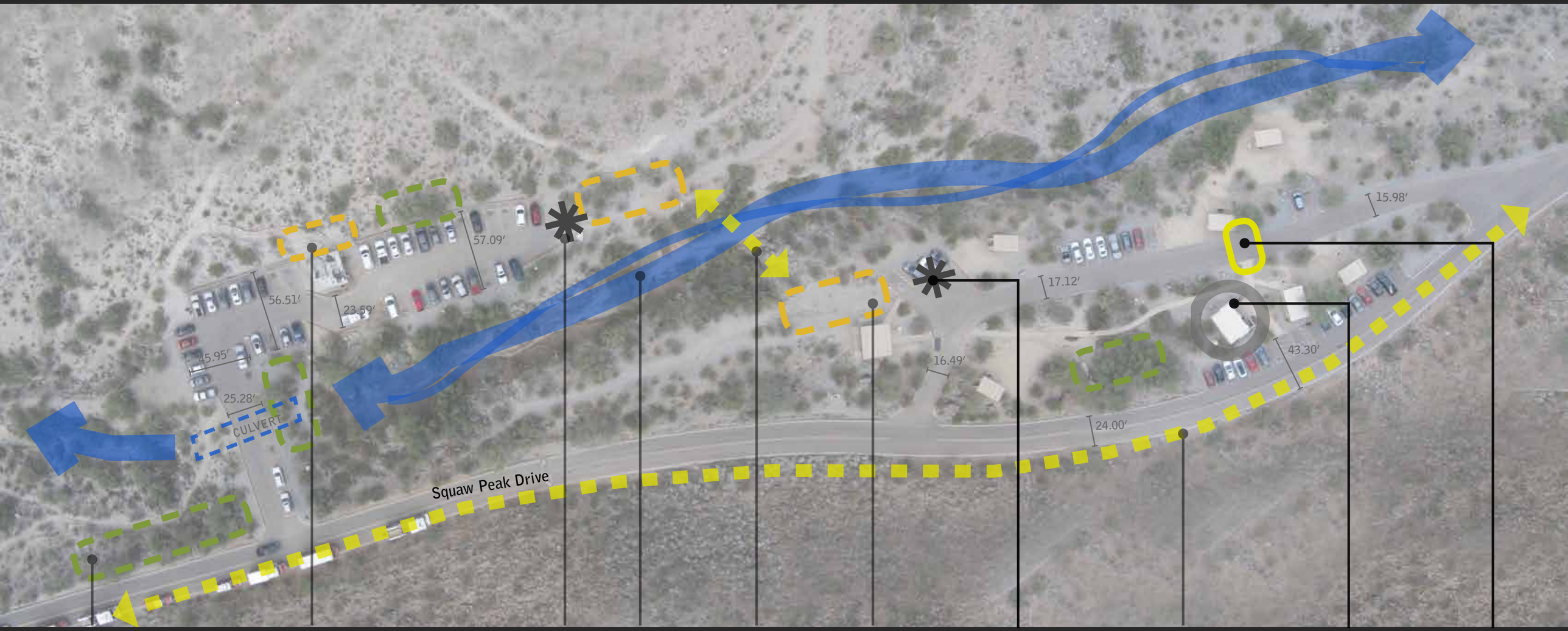
A level shelf between the parking area and the intermittent wash offer an opportunity for viewing the landscape to the south and southwest. Formalizing the area with railings and interpretive signage would increase the interest and use of the trailhead.

No significant path leads to the existing crosswalk from the parking area. To direct people from the parking area to the popular Summit Trail, improved marking for designated trails would be beneficial. Areas surrounding crosswalks can provide opportunities for signage targeted at vehicular traffic.

A designated crossing over the wash would allow the parking area to better serve adjacent trails. Bridges and other crossings provide opportunities for interpretive signage and unique features.

This turnaround area is often used as a parking stall due to heavy traffic. Consider pavement markings to distinguish use or repurposing area for use as a trailhead with kiosk, signage, benches, or other features.

Heavy use of this undesignated path creates a dangerous vehicle-pedestrian conflict. The location could benefit from a widened roadway or a designated pedestrian path. Vegetation and steep slopes adjacent to this roadway limit the buildable space.



Overgrown vegetation limits use in various areas of the parking lots and Squaw Peak Drive. Selective removal and trimming of existing vegetation would benefit many existing areas as well as expand unused areas, increasing the site's potential buildout.

This principle parking and trail interface area is a high traffic location that would benefit from increased signage, way-finding, and more amenities. Users often congregate here before and after hikes. Increased seating, shade, and improved circulation paths are recommended.

This area would benefit from a larger turnaround or a through circulation parking design to reduce vehicle and pedestrian conflict.

This intermittent stream corridor makes circulation between parking areas difficult. Steep slopes on either side of the ravine limit buildable areas of either trailhead.

While the Navajo area offers more amenities; the Summit area offers the most popular trails. Improved connections or transfer of amenities to the Summit area are suggested.

Buildable areas near existing parking and trail interface should be capitalized for the use of interpretive signage, way-finding diagrams, and expanded amenities. This area would benefit from further information directing users to the Summit Trail.

Deep parking stalls and high demand for parking make backing out of this area difficult. Suitable space adjacent to the area could be used to expand and modify the current layout to accommodate more cars.

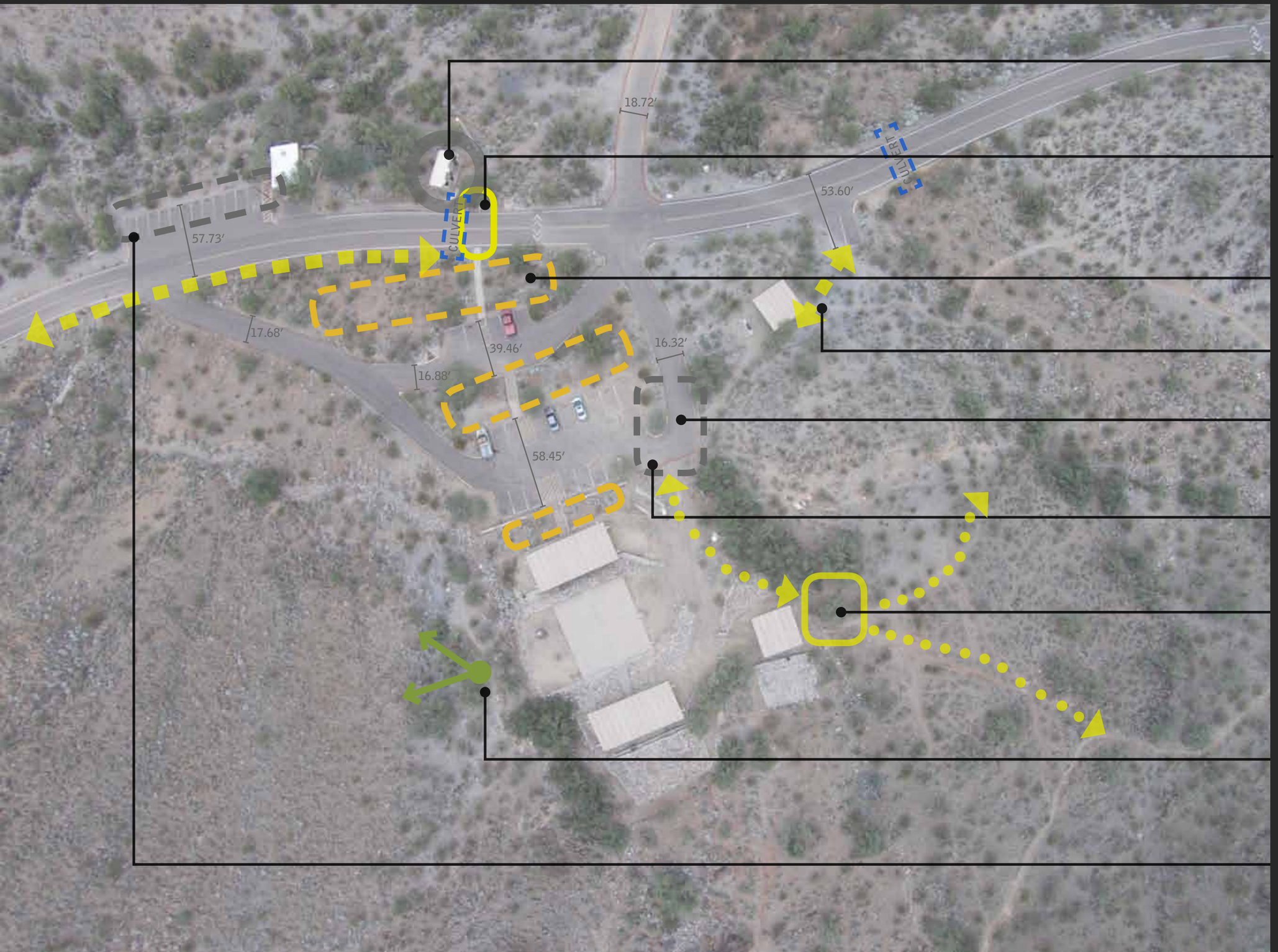
Heavy bike and pedestrian use along Squaw Peak Drive, coupled with narrow shoulders, create a dangerous vehicle pedestrian conflict. Road widening or creating a designated path would be beneficial.

Restroom facilities serving the Summit trailhead are 0.15 miles away. Summit Trailhead would benefit from separate facilities or increased signage indicating restroom location at Navajo parking area.

A designated crosswalk could benefit this area by providing increased safety, as well as better connectivity to ramadas and parking.

site analysis and recommendations

MOJAVE PARKING AREA AND UNNAMED PARKING AREA 2



This restroom is distant from other amenities, which can be overcome by clearly designated paths and directional signage.

A designated crosswalk would benefit the connection between the Mojave parking and other areas.

Steep slope separations between parking areas, the roadway, and the amenities, limit activities for disabled users. Ramps, designated paths, and improvements to stairs would allow for a larger user group.

A better designated connection from the parking area to the ramadas would increase accessibility to the area.

Narrow access drives and parking isles make vehicular circulation during peak use difficult. Road widenings or one-way designations would improve the area.

Improvements to vehicular circulation and parking/trailhead interface would benefit this area and potential users.

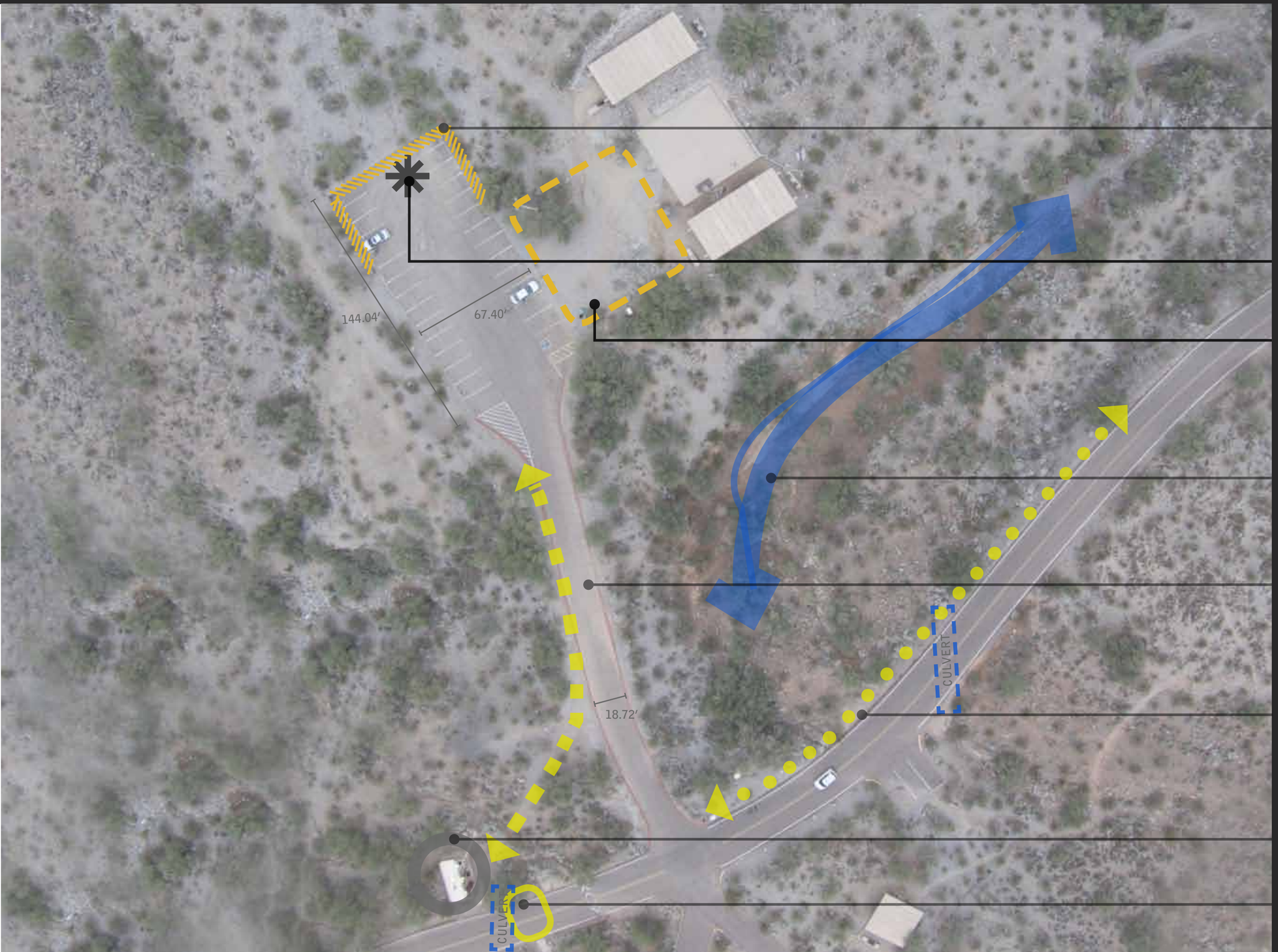
A designated trailhead area near amenities would encourage more use.

This area is suitable as an overlook or view area for the rest of the park due to elevation and position. Implementation of designated view areas could potentially increase use.

Parking areas separated from the roadway can offer more safety for drivers and pedestrians.

site analysis and recommendations

HOPI PARKING AREA



The narrow corridor between the parking area and retaining wall limits pedestrian circulation around vehicles. This also forces pedestrians to walk through the parking isle to access trails.

Due to the small turn around area, accessing end stalls in this parking lot is difficult. Implementing through circulation or a larger turnaround would benefit the parking area.

This large open area is suitable for development and improvements. The addition of ADA access to ramadas would increase use.

Steep slopes and uneven terrain surround the intermittent wash and limit potential buildout of adjacent sites.

This narrow access drive constricts traffic during peak use and makes emergency access difficult.

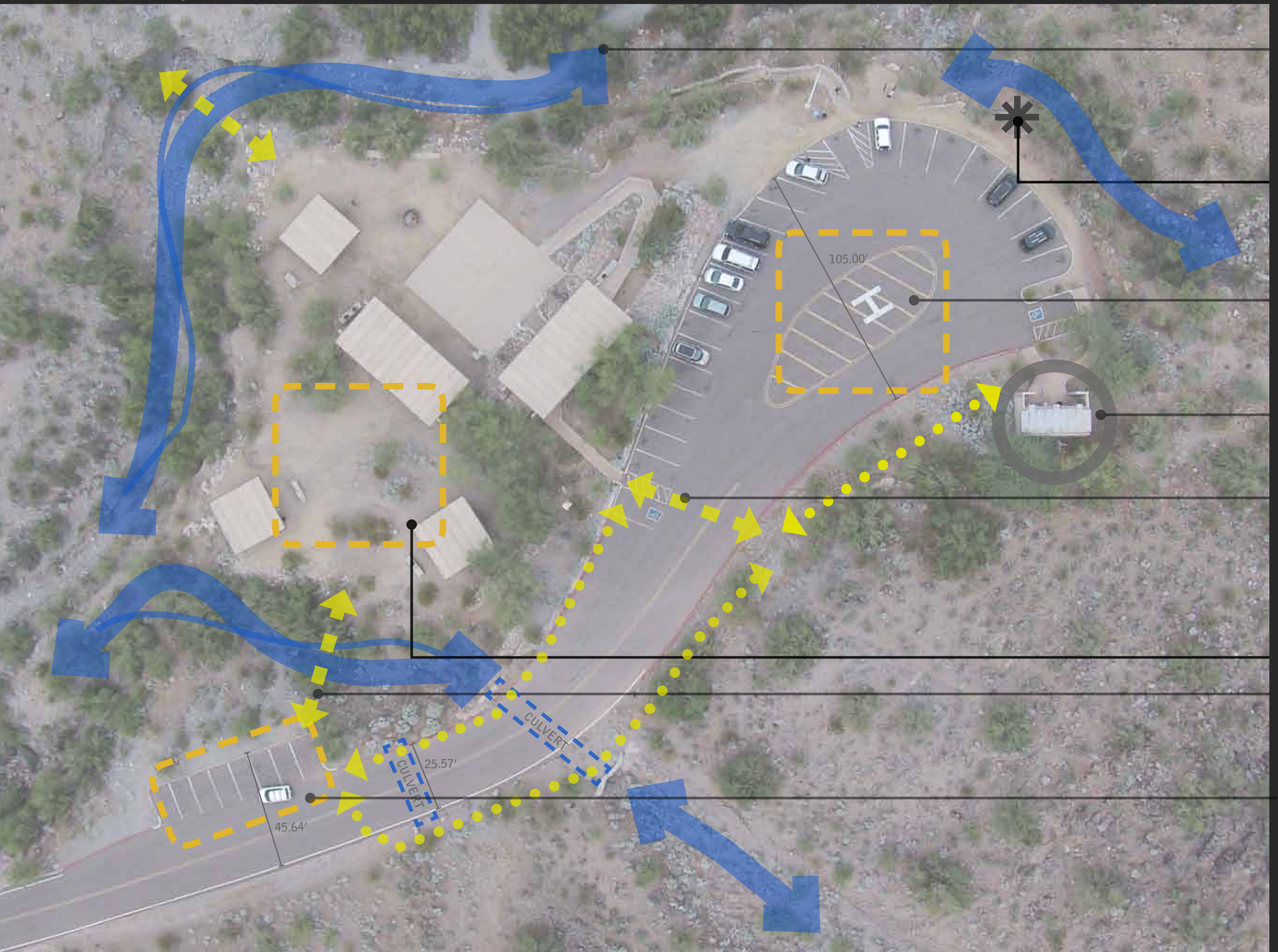
Widened roadway or shoulders would improve pedestrian and bike circulation throughout the canyon.

The restroom is far from the main ramadas and trailhead area. This distance can be overcome by clear indicative signage and designated paths connecting amenities.

A designated crosswalk between the Mojave and Hopi areas would improve trail connectivity.

site analysis and recommendations

APACHE PARKING AREA AND UNNAMED PARKING AREA 3



Various intermittent washes and drainages surround the trailhead and picnic area, limiting the connectivity of this area to surrounding trails and parking areas. Designated crossings with appropriate signage would be beneficial.

This is a rocky and steep trailhead access. A different path or method of crossing the wash would be preferable.

This area would benefit from the separation of vehicular use from the helicopter landing.

The restroom is far and somewhat hidden from the main use area. Relocation is not necessary but appropriate signage indicating the restroom location would improve access.

Pedestrians are likely to cross the roadway and create a pedestrian-vehicle conflict. A designated crossing or path to the restroom from the ramadas and picnic areas would increase user safety. Implementing a designated crossing and path along the shoulder of the roadway would improve safety and pedestrian circulation.

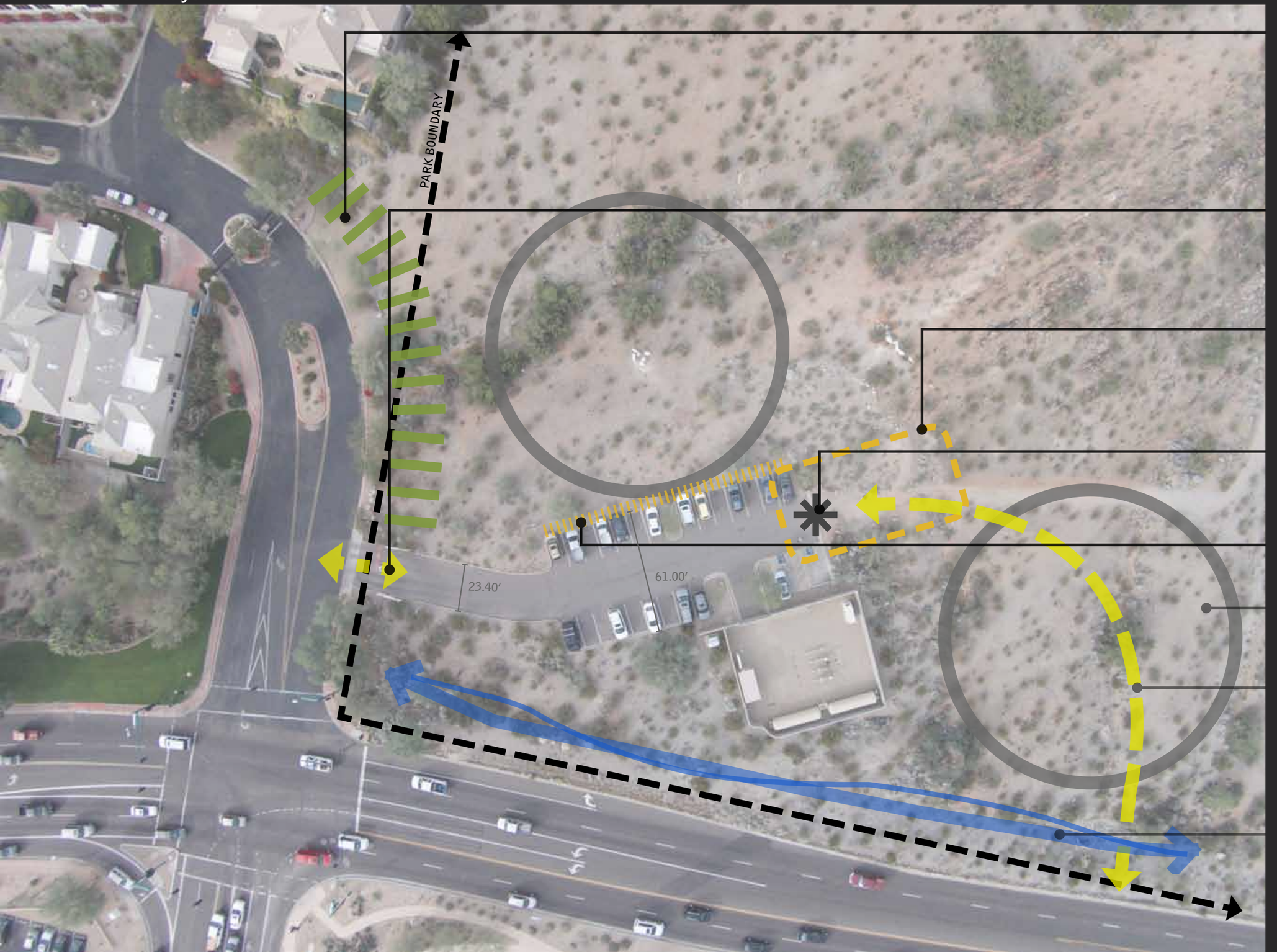
This is a suitable space for improvements or redevelopment.

This area would improve with various designated crossings to connect parking and picnic areas to surrounding trail networks.

The lower parking area is disconnected from other facilities. Designated paths are not present, and signage directing users to amenities or trails is not available. This area would prosper from access across the intermittent wash to the existing ramadas, as well as designated paths parallel to the roadway.

site analysis and recommendations

32ND STREET PARKING AREA



A vegetative or landform buffer in this location could improve site aesthetics and help to separate the nearby neighborhoods from traffic and activities at the trailhead.

This narrow access drive makes entering and exiting the parking area difficult. Surrounding neighborhoods also dislike the extra traffic from the trailhead entrance.

The existing trailhead/parking interface could benefit from increased amenities such as signage, restrooms, and seating areas.

Incorporating a through-circulation pattern or larger turn-around area would greatly increase safety and ease of vehicular accessibility.

Designated pedestrian paths adjacent to parking stalls would decrease pedestrian/ vehicle conflicts.

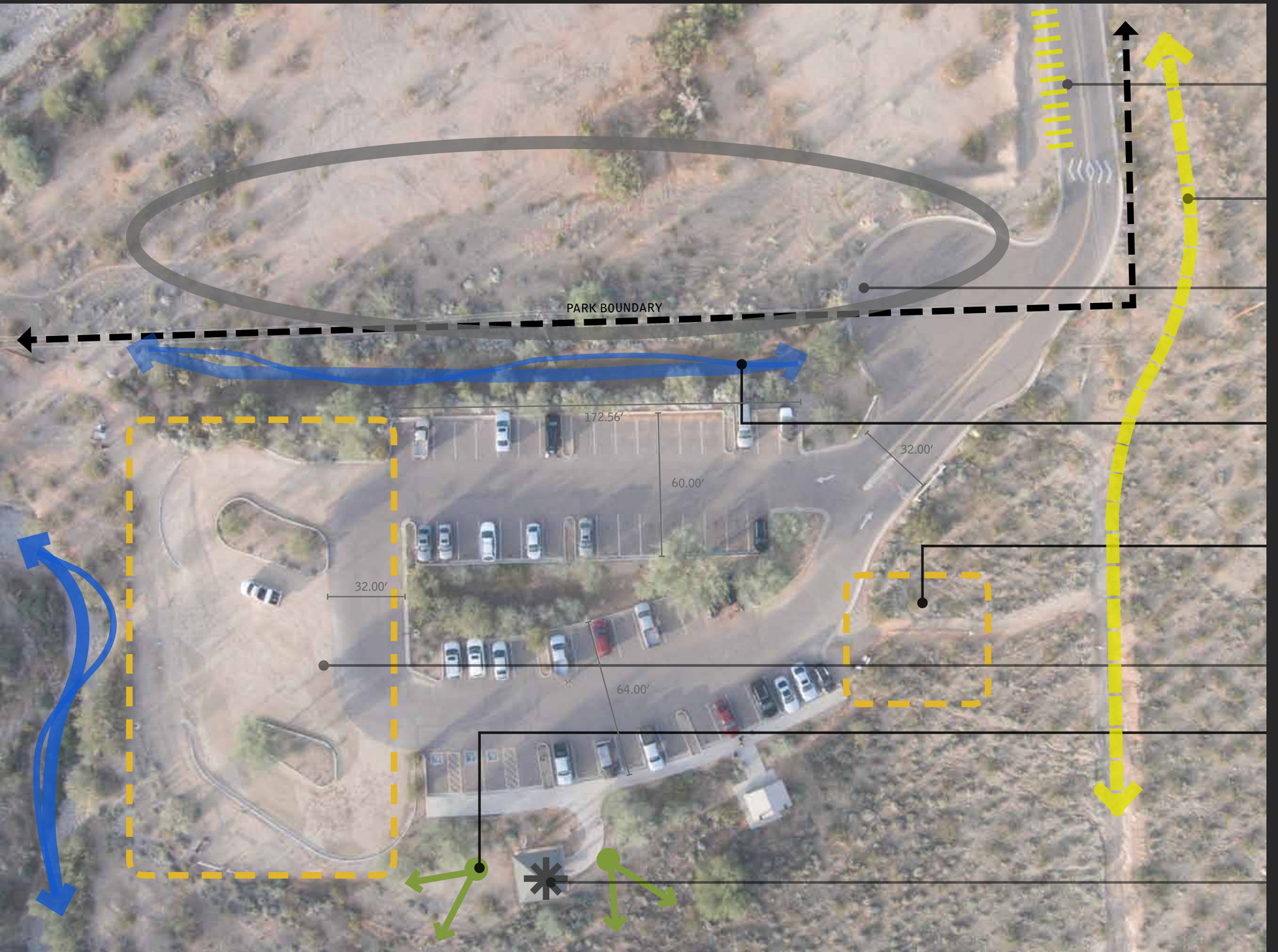
Large open spaces with potential buildable slopes offer opportunities to expand parking areas and provide more amenities to trail users.

A potential access road to the trailhead parking area from Lincoln Drive would improve access and take vehicular traffic away from private neighborhood access roads.

The roadside drainage swale serves an essential function of catching run-off from the park area and directing the flow away from developed areas. The swale's function should be preserved during future improvements.

site analysis and recommendations

40TH STREET PARKING AREA



High use during peak times and weekends forces users to park on 40th Street across from the trail entrance northward. This creates pedestrian and vehicle conflicts.

A potential trail connection from the 40th street trailhead northbound along 40th street would potentially increase the number of users accessing the trail and reduce parking needs.

Buildable slopes and open space offer potential opportunities for increased parking. This would alleviate overflow parking on 40th Street and provide access to existing trail connections to the west of the trailhead.

Various drainage swales and washes surround the trailhead area and limit potential buildout on the north and west sides. Future improvements should preserve and enhance those areas.

The trailhead/parking interface area offers significant opportunities for improved signage, information, regulations, and other amenities.

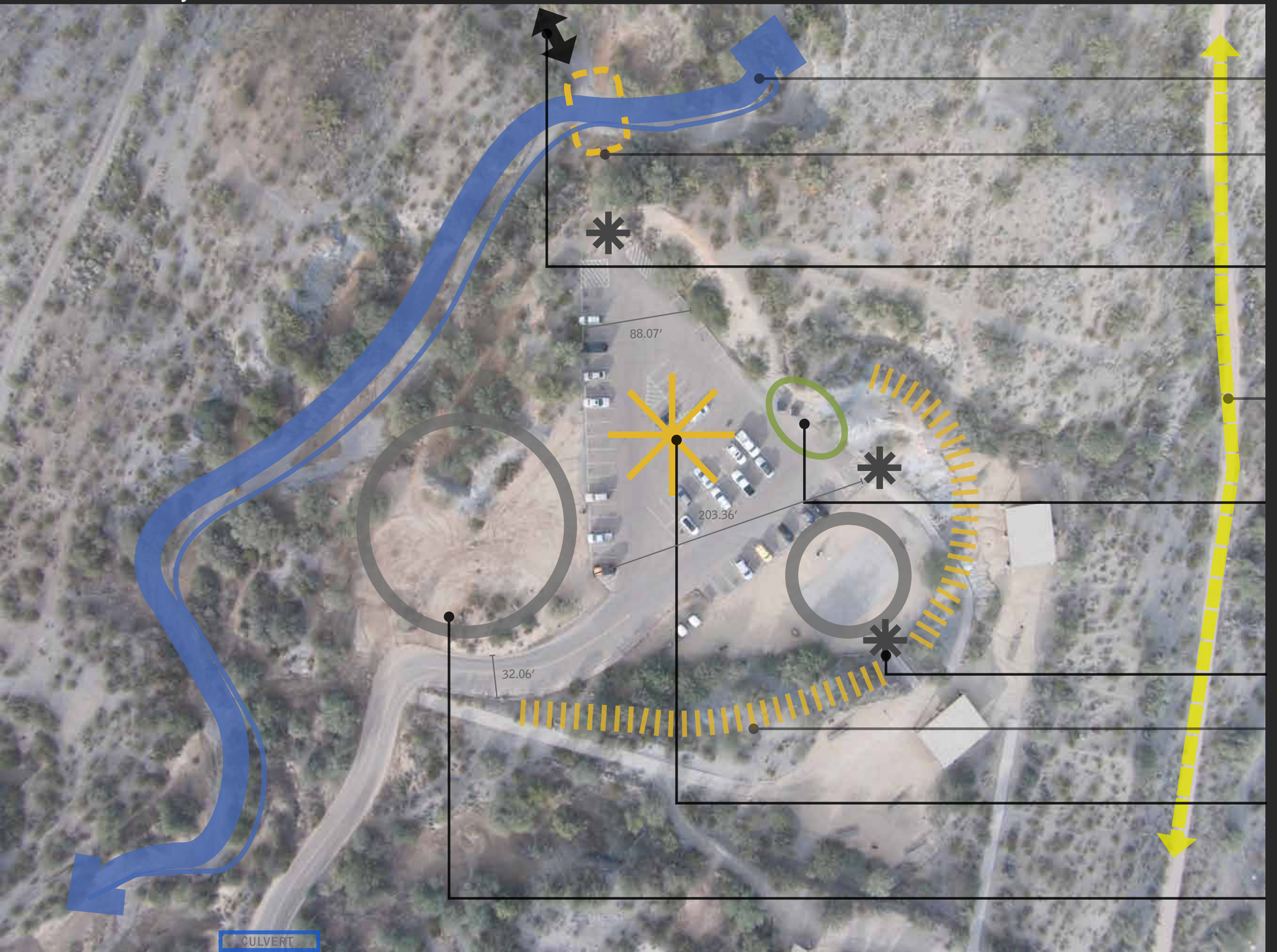
The equestrian parking area appears to be under-utilized by vehicles with trailers. Converting a portion of this area to standard parking stalls could diminish overflow parking on 40th Street while maintaining sufficient equestrian parking.

Future additions or improvements should protect and enhance views of Phoenix mountains.

High traffic at trailhead suggests that an increase in amenities similar to those existing would improve user experience. Additional seating areas and pavilions for picnics or landscape observation are recommended.

site analysis and recommendations

DREAMY DRAW PARKING AREA



A significant wash is found on the border of the trailhead parking area. This limits potential expansion to the west and north. Preservation of the wash is essential to future improvements.

A designated crossing over the wash could offer a point of interest as well as improve preservation of the feature.

No significant signage exists to indicate a connection under the freeway to the north mountain area. Adding this signage could increase trail use and improve wayfinding throughout the park.

Access to the main paved trail is somewhat long and unclear. Implementing a direct access, in addition to the ADA accessible area, would increase use by those unfamiliar with the park.

Various areas near the parking lot and along the trail show signs of erosion. Implementation of erosion control measures can improve amenities and increase trail appearance.

Trail/parking interface areas are opportunities for signage, amenities, and information kiosks.

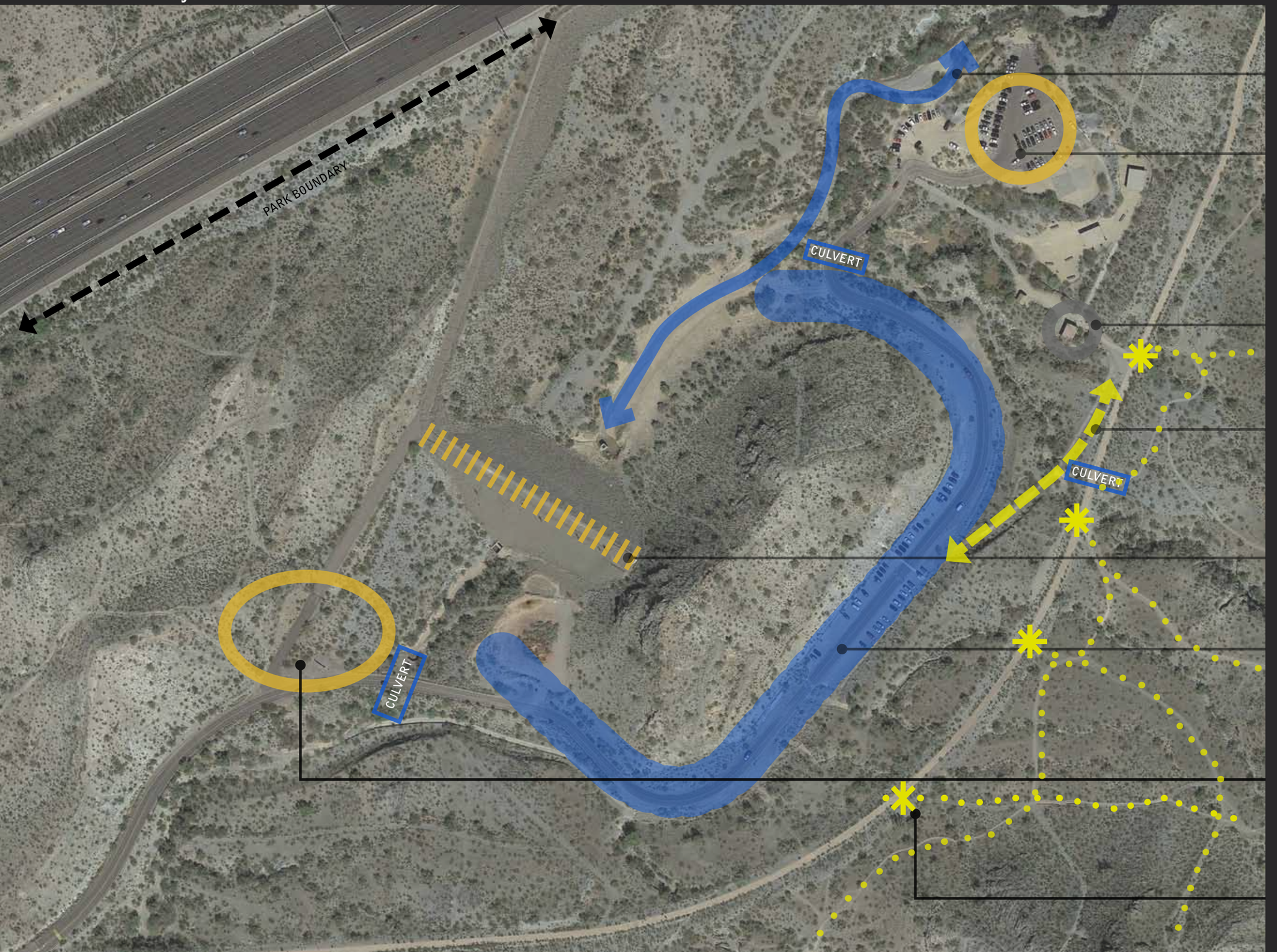
Steep slopes around the parking area limit expansion to the east and south.

Parking volume could be potentially increased by modifying the existing layout.

Open spaces near parking areas could be converted to stalls allowing for more vehicular parking during peak times.

site analysis and recommendations

DREAMY DRAW PARKING AREA



A significant wash is found on the border of the trailhead parking area. This limits potential expansion to the west and north. Preservation of the wash is essential to future improvements.

Main parking area is overwhelmed on peak use days and during peak hours. Additional parking areas should be considered.

The restroom for this trailhead is distant from the other main amenities. An additional facility would improve ease of access and user experience.

Although a trail exists here, parking below is prohibited and the trail should be blocked to discourage illegal parking.

Spillway and flood area are important features regulated by the Army Corps of Engineers. These areas should be conserved and protected when improvements to trailheads are made. Improvements should not interfere with the function of these features.

Parking is prohibited through parts of this area due to an emergency overflow channel restriction.

This is a potential area for more parking. Access road and various non-designated trails already exist. The spillway could become a point of interest with interpretive signage and historic information.

Limited trail signage exists on the main paved trail making it difficult to navigate smaller trails that link to the paved trail.

Figures 3.10 and 3.11: Images of existing trails and trail signage collected during the trails evaluation.

3.4 Trails

When addressing trailhead and parking areas within the preserve, the project team also determined it necessary to perform an evaluation of the trails within the preserve. During the summer and fall of 2015, aerial imagery and GIS shapefiles provided by the City were used to analyze existing designated and non-designated trail routes. In December 2015, an on site investigation of the trail system was conducted to verify information gathered digitally and to fine tune management strategies regarding the trails. Investigators spent three days hiking the existing designated trails and exploring a vast majority of non-designated trails (see **Figures 3.10 and 3.11**). Data was recorded, noting the condition of trails, potential areas for restoration, and potential non-designated trails to be improved for designated use. A photo log was kept during the evaluation for reference in the production of a proposed trails management map.

Following completion of the on site trail evaluation, the findings were compiled into a draft trails management map and submitted it to the City for review. The draft map included:

- Location, length, and difficulty level of all currently designated trails
- Location and amenities of all existing trailheads
- Location of most areas currently closed for restoration
- Location of non-designated trails proposed for restoration
- Location of non-designated trails proposed for improvements and designation
- Location and elevation of major peaks in the preserve
- Location of trail nodes between designated trails and distances between nodes

Preliminary suggestions were given to the City regarding trails that could potentially become designated for specific uses such as mountain biking or hiking only trails. The City of Phoenix reviewed the draft trail management map and provided revisions and comments. The City determined that for the time being, aside from the Summit Trail, no other trails would be designated to a single use. The City evaluated the non-designated trails proposed for improvements and narrowed the potential options to eight potential trails for future designation.

DRAFT

PHOENIX MOUNTAINS PRESERVE

2015 ESRI AERIAL IMAGE
Date: December 16, 2015
Author: ZS

- Park Boundary
- USGS Contours
- XXXX Peaks
- Trailhead/Parking Area
- Trail Nodes
- Non-Designated Trails to be Restored
- Potential Trails to be Added
- VARIES Existing Designated Trail Information Shown in Table Below
- Trails Currently Closed for Restoration

- Parking
- Restrooms
- Trailhead/Hiking
- Water

0 225 450
Feet

Mountain View Rd
Hatcher Rd
28th St
32nd St
40th St
Tatum Blvd
Double Tree Ranch Rd
SR-51 (Piestewa Freeway)
Dreamy Draw Dam
Dreamy Draw Trailhead and Parking Area
#220 Dreamy Draw Nature
40th Street Trailhead and Parking Area
#100 Charles M. Christiansen Memorial Trail
#1A Perl Charles Memorial Trail
VOA7
#8 L.V. Yates Trail
#302 Freedom Trail
#304 Nature Trail
#300 Summit Trail
#8A Quartz Ridge Trail
#8B Ruth Hamilton Trail
Navajo Trailhead and Parking Area
Summit Trailhead and Parking Area
Apache Trailhead and Parking Area/Unnamed Parking Area 3
Mojave and Hopi Trailhead and Parking Area/Unnamed Parking Area 2
#200 Mohave Trail
Unnamed Parking Area 1
#202 Mohave Connector
32nd Street Trailhead and Parking Areas
Orangewood Ave
Myrtle Ave
Glendale Ave
Squaw Peak Dr
Ocotillo Rd
Sierra Vista Dr
Lincoln Dr

Existing Features and Amenities

Unnamed Parking Area 1
- 24 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Summit Parking Area
- 48 standard parking stalls
- 1 ADA accessible stall
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Navajo Parking Area
- 33 standard parking stalls
- 4 ADA accessible stalls
- 1 restroom facility
- 8 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 2
- 3 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Mojave Parking Area
- 33 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 3 ramada structures
- 2 utility structures
- No equestrian parking

Hopi Parking Area
- 30 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 2 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 3
- 8 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Apache Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 5 ramada structures
- No utility structures
- No equestrian parking

32nd Street Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- No restroom facilities
- No ramada structures
- 1 utility structure
- No equestrian parking

40th Street Parking Area
- 61 standard parking stalls
- 3 ADA accessible stalls
- 1 restroom facility
- 1 ramada structure
- No utility structures
- Equestrian parking

Dreamy Draw Parking Area
- 61 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 2 ramada structures
- 1 utility structure
- Equestrian parking

Existing Designated Trail Information

#	Trail Name	Color	Miles	Difficulty	Elev Low	Elev High
1A	Perl Charles Memorial	Yellow	4.8	Moderate/Difficult	1340	2200
8	L.V. Yates Trail	Light Green	2.5	Easy/Moderate	1640	1860
8A	Quartz Ridge	Gold	1.7	Moderate	1300	1800
8B	Ruth Hamilton	Pink	0.9	Moderate/Difficult	1540	1970
100	Charles M. Christiansen Memorial	Light Pink	10.7	Easy/Moderate	1290	2080
200	Mohave	Teal	0.4	Easy/Moderate	1480	1788
202	Mohave Connector	Magenta	1.5	Easy/Moderate	1300	1500
220	Dreamy Draw Nature	Sky Blue	1.5	Easy/Moderate	1380	1580
300	Summit	Slate Blue	1.2	Moderate/Difficult	1400	2608
302	Freedom	Peach	3.7	Moderate/Difficult	1400	2120
304	Nature	Salmon	1.5	Easy/Moderate	1610	1790

Figures 3.12 and 3.13 The management plan proposes to increase stalls, improve infrastructure, and connect more trails to improve the overall experience for visitors.

3.5 Public Use

The City determined that the public's opinion was essential in developing management strategies and conceptualizing potential improvements for the preserve. To capture and evaluate the public's opinion, the project team developed a user survey. The draft user survey was reviewed by the City of Phoenix. Following the City review, the existing content was revised to include additional questions. The final public survey included the following questions:

- How far did you travel to come to the park?
- How often do you use park facilities?
- Generally, when do you use the trail(s)?
- What time of day do you use the trails?
- How do you access the park?
- What is your primary activity at the park?
- If applicable, what is your secondary activity at the park?
- Why did you choose to visit the park?
- How would you describe your experience finding a parking space when visiting the park?
- How often do you use this route/trail?
- Why did you choose this route/trail?
- How would you describe the effectiveness of the trail markers showing the designated trail routes?
- What trailhead improvements would you like to see most at the park?
- Do storms, activities of other visitors, wildlife, violence, or wildfires make you feel unsafe about being in the park or in the park proximity?
- Do the activities of other trail users affect your experience at the park?

The project team felt that these questions would provide the information needed from the public to make decisions regarding the management and improvement of the park (see **Figures 3.12 and 3.13**).

Figures 3.14 and 3.15 Photos taken of full parking lots due to visitors coming to the preserve by vehicle.

The survey was initially administered on site at various locations in the preserve. Users were given a hard copy of the survey and asked to complete it. This method was used on two separate occasions: November 2014 and February 2015. A total of 171 surveys were completed. The project team felt that the response was inadequate for the annual number of visitors to the preserve and did not provide a sound basis for the general public opinion.

To capture a larger audience and receive more survey responses, the survey was placed on the project website, www.phoenixmountainspreserve.com. The survey was linked on the City's website and various hiking and mountain biking enthusiast group sites and online forums. The response from the online survey was successful in comparison with the online survey.

A total of 1,258 surveys were collected online in six months. The survey was closed in December 2015. Initially, the online surveys leaned toward the opinions of mountain bikers, likely due to the survey being distributed to multiple mountain biking clubs. After some time, responses evened out and the survey results were more balanced.

A summary of the data collected from both the online surveys and on-site surveys is as follows:

- Travel distance of park users was evenly distributed from 0-50 miles from the park.
- Nearly half of the visitors surveyed use the park on a daily basis.
- Users visit the park equally on weekdays and weekends.
- Nearly ¾ of all visitors use the park in the morning.
- Over half of all visitor access the park by vehicle and park at the designated trails (see **Figures 3.14 and 3.15**), nearly 20% walk from surrounding neighborhoods.
- The primary uses in the park are hiking and mountain biking and are evenly distributed.
- Most visitors come to the park for exercise purposes; being outdoors and participating in adventurous sports are also main reasons for park visitation.
- Overall, users find that parking is generally available during the day and full during peak use periods.
- Half of the time, visitors use the same trail.
- Close, convenient access influenced the route selection of more than half of visitors.
- Nearly half of users found the trail markers were adequate.
- Visitors have mixed opinions over the types of improvements to be done at the park.
- Most visitors feel safe while visiting the park.

For a complete overview of the survey results see the pie charts and bar graphs on pages 35-37.

Top to Bottom: Figures 3.16 Pedestrians are shown climbing the Summit Trail. **Figures 3.17** Equestrian area at the 40th Street trailhead.

The surveys revealed the following information about trail use:

Pedestrian Use

The Summit Trail attracts the most pedestrian traffic (see **Figure 3.16**). The Summit Trail allows users to reach Piestewa Peak and capture a unique view of Phoenix's city skyline. The two-way trail is shared by hikers, weekend adventurists, and marathon runners. The volume of users is cause for safety hazards along the rugged and steep terrain of the trail. The proposed access management plan would connect various trailheads to allow visitors to safely arrive at the base of the peak to begin their ascent.

Mountain Bike Use

Many visitors mountain bike within the preserve, especially in the northern portion at 40th Street and Dreamy Draw where accessibility is best. These trails have a variety of technical features and bypass routes. Several of the trails in the Piestewa area, such as Apache, Mohave, Hopi, Summit, and Navajo, are unsuitable for beginner and intermediate cyclists due to difficult terrain.

Equestrian Use

Equestrian users are most prevalent in the 40th Street and Dreamy Draw trailheads where access is available. Currently, these trailheads offer equestrian parking and trails (see **Figure 3.17**).

Special Designation Areas

Some trails have special designation areas that restrict use. The Summit Trail prohibits dogs and mountain bicyclists. At this trail, pedestrians can avoid safety conflicts that may sometimes result from multi-use trails. The Apache Trailhead, located near the top of the preserve, is the emergency access hub with a helicopter accessible pad. Some of the proposed designs were restricted due to these special designations.

Figures 3.18 and 3.19 Examples of regulatory signage in the preserve.

Prohibited Activities

Regulations in the preserve regarding prohibited activities include but are not limited to the following:

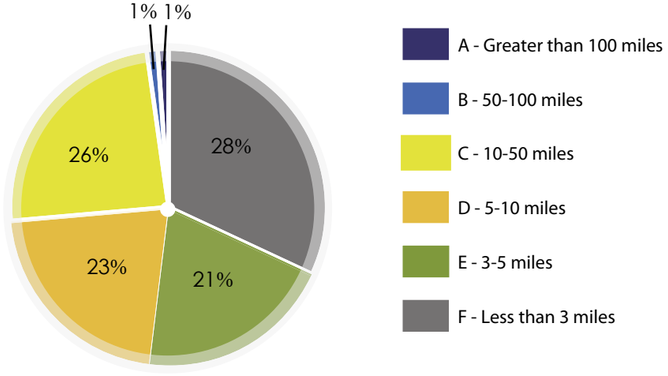
- Pets must be on leashes
- No overnight camping
- No 4x4 vehicles
- No activities outside of the specified operating times (dusk and dawn)
- Noise limits for loud music

These items are listed on signs throughout the preserve (see **Figures 3.18 and 3.19**)During the analysis and evaluation phase of the access and adaptive management plan, it was determined that primary concerns for prohibited activities revolve around pets and illicit activities in the Dreamy Draw area. Trail users complained that many users with pets do not follow leash rules and in addition do not properly clean up after their pets.

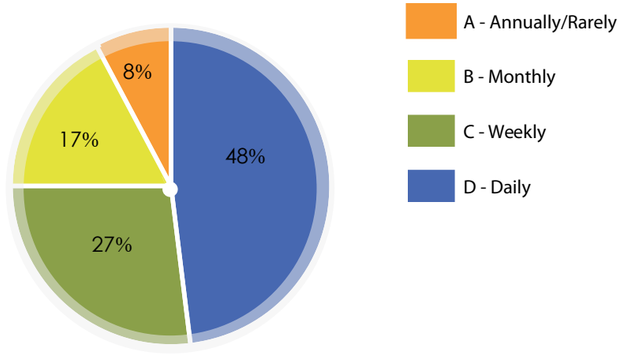
In the Dreamy Draw areas, there are consistent reports of illicit activities occurring at the trailhead. These activities discourage some users from visiting the preserve at this location despite the number of trails accessible from Dreamy Draw. These occurrences are known and have been noted as part of the evaluation.

In both cases, increased monitoring and enforcement are the key to resolving the issues. The new trailhead concepts in Chapter 2 proposed increased lighting and security cameras to allow law enforcement to monitor the areas better at night and reduce illicit activities. More enforcement regarding pet rules can only be implemented by park rangers and by enhancing user experience so visitors take a greater sense of ownership in the park and have more incentive to follow rules.

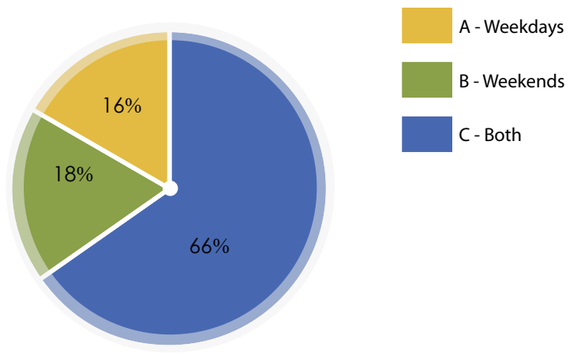
How far did you travel to come to the park?



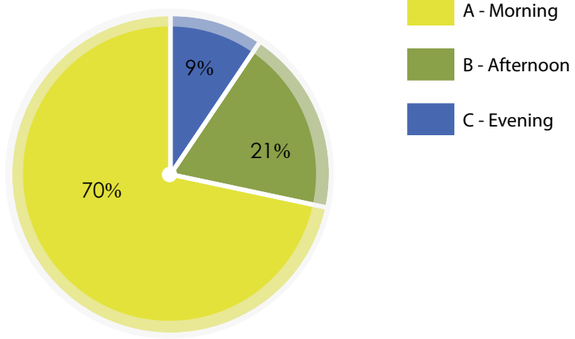
How often do you use the park facilities?



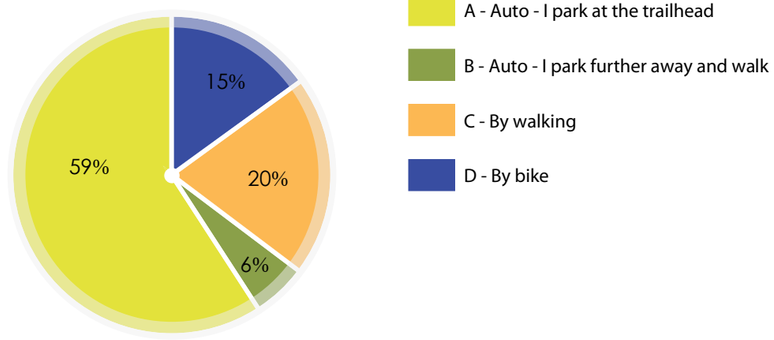
Generally when do you use the trail(s)?



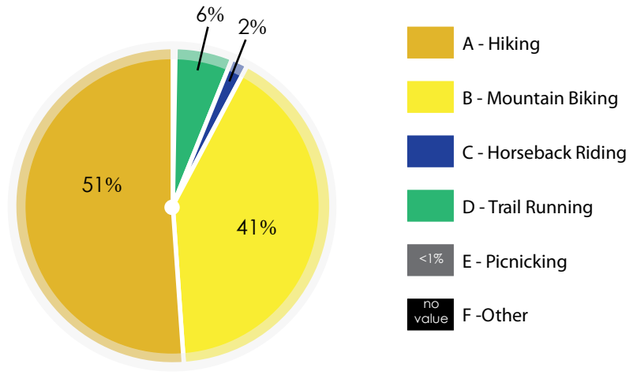
What time of day do you use the trail(s)?



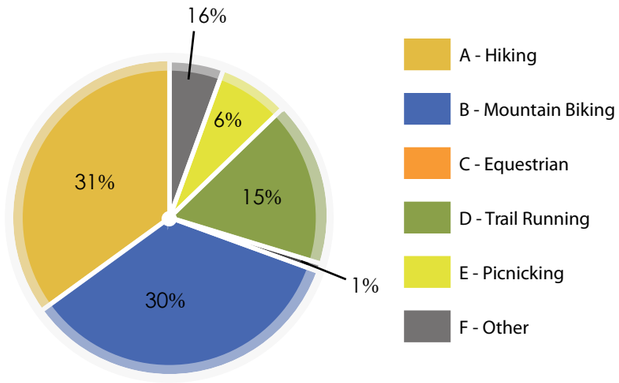
How do you access the park? (circle all that apply)



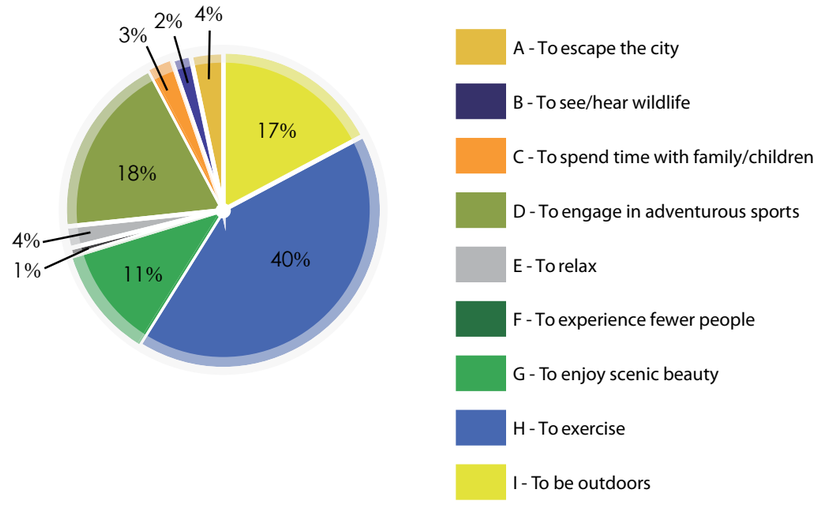
What is your primary activity in the park? (Circle one)



If applicable, what is your secondary activity at the park? (circle one)

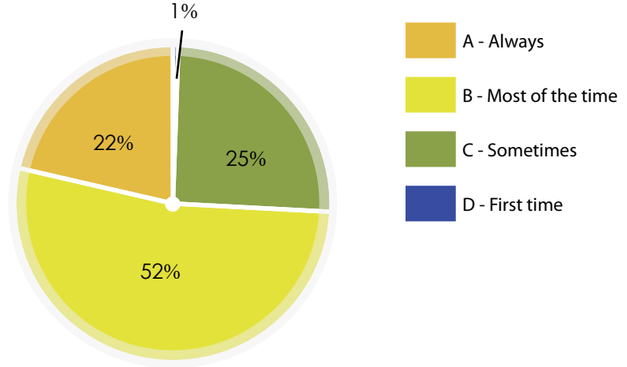


Why did you choose to visit the park?

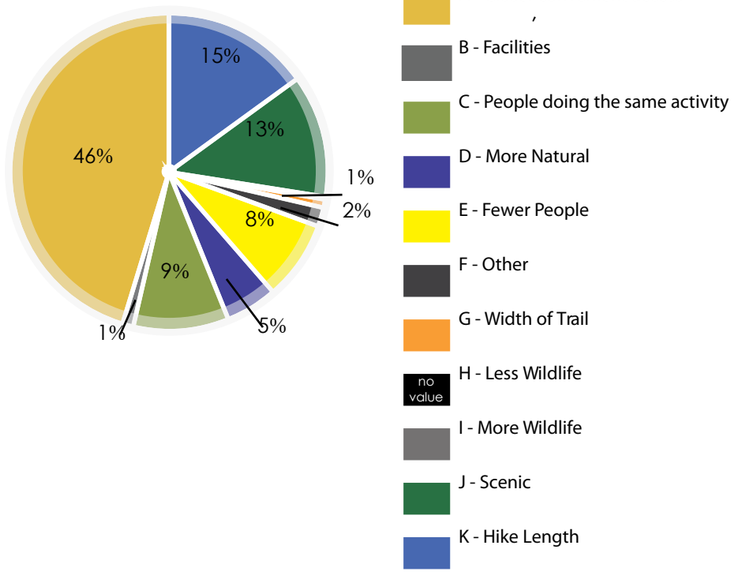


How would you describe your experience finding a parking space when visiting the park?

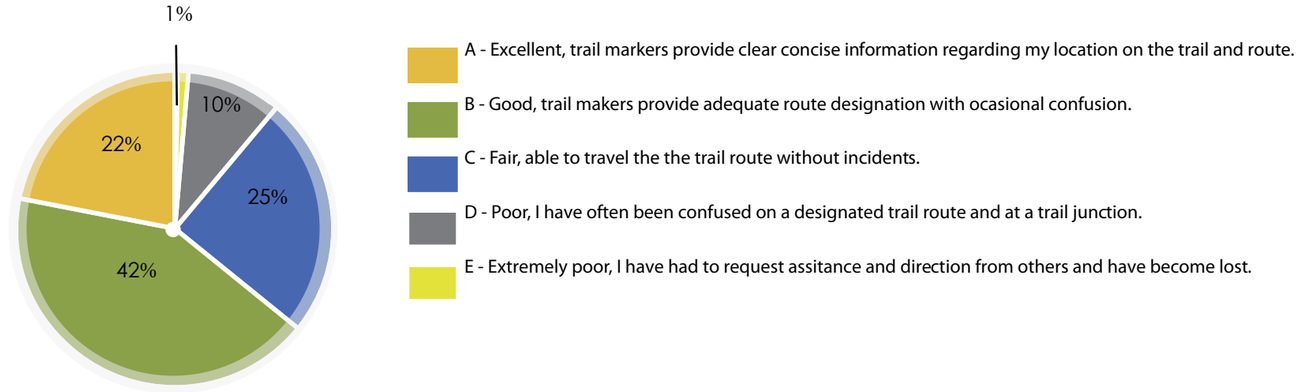
How often do you use this route/trail? (circle one)



Why did you choose this trail/route? (Circle one)

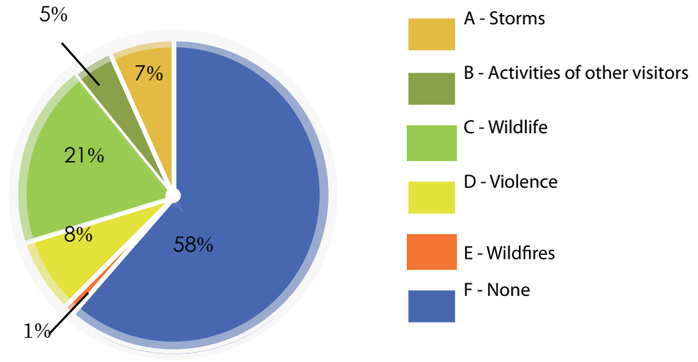


How would you describe the effectiveness of trail markers showing the designated trail routes? (circle one)



What trailhead improvements would you like to see most at the park?

Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



Figures 3.20 and 3.21 Examples of entrances to the preserve where traffic counts were taken.

3.6 Traffic

Traffic data was collected using manual counts and portable traffic counters to understand visitor numbers and use patterns. Manual counts were initially conducted in early November 2014 to gauge the need for more extensive traffic counts. During these manual counts, observers monitored traffic entering and exiting the park at the four principal trailheads: Piestewa, Dreamy Draw, 40th Street, and 32nd Street (see **Figures 3.20 and 3.21**). A tally sheet was used to monitor vehicles entering and leaving the park during peak hours.

Following manual counts, automated counters were used to collect data for longer periods of time so that results would provide a broader understanding of park visitation. Portable automated traffic counters were used from January 14, 2015 to January 20, 2015 in three locations: Dreamy Draw, 32nd Street, and 40th Street trailheads. Traffic counts were collected throughout the week. Data was compiled to show average daily traffic, average AM traffic, average PM traffic, and peak AM/PM volumes and hours. Additional data for the Piestewa Peak Area from the week of November 24, 2014 to November 30, 2014 was used. With this data, informed decisions were made regarding access management based on the daily vehicular traffic in the park.

During the November monitoring period, the average daily traffic count entering the park was approximately 4,053 vehicles. This is likely due to the Thanksgiving holiday. During the January monitoring period, the average daily traffic count entering the park was reduced to approximately 1,490 vehicles. The January count of 1,490 daily vehicles is more indicative of the typical day at the preserve; whereas, the 4,053 vehicle count reflects typical visitation on a holiday. Weekends would likely yield similar vehicular traffic as weekdays but with slightly more persons per vehicle.

Figures 3.22 and 3.23 Examples of access roads in the preserve.

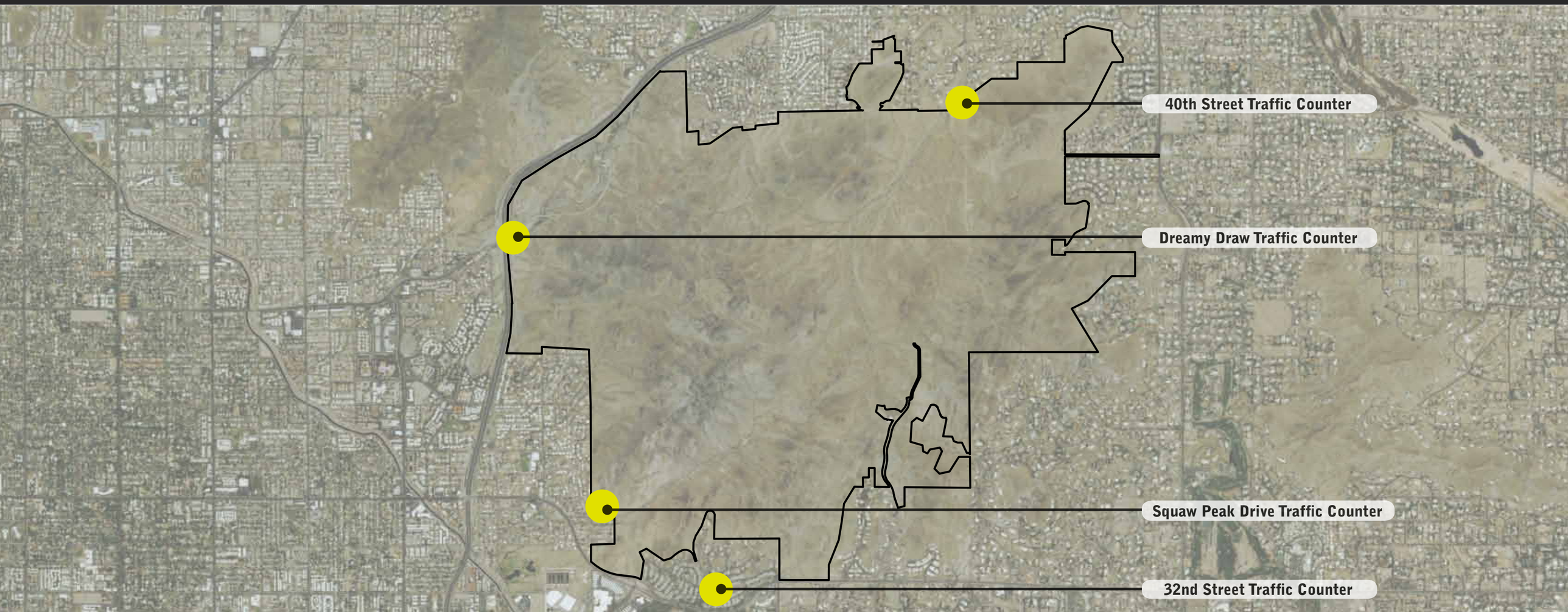
The data collected from traffic counts was extrapolated to estimate the annual number of visitors to the park. During the 2015 calendar year, there are 10 federal holidays, 251 working days, and 104 non-working days. By multiplying the vehicular traffic counts by the estimated number of persons per vehicle and the number of days in a year, the approximate number of visitors to the park was determined.

	Holiday (Federal)	Work Day (Monday-Friday)	Non-working Day (Saturday and Sunday)
Estimated Daily Vehicles	4,053	1,490	1,490
Average Person/Vehicle	2.5	1.5	2.0
Days per Year	10	251	104
Visitors per Year on Specified Days	101,325	560,985	309,920
Total Estimated Annual Visitors	972,230		

Assuming 101,325 visitors during holidays, 560,985 visitors on typical workdays, and 309,920 visitors on non-working days, the estimated annual number of visitors to the Phoenix Mountains Preserve at the four trailhead locations included in the study (40th Street, 32nd Street, Dreamy Draw, and Squaw Peak Drive) is 972,230 individuals.

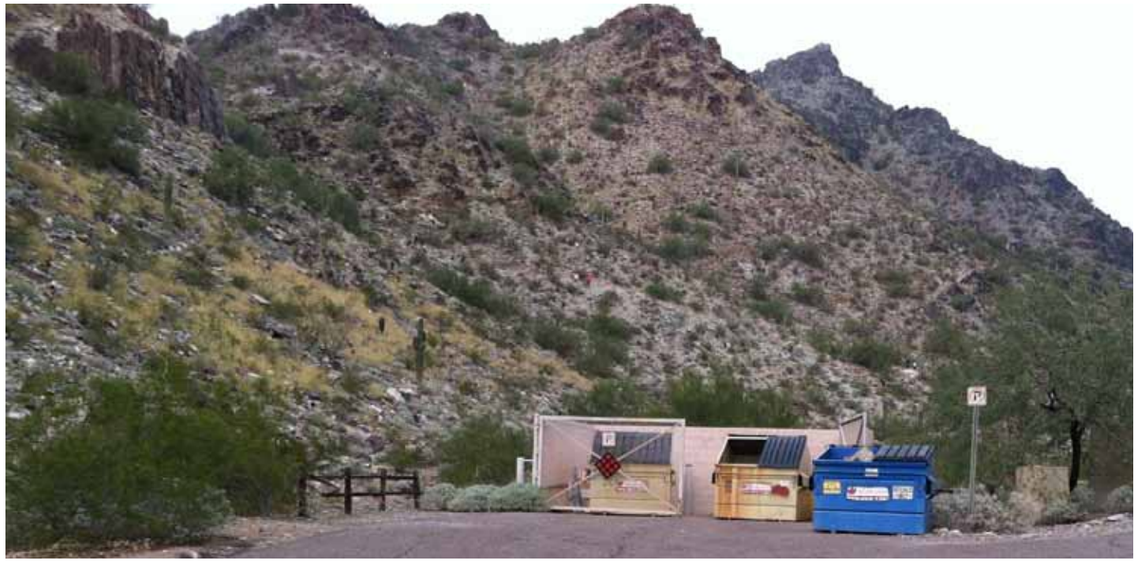
With this estimation of annual visitors in conjunction with an understanding of the amount of vehicles entering the park during normal and peak use periods, informed decisions were made regarding parking infrastructure, access roads (see **Figures 3.22 and 3.23**), and public amenities, such as restrooms and ramadas.

TRAFFIC DATA OVERVIEW



Date	Traffic Counter Location	Average Daily Traffic	Average AM Traffic	Average PM Traffic	Peak AM Hour	Peak PM Hour	Peak AM Volume	Peak PM Volume	Total Available Parking Stalls
1-14-2015 to 1-20-2015	Dreamy Draw Drive Eastbound	568	261	307	10:30	2:45	60	54	63
1-14-2015 to 1-20-2015	Dreamy Draw Drive Westbound	568	192	376	11:45	12:15	65	62	
1-14-2015 to 1-20-2015	32nd Street Parking Lot Entrance Eastbound	198	101	97	10:30	3:45	21	21	25
1-14-2015 to 1-20-2015	32nd Street Parking Lot Entrance Westbound	218	97	122	10:00	5:15	24	22	
1-14-2015 to 1-20-2015	40th Street South of Mission Lane Southbound	524	254	266	9:15	4:00	62	56	64
1-14-2015 to 1-20-2015	40th Street South of Mission Lane Northbound	550	207	344	10:45	5:00	67	67	
11-24-2014 to 11-30-2014	Squaw Peak Drive Eastbound	2473	1230	1243	10:00	12:00	273	247	211
11-24-2014 to 11-30-2014	Squaw Peak Drive Westbound	2553	1286	1267	10:00	12:00	283	256	
12-26-2014 to 1-1-2015	Squaw Peak Drive Eastbound	1067	470	597	11:00	12:00	115	127	211
12-26-2014 to 1-1-2015	Squaw Peak Drive Westbound	1064	297	767	11:00	2:00	104	132	

For more information, see **Appendix C: Traffic Analysis**.



Figures 3.24 and 3.25 Existing utilities and infrastructure.

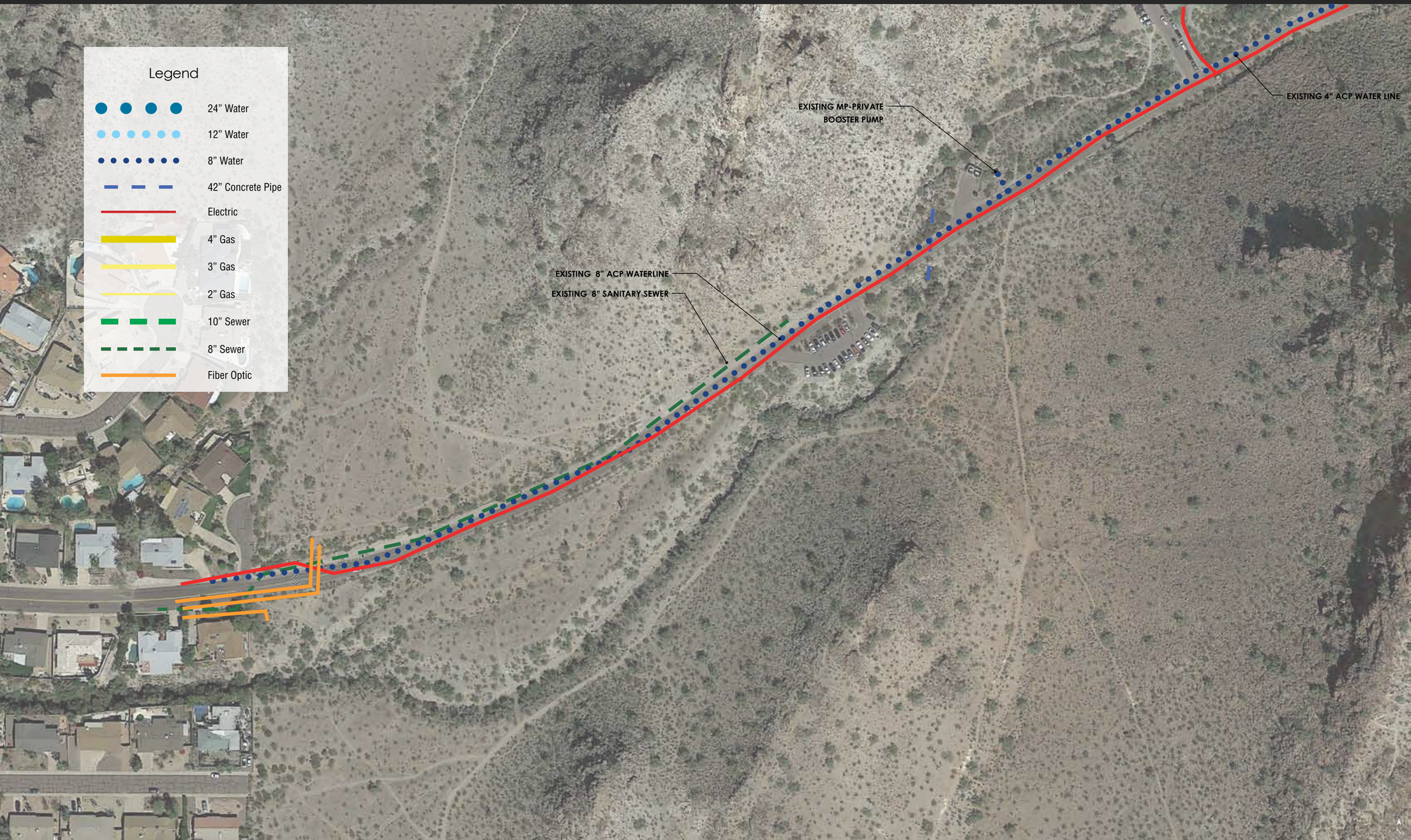
3.7 Utilities

While considering improvements for the Phoenix Mountains Preserve, existing infrastructure was evaluated (see **Figures 3.24 and 3.25**). Existing utilities were located and mapped to aid in the conceptualization of new trailheads. A variety of methods were used to locate utilities, including survey, review of city documents, and utility locating equipment.

Each trailhead was initially surveyed for basic topography, edge of pavement, and location of existing structures. This data was used in the opportunities and constraints analysis of the trailheads and access roads. Any utilities indicated by above surface features were included in the survey. The location of subsurface utilities were determined through review of City documentation. Major utility companies were contacted regarding fiber optic, power, gas, sewer, and water lines that were unidentifiable during survey or document review. All utilities were mapped and recorded as part of the access and adaptive management plan and were used in the design of new trailhead concepts.

PHOENIX MOUNTAINS PRESERVE

PIESTEWA PEAK AREA UTILITIES MAP



PHOENIX MOUNTAINS PRESERVE

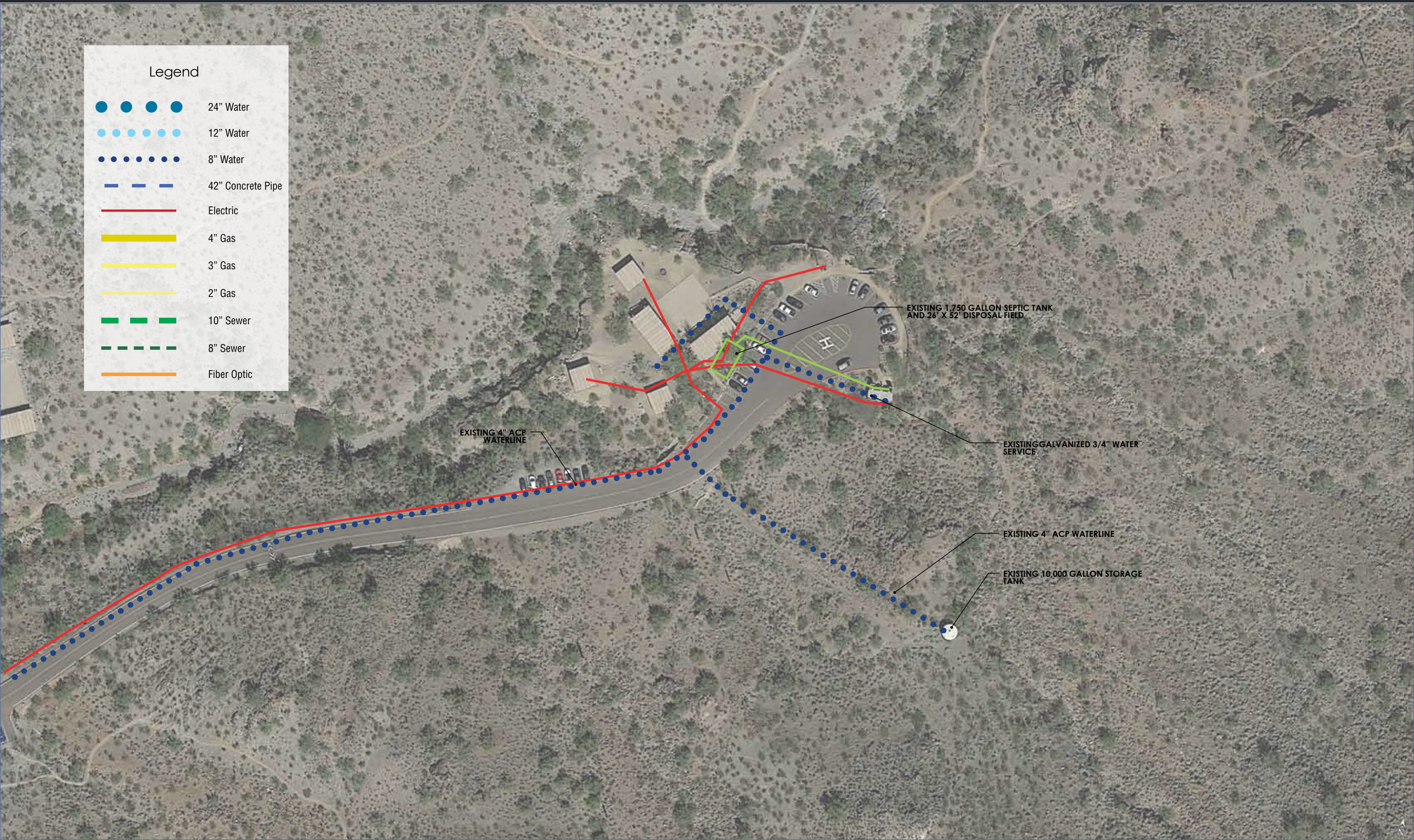
PIESTEWA PEAK AREA UTILITIES MAP

PHOENIX MOUNTAINS PRESERVE

PIESTEWA PEAK AREA UTILITIES MAP

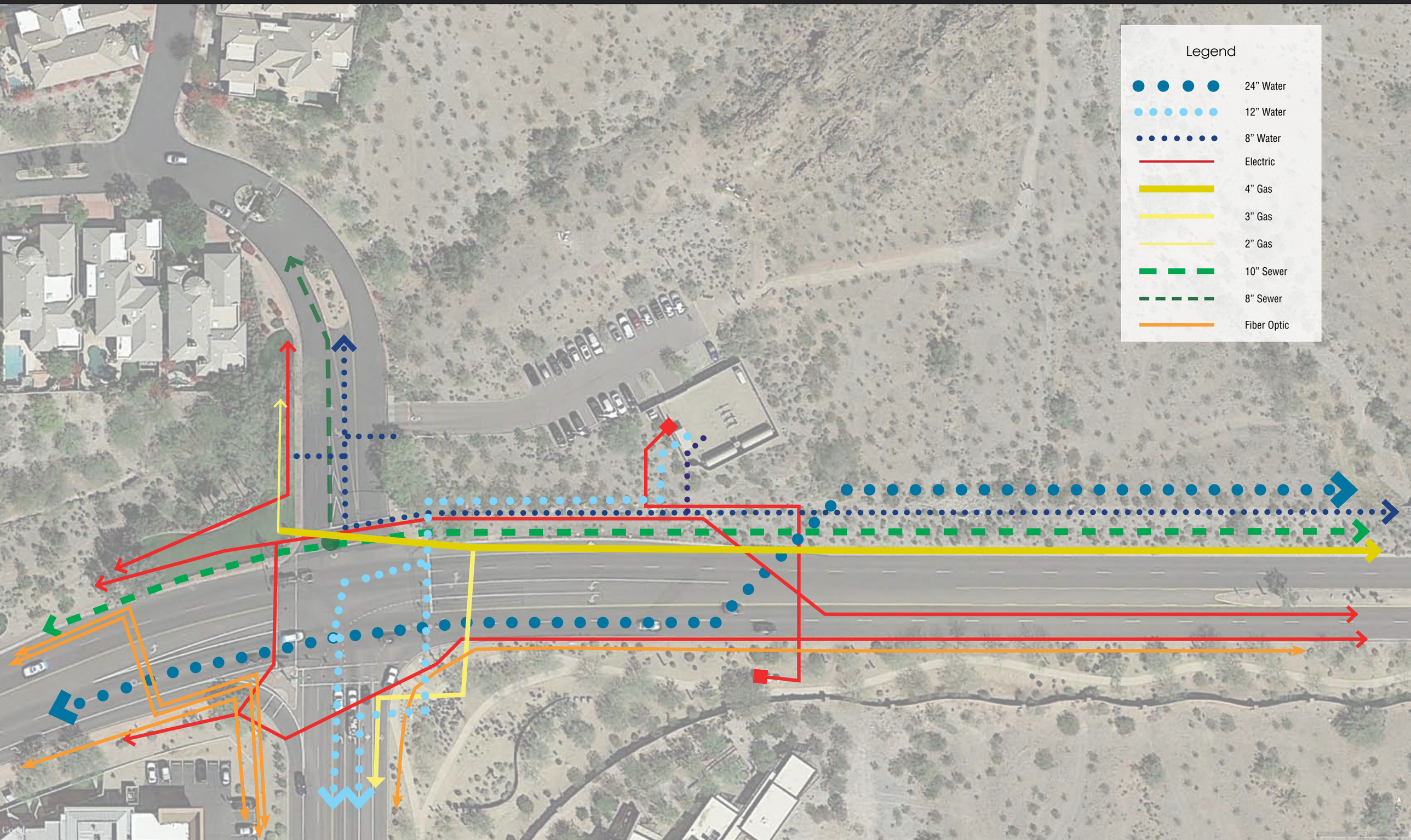
PHOENIX MOUNTAINS PRESERVE

PIESTEWA PEAK AREA UTILITIES MAP



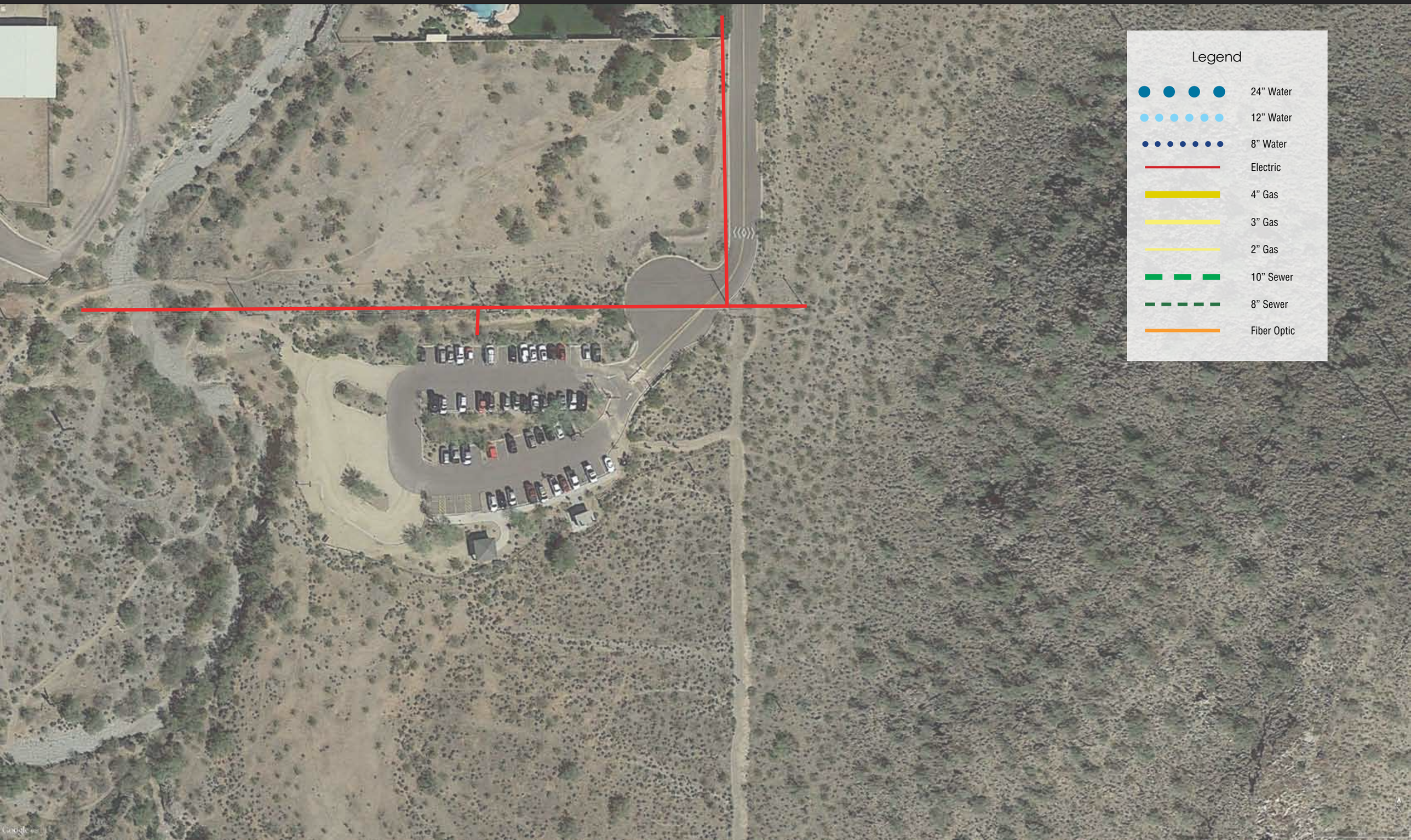
PHOENIX MOUNTAINS PRESERVE

32ND STREET AREA UTILITIES MAP



PHOENIX MOUNTAINS PRESERVE

40TH STREET AREA UTILITIES MAP



PHOENIX MOUNTAINS PRESERVE

DREAMY DRAW AREA UTILITIES MAP

Chapter 4

Management Strategies

Figure 4.1 The management plan proposes to upcycle unused infrastructure into signs to be placed throughout the park. This strategy will encourage an environmentally-friendly atmosphere within the natural park. **Figure 4.2** Existing Infrastructure, such as the seating area, will need to be strategically placed to encourage visitors to gather and relax after participating in recreational activities within the preserve. These items will be placed under shaded structures within gathering spots throughout the park.

4.1 Environmental Resources

Natural Resources

Corrective action will need to be taken to stop the erosion of trails. Low permeability in soils and steep terrain can amount to high volumes of run-off during rainfall events. Trails that cross drainage paths will need appropriate signage indicating a drainage crossing.

The proposed plans would limit the proximity of infrastructures within washes to avoid storm water run-off. Other infrastructures (e.g., restrooms, street lights, security cameras, etc.) would function with solar powered energy s to promote an environmentally-friendly atmosphere. The City plans to upcycle materials from unused materials into signage (see **Figure 4.1**).

As the City expands, visitors will likely continue to venture off of the trails to explore the natural environment. These explorations may be dangerous and could negatively impact the natural environment. Proper signage will be needed to properly mark these trails. The signs will help discourage users from venturing off the trails and disturbing and/or destroying the natural habitat within the preserve.

Visual Resources

Due to use of non-designated trails, several areas within the park have been visually impacted and now lack the natural beauty of the area. These non-designated trails should be reclaimed with regulatory signage, and through revegetation with native seed mixes and plant materials.

The design concepts propose to strategically place infrastructure (e.g., signs, ramadas, roadways, parking areas, maintenance buildings, etc.) for easy public access with minimal visual impacts from other areas in the park (see **Figure 4.2)**. Where necessary, additional visual buffers wll be implemented to preserve the scenic integrity of the site. Trailheads, as well as trails should be constructed so as to create minimal impacts from surrounding viewers while capitalizing on views of nearby peaks, the city skyline, and other natural features.

Figure 4.3 and 4.4 Examples of intermittent washes and vegetation.

Water Resources

The parking areas and trails in the preserve are scattered with intermittent washes (see **Figures 4.3 and 4.4**). The volume of water in these washes during peak rain events is evidenced by the depth of these washes and the debris. Due to the volume of water in the washes, the access and adaptive management plan recommends the following management strategies:

- Avoidance should be the primary strategy concerning improvements and the intermittent washes;
- When trails or roadways must cross the washes, free span bridges should be used whenever possible;
- If culverts are used due to cost or space restrictions, they should be oversized to accommodate the high flows and large amounts of debris; and
- Regular inspections of intermittent washes should be conducted to ensure that channels are free of debris that may cause problems if pushed further down stream.

Biological Resources

Due to the location of the preserve, biological resources are of high value. Visitors enjoy the interaction with nature in the preserve. The wildlife management strategies for biological resources include the following:

- Require environmental studies with a no adverse effect conclusion preceding all improvements;
- Protect species and habitats of state and federal concern;
- Maintain and preserve native biological diversity;
- Reduce the spread of invasive species and provide integrated control of noxious weeds;
- Where and when feasible, improve degraded habitats in a strategic manner to increase landscape connectivity and native diversity;
- Reduce and minimize fragmentation of habitats; and
- Maintain landscapes that provide regional connectivity to habitats surrounding the preserve.

Figure 4.5 and 4.6 Figures of features evaluated for cultural resources.

Cultural Resources

None of the known cultural resources, such as the historic Piestewa Trail (see **Figure 4.5**), historic Rico Mine, and historic mining features associated with the Mercury Group claims, are within the areas where potential improvements will occur. As such, these cultural resources would not be affected by the proposed project as it is currently scoped. The access and adaptive management plan recommends that these features be preserved and that any potential improvements be directed away from these features.

The ramadas along Squaw Mountain Drive were estimated to have been constructed during the late 1960s (see **Figure 4.6**). These structures are not old enough for consideration as historic properties under Section 106, but they are nearing that age where historic preservation discussion and planning will be necessary under the park's management plan.

The City of Phoenix Archaeology Section indicated that there has not been any archaeological surveys within the study area within the last 10 years. Since the area has been heavily disturbed by recreational use, the presence of *in situ* cultural resources is unlikely. Nonetheless, the possibility of encountering cultural resources does exist. The park may consider posting signs regarding the illegality of cultural resource disturbance and collection in accordance with local, state, and/or federal law.

Figure 4.7 Current infrastructure at the Dreamy Draw trailhead will be aesthetically improved to include a natural element. **Figure 4.8** Each trailhead will require additional parking stalls for the increasing amount of visitors to the park.

4.2 Parking Areas, Trailheads, and Access Roads

Built in the 1950s, the parking areas and trailheads are outdated. These features have not been properly managed or maintained. To renovate the preserve's character and expand the infrastructure to provide proper capacity for the several visitors of the park, the following services have been provided:

- Maps of existing parking and trailheads;
- Evaluation of existing conditions through a comprehensive study that included photographs, examination, and use of existing features;
- Exploration of opportunities and constraints based on environmental, cultural, and social resources;
- Identification and mapping of utilities;
- Measurement, survey, and creation of as-built drawings of parking infrastructures and trailheads; and
- Preparation of concept plans that implement suggested changes and/or additions.

In addition, options were examined that would improve the management of the trailheads. The following list provides proposed actions for each trailhead:

- **Piestewa Peak:** The proposed plan for Piestewa Peak would connect the individual trailheads within the canyon to ensure the public can easily follow these trails. In addition, plans have been provided to update the existing infrastructure (e.g., restrooms, ramadas, etc.) and increase the amount of parking stalls to provide space for the increasing amount of visitors.
- **Dreamy Draw:** Public safety would be improved in this area by limiting illicit activities; updating existing infrastructure (e.g., restrooms, ramadas, etc.); and increasing the current amount of parking stalls (see **Figure 4.7**).
- **32nd Street:** This trailhead needs more parking stalls (see **Figure 4.8**), additional infrastructure, and a division between the trailhead and adjacent neighborhoods.
- **40th Street:** The 40th Street Trailhead only needs a few more parking stalls to accommodate the current users.

Figure 4.9 and 4.10 Examples of trails in the preserve.

4.3 Trails

Following data collection and evaluation of the trails system in the Phoenix Mountains Preserve (see **Figures 4.9, 4.10, 4.11, and 4.12**), it was determined that more analysis and data were needed to make decisions regarding the management of the trails. Before making long-term decisions regarding trail use, the preserve needs to inventory and provide detailed descriptions of its numerous designated and non-designated trails. The project team determined that the best management strategy for the trails would be to conduct a trails master plan for the preserve in the near future. A trails master plan should provide the following information:

- A refined list of all existing trails both designated and non-designated;
- A description of each trail, including a number or name, length, current condition, suspected use patterns, and necessary improvements or maintenance;
- Detailed list of each trail, including pictures and descriptions;
- Daily traffic count on each trail using trail counters; and
- Evaluation of the types of users for each trail (e.g., mountain bikers, hikers, trail runners or equestrian users).

Following the collection of this data, the trails master plan would provide the following trail management strategies:

- Policies regarding the maintenance, improvement, and use of designated trails;
- Plans outlining non-designated trails that should be reclaimed and others that should be improved and designated for official use;
- A trail classification system that includes trail type, difficulty ratings, and necessary signage; and
- A new composite trails map outlining all changes to the preserve regarding trails.

Figure 4.11 and 4.12 Additional examples of trails in the preserve.

The access and adaptive management plan has identified the need for a trails master plan study to best determine specific strategies for managing the numerous trails in the preserve. In addition to this recommendation, the following management strategies were mentioned among team members regarding trails:

- Performing trail reconstruction to ensure that trails used by mountain bikers meet International Mountain Bicycling Association (IMBA) standards will ensure the safety and enjoyment of users, the control of erosion, and the protection of natural resources.
- A risk management plan for trails will address trail areas that pose potential risks to users and provide safety measures to reduce the number of incidents, such as dehydration and heat exhaustion. To reduce the number of incidents, a risk management plan would propose such things as facilities to fill water containers at the base of the trailhead in addition to signage explaining the dangers and common occurrences of dehydration and heat exhaustion on trails.
- Without the support of users, no effort from managing agencies will matter; by implementing public outreach and education as management strategies for trails, the users will take stewardship for the trails in the preserve and will ensure that rules and regulations are followed.

To guarantee the safety of trail users at the park, a risk management plan should be developed. A risk management plan will provide guidelines to establish, manage, and maintain the preserve. This plan will be presented with a proper insurance policy and other strategies to reduce risks presented at the trails. The City hopes to provide a safe natural environment for trail users. By issuing a risk management plan, the trails can be designed with minimal risks for trail users. The following strategies address the concerns of the City while ensuring reduced user conflicts.

Figure 4.13 and 4.14 Photos from sewer and utility rehab projects in the region.

4.4 Traffic and Utilities

Traffic in the preserve should be managed through careful monitoring and evaluation. The access and adaptive management plan recommends performing traffic counts semi-annually on both normal and peak use days to continually understand the traffic and use in the preserve. By consistently collecting data, the managing agency will be able to make informed decisions regarding infrastructure improvements or limitations regarding use.

When planning and managing for utilities in the Phoenix Mountains Preserve, utilities should comply with relevant safety standards and regulations in addition to current City of Phoenix standards. Functional utilities are essential to provide a safe, controlled, and comfortable environment for visitors. The City should ensure the operational reliability of the utility systems by completing regular assessments and by providing a plan for response to utility systems failures.

A survey to locate existing utilities was performed as part of the access and adaptive management plan, but it is recommended that the City perform a complete evaluation of the utilities system (see **Figures 4.13 and 4.14**) in the preserve before proceeding with improvements. Following this evaluation and prior to construction, a program of policies and procedures consistent with the mission, vision, and values of the preserve should be developed and maintained for the specified time period.

Figure 4.15 and 4.16 Photographs from public meetings where educational outreach occurred.

4.5 Education and Outreach

Educational Opportunities

Visitors should be encouraged to gain insight on the preserve's historic and natural features (see **Figure 4.15 and 4.16**). The access management plan proposes to design a shaded area for preserve rangers to discuss the geology of the area with users. Parking and other infrastructure would be improved to allow space for school field trips; the large group ramadas are suitable for outdoor instruction for these school functions.

Interpretive Signage

Proposed plans would improve educational signage. Signs would include information on plants, wildlife, historic features, and the significance of the Piestewa area. The new signs will need to meet the City's new signage standards.

Chapter 5

Community and Public Involvement

Figures 5.1 and 5.2 PEC coordinated with the City to host several open houses to receive public input on issues and concerns. Based on their responses, design plans were provided to the City.

5.1 Public Outreach

During the first open house, the public was invited to provide comments and concerns regarding the existing trails, roads, and parking areas (see **Figure 5.1**). The project team, including the City of Phoenix Parks and Recreation Department, PEC, and InRoads Info, met with the public to discuss potential opportunities and constraints within the preserve.

Presentation boards depicting a preliminary site analysis for each trailhead area were shared at the second open house (see **Figure 5.2**). The various parking areas and trailheads included Summit, Navajo, Mohave, Hopi, Apache, 32nd Street, Dreamy Draw, 40th Street, and other unnamed parking areas. The project team was available for questions and concerns regarding the presented strategies.

At the third open house, presentation boards depicting initial concept plans for each trailhead area were displayed. The public was encouraged to express their comments or concerns on note cards. The public expressed positive feedback regarding the initial design plans.

The final open house presented preferred concepts of each trailhead. A survey was available on-site and online for attendees and interested parties to provide feedback on preferred rankings for trailhead and parking improvements. The project team also presented a draft Access and Adaptive Management Plan. More than 50 preserve users and community members attended the open house. The project team welcomed the additional input and has considered them in the latest editions of the trailhead and parking area concepts.

5.2 Response to Public Input

Public input was received through open houses, surveys, etc. Based on the results from these outreach methods, the design plans were developed to meet the needs of the City and public.

Figures 5.3 and 5.4 ABC 15 News provided the community insight on the City's plans to renovate the preserve.

5.3 Media Usage

During the first open house, ABC 15 provided media coverage to encourage involvement from community members (see **Figures 5.3 and 5.4**). The following article is provided on ABC 15's website:

City seeks public input on hiking infrastructure improvements, hiker safety

BY: Joe Bartels

POSTED: 4:47 PM, Aug 20, 2015

UPDATED: 7:21 PM, Aug 20, 2015

TAG: central phoenix | phoenix metro

PHOENIX - The Valley's hiking trails are in need of some improvements and hikers are being given the chance to have their voices and concerns heard.

The City of Phoenix Parks and Recreation Department is hosting a series of public open house meetings beginning Thursday, August 20th.

The goal is to gain perspective of what hikers would like to see in terms of infrastructure improvements along the Valley's 40 different trail heads.

ABC15 found hikers at Echo Canyon asking for more shaded areas to take refuge from the sun.

"The one thing I can think of is more shade spots, especially when you are getting toward the top, there's no where to take any cover for shade," Camden Nixon said.

Nixon said he's an avid hiker, and frequents Echo Canyon and Dreamy Draw.

"I think it's important, just to let the community have a voice into what goes into their parks," Nixon said.

Others would prefer more drinking fountains and more parking.

The head of the Phoenix Parks and Recreation Department said aside from the infrastructure improvements and recommendations, steps have been taken to improve hiker safety as well.

Signs are posted at Echo Canyon warning of the difficult hike and list a number of safety precautions to take.

Parks officials are also seeking feedback on damaged vegetation, trail braiding, offshoots, erosion as well as other topics.

The first meeting for public input is Thursday at the Devonshire Community Center located at 2802 E. Devonshire Avenue. It's scheduled from 6 p.m. to 8 p.m.

The second meeting, set for October 1, 2015, will be a presentation for each trailhead with recommendations from the first meeting.

The third meeting, set for Wednesday, November 18, 2015, will be a final draft presentation on the plan to improve hiking trails.

People wishing to have their voices heard are encouraged to take an online survey.

http://www.abc15.com/news/region-phoenix-metro/central-phoenix/city-seeks-public-input-on-hiking-infrastructure-improvements-hiker-safety

Appendix

A

Site Inventory and Analysis Maps

Unnamed Parking Area 1
- 24 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Summit Parking Area
- 48 standard parking stalls
- 1 ADA accessible stall
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Navajo Parking Area
- 33 standard parking stalls
- 4 ADA accessible stalls
- 1 restroom facility
- 8 ramada structures
- No utility structures
- No equestrian parking

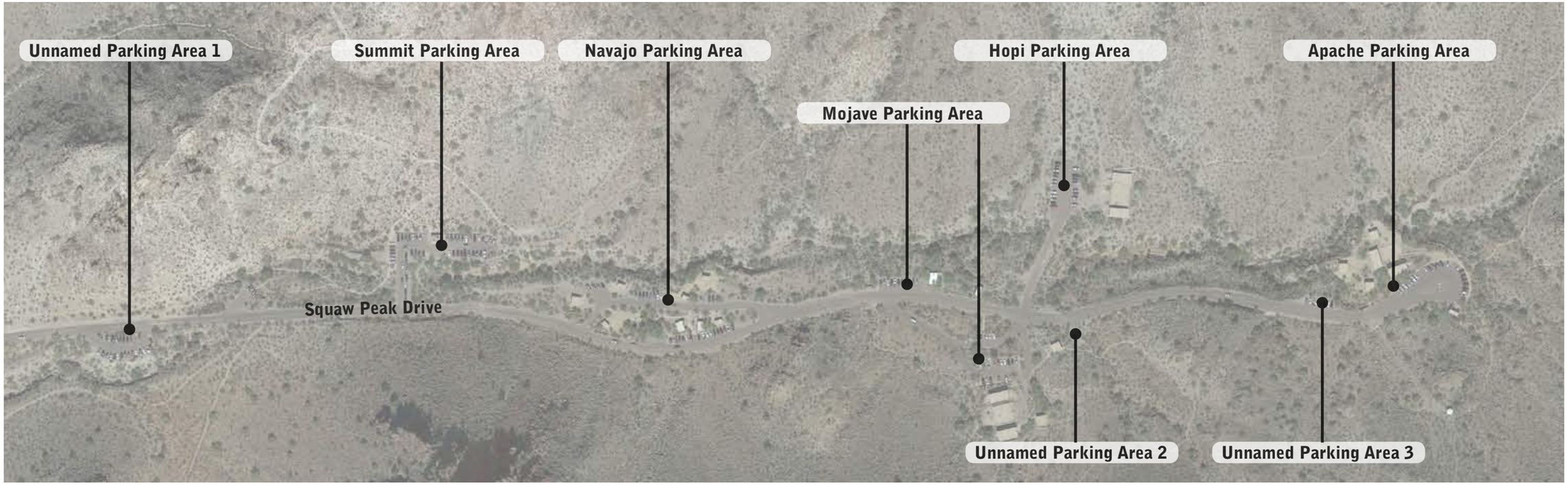
Unnamed Parking Area 2
- 3 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Mojave Parking Area
- 33 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 3 ramada structures
- 2 utility structures
- No equestrian parking

Hopi Parking Area
- 30 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 2 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 3
- 8 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Apache Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 5 ramada structures
- No utility structures
- No equestrian parking



32nd Street Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- No restroom facilities
- No ramada structures
- 1 utility structure
- No equestrian parking

40th Street Parking Area
- 61 standard parking stalls
- 3 ADA accessible stalls
- 1 restroom facility
- 1 ramada structure
- No utility structures
- Equestrian parking

Dreamy Draw Parking Area
- 61 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 2 ramada structures
- 1 utility structure
- Equestrian parking

Appendix B

Preserve Photographs

key inventory photos





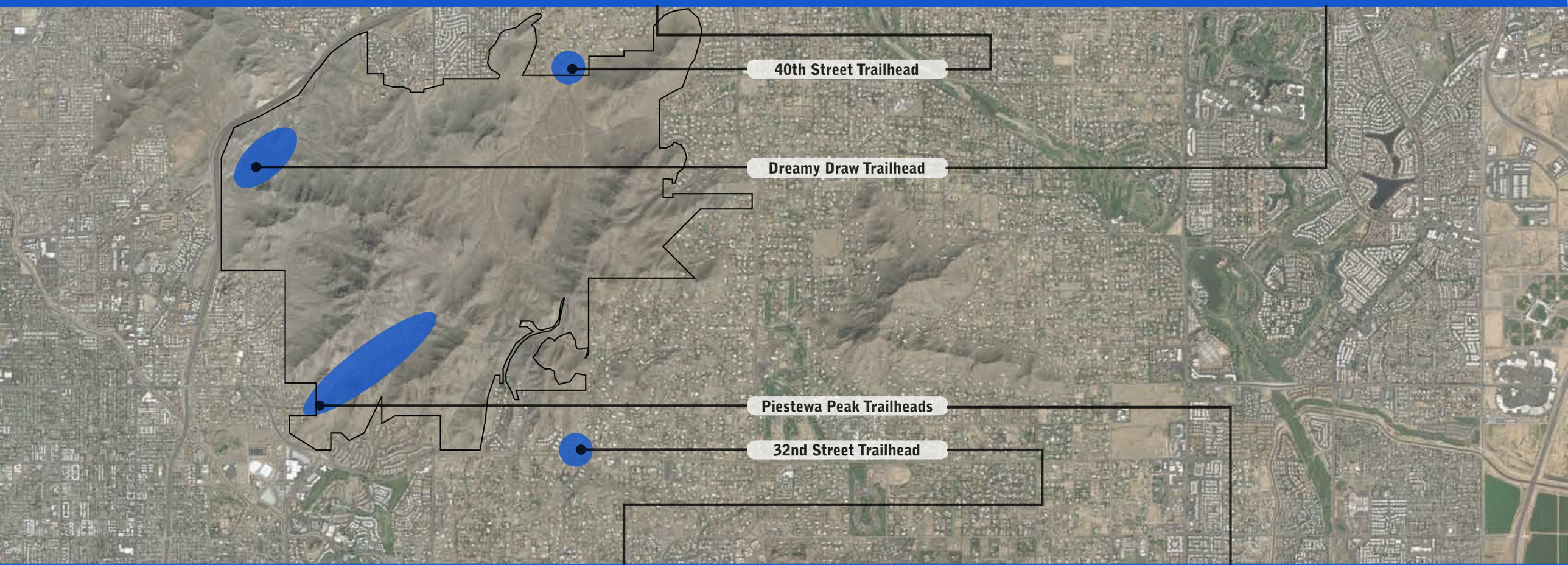








Photo 1. Example of pedestrians walking between parking areas on narrow shoulder. View to southwest. Photograph taken on November 18, 2014.

Photo 2. Example of sign infrastructure. View to north. Photograph taken on November 18, 2014.

Photo 3. Turnaround being used as a parking stall. View to east. Photograph taken on November 18, 2014.

Photo 4. Access to crosswalk. View to west. Photograph taken on November 18, 2014.

Photo 5. Example of steep slopes surrounding wash. View to east. Photograph taken on November 18, 2014.

Photo 6. Example of potential buildout space. View to northeast. Photograph taken on November 18, 2014.

Photo 7. Example of ramada. View to southwest. Photograph taken on November 18, 2014.

Photo 8. Parking turnaround. View to southwest. Photograph taken on November 18, 2014.

Photo 9. Existing signs and way finding. View to west. Photograph taken on November 18, 2014.

Photo 10. Overgrown roadway shoulder. View to northeast. Photograph taken on November 18, 2014.

Photo 11. Example of potential buildout space. View to northwest. Photograph taken on November 18, 2014.

Photo 12. Pedestrian corridor behind cars. View to southwest. Photograph taken on November 18, 2014.

Photo 13. Example of ramada structure. Photograph taken on November 18, 2014.

Photo 14. Restroom facilities. View to west. Photograph taken on November 18, 2014.

Photo 15. Pedestrian corridor in front of vehicles. View to south. Photograph taken on November 18, 2014.

Photo 16. Connection to Summit Trail. View to northwest. Photograph taken on November 18, 2014.

Photo 17. Example of water trough. View to northwest. Photograph taken on November 18, 2014.

Photo 18. Space between parking stalls and roadway. View to northwest. Photograph taken on November 18, 2014.

Photo 19. Example of large ramada. View to east. Photograph taken on November 18, 2014.

Photo 20. Picnic area. View to east. Photograph taken on November 18, 2014.

Photo 21. Stairway to lower parking area. View to west. Photograph taken on November 18, 2014.

Photo 22. Overview of Mojave parking area. View to west. Photograph taken on November 18, 2014.

Photo 23. Example of existing ramada structure. View to west. Photograph taken on November 18, 2014.

Photo 24. Terminating sidewalk at roadway. View to southwest. Photograph taken on November 18, 2014.

Photo 25. Non-designated path to restrooms. View to southwest. Photograph taken on November 18, 2014.

Photo 26. Parking lot overview. View to northeast. Photograph taken on November 18, 2014.

Photo 27. Long access road with no pedestrian path. View to south. Photograph taken on November 18, 2014.

Photo 28. Example of adjacent wash. View to east. Photograph taken on November 18, 2014.

Photo 29. Example of existing signs. View to west. Photograph taken on November 18, 2014.

Photo 30. Fire lane and no parking areas. View to north. Photograph taken on November 18, 2014.

Photo 31. Rocky trail access path. View to northwest. Photograph taken on November 18, 2014.

Photo 32. Pedestrian path in front of vehicles. View to southeast. Photograph taken on November 18, 2014.

Photo 33. Parking overview. Northeast. Photograph taken on November 18, 2014.

Photo 34. Overview of signage and trail corridor. View to north. Photograph taken on November 18, 2014.

Photo 35. Example of existing structure. View to west. Photograph taken on November 18, 2014.

Photo 36. Intermittent stream, between parking area and ramadas. View to northeast. Photograph taken on November 18, 2014.

Photo 37. Entry road. View to west. Photograph taken on November 18, 2014.

Photo 38. Trailhead, signage, and amenities. View to northeast. Photograph taken on November 18, 2014.

Photo 39. Example of parking stall. View to northeast. Photograph taken on November 18, 2014.

Photo 40. Example of parking aisle. View to northeast. Photograph taken on November 18, 2014.

Photo 41. Parking overview. View to southwest. Photograph taken on November 18, 2014.

Photo 42. Utility enclosure and ADA parking area. View to east. Photograph taken on November 18, 2014.

Photo 43. Example of ramada. View to south. Photograph taken on November 18, 2014.

Photo 44. Example of restroom facility. View to south. Photograph taken on November 18, 2014.

Photo 45. Equestrian trail access area. View to west. Photograph taken on November 18, 2014.

Photo 46. Parking curb cut for drainage. View to northwest. Photograph taken on November 18, 2014.

Photo 47. Drainage curb cut and parkstrip island. View to north. Photograph taken on November 18, 2014.

Photo 48. Equestrian parking area. View to west. Photograph taken on November 18, 2014.

Photo 49. Example of ramada. View to south. Photograph taken on November 18, 2014.

Photo 50. Stairs to ramadas. View to southeast. Photograph taken on November 18, 2014.

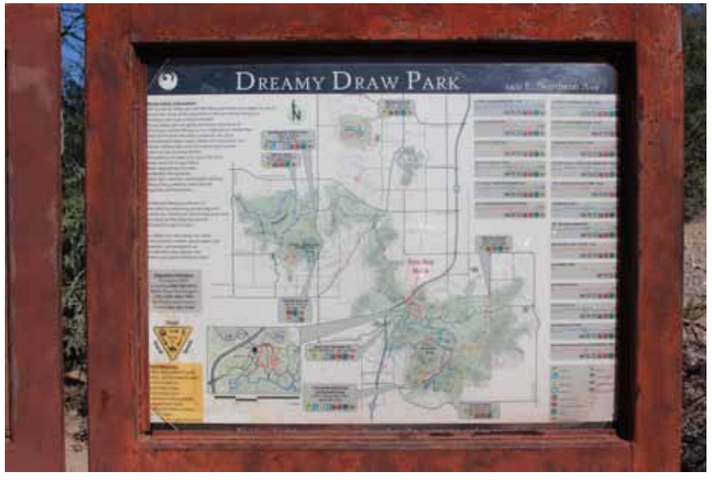


Photo 51. Existing signage and way-finding. Photograph taken on November 18, 2014.

Photo 52. Pedestrian access ramp. View to southwest. Photograph taken on November 18, 2014.

Photo 53. Equestrian parking area. View to north. Photograph taken on November 18, 2014.

Photo 54. Activity area. View to northeast. Photograph taken on November 18, 2014.

Photo 55. Dreamy Draw overview. View to south. Photograph taken on November 18, 2014.

Photo 56. 32nd Street and Lincoln Drive. View to southwest. Photograph taken on November 18, 2014.

Photo 57. Piestewa Peak Summit trail area. View to southwest. Photograph taken on November 18, 2014.

Photo 58. Mojave parking area. View to northeast. Photograph taken on November 18, 2014.

Photo 59. 40th Street trail corridor. View to southwest. Photograph taken on November 18, 2014.

Photo 60. Apache parking area overview. View to west. Photograph taken on November 18, 2014.

Appendix C

Traffic Analysis

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC Dream
File Number: 1500092
Route: DREAMY DRAW DR
Location: E of SR 51

Site Ref: 1
Direction: EB
Latitude: 33.5615
Longitude: -112.0337

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
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11:45	9	0	7	0	12	0	16	0	18	0	22	0	7	0			13	0
Totals	**172**	**282**	**146**	**261**	**200**	**243**	**372**	**360**	**424**	**369**	**342**	**380**	**169**	**254**	**0**	**0**	**261**	**307**
Day Total	**454**		**407**		**443**		**732**		**793**		**722**		**423**		**0**		**568**	
AM Pct	37.9%		35.9%		45.1%		50.8%		53.5%		47.4%		40.0%				45.9%	
Peak Hour	10:45	16:00	10:15	17:00	10:00	15:15	9:30	14:45	9:00	12:00	11:30	12:00	9:45	15:30			10:30	14:45
Peak Volume	51	53	37	49	49	53	89	98	118	80	94	94	40	58			60	54
P.H.F	0.6711	0.6974	0.7708	0.8167	0.7206	0.6974	0.6544	0.8750	0.7973	0.8333	0.9400	0.9400	0.7692	0.6591			0.8729	0.9240

15-min Volume Report: 1500092

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC
File Number: 1500093
Route: DREAMY DRAW DR
Location: E of SR 51

Site Ref: 1
Direction: WB
Latitude: 33.5615
Longitude: -112.0323

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
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11:00	6	0	7	0	4	0	24	0	26	0	20	0	3	0			13	0
11:15	9	0	12	0	9	0	23	0	29	0	24	0	9	0			16	0
11:30	11	0	6	0	13	0	17	0	23	0	20	0	13	0			15	0
11:45	12	0	2	0	13	0	24	0	28	0	33	0	11	0			18	0
Totals	**132**	**323**	**103**	**303**	**144**	**296**	**275**	**461**	**301**	**491**	**255**	**469**	**135**	**287**	**0**	**0**	**192**	**376**
Day Total	**455**		**406**		**440**		**736**		**792**		**724**		**422**		**0**		**568**	
AM Pct	29.0%		25.4%		32.7%		37.4%		38.0%		35.2%		32.0%				33.8%	
Peak Hour	11:30	17:00	10:45	17:30	11:45	12:15	10:30	15:30	11:45	12:00	11:00	13:45	11:30	17:30			11:45	12:15
Peak Volume	51	52	37	57	47	53	99	89	120	110	97	80	42	66			65	62
P.H.F	0.8500	0.6500	0.7708	0.7125	0.6912	0.7794	0.9167	0.8241	0.7143	0.6548	0.7348	0.8000	0.8077	0.8250			0.8545	0.8060

15-min Volume Report: 1500093

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC
File Number: 1500096
Route: PARKING LOT ENTRANCE
Location: E of 32ND ST

Site Ref: 3
Direction: EB
Latitude: 33.5322
Longitude: -112.0126

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	1	0	0	0	3	0	4	0	6	0	5	0	7			0	4
00:15	0	1	0	4	0	4	0	5	0	7	0	8	0	0			0	4
00:30	0	3	0	1	0	5	0	7	0	5	0	4	0	3			0	4
00:45	0	0	0	3	0	2	0	3	0	7	0	4	0	3			0	3
01:00	0	4	0	2	0	1	0	7	0	5	0	5	0	3			0	4
01:15	0	3	0	5	0	5	0	4	0	6	0	5	0	1			0	4
01:30	0	3	0	3	0	4	0	7	0	2	0	4	0	1			0	3
01:45	0	6	0	3	0	3	0	4	0	8	0	6	0	1			0	4
02:00	0	3	0	4	0	4	0	7	0	5	0	6	0	2			0	4
02:15	0	3	0	1	0	6	0	4	0	4	0	6	0	1			0	4
02:30	0	2	0	3	0	3	0	4	0	4	0	2	0	4			0	3
02:45	0	6	0	6	0	6	0	7	0	6	0	4	0	5			0	6
03:00	0	7	0	2	0	3	0	3	0	3	0	7	0	5			0	4
03:15	0	6	0	4	0	0	0	2	0	2	0	8	0	2			0	3
03:30	0	3	0	4	0	2	0	6	0	4	0	3	0	2			0	3
03:45	0	5	0	7	0	3	0	1	0	7	0	2	0	5			0	4
04:00	0	7	0	6	0	9	0	1	0	4	0	6	0	7			0	6
04:15	0	11	0	6	0	6	0	7	0	4	0	5	0	8			0	7
04:30	0	4	0	2	0	6	0	3	0	1	0	4	0	7			0	4
04:45	0	3	0	4	0	1	0	4	0	9	0	4	0	3			0	4
05:00	0	3	0	6	0	3	1	5	0	7	0	7	0	8			0	6
05:15	3	9	2	3	6	2	0	2	0	2	1	2	0	5			2	4
05:30	2	4	3	3	4	0	0	2	1	0	0	2	4	2			2	2
05:45	1	0	2	1	0	3	1	3	0	1	0	1	1	2			1	2
06:00	1	0	1	0	0	2	1	0	2	0	0	0	1	1			1	0
06:15	3	0	1	0	3	1	1	0	2	0	3	0	3	0			2	0
06:30	0	0	1	0	2	2	3	0	3	0	0	1	2	0			2	0
06:45	2	0	3	0	1	0	8	0	3	0	6	0	5	0			4	0
07:00	1	0	1	0	3	0	5	0	1	0	4	1	0	0			2	0
07:15	1	0	0	0	6	0	6	0	4	0	5	0	3	0			4	0
07:30	6	0	2	0	5	0	3	0	7	0	4	0	5	0			5	0
07:45	7	0	4	0	7	0	7	0	2	0	6	0	5	0			5	0
08:00	6	0	6	0	3	0	4	0	4	0	4	0	5	0			5	0
08:15	5	0	4	0	0	0	2	0	5	0	5	0	6	0			4	0
08:30	7	0	8	0	3	0	0	0	2	0	5	0	3	0			4	0
08:45	3	0	6	0	4	0	4	0	4	0	3	0	0	0			3	0
09:00	6	0	7	0	3	0	6	0	4	0	6	0	3	0			5	0
09:15	5	0	4	0	5	0	3	0	6	0	9	0	3	0			5	0
09:30	5	0	0	0	6	0	6	0	5	0	9	0	3	0			5	0
09:45	2	0	3	0	8	0	4	0	12	0	4	0	5	0			5	0
10:00	4	0	6	0	4	0	5	0	7	0	2	0	6	0			5	0
10:15	4	0	7	0	5	0	5	0	2	0	2	0	4	0			4	0
10:30	2	0	4	0	4	0	9	0	10	0	2	0	9	0			6	0
10:45	5	0	1	0	3	0	3	0	5	0	6	0	1	0			3	0
11:00	5	0	4	0	6	0	9	0	9	0	3	0	4	0			6	0
11:15	2	0	6	0	9	0	5	0	5	0	8	0	6	0			6	0
11:30	2	0	5	0	2	0	7	0	3	0	6	0	1	0			4	0
11:45	0	0	2	0	3	0	3	0	4	0	4	0	3	0			3	0
Totals	**90**	**97**	**93**	**83**	**105**	**89**	**111**	**102**	**112**	**109**	**107**	**112**	**91**	**88**	**0**	**0**	**101**	**97**
Day Total	**187**		**176**		**194**		**213**		**221**		**219**		**179**		**0**		**198**	
AM Pct	48.1%		52.8%		54.1%		52.1%		50.7%		48.9%		50.8%				51.0%	
Peak Hour	7:45	15:45	8:15	15:30	9:15	15:45	10:15	12:15	9:45	12:00	9:00	13:30	9:45	15:45			10:30	15:45
Peak Volume	25	27	25	23	23	24	26	22	31	25	28	22	24	27			21	21
P.H.F	0.8929	0.6136	0.7813	0.8214	0.7188	0.6667	0.7222	0.7857	0.6458	0.8929	0.7778	0.9167	0.6667	0.8438			0.8841	0.7660

15-min Volume Report: 1500096

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC
File Number: 1500097
Route: PARKING LOT ENTRANCE
Location: E of 32ND ST

Site Ref: 3
Direction: WB
Latitude: 33.5322
Longitude: -112.0126

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	6	0	4	0	7	0	5	0	3	0	4	0	2			0	4
00:15	0	4	0	5	0	5	0	7	0	8	0	7	0	3			0	6
00:30	0	2	0	6	0	6	0	5	0	11	0	9	0	1			0	6
00:45	0	1	0	1	0	4	0	4	0	4	0	3	0	8			0	4
01:00	0	0	0	2	0	4	0	10	0	4	0	5	0	5			0	4
01:15	0	2	0	2	0	4	0	4	0	4	0	5	0	2			0	3
01:30	0	2	0	6	0	2	0	6	0	4	0	6	0	6			0	5
01:45	0	1	0	2	0	6	0	3	0	9	0	6	0	2			0	4
02:00	0	2	0	2	0	2	0	6	0	8	0	9	0	2			0	4
02:15	0	3	0	1	0	3	0	7	0	2	0	6	0	3			0	4
02:30	0	4	0	4	0	4	0	6	0	6	0	4	0	0			0	4
02:45	0	3	0	3	0	3	0	6	0	5	0	7	0	0			0	4
03:00	0	4	0	4	0	1	0	3	0	6	0	2	0	3			0	3
03:15	0	2	0	1	0	2	0	3	0	5	0	8	0	3			0	3
03:30	0	5	0	2	0	5	0	7	0	5	0	5	0	1			0	4
03:45	0	2	0	2	0	7	0	5	0	6	0	7	0	8			0	5
04:00	0	4	0	5	0	6	0	5	0	3	0	10	0	6			0	6
04:15	0	2	0	8	0	3	0	4	0	1	0	4	0	1			0	3
04:30	0	7	0	4	0	3	0	4	0	2	0	5	0	6			0	4
04:45	0	3	0	7	0	3	0	6	0	6	0	6	0	4			0	5
05:00	0	6	0	6	0	5	0	1	0	5	0	8	0	6			0	5
05:15	0	9	0	4	0	8	0	7	0	4	1	3	0	11			0	7
05:30	1	5	0	3	0	2	0	1	1	8	0	3	1	3			0	4
05:45	0	3	0	7	0	5	1	5	0	3	0	6	0	4			0	5
06:00	1	7	0	5	0	5	0	10	1	3	0	8	0	10			0	7
06:15	0	2	1	3	3	3	0	5	0	4	0	9	0	3			1	4
06:30	0	0	1	2	1	2	0	1	0	1	1	1	0	5			0	2
06:45	4	2	3	2	5	4	1	2	0	0	1	0	2	0			2	1
07:00	0	0	3	0	2	1	0	2	0	1	1	1	4	0			1	1
07:15	3	0	1	0	1	0	1	0	0	0	0	0	1	0			1	0
07:30	3	2	0	0	4	0	7	0	0	0	1	0	2	0			2	0
07:45	1	0	3	0	0	0	8	0	3	0	5	0	5	0			4	0
08:00	2	0	1	0	2	0	7	0	4	0	4	0	0	0			3	0
08:15	2	0	2	0	2	0	2	0	2	0	7	0	2	0			3	0
08:30	4	0	4	0	7	0	1	0	6	0	6	0	5	0			5	0
08:45	6	0	3	0	5	0	4	0	3	0	6	0	2	0			4	0
09:00	7	0	8	0	12	0	7	0	5	0	3	0	6	0			7	0
09:15	6	0	4	0	4	0	7	0	7	2	10	0	5	0			6	0
09:30	8	0	6	0	3	0	4	0	7	0	8	0	6	0			6	0
09:45	2	0	3	0	7	0	5	0	7	0	7	0	1	0			5	0
10:00	5	0	4	0	5	0	9	0	8	0	6	0	9	0			7	0
10:15	5	0	8	0	7	0	10	0	4	0	3	0	4	0			6	0
10:30	7	0	2	0	6	0	7	0	5	0	6	0	8	0			6	0
10:45	2	0	4	0	6	0	7	0	8	0	8	0	4	0			6	0
11:00	3	0	7	0	3	0	7	0	7	0	6	0	5	0			5	0
11:15	2	0	8	0	4	0	6	0	9	0	9	0	6	0			6	0
11:30	7	0	8	0	1	0	6	0	7	0	9	0	6	0			6	0
11:45	1	0	2	0	2	0	7	0	9	0	7	0	2	0			4	0
Totals	**82**	**95**	**86**	**103**	**92**	**115**	**114**	**140**	**103**	**133**	**115**	**157**	**86**	**108**	**0**	**0**	**97**	**122**
Day Total	**177**		**189**		**207**		**254**		**236**		**272**		**194**		**0**		**218**	
AM Pct	46.3%		45.5%		44.4%		44.9%		43.6%		42.3%		44.3%				44.3%	
Peak Hour	8:45	16:30	10:45	16:15	8:30	12:00	10:00	12:15	11:00	12:15	10:45	15:15	10:00	17:15			10:00	17:15
Peak Volume	27	25	27	25	28	22	33	26	32	27	32	30	25	28			24	22
P.H.F	0.8438	0.6944	0.8438	0.7813	0.5833	0.7857	0.8250	0.6500	0.8889	0.6136	0.8889	0.7500	0.6944	0.6364			0.9076	0.7917

15-min Volume Report: 1500097

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC
File Number: 1500094
Route: 40TH ST
Location: S of MISSION LN

Site Ref: 2
Direction: NB
Latitude: 33.5679
Longitude: -111.9962

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	5	0	6	0	8	0	11	0	12	0	14	0	3			0	8
00:15	0	6	0	3	0	14	0	25	0	19	0	11	0	9			0	12
00:30	0	13	0	10	0	5	0	25	0	19	0	16	0	11			0	14
00:45	0	12	0	11	0	11	0	19	0	20	0	21	0	11			0	15
01:00	0	7	0	13	0	4	0	24	0	19	0	13	0	12			0	13
01:15	0	7	0	11	0	4	0	13	0	13	0	12	0	5			0	9
01:30	0	11	0	13	0	2	0	15	0	12	0	20	0	12			0	12
01:45	0	1	0	3	0	4	0	12	0	20	0	14	0	10			0	9
02:00	0	11	0	5	0	16	0	3	0	16	0	14	0	3			0	10
02:15	0	13	0	13	0	3	0	10	0	18	0	19	0	16			0	13
02:30	0	2	0	9	0	4	0	15	0	11	0	7	0	14			0	9
02:45	0	8	0	8	0	7	0	9	0	9	0	19	0	7			0	10
03:00	0	7	0	4	0	0	0	13	0	14	0	11	0	3			0	7
03:15	0	8	0	4	0	8	0	18	0	11	0	8	0	9			0	9
03:30	0	12	0	4	0	6	0	10	0	17	0	22	0	10			0	12
03:45	0	4	0	11	0	17	0	13	0	14	0	22	0	7			0	13
04:00	0	13	0	9	0	18	0	25	0	7	0	14	0	12			0	14
04:15	0	13	0	8	0	10	0	11	0	20	0	20	0	6			0	13
04:30	0	8	0	14	0	9	0	11	0	11	0	22	0	15			0	13
04:45	0	10	0	9	0	15	2	20	0	12	0	18	0	16			0	14
05:00	0	27	0	8	0	12	0	18	0	13	0	25	0	14			0	17
05:15	0	15	0	18	0	16	0	17	0	17	0	19	0	8			0	16
05:30	0	26	0	26	0	17	0	14	0	20	0	23	0	10			0	19
05:45	0	15	0	11	0	17	0	10	0	17	0	14	0	24			0	15
06:00	0	8	1	13	1	8	0	15	0	6	2	21	2	11			1	12
06:15	0	0	0	17	0	9	0	7	0	6	1	15	0	6			0	9
06:30	0	20	0	0	0	5	0	6	1	1	0	13	0	12			0	8
06:45	1	14	0	2	0	1	0	5	0	4	2	0	4	9			1	5
07:00	0	17	3	13	0	0	0	0	1	0	0	0	0	8			1	5
07:15	2	34	1	1	2	0	0	0	0	0	0	0	0	11			1	7
07:30	0	5	0	0	0	0	2	0	0	0	0	0	0	0			0	1
07:45	7	0	4	0	1	0	2	0	10	0	7	3	4	2			5	1
08:00	2	0	4	0	2	0	8	0	5	0	3	0	3	0			4	0
08:15	3	0	7	0	10	0	8	0	2	0	7	0	3	0			6	0
08:30	3	0	4	0	9	0	8	0	6	0	6	0	3	0			6	0
08:45	1	0	15	0	11	0	15	0	19	0	13	0	8	0			12	0
09:00	5	0	5	0	6	0	6	0	12	0	2	0	9	0			6	0
09:15	9	0	6	0	1	0	21	0	14	0	14	0	4	0			10	0
09:30	7	0	10	0	13	0	35	0	12	0	16	0	21	0			16	0
09:45	10	0	9	0	13	0	27	0	24	0	16	0	7	0			15	0
10:00	8	0	8	0	13	0	17	0	26	0	12	0	11	0			14	0
10:15	0	0	8	0	24	0	14	0	32	0	20	0	5	0			15	0
10:30	9	0	8	0	14	0	10	0	26	0	23	0	6	0			14	0
10:45	10	0	9	0	3	0	22	0	28	0	39	0	13	0			18	0
11:00	15	0	15	0	9	0	22	0	30	0	23	0	33	0			21	0
11:15	7	0	12	0	16	0	12	0	31	0	8	0	6	0			13	0
11:30	9	0	17	0	9	0	14	0	14	0	31	0	13	0			15	0
11:45	7	0	12	0	8	0	20	0	16	0	27	0	7	0			14	0
Totals	**115**	**352**	**158**	**277**	**165**	**250**	**265**	**394**	**309**	**378**	**272**	**450**	**162**	**306**	**0**	**0**	**207**	**344**
Day Total	**467**		**435**		**415**		**659**		**687**		**722**		**468**		**0**		**550**	
AM Pct	24.6%		36.3%		39.8%		40.2%		45.0%		37.7%		34.6%				37.5%	
Peak Hour	10:30	18:30	11:00	17:15	9:45	17:00	9:15	12:15	10:15	12:15	10:15	16:15	10:45	17:00			10:45	17:00
Peak Volume	41	85	56	68	64	62	100	93	116	77	105	85	65	56			67	67
P.H.F	0.6833	0.6250	0.8235	0.6538	0.6667	0.9118	0.7143	0.9300	0.9063	0.9625	0.6731	0.8500	0.4924	0.5833			0.7993	0.8658

15-min Volume Report: 1500094

RAW TRAFFIC DATA

Traffic Research & Analysis, Inc.
3844 East Indian School Road
Phoenix, AZ 85018
(602) 840-1500

Client: PEC 40th
File Number: 1500095
Route: 40TH ST
Location: S of MISSION LN

Site Ref: 2
Direction: SB
Latitude: 33.5679
Longitude: -111.9962

Count Date	1/14/2015		1/15/2015		1/16/2015		1/17/2015		1/18/2015		1/19/2015		1/20/2015				Average	
Count Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
00:00	0	6	0	7	0	6	0	8	0	22	0	8	0	7			0	9
00:15	0	9	0	9	0	6	0	13	0	11	0	6	0	12			0	9
00:30	0	8	0	7	0	3	0	13	0	19	0	6	0	7			0	9
00:45	0	4	0	13	0	4	0	7	0	15	0	11	0	6			0	9
01:00	0	11	0	6	0	7	0	23	0	13	0	15	0	11			0	12
01:15	0	7	0	5	0	9	0	16	0	11	0	20	0	4			0	10
01:30	0	1	0	4	0	8	0	17	0	14	0	15	0	9			0	10
01:45	0	9	0	7	0	11	0	10	0	13	0	19	0	4			0	10
02:00	0	10	0	6	0	7	0	10	0	10	0	15	0	9			0	10
02:15	0	13	0	17	0	12	0	19	0	14	0	16	0	9			0	14
02:30	0	5	0	9	0	11	0	24	0	14	0	14	0	12			0	13
02:45	0	9	0	8	0	5	0	11	0	13	0	9	0	18			0	10
03:00	0	8	0	5	0	7	0	18	0	14	0	31	0	14			0	14
03:15	0	11	0	13	0	5	0	12	0	13	0	9	0	9			0	10
03:30	0	13	0	8	0	9	0	20	0	11	0	15	0	8			0	12
03:45	0	10	0	16	0	16	0	20	0	10	0	18	0	7			0	14
04:00	0	11	0	13	0	18	0	15	0	10	0	10	0	8			0	12
04:15	0	14	0	17	0	10	2	7	0	10	0	26	0	23			0	15
04:30	0	17	0	11	0	7	0	9	0	16	0	21	0	18			0	14
04:45	0	24	0	18	0	7	0	7	0	17	0	16	0	9			0	14
05:00	0	12	0	12	0	7	0	5	0	4	1	14	3	13			1	10
05:15	5	9	0	11	0	9	0	8	2	7	0	8	4	9			2	9
05:30	2	13	2	4	0	1	0	3	0	5	0	6	0	12			1	6
05:45	0	19	0	2	2	4	0	2	0	2	3	4	0	7			1	6
06:00	1	5	0	0	0	2	1	3	2	5	1	3	0	0			1	3
06:15	0	5	1	0	2	0	5	1	5	0	3	6	0	0			2	2
06:30	3	0	7	0	1	0	4	1	2	0	1	0	3	0			3	0
06:45	2	0	7	0	0	0	2	0	9	0	4	0	5	0			4	0
07:00	3	0	4	0	5	0	5	0	8	0	6	0	9	0			6	0
07:15	6	0	10	0	9	0	6	0	20	0	13	0	9	0			10	0
07:30	3	0	13	0	9	0	10	0	10	0	6	0	6	0			8	0
07:45	9	0	6	0	8	0	18	0	18	0	15	0	11	0			12	0
08:00	11	0	15	0	9	0	10	0	16	0	4	0	8	0			10	0
08:15	6	0	10	0	9	0	4	0	11	0	7	0	8	0			8	0
08:30	11	0	16	0	14	0	13	0	7	0	10	0	12	0			12	0
08:45	11	0	4	0	3	0	20	0	33	0	11	0	10	0			13	0
09:00	4	0	7	0	12	0	12	0	22	0	8	0	10	0			11	0
09:15	6	0	19	0	14	0	32	0	13	0	31	0	13	0			18	0
09:30	10	0	11	0	15	0	31	0	21	0	26	0	15	0			18	0
09:45	12	0	8	0	10	0	21	0	15	0	11	0	12	0			13	0
10:00	12	0	11	0	11	0	16	0	16	0	10	0	15	0			13	0
10:15	2	0	9	0	8	0	17	0	30	0	22	0	4	0			13	0
10:30	11	0	10	0	6	0	14	0	17	0	26	0	11	0			14	0
10:45	6	0	6	0	7	0	19	0	24	0	19	0	19	0			14	0
11:00	4	0	4	0	7	0	19	0	20	0	24	0	10	0			13	0
11:15	10	0	8	0	4	0	18	0	28	0	20	0	6	0			13	0
11:30	15	0	4	0	9	0	12	0	13	0	23	0	3	0			11	0
11:45	7	0	12	0	9	0	25	0	9	0	23	0	5	0			13	0
Totals	**172**	**263**	**204**	**228**	**183**	**191**	**336**	**302**	**371**	**293**	**328**	**341**	**211**	**245**	**0**	**0**	**258**	**266**
Day Total	**435**		**432**		**374**		**638**		**664**		**669**		**456**		**0**		**524**	
AM Pct	39.5%		47.2%		48.9%		52.7%		55.9%		49.0%		46.3%				49.2%	
Peak Hour	9:15	16:15	9:15	16:00	9:00	15:30	9:15	14:15	10:15	12:00	10:15	16:15	9:15	16:15			9:15	16:00
Peak Volume	40	67	49	59	51	53	100	72	91	67	91	77	55	63			62	56
P.H.F	0.8333	0.6979	0.6447	0.8194	0.8500	0.7361	0.7813	0.7500	0.7583	0.7614	0.8750	0.7404	0.9167	0.6848			0.8469	0.9089

15-min Volume Report: 1500095

RAW TRAFFIC DATA

City of Phoenix
Complete 2015 Park Entrance

StudyID: 13198

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70122S83**
* Source File Name : **70122S83.txt**
* Interval : **15 Min.**
* Config : **00**

*** Direction : Eastbound**

	Date	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Hour Period	11/24/14	11/25/14	11/26/14	11/27/14	11/28/14	11/29/14	11/30/14	Averages
AM	0000-0100	2	4	2	0	0	5	3	2.3
	0100-0200	2	3	3	0	0	4	10	3.1
	0200-0300	1	5	4	1	2	0	0	1.9
	0300-0400	1	4	6	2	2	1	9	3.6
	0400-0500	20	23	10	19	8	13	11	14.9
	0500-0600	36	44	57	50	27	42	55	44.4
	0600-0700	52	70	88	139	68	111	96	89.1
	0700-0800	74	89	81	214	99	155	151	123.3
	0800-0900	129	137	146	367	155	243	210	198.1
	0900-1000	153	163	196	369	208	309	250	235.4
	1000-1100	176	195	225	428	280	316	290	272.9
	1100-1200	155	161	208	309	288	315	295	247.3
PM	1200-1300	182	203	205	243	238	256	250	225.3
	1300-1400	128	146	207	226	243	239	227	202.3
	1400-1500	135	132	223	144	205	207	216	180.3
	1500-1600	145	139	183	126	164	214	235	172.3
	1600-1700	205	198	192	108	165	222	191	183.0
	1700-1800	198	189	170	83	146	172	176	162.0
	1800-1900	58	85	57	27	56	61	55	57.0
	1900-2000	29	36	29	5	22	26	24	24.4
	2000-2100	19	20	7	8	14	14	8	12.9
	2100-2200	11	3	6	4	4	7	2	5.3
	2200-2300	8	3	7	10	6	4	4	6.0
	2300-2400	10	3	3	3	12	8	6	6.4
	Totals	1929	2055	2315	2885	2412	2944	2774	2473.4
	12 hour (0700-1900)	1051	1837	2093	2644	2247	2709	2546	2161.0
	16 hour (0600-2200)	1110	1966	2223	2800	2355	2867	2676	2285.3
	18 hour (0600-2400)	1128	1972	2233	2813	2373	2879	2686	2297.7
	24 hour (0000-2400)	1128	2055	2315	2885	2412	2944	2774	2359.0
	AM Peak Hour:		10-11	10-11	10-11	11-12	10-11	11-12	10-11
	AM Peak Volume:		195	225	428	288	316	295	272.9
	PM Peak Hour:	16-17	12-13	14-15	11-12	11-12	11-12	11-12	11-12
	PM Peak Volume:	205	203	223	309	288	315	295	247.3

City of Phoenix
Complete 2015 Park Entrance

StudyID: 13198

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70122S83**
* Source File Name : **70122S83.txt**
* Interval : **15 Min.**
* Config : **00**

	Date	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Hour Period	11/24/14	11/25/14	11/26/14	11/27/14	11/28/14	11/29/14	11/30/14	Averages
AM	0000-0100	2	4	2	0	0	5	3	2.3
	0100-0200	2	3	3	0	0	4	10	3.1
	0200-0300	1	5	4	1	2	0	0	1.9
	0300-0400	1	4	6	2	2	1	9	3.6
	0400-0500	20	23	10	19	8	13	11	14.9
	0500-0600	36	44	57	50	27	42	55	44.4
	0600-0700	52	70	88	139	68	111	96	89.1
	0700-0800	74	89	81	214	99	155	151	123.3
	0800-0900	129	137	146	367	155	243	210	198.1
	0900-1000	153	163	196	369	208	309	250	235.4
	1000-1100	176	195	225	428	280	316	290	272.9
	1100-1200	155	161	208	309	288	315	295	247.3
PM	1200-1300	182	203	205	243	238	256	250	225.3
	1300-1400	128	146	207	226	243	239	227	202.3
	1400-1500	135	132	223	144	205	207	216	180.3
	1500-1600	145	139	183	126	164	214	235	172.3
	1600-1700	205	198	192	108	165	222	191	183.0
	1700-1800	198	189	170	83	146	172	176	162.0
	1800-1900	58	85	57	27	56	61	55	57.0
	1900-2000	29	36	29	5	22	26	24	24.4
	2000-2100	19	20	7	8	14	14	8	12.9
	2100-2200	11	3	6	4	4	7	2	5.3
	2200-2300	8	3	7	10	6	4	4	6.0
	2300-2400	10	3	3	3	12	8	6	6.4
	Totals	1929	2055	2315	2885	2412	2944	2774	2473.4
	12 hour (0700-1900)	1051	1837	2093	2644	2247	2709	2546	2161.0
	16 hour (0600-2200)	1110	1966	2223	2800	2355	2867	2676	2285.3
	18 hour (0600-2400)	1128	1972	2233	2813	2373	2879	2686	2297.7
	24 hour (0000-2400)	1128	2055	2315	2885	2412	2944	2774	2359.0
	AM Peak Hour:		10-11	10-11	10-11	11-12	10-11	11-12	10-11
	AM Peak Volume:		195	225	428	288	316	295	272.9
	PM Peak Hour:	16-17	12-13	14-15	11-12	11-12	11-12	11-12	11-12
	PM Peak Volume:	205	203	223	309	288	315	295	247.3

City of Phoenix Street Transportation Department Traffic Operations Division

RAW TRAFFIC DATA

City of Phoenix
Complete 2015 Park Entrance

StudyID: 13198

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70122S84**
* Source File Name : **70122S84.txt**
* Interval : **15 Min.**
* Config : **00**

*** Direction : Westbound**

	Date	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Hour Period	11/24/14	11/25/14	11/26/14	11/27/14	11/28/14	11/29/14	11/30/14	Averages
AM	0000-0100	2	4	2	0	0	6	3	2.4
	0100-0200	2	3	3	0	0	5	10	3.3
	0200-0300	1	5	5	1	2	0	0	2.0
	0300-0400	1	5	6	2	2	1	9	3.7
	0400-0500	19	24	11	23	8	14	12	15.9
	0500-0600	38	46	61	53	27	44	60	47.0
	0600-0700	55	73	91	145	69	116	99	92.6
	0700-0800	75	94	86	223	104	162	152	128.0
	0800-0900	132	143	149	382	158	257	215	205.1
	0900-1000	164	169	210	381	216	320	259	245.6
	1000-1100	182	204	234	434	292	335	297	282.6
	1100-1200	159	169	213	310	294	335	314	256.3
PM	1200-1300	189	203	210	246	240	269	261	231.1
	1300-1400	129	147	210	223	239	244	232	203.4
	1400-1500	136	135	222	142	208	212	224	182.7
	1500-1600	148	141	189	123	174	211	236	174.6
	1600-1700	215	204	200	111	175	236	207	192.6
	1700-1800	208	193	181	85	153	177	181	168.3
	1800-1900	64	87	60	27	58	63	57	59.4
	1900-2000	30	37	30	4	26	28	23	25.4
	2000-2100	18	20	9	8	14	14	8	13.0
	2100-2200	11	3	6	4	4	7	2	5.3
	2200-2300	9	3	7	10	6	4	4	6.1
	2300-2400	10	3	4	3	12	8	6	6.6
	Totals	1997	2115	2399	2940	2481	3068	2871	2553.0
	12 hour (0700-1900)	1089	1889	2164	2687	2311	2821	2635	2228.0
	16 hour (0600-2200)	1148	2022	2300	2848	2424	2986	2767	2356.4
	18 hour (0600-2400)	1167	2028	2311	2861	2442	2998	2777	2369.1
	24 hour (0000-2400)	1167	2115	2399	2940	2481	3068	2871	2434.4
	AM Peak Hour:		10-11	10-11	10-11	11-12	11-12	11-12	10-11
	AM Peak Volume:		204	234	434	294	335	314	282.6
	PM Peak Hour:	16-17	16-17	14-15	11-12	11-12	11-12	11-12	11-12
	PM Peak Volume:	215	204	222	310	294	335	314	256.3

City of Phoenix
Complete 2015 Park Entrance

StudyID: 13198

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70122S84**
* Source File Name : **70122S84.txt**
* Interval : **15 Min.**
* Config : **00**

	Date	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Hour Period	11/24/14	11/25/14	11/26/14	11/27/14	11/28/14	11/29/14	11/30/14	Averages
AM	0000-0100	2	4	2	0	0	6	3	2.4
	0100-0200	2	3	3	0	0	5	10	3.3
	0200-0300	1	5	5	1	2	0	0	2.0
	0300-0400	1	5	6	2	2	1	9	3.7
	0400-0500	19	24	11	23	8	14	12	15.9
	0500-0600	38	46	61	53	27	44	60	47.0
	0600-0700	55	73	91	145	69	116	99	92.6
	0700-0800	75	94	86	223	104	162	152	128.0
	0800-0900	132	143	149	382	158	257	215	205.1
	0900-1000	164	169	210	381	216	320	259	245.6
	1000-1100	182	204	234	434	292	335	297	282.6
	1100-1200	159	169	213	310	294	335	314	256.3
PM	1200-1300	189	203	210	246	240	269	261	231.1
	1300-1400	129	147	210	223	239	244	232	203.4
	1400-1500	136	135	222	142	208	212	224	182.7
	1500-1600	148	141	189	123	174	211	236	174.6
	1600-1700	215	204	200	111	175	236	207	192.6
	1700-1800	208	193	181	85	153	177	181	168.3
	1800-1900	64	87	60	27	58	63	57	59.4
	1900-2000	30	37	30	4	26	28	23	25.4
	2000-2100	18	20	9	8	14	14	8	13.0
	2100-2200	11	3	6	4	4	7	2	5.3
	2200-2300	9	3	7	10	6	4	4	6.1
	2300-2400	10	3	4	3	12	8	6	6.6
	Totals	1997	2115	2399	2940	2481	3068	2871	2553.0
	12 hour (0700-1900)	1089	1889	2164	2687	2311	2821	2635	2228.0
	16 hour (0600-2200)	1148	2022	2300	2848	2424	2986	2767	2356.4
	18 hour (0600-2400)	1167	2028	2311	2861	2442	2998	2777	2369.1
	24 hour (0000-2400)	1167	2115	2399	2940	2481	3068	2871	2434.4
	AM Peak Hour:		10-11	10-11	10-11	11-12	11-12	11-12	10-11
	AM Peak Volume:		204	234	434	294	335	314	282.6
	PM Peak Hour:	16-17	16-17	14-15	11-12	11-12	11-12	11-12	11-12
	PM Peak Volume:	215	204	222	310	294	335	314	256.3

City of Phoenix Street Transportation Department Traffic Operations Division

RAW TRAFFIC DATA

City of Phoenix
Posted 2015 Park Entrance

StudyID: 13249

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70143S83**
* Source File Name : **70143S83.txt**
* Interval : **15 Min.**
* Config : **00**

*** Direction : Eastbound**

	Date	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
	Hour Period	12/26/14	12/27/14	12/28/14	12/29/14	12/30/14	12/31/14	01/01/15	Averages
AM	0000-0100	0	0	0	0	0	0	1	0.1
	0100-0200	0	0	0	0	0	0	0	0.0
	0200-0300	0	1	0	2	1	0	0	0.6
	0300-0400	1	1	6	0	1	4	0	1.9
	0400-0500	5	6	8	7	5	2	4	5.3
	0500-0600	10	19	16	11	19	14	8	13.9
	0600-0700	18	39	35	23	29	12	13	24.1
	0700-0800	21	69	66	32	45	18	36	41.0
	0800-0900	47	81	102	58	64	33	41	60.9
	0900-1000	72	128	148	107	112	29	61	93.9
	1000-1100	109	134	142	152	154	19	83	113.3
	1100-1200	120	152	169	127	126	20	89	114.7
PM	1200-1300	133	131	155	144	145	52	127	126.7
	1300-1400	126	136	176	125	117	45	146	124.4
	1400-1500	117	172	150	135	132	25	112	120.4
	1500-1600	107	126	108	139	104	40	101	103.6
	1600-1700	59	94	88	100	104	21	67	76.1
	1700-1800	31	25	27	33	30	11	34	27.3
	1800-1900	4	10	4	16	13	1	9	8.1
	1900-2000	2	2	5	4	8	1	2	3.4
	2000-2100	1	2	0	1	7	0	4	2.1
	2100-2200	1	4	2	1	1	2	1	1.7
	2200-2300	6	3	2	0	1	5	0	2.4
	2300-2400	0	2	0	2	1	2	1	1.1
	Totals	990	1337	1409	1219	1219	356	940	1067.1
	12 hour (0700-1900)	577	1258	1335	1168	1146	314	906	957.7
	16 hour (0600-2200)	581	1305	1377	1197	1191	329	926	986.6
	18 hour (0600-2400)	587	1310	1379	1199	1193	336	927	990.1
	24 hour (0000-2400)	587	1337	1409	1219	1219	356	940	1009.6
	AM Peak Hour:		11-12	11-12	10-11	10-11	8-9	11-12	11-12
	AM Peak Volume:		152	169	152	154	33	89	114.7
	PM Peak Hour:	12-13	14-15	13-14	12-13	12-13	12-13	13-14	12-13
	PM Peak Volume:	133	172	176	144	145	52	146	126.7

City of Phoenix
Posted 2015 Park Entrance
StudyID: 13249
* Location : SQUAW PEAK DR & LINCOLN DR
* Site Number : 70143S83
* Source File Name : 70143S83.txt
* Interval : 15 Min.
* Config : 00

	Date	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
	Hour Period	12/26/14	12/27/14	12/28/14	12/29/14	12/30/14	12/31/14	01/01/15	Averages
AM	0000-0100	0	0	0	0	0	0	1	0.1
	0100-0200	0	0	0	0	0	0	0	0.0
	0200-0300	0	1	0	2	1	0	0	0.6
	0300-0400	1	1	6	0	1	4	0	1.9
	0400-0500	5	6	8	7	5	2	4	5.3
	0500-0600	10	19	16	11	19	14	8	13.9
	0600-0700	18	39	35	23	29	12	13	24.1
	0700-0800	21	69	66	32	45	18	36	41.0
	0800-0900	47	81	102	58	64	33	41	60.9
	0900-1000	72	128	148	107	112	29	61	93.9
	1000-1100	109	134	142	152	154	19	83	113.3
	1100-1200	120	152	169	127	126	20	89	114.7
PM	1200-1300	133	131	155	144	145	52	127	126.7
	1300-1400	126	136	176	125	117	45	146	124.4
	1400-1500	117	172	150	135	132	25	112	120.4
	1500-1600	107	126	108	139	104	40	101	103.6
	1600-1700	59	94	88	100	104	21	67	76.1
	1700-1800	31	25	27	33	30	11	34	27.3
	1800-1900	4	10	4	16	13	1	9	8.1
	1900-2000	2	2	5	4	8	1	2	3.4
	2000-2100	1	2	0	1	7	0	4	2.1
	2100-2200	1	4	2	1	1	2	1	1.7
	2200-2300	6	3	2	0	1	5	0	2.4
	2300-2400	0	2	0	2	1	2	1	1.1
	Totals	990	1337	1409	1219	1219	356	940	1067.1
	12 hour (0700-1900)	577	1258	1335	1168	1146	314	906	957.7
	16 hour (0600-2200)	581	1305	1377	1197	1191	329	926	986.6
	18 hour (0600-2400)	587	1310	1379	1199	1193	336	927	990.1
	24 hour (0000-2400)	587	1337	1409	1219	1219	356	940	1009.6
	AM Peak Hour:		11-12	11-12	10-11	10-11	8-9	11-12	11-12
	AM Peak Volume:		152	169	152	154	33	89	114.7
	PM Peak Hour:	12-13	14-15	13-14	12-13	12-13	12-13	13-14	12-13
	PM Peak Volume:	133	172	176	144	145	52	146	126.7

City of Phoenix Street Transportation Department Traffic Operations Division

RAW TRAFFIC DATA

City of Phoenix
Posted 2015 Park Entrance

StudyID: 13249

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70143S84**
* Source File Name : **70143S84.txt**
* Interval : **15 Min.**
* Config : **00**

*** Direction : Westbound**

	Date	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
	Hour Period	12/26/14	12/27/14	12/28/14	12/29/14	12/30/14	12/31/14	01/01/15	Averages
AM	0000-0100	0	0	1	0	1	1	2	0.7
	0100-0200	0	0	0	0	0	1	2	0.4
	0200-0300	0	0	1	1	0	0	0	0.3
	0300-0400	1	0	1	0	2	3	0	1.0
	0400-0500	0	3	0	3	1	2	0	1.3
	0500-0600	3	1	10	3	5	3	1	3.7
	0600-0700	10	11	8	13	10	9	7	9.7
	0700-0800	4	28	25	10	22	11	6	15.1
	0800-0900	22	45	48	37	38	21	22	33.3
	0900-1000	36	77	87	39	52	19	44	50.6
	1000-1100	57	95	133	90	78	38	48	77.0
	1100-1200	86	151	157	113	137	18	63	103.6
PM	1200-1300	139	147	156	135	126	30	89	117.4
	1300-1400	140	140	171	124	133	45	96	121.3
	1400-1500	126	151	150	200	125	37	137	132.3
	1500-1600	124	150	145	137	130	37	117	120.0
	1600-1700	130	130	113	114	137	32	134	112.9
	1700-1800	87	138	132	117	121	21	96	101.7
	1800-1900	36	40	48	48	60	11	46	41.3
	1900-2000	8	10	8	13	16	3	14	10.3
	2000-2100	2	4	3	8	10	0	4	4.4
	2100-2200	2	3	3	2	1	1	3	2.1
	2200-2300	3	5	3	1	6	3	0	3.0
	2300-2400	3	1	0	1	0	2	1	1.1
	Totals	1019	1330	1403	1209	1211	348	932	1064.6
	12 hour (0700-1900)	782	1292	1365	1164	1159	320	898	997.1
	16 hour (0600-2200)	794	1320	1387	1200	1196	333	926	1022.3
	18 hour (0600-2400)	800	1326	1390	1202	1202	338	927	1026.4
	24 hour (0000-2400)	800	1330	1403	1209	1211	348	932	1033.3
	AM Peak Hour:		11-12	11-12	11-12	11-12	10-11	11-12	11-12
	AM Peak Volume:		151	157	113	137	38	63	103.6
	PM Peak Hour:	13-14	14-15	13-14	14-15	16-17	13-14	14-15	14-15
	PM Peak Volume:	140	151	171	200	137	45	137	132.3

City of Phoenix
Posted 2015 Park Entrance

StudyID: 13249

* Location : **SQUAW PEAK DR & LINCOLN DR**
* Site Number : **70143S84**
* Source File Name : **70143S84.txt**
* Interval : **15 Min.**
* Config : **00**

	Date	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
	Hour Period	12/26/14	12/27/14	12/28/14	12/29/14	12/30/14	12/31/14	01/01/15	Averages
AM	0000-0100	0	0	1	0	1	1	2	0.7
	0100-0200	0	0	0	0	0	1	2	0.4
	0200-0300	0	0	1	1	0	0	0	0.3
	0300-0400	1	0	1	0	2	3	0	1.0
	0400-0500	0	3	0	3	1	2	0	1.3
	0500-0600	3	1	10	3	5	3	1	3.7
	0600-0700	10	11	8	13	10	9	7	9.7
	0700-0800	4	28	25	10	22	11	6	15.1
	0800-0900	22	45	48	37	38	21	22	33.3
	0900-1000	36	77	87	39	52	19	44	50.6
	1000-1100	57	95	133	90	78	38	48	77.0
	1100-1200	86	151	157	113	137	18	63	103.6
PM	1200-1300	139	147	156	135	126	30	89	117.4
	1300-1400	140	140	171	124	133	45	96	121.3
	1400-1500	126	151	150	200	125	37	137	132.3
	1500-1600	124	150	145	137	130	37	117	120.0
	1600-1700	130	130	113	114	137	32	134	112.9
	1700-1800	87	138	132	117	121	21	96	101.7
	1800-1900	36	40	48	48	60	11	46	41.3
	1900-2000	8	10	8	13	16	3	14	10.3
	2000-2100	2	4	3	8	10	0	4	4.4
	2100-2200	2	3	3	2	1	1	3	2.1
	2200-2300	3	5	3	1	6	3	0	3.0
	2300-2400	3	1	0	1	0	2	1	1.1
	Totals	1019	1330	1403	1209	1211	348	932	1064.6
	12 hour (0700-1900)	782	1292	1365	1164	1159	320	898	997.1
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	AM Peak Hour:		11-12	11-12	11-12	11-12	10-11	11-12	11-12
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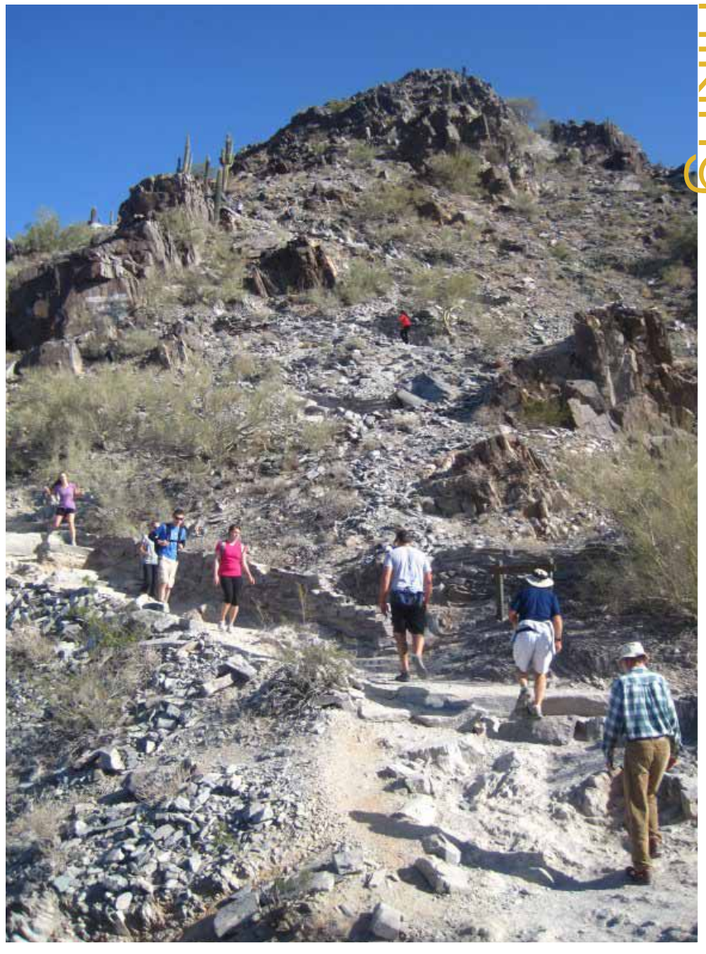
	PM Peak Volume:	140	151	171	200	137	45	137	132.3

City of Phoenix Street Transportation Department Traffic Operations Division

Appendix B

Public Involvement Summary

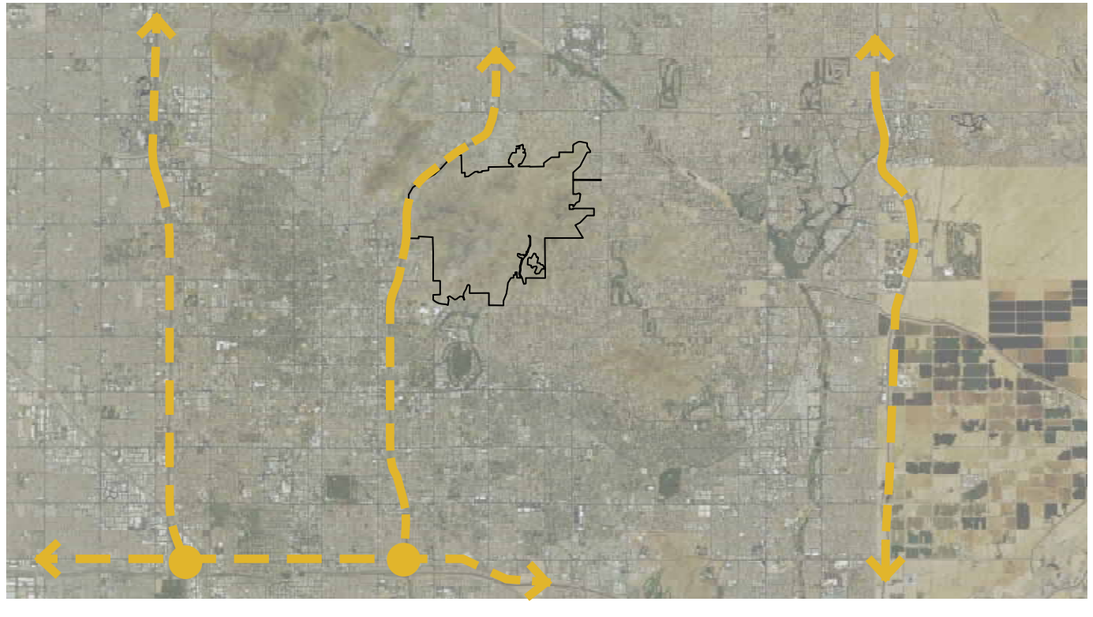
WHY DO VISITORS COME TO THE PARK?



hiking

fitness

- **The park has desirable attractions. User surveys indicate an even distribution of residents and non-residents.**
- **The park has excellent trails. On average, 87% of park visitors who participated in surveys said hiking was their primary activity in the park. Other popular activities included mountain biking, trail running, and picnicking.**
- **The park is centrally located. Bisected by the Piestewa Freeway (SR-51) and located less than 5 miles from I-10, I-17, and SR-101 the park is easily accessible from various locations in the Phoenix metropolitan area.**

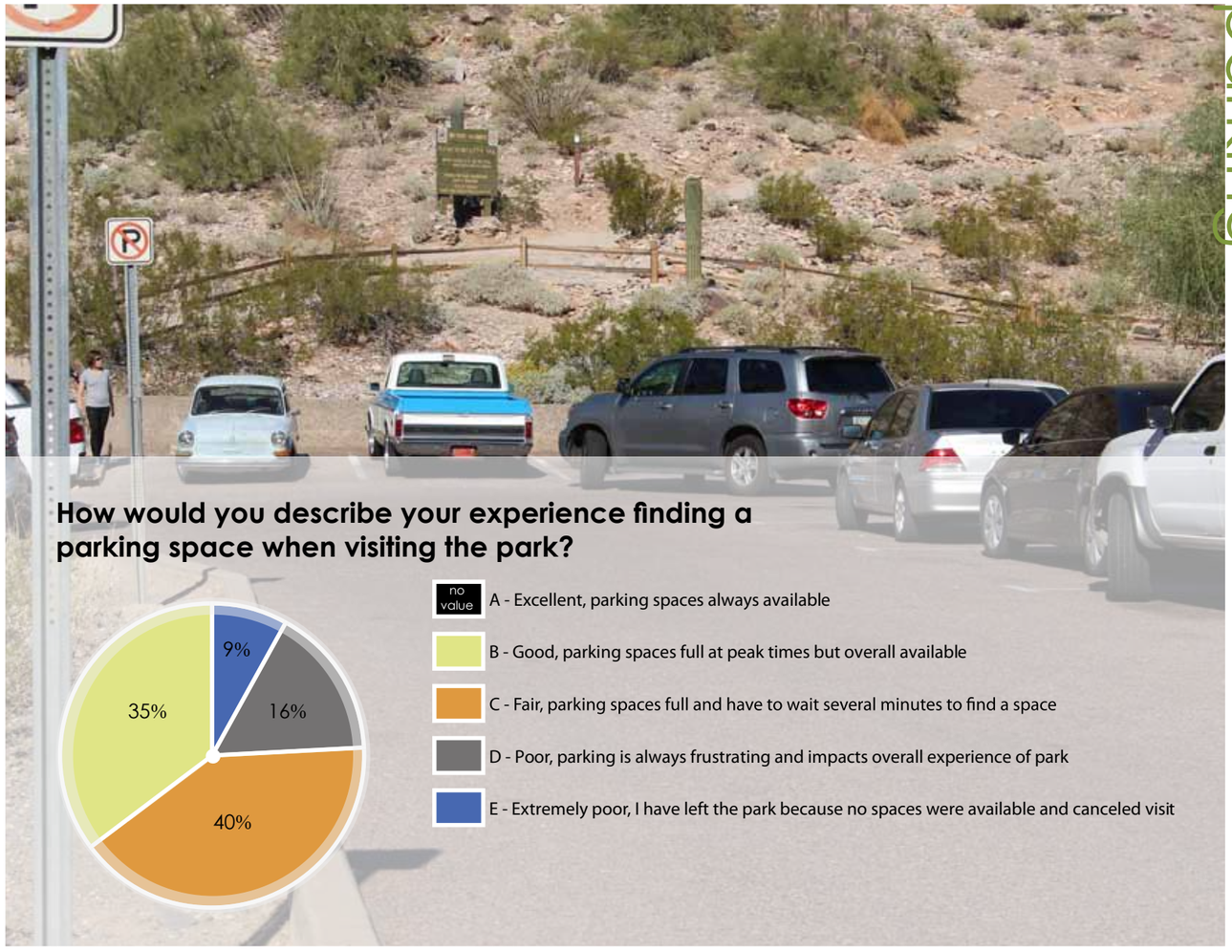


WHAT EXPERIENCE DO VISITORS UPON ARRIVAL?

- **The majority of users rated the ease of parking at trailheads as fair with an average of 23% of visitors describing their parking experience as poor or extremely poor. Parking spaces are generally full and require visitors to wait for availble parking stalls.**

- **Structures, signage, and amenities within the park are weathered and outdated. Echo Canyon is a good example of how the updated infrastructure improved the experience of visitors.**

parking



WHAT EXPERIENCE DO VISITORS WHILE THERE?

way-finding

- On average about 30% of visitors rated trail markers and way-finding within the park as good. A larger percentage found that the signage within the park needed improvements.

- The most reoccurring comments from visitors addressed trail maintenance, enforcement of pet rules, and education regarding trail etiquette.

HOW DO VISITORS FEEL WHEN THEY LEAVE?

- **Based on the data collected on site and through user surveys the following conclusions were drawn.**

1. **Visitors are frustrated with the parking due to insufficient stalls and due to irregular configurations.**

2. **The trailheads are difficult to find for non-residents despite being centrally located in the metropolitan area.**

3. **Despite recommendations for improved maintenance and stricter enforcement of rules, visitors are generally happy with the quantity and diversity of trails in the park.**

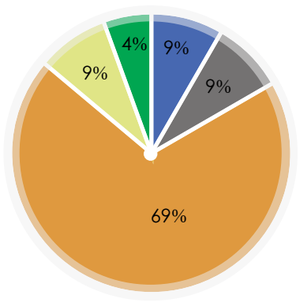
4. **Access roads are too narrow, have poor circulation, and lack signage indicating amenities causing congestion and confusion during peak use.**

5. **The amenities in the park are out-dated, weathered, and uninviting. This discourages use causing visitors to leave the park quickly following hikes or workouts.**

HOW COULD THE PARK BE BETTER?

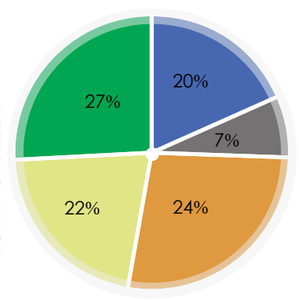
- **Surveys found that users want more parking, improved trailheads with better information. It was also discovered that visitors are not opposed to increased infrastructure to implement these amenities.**

PIESTEWA AREA



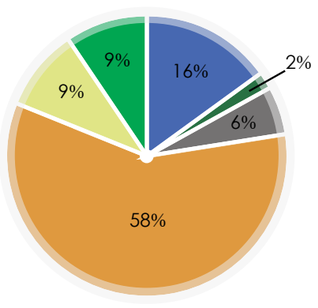
A - Clear trailhead designation with obvious trail starting point
B - Information kiosks with map, trail description, and difficulty designation
C - Additional parking spaces
D - Additional park rules and regulation signage
no value E - Less infrastructure and signage for a more natural look to trailhead
F - Current trailheads provide adequate information

40TH STREET



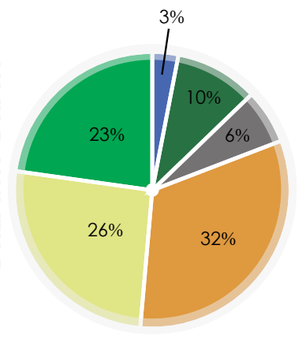
A - Clear trailhead designation with obvious trail starting point
B - Information kiosks with map, trail description, and difficulty designation
C - Additional parking spaces
D - Additional park rules and regulation signage
no value E - Less infrastructure and signage for a more natural look to trailhead
F - Current trailheads provide adequate information

32ND STREET



A - Clear trailhead designation with obvious trail starting point
B - Information kiosks with map, trail description, and difficulty designation
C - Additional parking spaces
D - Additional park rules and regulation signage
E - Less infrastructure and signage for a more natural look to trailhead
F - Current trailheads provide adequate information

DREAMY DRAW



A - Clear trailhead designation with obvious trail starting point
B - Information kiosks with map, trail description, and difficulty designation
C - Additional parking spaces
D - Additional park rules and regulation signage
E - Less infrastructure and signage for a more natural look to trailhead
F - Current trailheads provide adequate information

Appendix E

Cultural Resources, Biological, and Waters of the United States

PEC
PROJECT ENGINEERING CONSULTANTS

Jarod Rogers
Parks and Recreation Department
City of Phoenix
200 West Washington Street
Phoenix, Arizona 85044

January 23, 2015

Dear Jarod:

The City of Phoenix contracted with Project Engineering Consultants Ltd. (PEC) to conduct a literature review of archaeological resources in the Phoenix Mountains Preserve. The study area includes existing trailhead parking areas along Squaw Peak Drive, at Dreamy Draw, at 32nd Street, and at 40th Street. All of these areas contain developed parking lots and trails, and most contain picnic areas and restrooms (see Figure 1).

The purpose of the project is to evaluate options for improving the function of recreational areas and the movement of traffic within the Phoenix Mountains Preserve.

Figure 1. View of Squaw Peak Drive Apache Parking area showing ramadas and restrooms.

Results

A literature search was conducted January 7, 2015 on the Arizona AZSITE online cultural resources database to identify previously documented archaeological sites or areas of historic importance within the study area. The literature search found three archaeological sites that have been previously recorded near the study area. These sites are AZ T:8:199, the original trail to the summit of Piestewa Peak (formerly Squaw Peak); AZ T:8:53, the Rico mercury mining site; and AZ T:8:54, a mercury mining site. None of these sites occurs within the current study area. Recreational structures within the park were also evaluated.

AZ T:8:199

Site AZ T:8:199 is the original Squaw Peak summit trail. The trail began near Squaw Peak Drive approximately 550 feet (168 meters) southwest of the existing entrance station. The trail continued north and east along a draw before turning east to intersect the current summit trail at a saddle. This historic alignment is outside of the current study area.

AZ T:8:53

Site AZ T:8:53 is the group of claims and mines collectively known as the Rico Mine. These claims were first established in 1916 shortly after mercury and copper deposits were located on Squaw Peak. The site included historic artifact scatters, the remains of a mercury ore processing plant, segments of two roads, and 30 mine excavation features including tailings piles. The site was excavated, and then much of the site was destroyed by the construction of State Highway 51 (SR-51) in 1989.

AZ T:8:54

Site AZ T:8:54 is a set of eight mining features and one historic artifact scatter probably associated with the Mercury Group of claims. These claims were established in 1916, but only limited work took place on them. This site was also destroyed by the construction of SR-51.

Recreational Structures

In addition, the park recreation structures located along Squaw Mountain Drive were constructed near, but just outside of, the historic period. The area has been used for recreation since the first half of the 20th Century and was acquired by the City of Phoenix in 1958. The park was dedicated in 1968. A review of aerial photography and histories of the park show that the recreational structures were likely constructed in 1967–1968 prior to the dedication.

Additional Sources

Topographic maps, General Land Office (GLO) maps from the Bureau of Land Management (BLM), and historic aerial photographs were also examined for evidence of potential cultural resources. The 1965 Sunnyslope 7.5' topographic map shows Squaw Peak Drive (labeled Flynn Lane), a trail to the summit of Piestewa Peak (labeled Squaw Peak), and several dirt roads in the Dreamy Draw area. An 1868 GLO map of Township 2 North Range 3 East shows the study area labeled as "Barren Mountains Unfit for Cultivation." A GLO map of Township 3 North Range 3 East from 1932 shows the Rico claims. Maricopa County aerial photographs from 1930, the earliest available, show various trails through the study area but no particular development. Squaw Peak Road and park improvements such as ramadas and parking lots first appear in a 1969 aerial photograph.

Information on cultural resources was also requested from the City of Phoenix Archaeology Section. They stated that they were not aware of any archaeological surveys in the study area within the last 10 years.

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986 West 9000 South West Jordan, UT 84088 ■ Phone: (801) 495-4240 ■ Fax: (801) 495-4244

Conclusion

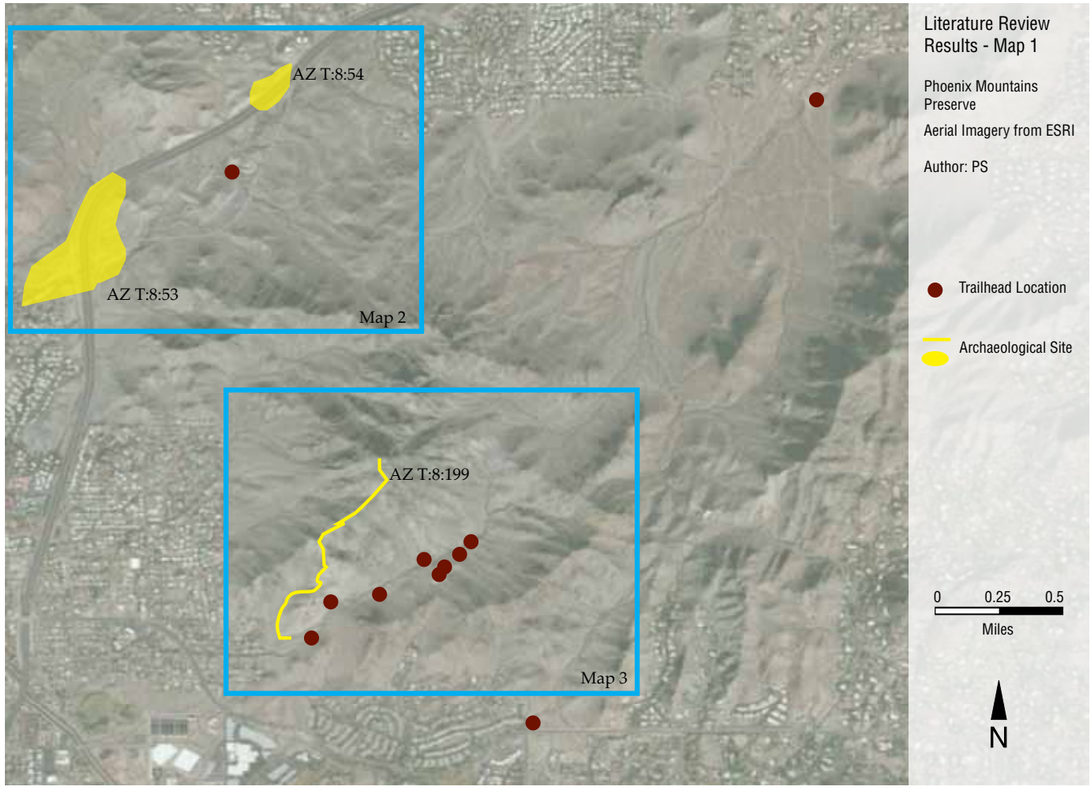
Three sites were identified near the study area. However, none of these sites lies within the current study area, and they will not be affected. In addition, recreational structures within the park were constructed outside of the historic period.

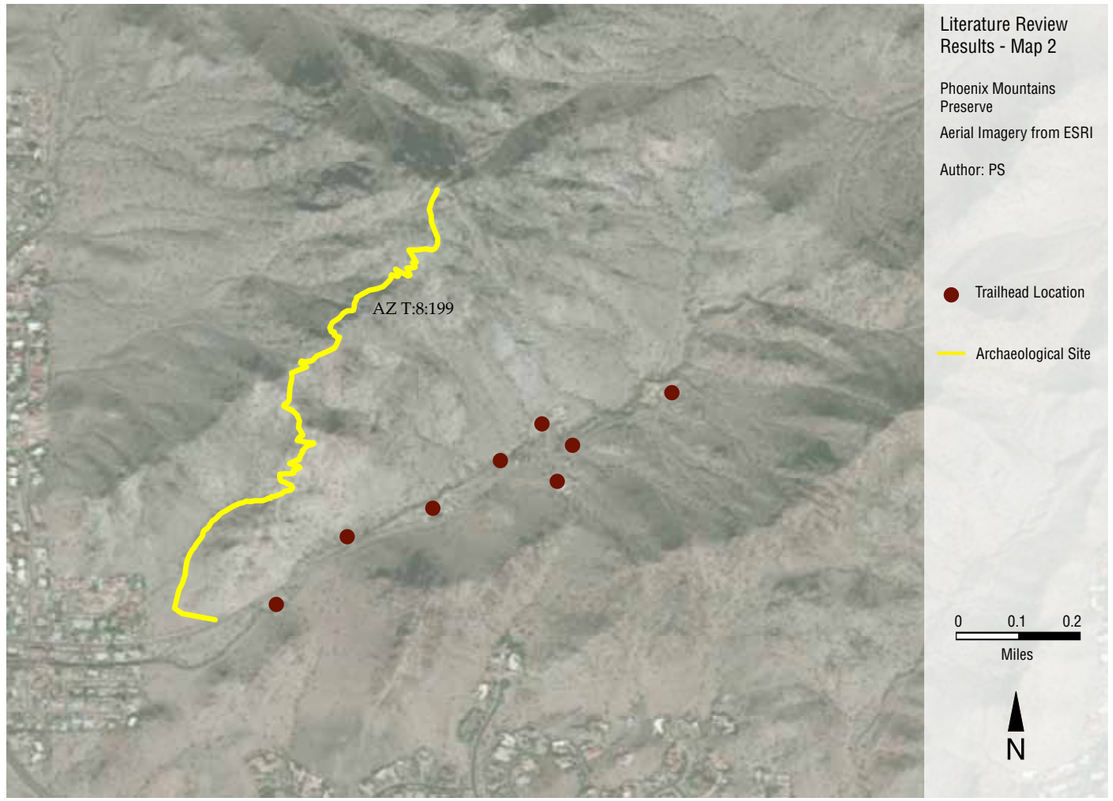
If you have any questions, please do not hesitate to contact me at (801) 495-4240 or by e-mail at psteele@pec.us.com.

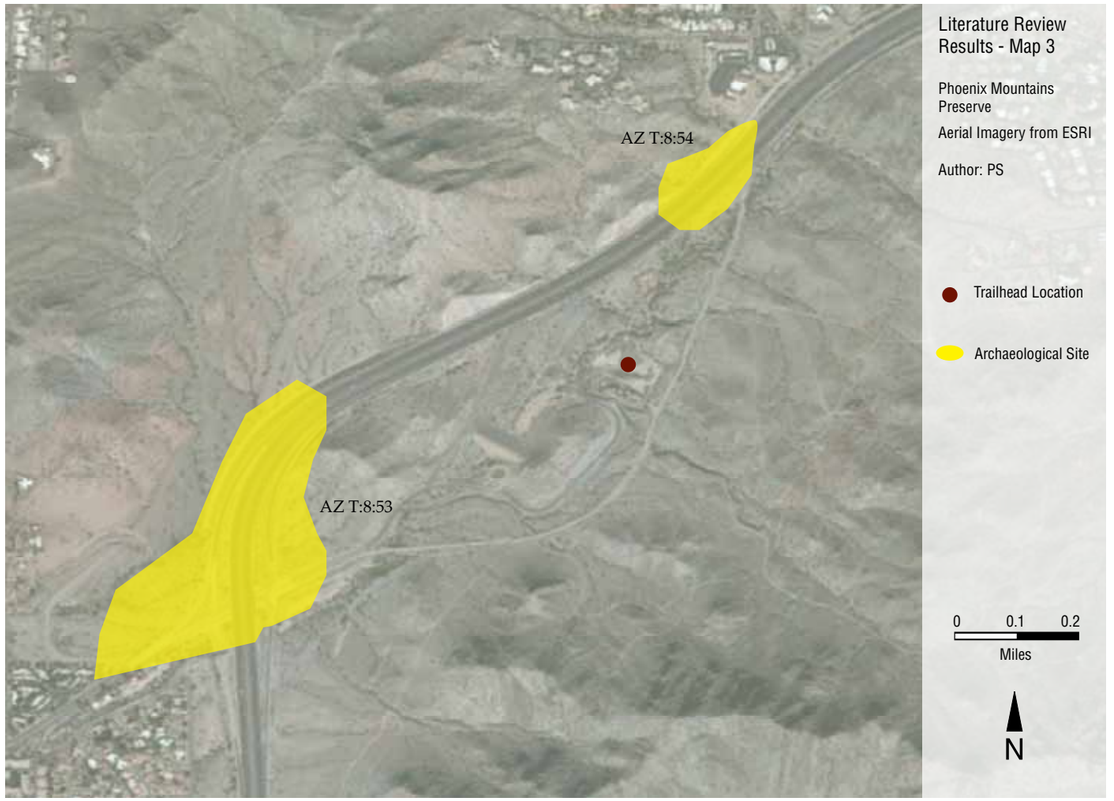
Sincerely,

Peter Steele
Cultural Resources Director

986 West 9000 South West Jordan, UT 84088 ■ Phone: (801) 495-4240 ■ Fax: (801) 495-4244




AZ T:8:199
Literature Review Results - Map 2
Phoenix Mountains Preserve
Aerial Imagery from ESRI
Author: PS
Trailhead Location
Archaeological Site
0 0.1 0.2
Miles
N


AZ T:8:54
AZ T:8:53
Literature Review Results - Map 3
Phoenix Mountains Preserve
Aerial Imagery from ESRI
Author: PS
Trailhead Location
Archaeological Site
0 0.1 0.2
Miles
N

PEC
PROJECT ENGINEERING CONSULTANTS

December 31, 2014

Jarod Rogers
Phoenix Mountains Preserve Project Manager
200 West Washington Street
Phoenix, Arizona 85044

Subject: Phoenix Mountains Preserve Biological Resources Evaluation

Dear Mr. Rogers,

Project Engineering Consultants Ltd. (PEC) has prepared the following biological evaluation resource report, as required by Section 7(c) of the Endangered Species Act (ESA), for the Phoenix Mountains Preserve study located within the city limits of Phoenix, Arizona. Three site reviews were conducted on November 17 and 28, 2014 and January 8, 2015. All site reviews were pedestrian surveys that observed existing conditions. No formal biological resource surveys were conducted. This letter will serve as a biological resource evaluation for the proposed project of species listed as endangered, threatened, proposed, or candidate, or designated and proposed critical habitat protected under the ESA. Potential state-sensitive species will also be analyzed as part of this report.

Proposed Action

The project proposes to develop an access management plan that will propose improvements to access (including roads, parking, and trails); public uses (special designation areas, off-road vehicles, pedestrian, cyclist, equestrian, and day use camping), natural and cultural resources maintenance and restoration; education and outreach. The study area encompasses Piestewa Peak within the Phoenix Mountains Preserve (see Appendix A: Figure 1) near Piestewa Freeway and the Granite Airport. Four parking lots, including Dreamy Draw, Piestewa Peak, 32nd Street, and 40th Street, were also evaluated.

General Project Location and Habitat Description

The study area encompasses approximately 4,857 acres and is located south of Shea Boulevard and north of Lincoln Drive in Phoenix, Arizona. The study area lies within the Phoenix Mountains Preserve in Township 3 North, Range 1 West, Sections 10, 11, and 12. Elevations in this location range from approximately 1,300 feet to 2,550 feet (397 meters to 778 meters) above sea level. The study area's highest point is located at Piestewa Peak. While some soils within the study area have been heavily disturbed through recreation, much of the area remains undisturbed in a natural state. Soils surrounding the study area have been heavily disturbed through historic settlement and community expansion. Shrub-steppe vegetation is throughout the study area and is primarily native to the area, including cholla cactus (*Cylindropuntia* spp.), mesquite (*Prosopis* spp.), palo verde (*Parkinsonia* spp.), and saguaro cactus (*Carnegiea gigantea*) (see Appendix B: Figures 1–3).

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The study area is located within a desert climate characterized by very low precipitation and humidity, with hot summers and mild winters. Temperature variations are extreme, ranging from 90°–108° Fahrenheit in the summer to between 40°–70° Fahrenheit in the winter (National Climatic Data Center, 2014). Based on parameter elevation regression on independent slopes model (PRISM) data during 2013, the average normal precipitation in Phoenix, Arizona was approximately 6–8.5 inches during the year, the majority of which occurred between November and March (National Climatic Data Center, 2014).

The study area is part of the Phoenix Mountains Preserve (a group of parks located among the Phoenix Mountains in Phoenix, Arizona). Piestewa Peak (previously named Squaw Peak) was the first of many parks to be preserved and consists of small mountains and adjacent foothills. The park contains extensive hiking trails, public access areas with parking, ramadas, restrooms, and nearby horse stables where horses can be rented and ridden into the park.

Agency Consultation and Species of Concern

The species list obtained from the US Fish and Wildlife Service (USFWS) IPaC system and the Arizona Game and Fish Department database (dated December 18, 2014) indicates seven species that warrant ESA consideration for this study. These species, listed in Table 1, are derived from habitat conditions and potential species occurrence within Maricopa County, Arizona.

Table 1: Federally listed endangered, threatened, proposed candidate, and state sensitive species for Maricopa County, Arizona that are potentially present within the Phoenix Mountains Preserve study area.

Species and Scientific Name	Status	Determination	Summary
California least tern (*Sterna antillarum browni)*	Endangered	The California least tern primarily occurs from late April to August on barren to sparsely vegetated riverine sandbars, dike field sandbar islands, sandy gravel pits, and lake and reservoir shorelines. Natural breeding sites may consist of open sandy beaches, small islands within estuarine areas, and landfills. Nests are usually located near open expanses of light-colored sand, dirt, or dried mud close to a lagoon or estuary with a dependable food supply (Sidle, 1990, 21–22). Because the study area does not contain estuaries, lagoons, or sandbars, suitable habitat for the California least tern is unlikely to be present within the study area.	No effect
Southwestern willow flycatcher (*Empidonax traillii extimus)*	Endangered	The southwestern willow flycatcher commonly breeds in dense riparian tree and shrub communities that are associated with rivers, swamps, and other wetlands including lakes and reservoirs (US Fish and Wildlife Service, 2014a). Because the study area does not contain wetlands or dense riparian vegetation, suitable habitat for the southwestern willow flycather is unlikely to be present within the study area.	No Effect

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Yuma clapper rail (*Rallus longirostris yumanensis)*	Threatened	The yuma clapper rail occupies areas that contain fresh water marshes during the breeding season. During the winter, it occupies brackish marshes. The yuma clapper rail breeds in heavily-vegetated freshwater marshes with cover containing cattail (*Typha* spp.), bulrush (*Scirpus* spp.), and occasionally phragmites (*Phragmites australis*) (Patten, n.d., 2). Because the study area does not contain freshwater marshes with dense vegetation, suitable habitat for the yuma clapper rail is unlikely to be present within the study area.	No Effect
Yellow-billed cuckoo *(Coccyzus americanus)*	Candidate	Yellow-billed cuckoos prefer to nest in open woodlands with an understory of dense vegetation, especially near water. In western portions of the range, nests are often situated close to water, likely because of the lack of dense vegetation away from water. Western cuckoos (including those in the western Great Plains) prefer to nest in willow (*Salix* spp.), cottonwood (*Populus* spp.), and mesquite (*Prosopis* spp.), but they will also use orchards (Wiggins, 2005, 17–18). Because adequate water and riparian vegetation is not present within the study area, suitable habitat for the yellow-billed cuckoo is unlikely to be present within the study area.	No effect
Roundtail chub (*Gila robusta)*	Endangered	Roundtail chub occupy cool to warm water (including mid-elevation streams, creeks, and rivers) that consist of pools up to 2 meters (6.6 feet) deep that are adjacent to swifter riffles and runs. Cover is usually present and can consist of large boulders or tree rootwads (Arizona Game and Fish Department, 2002, 2). Because open water is not present within the study area, suitable habitat for the roundtail chub is unlikely to be present within the study area.	No Effect
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae)*	Endangered	The lesser long-nosed bat requires caves and mines for roost sites and access to healthy stands of saguaro cactus and paniculate agaves (*Agavaceae* spp.) for foraging. Depending on its location in Arizona, the lesser long-nosed bat is commonly observed in the desertscrub vegetation community during the early summer and the semidesert grassland and oak woodlands during the late summer (US Fish and Wildlife Service, 2014b). Because the study area does not contain caves or mines, the lesser long-nosed bat is unlikely to be present within the study area.	No Effect
Sonoran Desert tortoise *(Gopherus morafkai)*	Candidate	The Sonoran Desert tortoise occurs on rocky slopes in desertscrub or semidesert grassland, as well as along washes that extend into creosotebush (*Larrea tridentata*) flats. Burrows may occur below rocks, boulders, or Joshua trees (*Yucca brevifolia*) and can be irregularly shaped. Soil burrows and those in wash banks may have a half-moon appearance (Arizona Interagency Desert Tortoise Team, 1996, 3). While the study area contains rocky slopes and desert scrub, the Sonoran Desert tortoise is unlikely to be present due to the large numbers of people that frequently participate in recreational activities at the preserve.	No Effect

986 West 9000 South West Jordan, UT 84088 ■ Phone: (801) 495-4240 ■ Fax: (801) 495-4244

Conclusion

According to Section 7 of the Endangered Species Act, consultation is only required when a proposed federal action may affect listed species or their habitats. We have reviewed the Arizona Game and Fish Department database for Maricopa County and the USFWS information, planning, and conservation (IPaC) system. While both databases indicate that federally listed, threatened, endangered, candidate, state-sensitive, or big game species could be found within the study area, habitat for these species is not present. Therefore, PEC anticipates that there will be **no effect or impact to these species as a result of this project**.

If you need any additional information, please feel free to contact Chuck Easton at (801) 707-3601 or at ceaston@pec.us.com, or myself at (801) 858-3362 or at hboekweg@pec.us.com.

Sincerely,

Heather Boekweg

Heather Boekweg, MS
Environmental Specialist

986 West 9000 South West Jordan, UT 84088 ■ Phone: (801) 495-4240 ■ Fax: (801) 495-4244

Sources Cited

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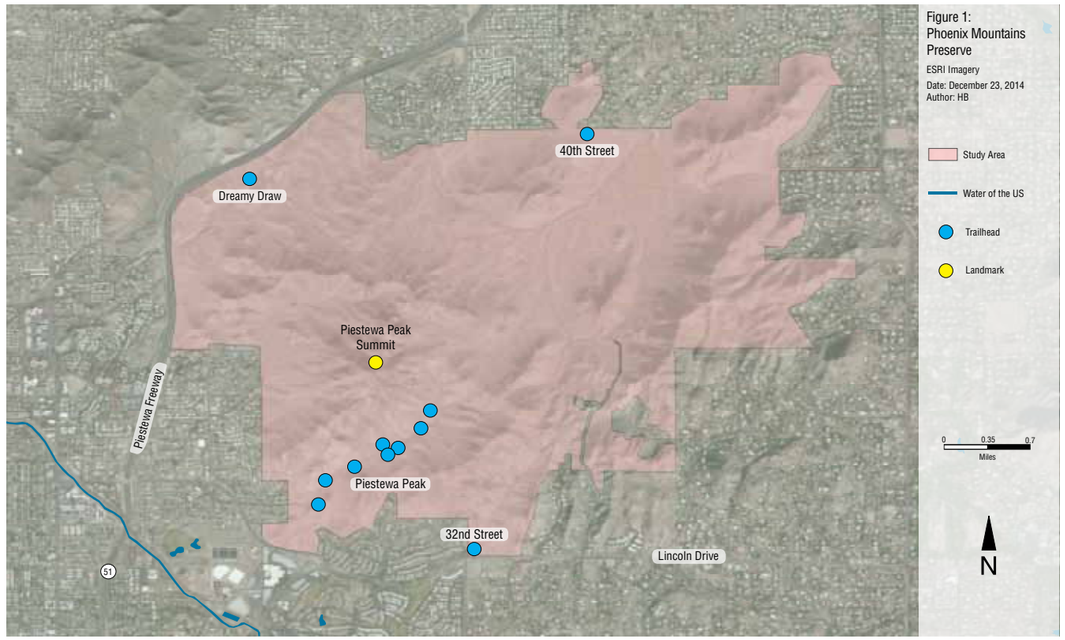
Biological Resources Appendix A

Project Area Map



Biological Resources Appendix B

Site Photographs

Figure 1: Typical vegetation within the Phoenix Mountains Preserve project area. View to the west.

Figure 3: Typical vegetation within the Phoenix Mountains Preserve project area. View to the west.

Figure 2: Mojave Lot trailhead within the Phoenix Mountains Preserve project area. View to the south.

PEC
PROJECT ENGINEERING CONSULTANTS

December 30, 2014

Jarod Rogers
Phoenix Mountains Preserve Project Manager
200 West Washington Street
Phoenix, Arizona 85044

Subject: Phoenix Mountains Preserve Project—NWI Review of Waters of the United States

Dear Mr. Rogers,

Under the direction of the City of Phoenix, Project Engineering Consultants Ltd. (PEC) was contracted to conduct a literature review of wetlands using the National Wetland Inventory (NWI) database in the Phoenix Mountains Preserve. While an actual wetland delineation survey was not performed within the project area, an NWI literature review of the study area adequately characterizes waters of the United States. The study area encompasses Piestewa Peak within the Phoenix Mountains Preserve near Piestewa Freeway and the Granite Airport. Parking lots and existing trailheads along Squaw Peak Drive, Dreamy Draw, 32nd Street, and 40th Street (see Figures 1–2) were evaluated.

Proposed Action

The project proposes to develop an access management plan that will propose improvements to accesses (including roads, parking, and trails); public uses (special designation areas, off-road vehicles, pedestrian, cyclist, equestrian, and day use camping), natural and cultural resources maintenance and restoration; education and outreach.

Figure 1: Typical view of intermittent wash near Dreamy Draw.

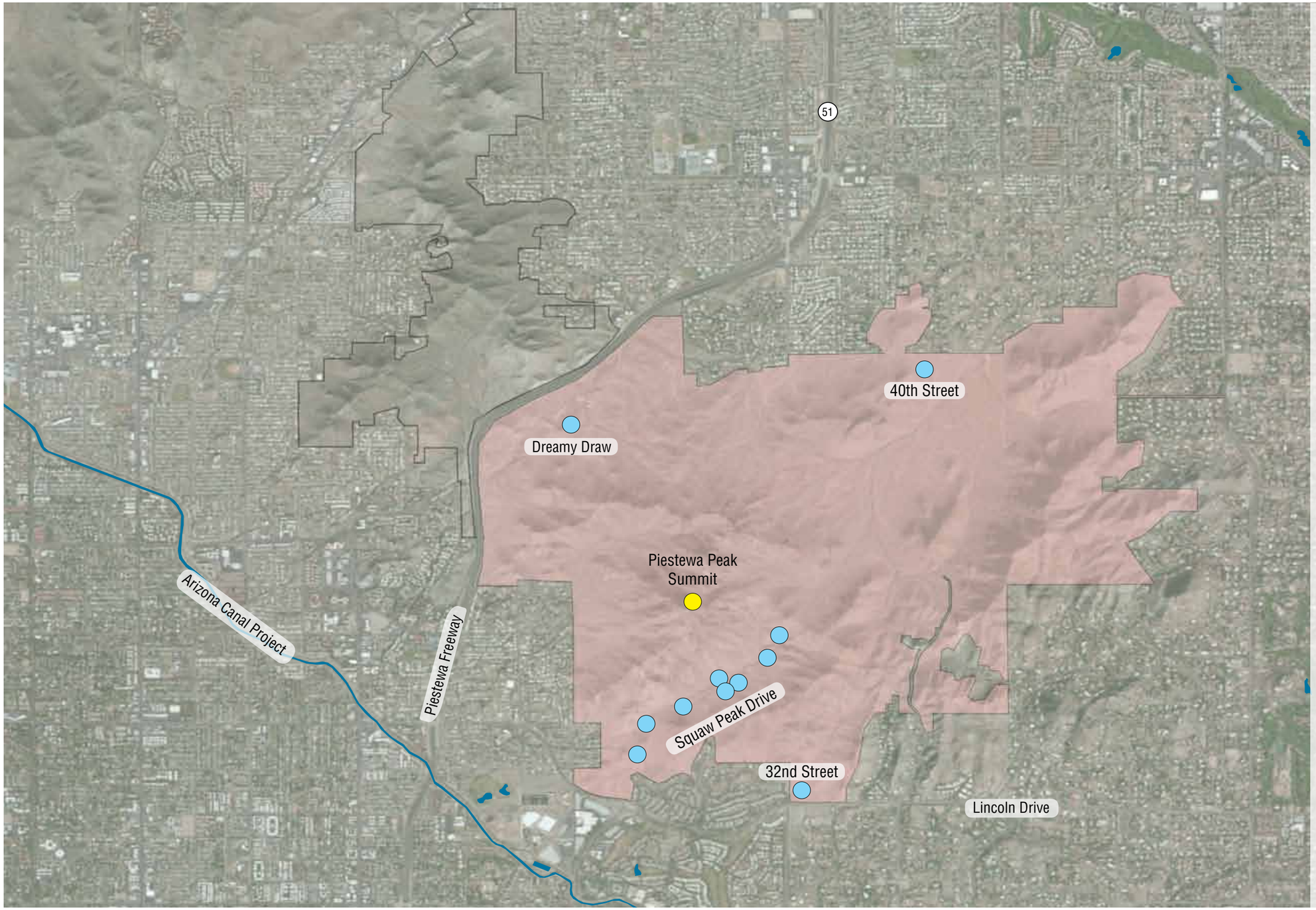


Figure 2:
National Wetlands Inventory (NWI) Map

ESRI World Imagery
Author: ZS

- Study Area
- NWI Waters of the United States
- Phoenix Mountains Preserve Boundary
- Trailhead/Parking Lot
- Landmark

N

0 0.25 0.5
Miles

City of Phoenix
PARKS AND RECREATION DEPARTMENT

PEC

General Project Location and Habitat Description

The study area encompasses approximately 4,857 acres and is located south of Shea Boulevard and north of Lincoln Drive in Phoenix, Arizona. The study area lies within the Phoenix Mountains Preserve in Township 3 North, Range 1 West, Sections 10, 11, and 12. Elevations in this location range from approximately 1,300 feet to 2,550 feet (397 meters to 778 meters) above sea level. The study area's highest point is located at Piestewa Peak. While some soils within the study area have been heavily disturbed through recreation, much of the area remains undisturbed in a natural state. Soils surrounding the study area have been heavily disturbed through historic settlement and community expansion. Shrub-steppe vegetation is uniform throughout the study area and is primarily native to the area. Vegetation includes cholla cactus (*Cylindropuntia* spp.), mesquite (*Prosopis* spp.), palo verde (*Parkinsonia* spp.), and saguaro cactus (*Carnegiea gigantea*) (see Figures 3–4). The park contains extensive hiking trails and public access areas with parking, ramadas, and restrooms (see Figure 5) and is characterized by a desert climate with high summer temperatures, low humidity, and low precipitation.

Results

PEC reviewed the NWI database on December 19, 2014. The NWI database identified no potential jurisdictional waters of the United States within the project area. Jurisdictional waters of the United States including the Arizona Canal and small ponds were identified within one mile outside of the study area (see Figure 2). Various intermittent washes exist within the park. Open water in the wash only occurs during significant precipitation events and does not generate wetland habitat.

Conclusion

No jurisdictional waters of the United States were identified on the NWI database within the study area. However, several jurisdictional waters are located outside the study area within a one-mile radius.

If you have any questions, please contact me at (801) 858-3256 or by e-mail at zscott@pec.us.com.

Sincerely,

Zachary Scott,
Wetlands Specialist

Figures 3: Typical view of the study area and shrub-steppe vegetation, view to the west.

Figure 4: Vegetation within the study area including cholla cactus and mesquite, view to the north.

Figure 5: Dreamy Draw parking lot and surrounding vicinities, view to the south.

Appendix F

Trail Overview and Analysis

DRAFT

PHOENIX MOUNTAINS PRESERVE

2015 ESRI AERIAL IMAGE
Date: December 16, 2015
Author: ZS

- Park Boundary
- USGS Contours
- XXXX Peaks
- Trailhead/Parking Area
- Trail Nodes
- Non-Designated Trails to be Restored
- Cyclist Only Trails
- Pedestrian/Equestrian Only Trails
- Multi-Use Trails
- VARIES Existing Designated Trail Information Shown in Table Below
- Trails Currently Closed for Restoration

- Parking
- Restrooms
- Trailhead/Hiking
- Water

0 225 450
Feet

Mountain View Rd
Hatcher Rd
28th St
32nd St
40th St
Tatum Blvd
Double Tree Ranch Rd
SR-51 (Piestewa Freeway)
Dreamy Draw Trailhead and Parking Area
Dreamy Draw Dam
#220 Dreamy Draw Nature
40th Street Trailhead and Parking Area
#100 Charles M. Christiansen Memorial Trail
#1A Perl Charles Memorial Trail
VOA7
#8 L.V. Yates Trail
#302 Freedom Trail
#304 Nature Trail
#84 Quartz Ridge Trail
#300 Summit Trail
#8B Ruth Hamilton Trail
Navajo Trailhead and Parking Area
Summit Trailhead and Parking Area
Apache Trailhead and Parking Area/Unnamed Parking Area 3
Mojave and Hopi Trailhead and Parking Area/Unnamed Parking Area 2
#200 Mohave Trail
Unnamed Parking Area 1
#202 Mohave Connector
32nd Street Trailhead and Parking Areas
Orangewood Ave
Myrtle Ave
Glendale Ave
Squaw Peak Dr
Ocotillo Rd
Lincoln Dr
Sierra Vista Dr
32nd St
36th St

Existing Features and Amenities

Unnamed Parking Area 1
- 24 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Summit Parking Area
- 48 standard parking stalls
- 1 ADA accessible stall
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Navajo Parking Area
- 33 standard parking stalls
- 4 ADA accessible stalls
- 1 restroom facility
- 8 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 2
- 3 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Mojave Parking Area
- 33 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 3 ramada structures
- 2 utility structures
- No equestrian parking

Hopi Parking Area
- 30 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 2 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 3
- 8 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Apache Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 5 ramada structures
- No utility structures
- No equestrian parking

32nd Street Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- No restroom facilities
- No ramada structures
- 1 utility structure
- No equestrian parking

40th Street Parking Area
- 61 standard parking stalls
- 3 ADA accessible stalls
- 1 restroom facility
- 1 ramada structure
- No utility structures
- Equestrian parking

Dreamy Draw Parking Area
- 61 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 2 ramada structures
- 1 utility structure
- Equestrian parking

Existing Designated Trail Information

#	Trail Name	Color	Miles	Difficulty	Elev Low	Elev High
1A	Perl Charles Memorial	Yellow	4.8	Moderate/Difficult	1340	2200
8	L.V. Yates Trail	Light Green	2.5	Easy/Moderate	1640	1860
8A	Quartz Ridge	Gold	1.7	Moderate	1300	1800
8B	Ruth Hamilton	Pink	0.9	Moderate/Difficult	1540	1970
100	Charles M. Christiansen Memorial	Light Pink	10.7	Easy/Moderate	1290	2080
200	Mohave	Teal	0.4	Easy/Moderate	1480	1788
202	Mohave Connector	Magenta	1.5	Easy/Moderate	1300	1500
220	Dreamy Draw Nature	Sky Blue	1.5	Easy/Moderate	1380	1580
300	Summit	Slate Blue	1.2	Moderate/Difficult	1400	2608
302	Freedom	Peach	3.7	Moderate/Difficult	1400	2120
304	Nature	Salmon	1.5	Easy/Moderate	1610	1790

DRAFT

PHOENIX MOUNTAINS PRESERVE

2015 ESRI "Light Gray Shaded Map"

Date: August 7, 2015
Author: ZS

- Non-designated Trails Visible On Aerial Photography
- Park Boundary
- USGS Contours
- Streams, Rivers, Washes
- Roadways
- XXXX Peaks
- Trailhead/Parking Area
- Trail Nodes
- Parking
- Restrooms
- Trailhead/Hiking
- Water

0 225 450
Feet

Existing Features and Amenities

Unnamed Parking Area 1
- 24 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Summit Parking Area
- 48 standard parking stalls
- 1 ADA accessible stall
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Navajo Parking Area
- 33 standard parking stalls
- 4 ADA accessible stalls
- 1 restroom facility
- 8 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 2
- 3 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- 1 ramada structure
- No utility structures
- No equestrian parking

Mojave Parking Area
- 33 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 3 ramada structures
- 2 utility structures
- No equestrian parking

Hopi Parking Area
- 30 standard parking stalls
- 1 ADA accessible stall
- 1 restroom facility
- 2 ramada structures
- No utility structures
- No equestrian parking

Unnamed Parking Area 3
- 8 standard parking stalls
- No ADA accessible stalls
- No restroom facilities
- No ramada structures
- No utility structures
- No equestrian parking

Apache Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 5 ramada structures
- No utility structures
- No equestrian parking

32nd Street Parking Area
- 23 standard parking stalls
- 2 ADA accessible stalls
- No restroom facilities
- No ramada structures
- 1 utility structure
- No equestrian parking

40th Street Parking Area
- 61 standard parking stalls
- 3 ADA accessible stalls
- 1 restroom facility
- 1 ramada structure
- No utility structures
- Equestrian parking

Dreamy Draw Parking Area
- 61 standard parking stalls
- 2 ADA accessible stalls
- 1 restroom facility
- 2 ramada structures
- 1 utility structure
- Equestrian parking

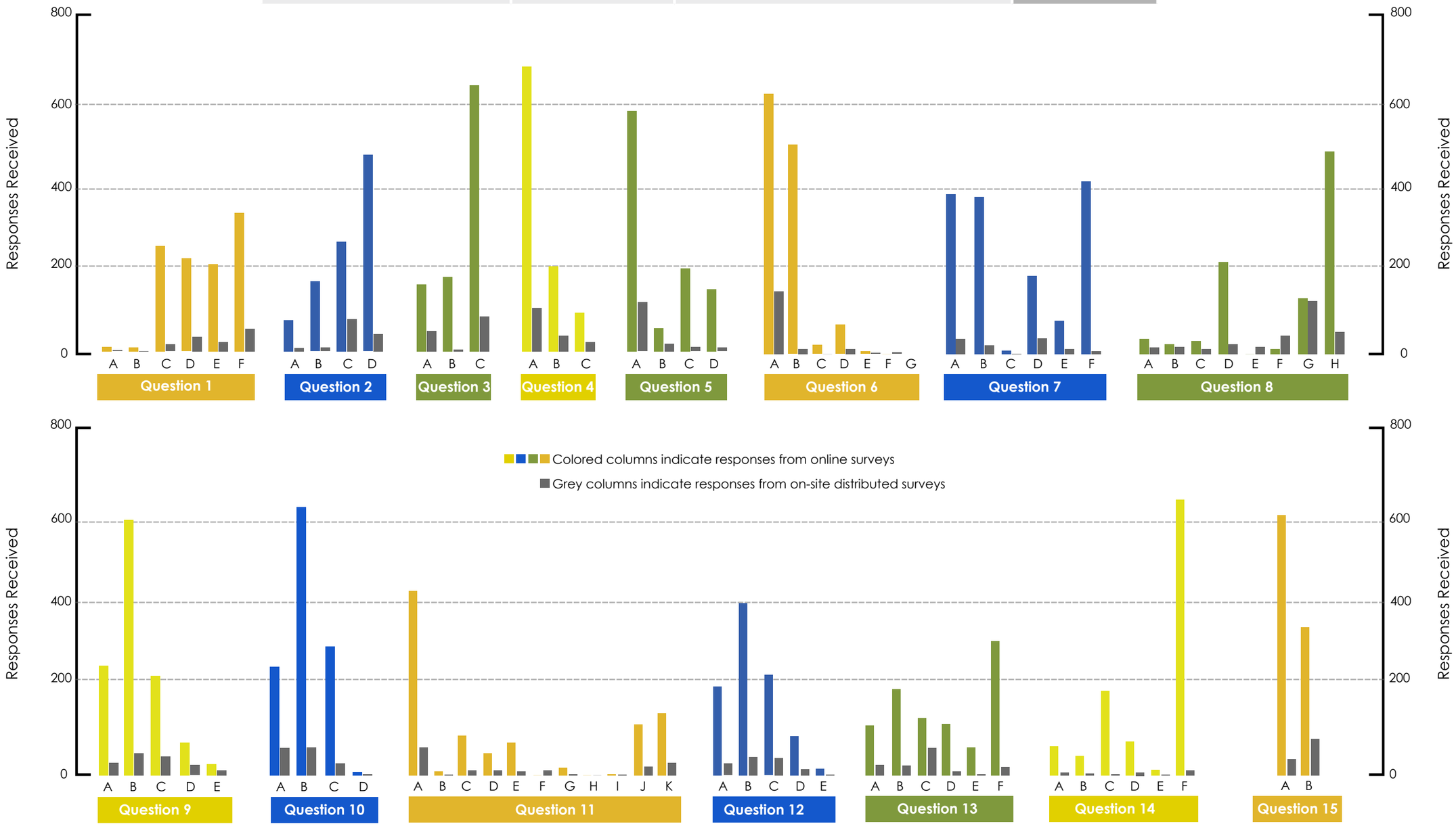
Trail Information

#	Trail Name	Color	Miles	Difficulty	Elev Low	Elev High
1A	Perl Charles Memorial	Green	4.8	Moderate/Difficult	1340	2200
8	L.V. Yates Trail	Purple	2.5	Easy/Moderate	1640	1860
8A	Quartz Ridge	Pink	1.7	Moderate	1300	1800
8B	Ruth Hamilton	Turquoise	0.9	Moderate/Difficult	1540	1970
100	Charles M. Christiansen Memorial	Magenta	10.7	Easy/Moderate	1290	2080
200	Mohave	Burgundy	0.4	Easy/Moderate	1480	1788
202	Mohave Connector	Turquoise	1.5	Easy/Moderate	1300	1500
220	Dreamy Draw Nature	Turquoise	1.5	Easy/Moderate	1380	1580
300	Summit	Green	1.2	Moderate/Difficult	1400	2608
302	Freedom	Yellow	3.7	Moderate/Difficult	1400	2120
304	Nature	Orange	1.5	Easy/Moderate	1610	1790

Appendix G

User Survey Results

	Online Surveys	On-site Distributed Surveys	Total
Surveys Collected	1258	171	1429
Percent of Total	88%	12%	100%



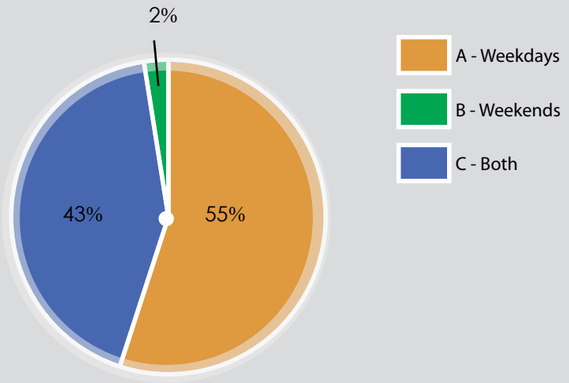
	40th Street	32nd Street	Dreamy Draw	Piestewa Area	Online Survey	Total
Responses Received	56	49	28	38	1258	1429
Percent of Total	4%	3.5%	2%	2.5%	88%	100%

Survey Questions

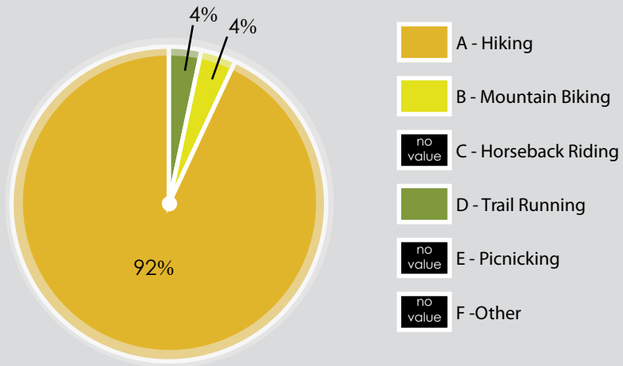
1. How far did you travel to visit the park?
2. How often do you use the park facilities?
3. Generally, when do you use the trail(s)?
4. What time of day do you use the trail(s)?
5. How do you access the park?
6. What is your primary activity in the park?
7. If applicable, what is your secondary activity in the park?
8. Why did you choose to visit the park?
9. How would you describe your experience finding a parking space when visiting the park?
10. How often do you use this trail/route?
11. Why did you choose this trail/route?
12. How would you describe the effectiveness of the trail markers showing the designated trail routes?
13. What trailhead improvements would you like to see most at the park?
14. Do any of the following things make you feel unsafe about being in the park?
15. Do the activities of others affect your experience at the park?

SURVEYS ADMINISTERED ON-SITE

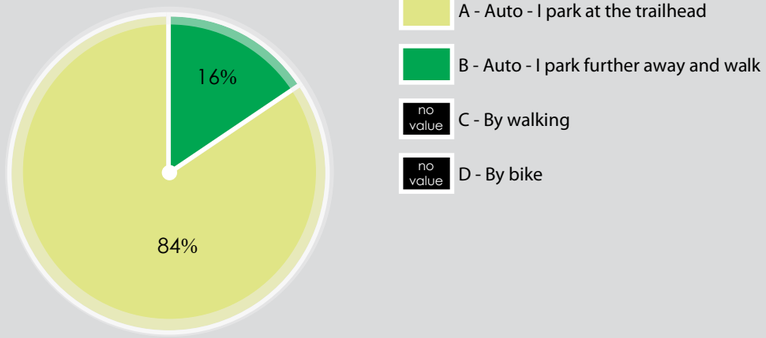
Generally, when do you use the trail(s)?



What is your primary activity in the park? (circle one)

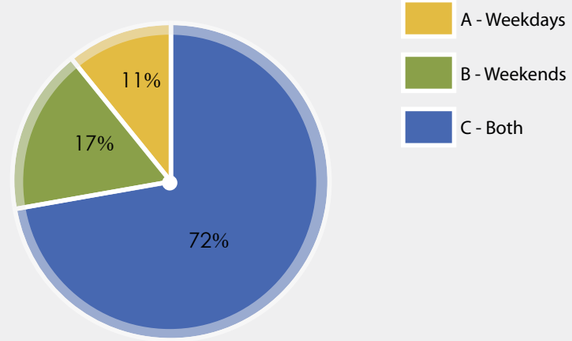


How do you access the park? (circle all that apply)

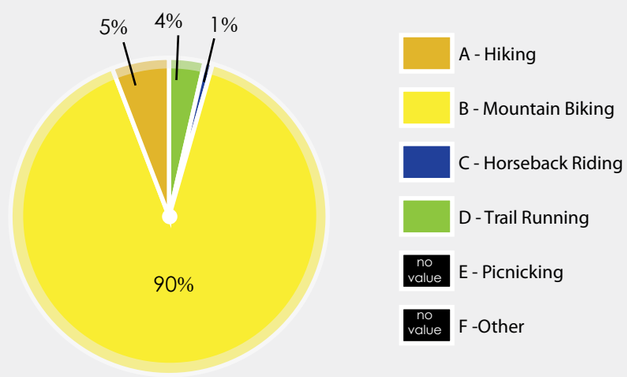


SURVEYS ADMINISTERED ONLINE

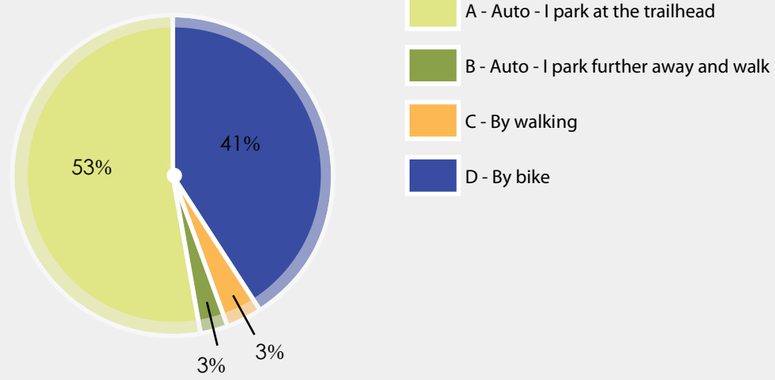
Generally when do you use the trail(s)?



What is your primary activity in the park? (circle one)

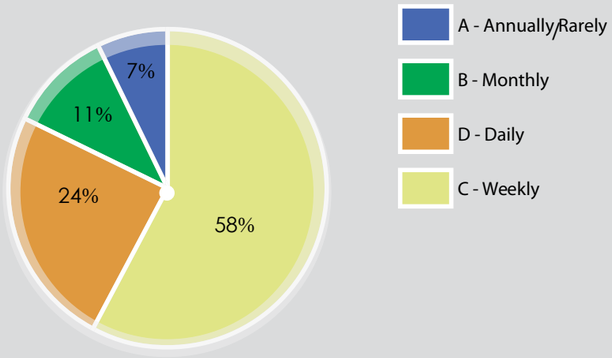


How do you access the park? (circle all that apply)



SURVEYS ADMINISTERED ON-SITE

How often do you use the park facilities?

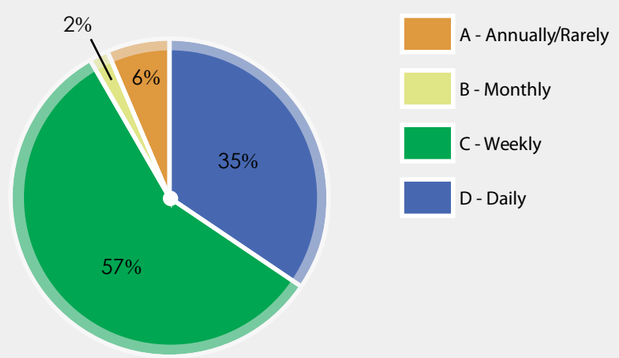


What trailhead improvements would you like to see most at the park?

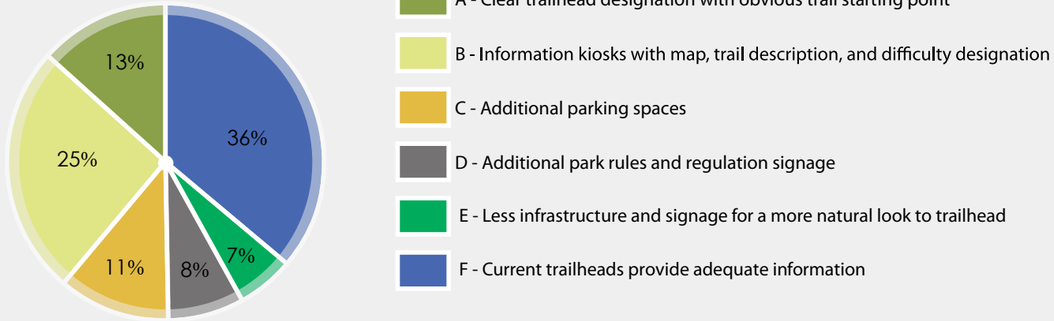
How would you describe your experience finding a parking space when visiting the park?

SURVEYS ADMINISTERED ONLINE

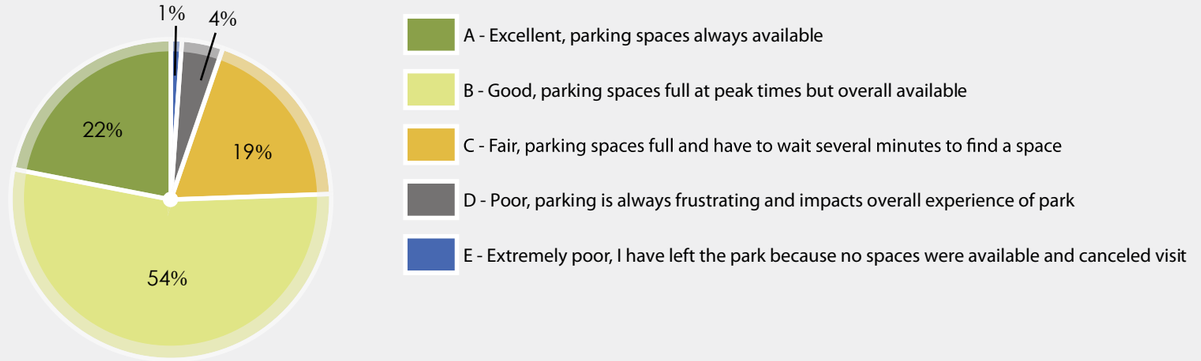
How often do you use the park facilities?



What trailhead improvements would you like to see most at the park?



How would you describe your experience finding a parking space when visiting the park?

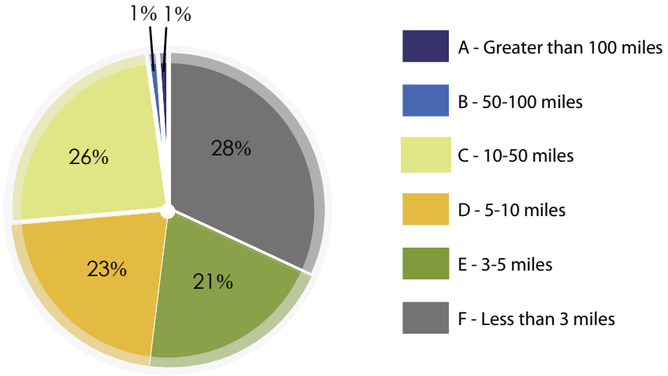


Survey Data

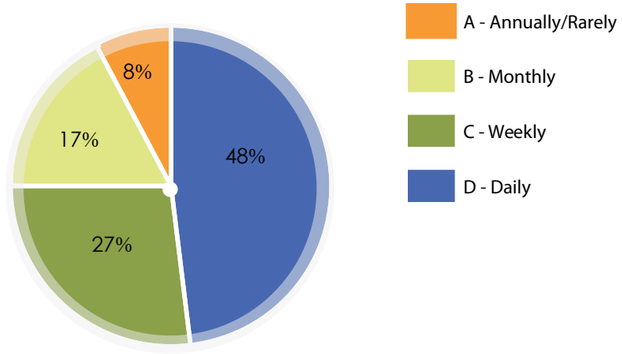
Online User Survey

1258 Total Surveys collected

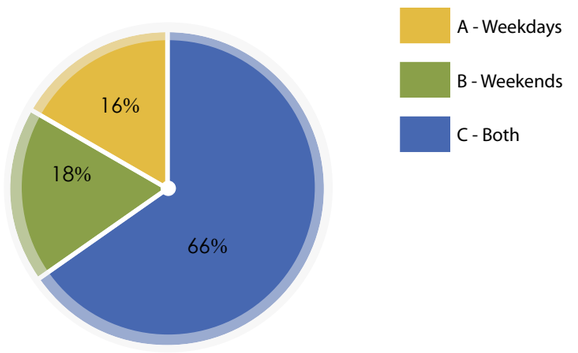
How far did you travel to come to the park?



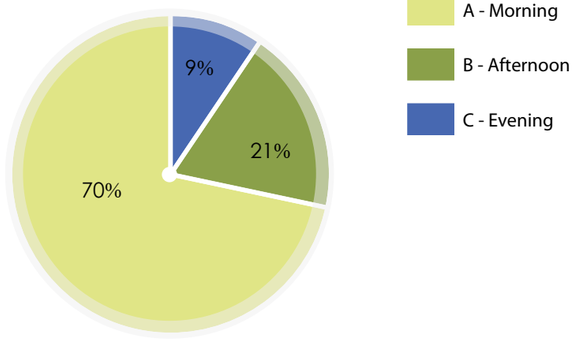
How often do you use the park facilities?



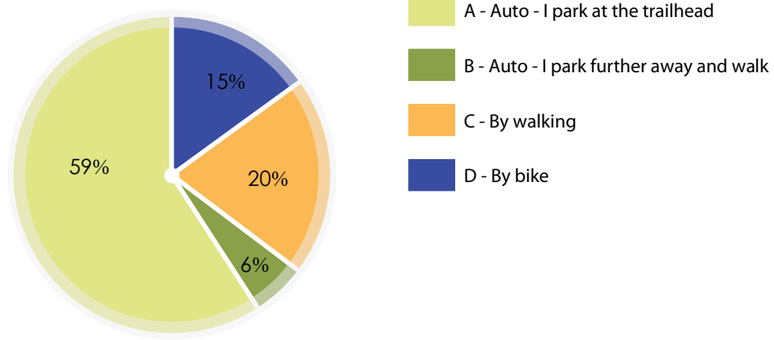
Generally when do you use the trail(s)?



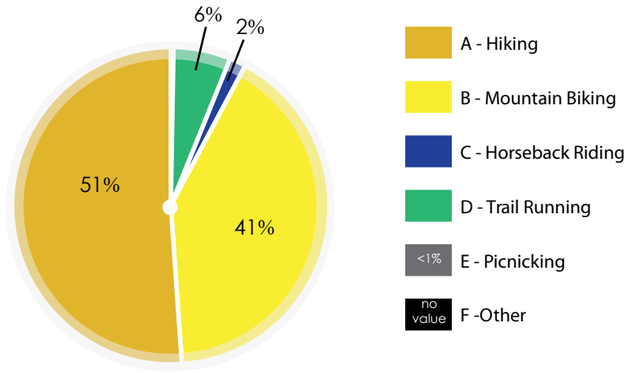
What time of day do you use the trail(s)?



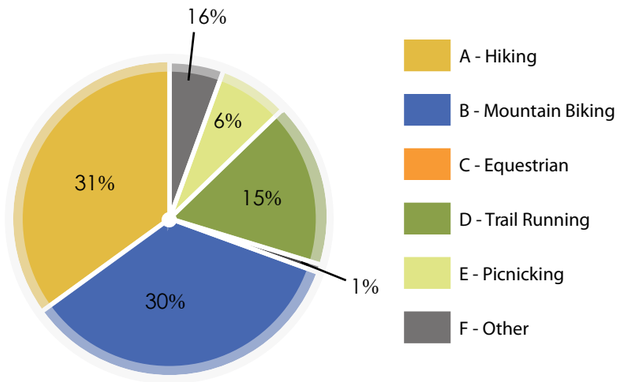
How do you access the park? (circle all that apply)



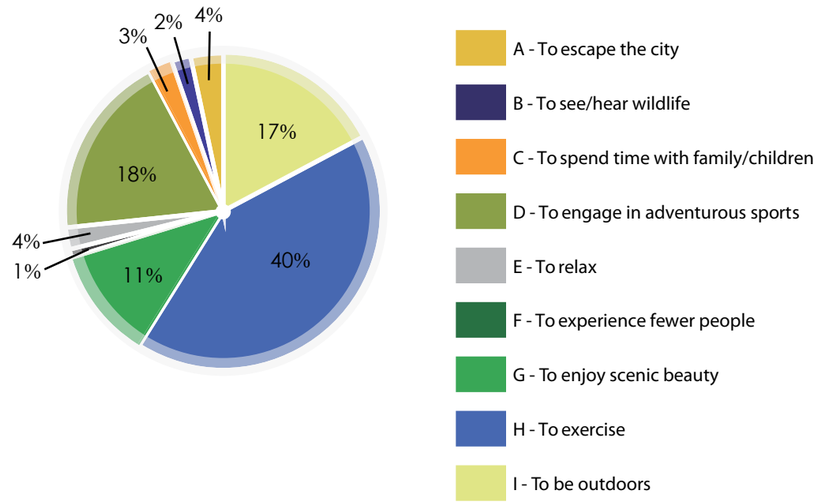
What is your primary activity in the park? (Circle one)



If applicable, what is your secondary activity at the park? (circle one)

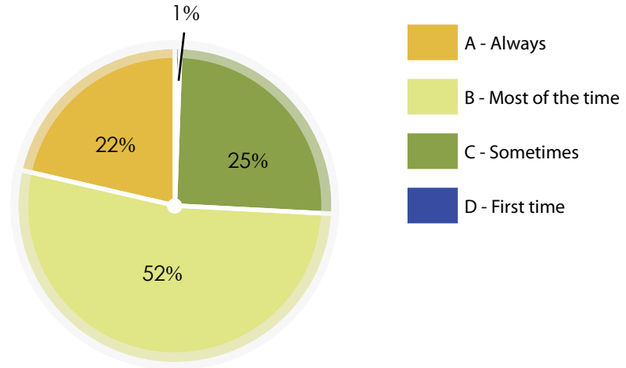


Why did you choose to visit the park?

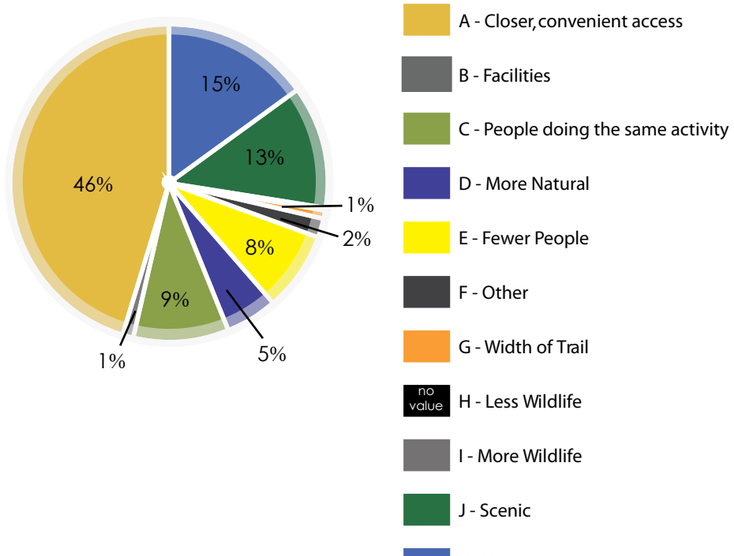


How would you describe your experience finding a parking space when visiting the park?

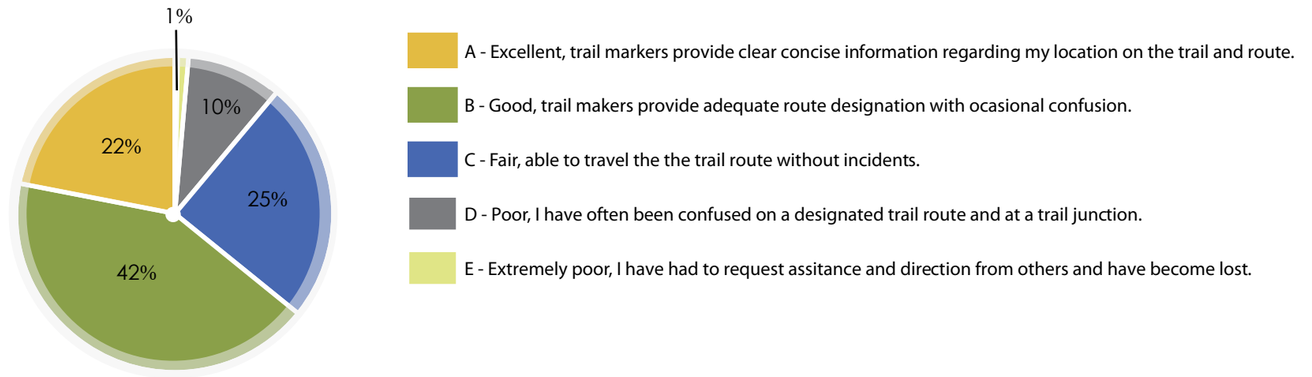
How often do you use this route/trail? (circle one)



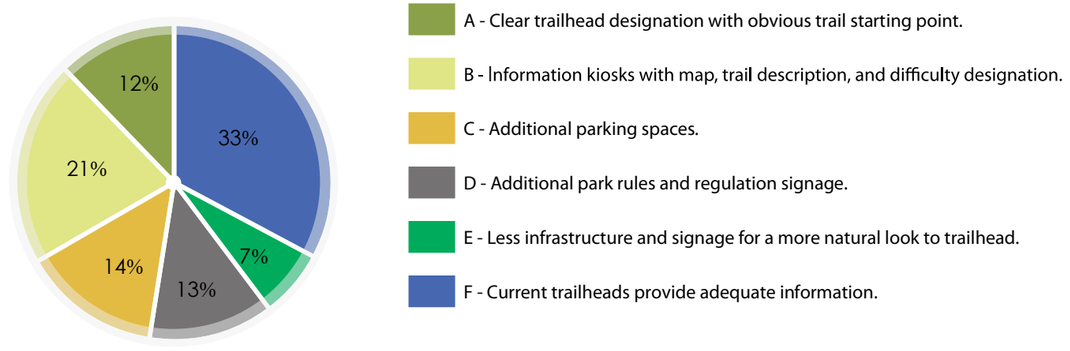
Why did you choose this trail/route? (Circle one)



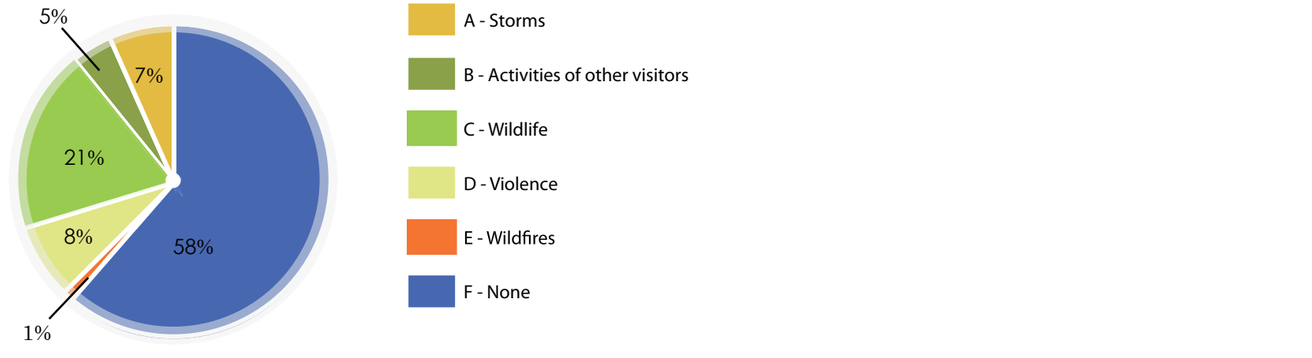
How would you describe the effectiveness of trail markers showing the designated trail routes? (circle one)



What trailhead improvements would you like to see most at the park?



Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



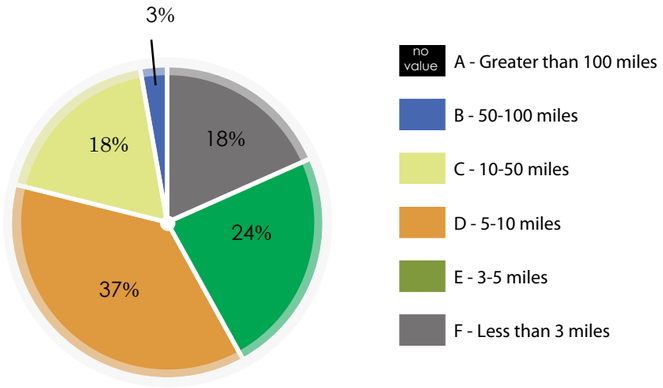
Survey Data

Piestewa Peak Trailheads

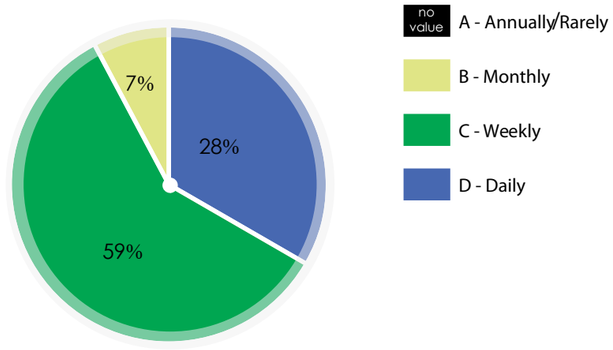
User Survey Comments

- Do not incorporate parking fees
- More parking
- Better medical response
- Increased trail signage
- More enforcement regarding pet rules (especially regarding dog waste and leashes)
- Trail maintenance to reduce eroded areas
- Additional trail benches and seating
- Regulate creation of non-designated trails

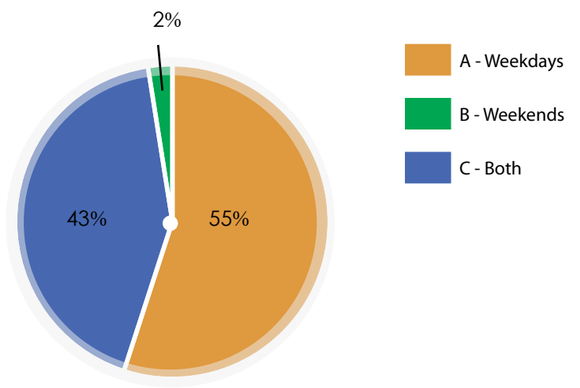
How far did you travel to come to the park?



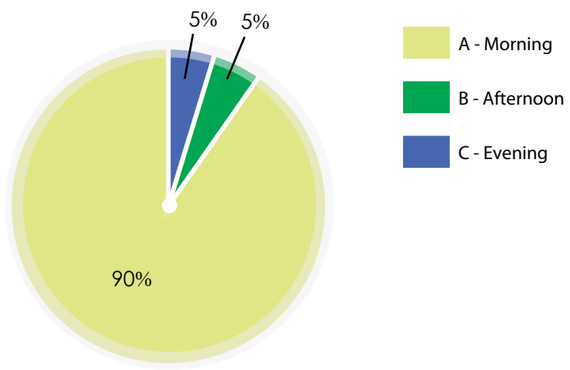
How often do you use the park facilities?



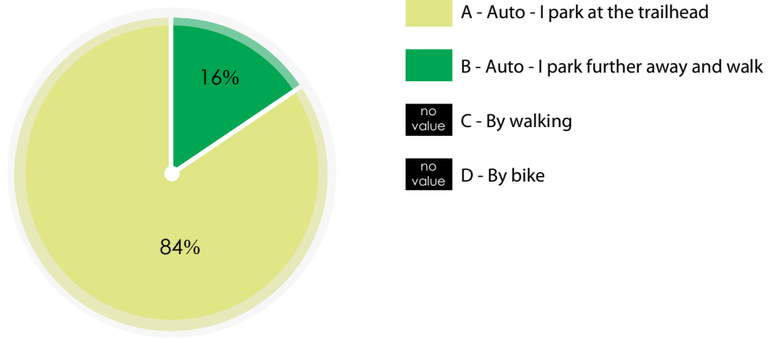
Generally, when do you use the trail(s)?



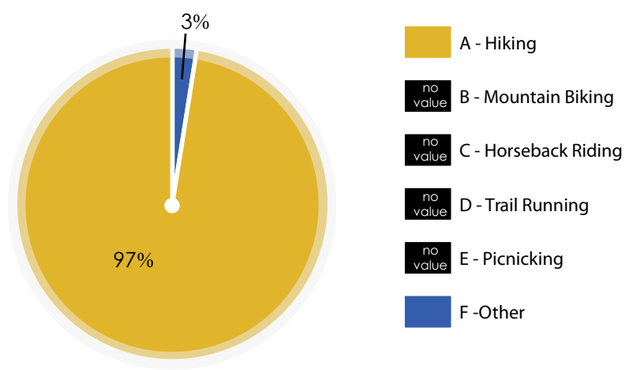
What time of day do you use the trail(s)?



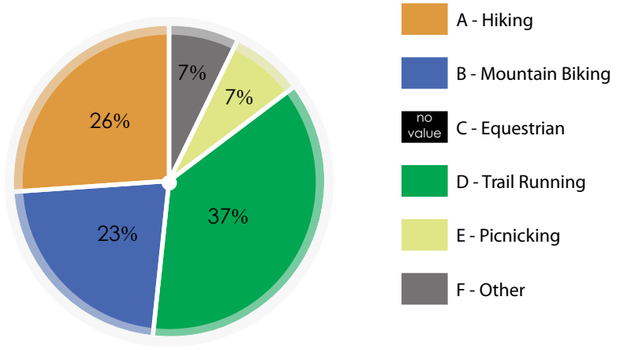
How do you access the park? (circle all that apply)



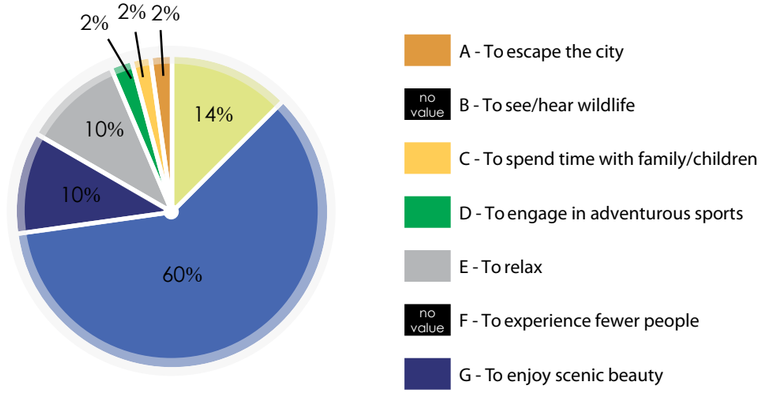
What is your primary activity in the park? (circle one)



If applicable, what is your secondary activity at the park? (circle one)

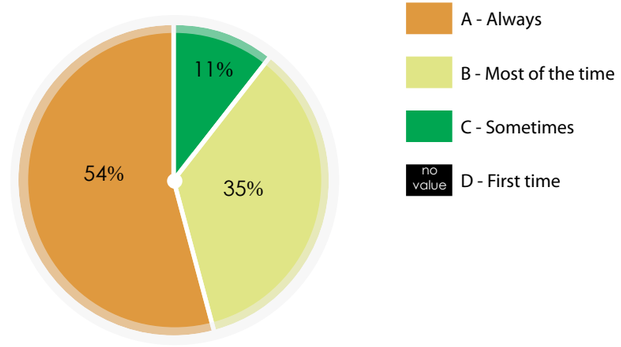


Why did you choose to visit the park?

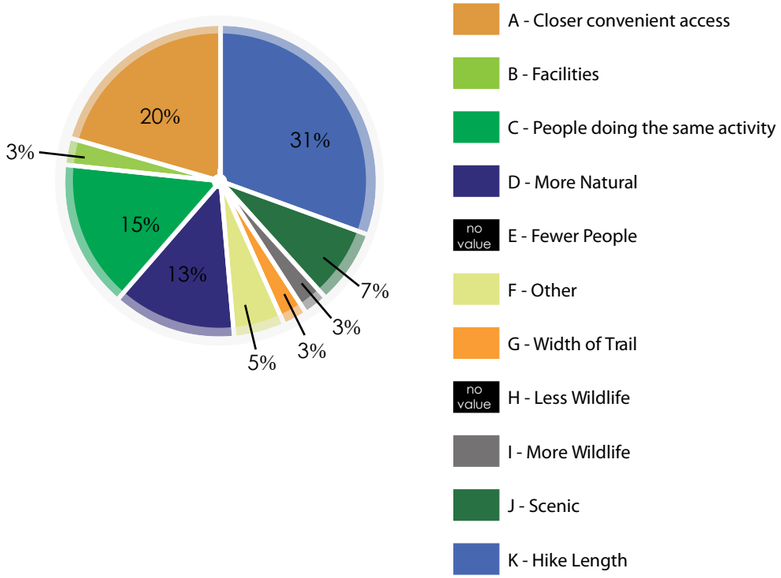


How would you describe your experience finding a parking space when visiting the park?

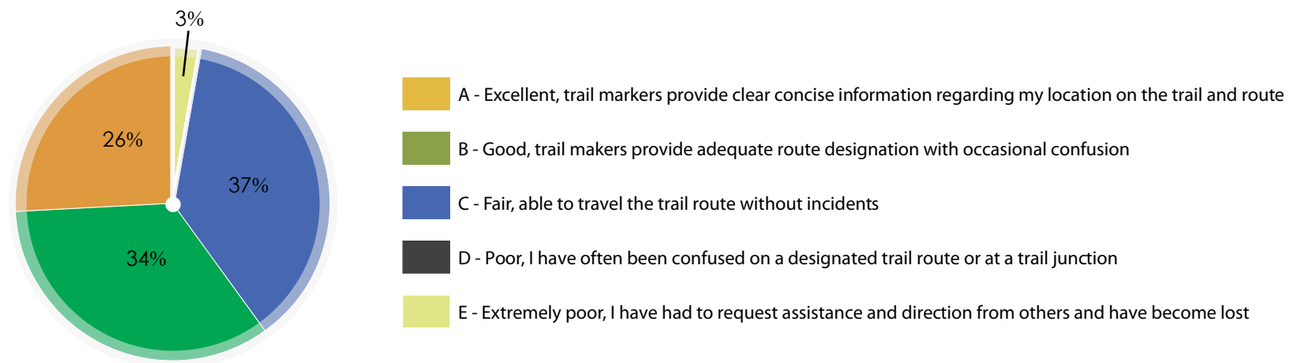
How often do you use this route/trail? (circle one)



Why did you choose this trail/route? (circle one)

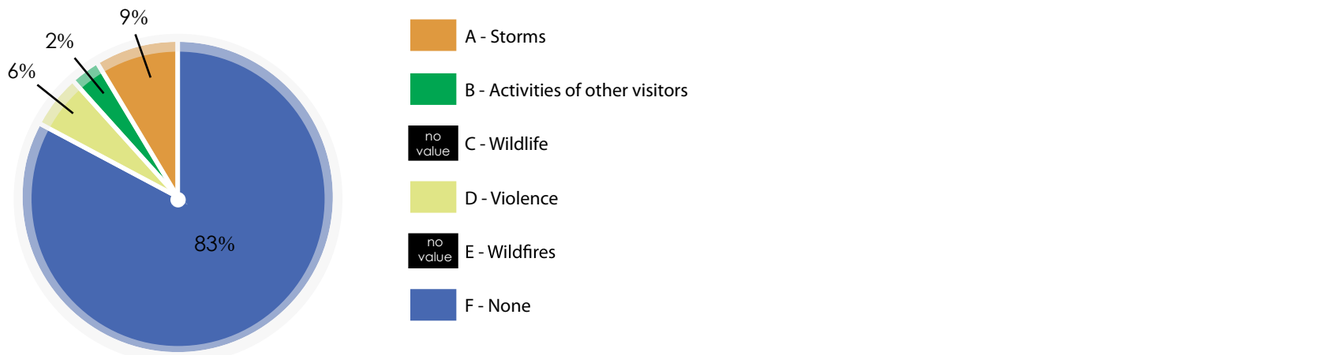


How would you describe the effectiveness of trail markers showing the designated trail routes? (Circle one)



What trailhead improvements would you like to see most at the park?

Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



RAW USER SURVEY DATA

PHOENIX MOUNTAIN PRESERVE
USER SURVEY

DATE: 2/16/2015
LOCATION: Piestewa Peak

Question No.

	1							2				3			4			5				6					
Survey No.	A	B	C	D	E	F	Zip Code	A	B	C	D	A	B	C	A	B	C	A	B	C	D	A	B	C	D	E	F
1					X		85020				X	X			X			X				X					
2					X		8528			X	X	X			X			X				X					
3						X	85020			X		X			X			X				X					
4				X			85258				X	X			X			X				X					
5					X		85020				X	X			X			X				X					
6					X					X		X			X			X				X					
7			X				85283			X		X			X		X	X				X					
8					X		85018			X		X			X			X				X					
9				X						X				X	X				X			X					
10			X				85283			X				X	X			X				X					
11				X					X			X			X			X				X					
12				X			85260			X		X			X			X				X					
13				X						X		X			X			X				X					
14						X			X			X			X				X			X					
15				X			85008			X		X	X	X	X			X				X					
16						X	85018			X				X	X			X				X					
17						X	85016				X			X	X			X				X					
18			X				85301			X				X	X			X				X					
19				X			85012			X		X			X			X				X					
20				X			85253				X			X	X			X				X					
21				X			85008			X				X	X			X				X					
22				X			85008			X		X			X				X			X					
23				X			85051			X				X	X			X				X					
24				X			85253				X			X	X			X				X					
25				X			85253				X	X			X			X				X					
26					X						X	X			X			X				X					
27					X		85253			X		X			X				X			X					
28			X								X	X			X			X				X					
29					X					X		X			X			X				X					
30						X				X		X			X			X				X					
31						X	85020				X			X	X			X				X					
32					X						X			X	X				X			X					
33		X									X			X	X			X				X					
34			X				85323			X				X	X	X			X			X					
35						X	85020			X		X					X	X				X					
36			X				85031		X					X	X			X				X					
37			X				85085			X				X	X			X									X
38				X			85015			X				X	X	X		X				X					
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TOTALS	0	1	7	14	9	7		0	3	23	13	22	1	17	37	2	2	32	6	0	0	37	0	0	0	0	1

	7						8									9					10			
Survey No.	A	B	C	D	E	F	A	B	C	D	E	F	G	H	I	A	B	C	D	E	A	B	C	D
1													X						X			X		
2	X										X		X	X	X				X				X	
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9				X										X			X					X		
10				X							X						X					X		
11														X			X						X	
12														X				X				X		
13						Counseling								X	X		X				X			
14				X						X							X					X		
15		X									X		X	X	X				X		X			
16					X									X				X				X		
17						Walking								X						X	X			
18				X										X				X				X		
19				X										X				X				X		
20				X										X			X					X		
21	X												X	X				X			X			
22														X				X					X	
23				X							X			X	X		X					X		
24														X				X			X			
25	X													X				X			X			
26														X				X			X			
27														X							X			
28	X																	X			X			
29				X										X				X			X			
30				X									X	X			X				X			
31		X												X				X						
32		X												X					X			X		
33	X						X										X				X			
34				X											X				X		X			
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TOTALS	7	6	0	10	2	2	1	0	1	1	5	0	5	29	6	0	13	15	6	3	20	13	4	0

	11											12					13					
Survey No.	A	B	C	D	E	F	G	H	I	J	K	A	B	C	D	E	A	B	C	D	E	F
1			X											X					X			
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3			X										X							X		
4			X											X						X		
5										X						X			X			
6	X											X								X		
7											X		X						X			
8			X										X					X				
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10							X						X						X			
11											X	X							X			
12											X								X			
13	X												X				X					
14						Challenge							X						X			
15											X			X					X			X
16											X			X					X			
17	X													X					X			
18				X								X						X				
19				X									X						X			
20						Good workout								X								X
21	X												X					X				
22	X													X					X			
23				X							X	X							X			
24											X			X					X			
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TOTALS	8	1	6	5	0	2	1	0	1	3	12	9	12	13	0	1	2	3	25	3	0	3

	14						15			16					17
Survey No.	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
1	X						X			2	3	6	1	1	More park rangers
2	X						X		Runners					
3				X			X			1	0	0	0	0	Signs for no dogs on summit trail; signs for waiting in line for parking spaces
4		X					X			1	2	6	1	1	
5						X	X			1	1				
6						X									Have sign for to not blaze new trail; destroys terrain.
7						X		X							Trail needs maintenance - many high steps due to heavy use and erosion; otherwise, fantastic trail
8						X	X		Playing music not using headphones	5	3	6	0	6	
9						X		X							
10						X		X							More trail benches
11						X		X		5	5	6	0	0	
12								X							No charge for parking
13						X		X							Do not charge for parking
14						X	X			3	3	3	2	2	Keep clean
15						X	X			1	0	6	1	1	More maintenance on trail; need to be smoother; lots of sprained ankles
16						X		X							
17						X		X		2	0	0			Parking signs to wait for space in order
18						X		X		6	6	6	6	6	
19						X		X		1	4	6	0	5	
20						X	X			3	6	6			
21	X							X							First come first serve
22						X		X		0	0	6	0	0	
23						X		X		0	0	0	0	0	
24						X	X			3	2	4	3	3	
25						X	X								
26						X	X			3	2		1	1	
27						X		X							Parking with no fee
28															
29						X	X			3	6	6	2	0	Parking spots - more of them
30						X		X							Signs; Piestewa Peak sign somewhere!
31															
32						X		X		0	6	6	0	6	Better medical response
33				X			X								
34						X		X							Parking spaces, clean maps, littering
35						X	X								Seeing plastic bottles on the trails is extremely in furiating; arrest them
36						X		X							
37						X		X							
38						X		X		6	6	6	6	6	
39															
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65															
	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
TOTALS	3	1	0	2	0	29	15	20							

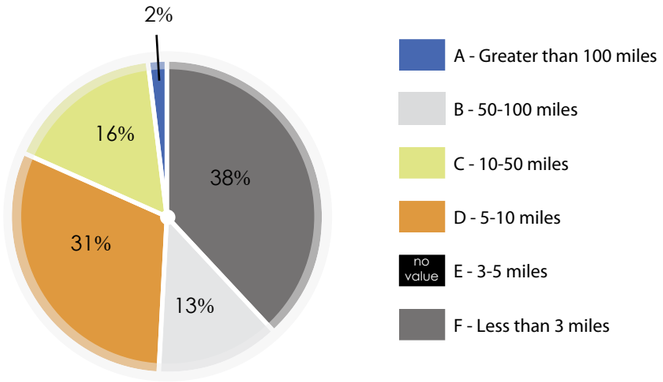
Survey Data

40th Street Trailhead

User Survey Comments

- More signage indicating mileage
- More parking
- Signage advising visitors of potential vehicle break-ins
- Trail maintenance
- More enforcement regarding pet rules (especially regarding dog waste and leashes)
- Offer courses on trail etiquette
- Trail maintenance regarding rocks and erosion
- Eliminate need to park on 40th Street

How far did you travel to come to the park?



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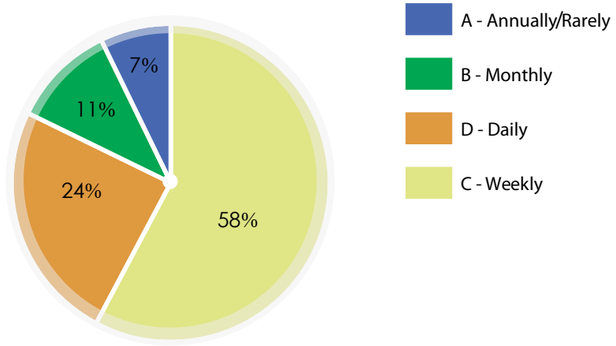
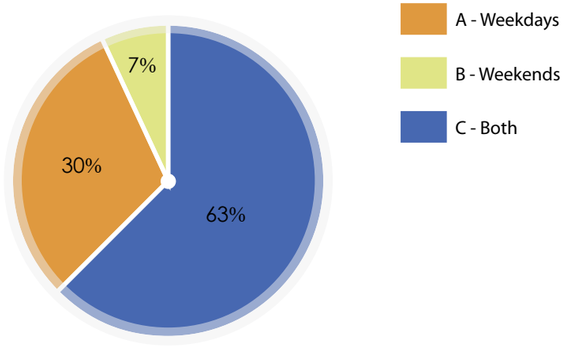
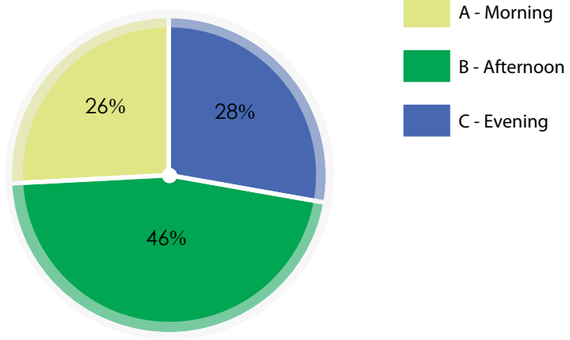


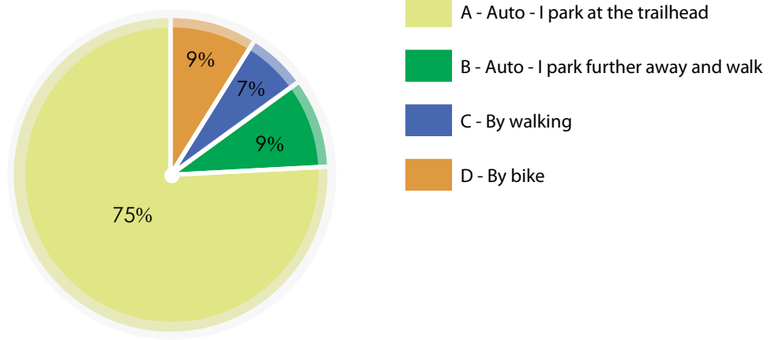
Generally, when do you use the trail(s)?



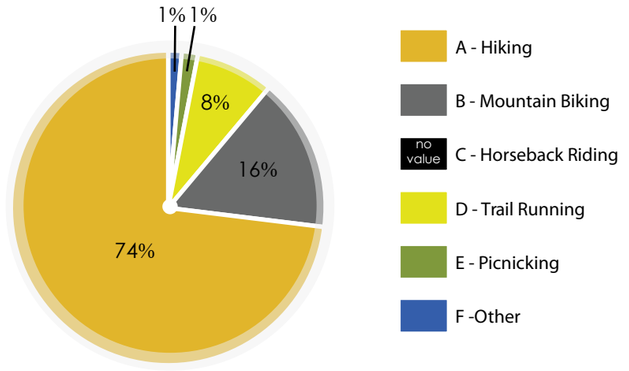
What time of day do you use the trail(s)?



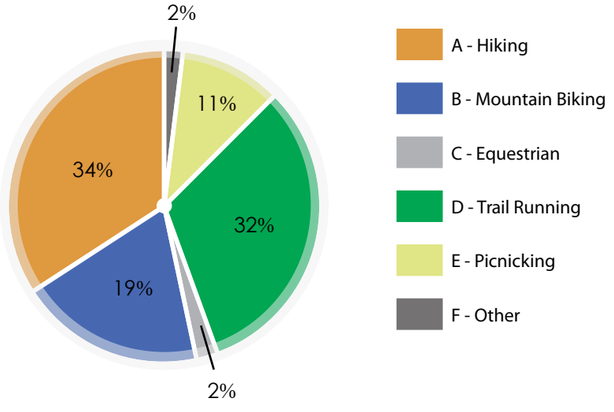
How do you access the park? (circle all that apply)



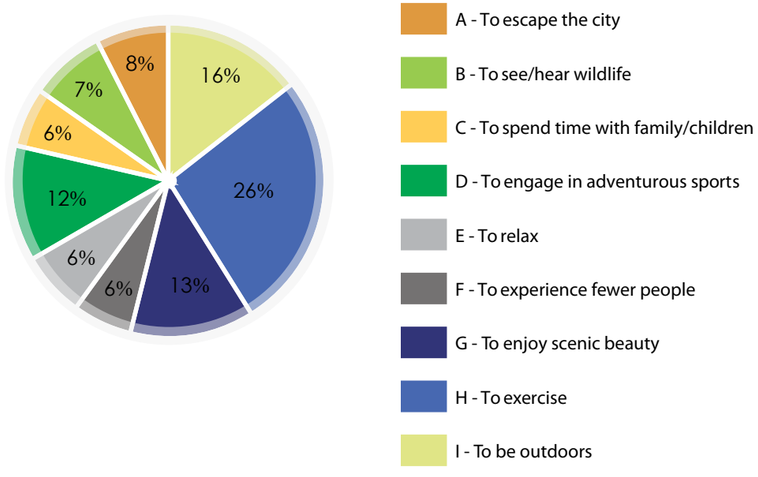
What is your primary activity in the park? (circle one)



If applicable, what is your secondary activity at the park? (circle one)

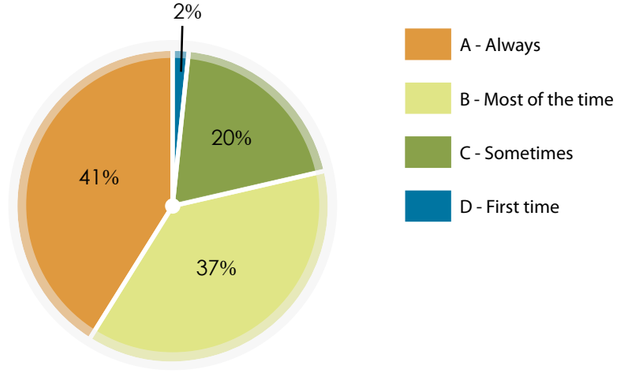


Why did you choose to visit the park?

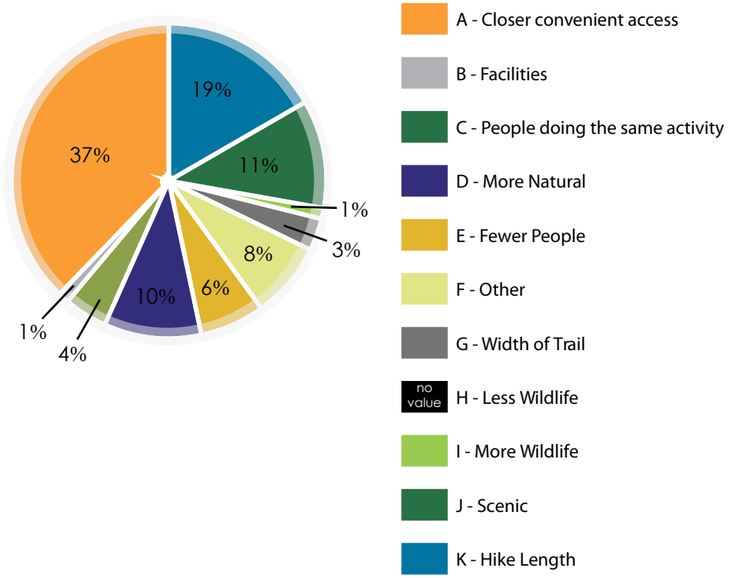


How would you describe your experience finding a parking space when visiting the park?

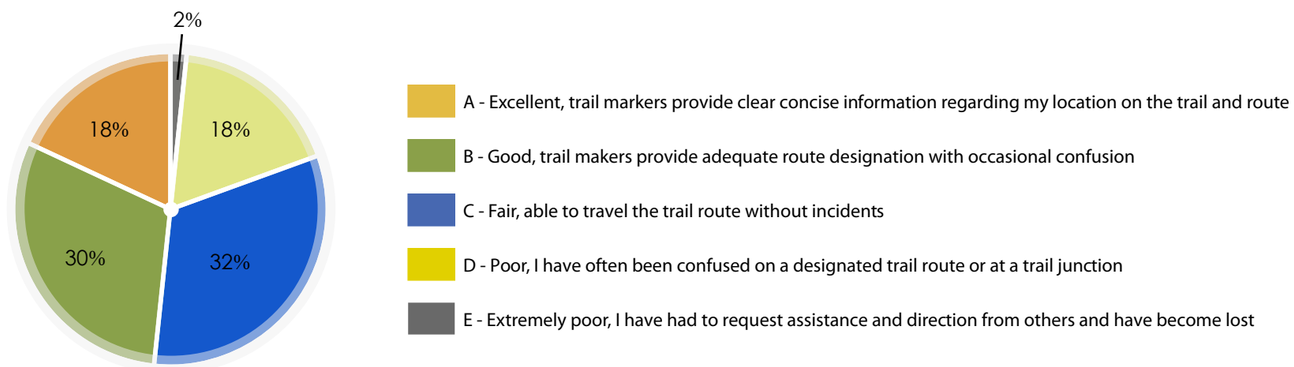
How often do you use this route/trail? (circle one)



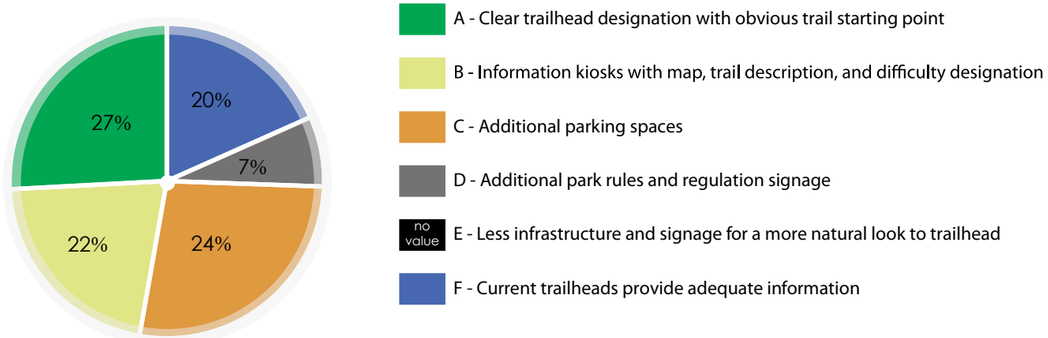
Why did you choose this trail/route? (circle one)



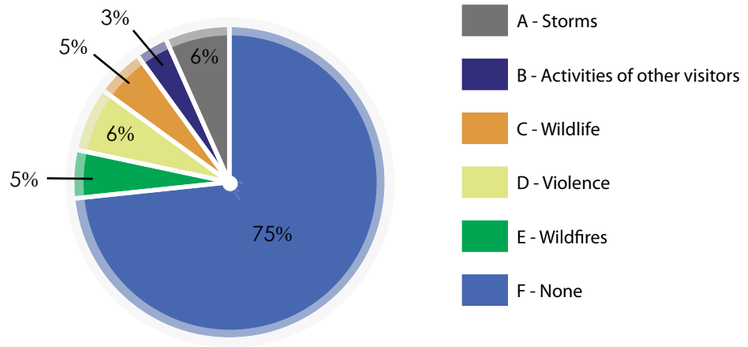
How would you describe the effectiveness of trail markers showing the designated trail routes? (circle one)



What trailhead improvements would you like to see most at the park?



Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



RAW USER SURVEY DATA

PHOENIX MOUNTAIN PRESERVE
USER SURVEY

DATE: 2/10/2015
LOCATION: 40th Street Trailhead

Question No.

Survey No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16					17
	A B C D E F Zip Code	A B C D	A B C D	A B C	A B C D	A B C D E F	A B C D E F	A B C D E F G H I	A B C D E	A B C D	A B C D E F G H I J K	A B C D E	A B C D E F	A B C D E F	A B	Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
1	85254			X X X	X	X	X	X X	X	X	X X	X	X	X	X						
2			X	X X X	X	X	X	X	X	X	X	X	X	X	X	0	6	6	4	4	More mileage signs
3	85254	X	X	X X X	X	X	X	X X X X X X	X	X	X	X	X	X	X	6	6	6	6	6	
4	85029	X	X	X X	X	X	X	X X X X X X X	X	X	X	X	X	X	X						Love this trail
5			X	X X X	X X	X	X	X	X	X	Intensity of exercise	X	X	X	X						
6	85339	X	X	X X	X	X	X	X X X X	X	X	X	X	X	X	X						More parking
7		X		X	X	X	X	X	X	X	Time before closing	X	X	X	X						More parking; groomed trails
8	85051	X	X	X	X	X Walking	X	X	X	X	X	X	X	X	X						
9	85028	X		X	X	X	X	X X X X X	X	X	X	X X X X	X	X	X	X						Post signage to winter visitors; don't leave valuables in cars
10	85028	X		X X X	X X X	X X	X	X X X X X	X	X	X	X X	X	X	X						
11	85050	X		X	X X X X	X	X	X X X X X X X	X	X	X	X	X	X	X						Keep the trails clean
12	85339	X	X	X	X	X	X	X X X X X X	X	X	X	X	X	X	X	0	0	0	3	0	
13	85254		X	X	X	X X	X	X	X	X	X	X	X	X	X						
14	85032		X	X	X	X	X	X	X	X	X	X	X	X	X						
15	85050	X	X	X	X X	X	X	X	X	X	Great view	X	X	X X X X X	X						
16			X	X	X	X	X	X	X	X	X	X	X	X	X						Pick up dog poop
17	85032		X	X	X	X	X	X	X	X	X	X	X	X	X						
18	85378	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
19	85028		X	X X	X	X	X	X	X	X	X	X	X	X	X	6					
20	85251	X	X	X	X	X	X	X	X	X	X	X	X	X	X						Hiking education and etiquette
21	85022		X	X	X X	X	X	X	X	X	X	X	X	X	X	1	4	5	5	3	Resolve the problem with the dog poop
22	85254	X	X	X X X	X	X	X	X	X	X	X	X	X	X	X	3	3	4	3	2	
23	85028		X	X X X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	6	6	
24	85260		X	X X X	X	X	X	X X X X X X X	X	X	X	X	X	X	X						Need to pick up dog poop
25			X	X X	X	X	X	X	X	X	X	X	X	X	X						Solar parking shade; group rides
26			X	X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	5	5	We love it here!
27	85251		X	X	X	X	X	X X X X X X X X	X	X	X	X	X	X	X	0	0	0	3	3	
28	85305	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	6	6	Bags for dog walkers for poop pickup
29	85254		X	X X X	X	X	X	X	X	X	Pet friendly	X	X	X	X						
30	85251		X	X X X	X X	X	X	X X X X X	X	X	X	X	X	X	X	3	6	6	6	6	
31			X	X X X	X	X	X	X	X	X	X	X	X	X	X						
32	85032		X	X X X	X	X	X	X	X	X	X	X	X	X	X						
33			X	X X X	X	X	X	X	X	X	X	X	X	X	X						
34			X	X X	X	X	X	X	X	X	X	X	X	X	X						
35	85028		X	X X	X	X	X	X	X	X	X	X	X	X	X	1	6	6	6	6	More enforcement - seen people tumbling rocks - destroying plants and leaving dog waste.
36			X	X X X	X	X	X	X	X	X	Hidden treasure	X	X	X	X						Love this entrance
37	85021		X	X X X	X	X	X	X	X	X	X	X	X	X	X						Less rocks on trails; people are not always good about the clean up after the dogs
38	85032		X	X X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	6	1	
39	85378	X	X	X X	X	X	X	X	X	X	X	X	X	X	X						
40			X	X X	X	X	X	X	X	X	X	X	X	X	X	2	6	6	5	5	
41	85254	X	X	X X	X	X	X	X	X	X	X	X	X	X	X						More signs
42	85032		X	X X	X	X	X	X	X	X	X	X	X	X	X						
43	85028		X	X X	X	X	X	X X X X X X X	X	X	X	X	X	X	X						
44	85251		X	X X	X	X	X	X	X	X	X	X	X	X	X						
45			X	X X	X	X	X	X X X X X X X X	X	X	X	X	X	X	X						
46	85258		X	X X	X	X	X	X	X	X	X	X	X	X	X						Smooth out some of the rock erosion
47		X	X	X X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	6	6	Hand sanitizer at the bathroom
48	59714	X	X	X X	X	X	X	X	X	X	X	X	X	X	X						
49	85032		X	X X	X	X	X	X	X	X	X	X	X	X	X						
50	85028		X	X X X	X	X	X	X X X X X X X X	X	X	X	X	X	X	X	4	4	4	4	4	
51		X	X	X X	X	X	X	X	X	X	X	X	X	X	X						
52	85254	X	X	X X	X	X X	X X	X	X	X	X	X	X	X	X	0	0	0	0	0	More maps; have to park on 40th Street - don't like
53			X	X X	X	X	X	X	X	X	X	X	X	X	X						
54	85032		X	X X X	X	X	X	X	X	X	X	X	X	X	X	1					Ban dog owners - they don't pick up after their dogs
55	85032		X	X X	X	X	X	X	X	X	X	X	X	X	X	3				3	Have ranger patrol more often; Cite dog owners who don't leash their dogs; pick up the dog mess; rangers are too slow to enforce the leash laws.
56	85032		X	X X	X	X	X	X	X	X	X	X	X	X	X	6	6	6	6	6	Sometimes people have their pitbulls unleashed on the trail; they are an accident waiting to happen; others do not pick up after their dogs; otherwise most people are compliant with the rules.
57																					
58																					
59																					
60																					
61																					
62																					
63																					
64																					
65																					

	A	B	C	D	E	F	Zip Code	A	B	C	D	A	B	C	A	B	C	A	B	C	D	A	B	C	D	E	F	A	B	C	D	E	F	G	H	I	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
TOTALS	1	0	9	17	7	21		4	6	33	14	18	4	37	21	38	23	50	6	4	6	46	10	0	5	1	1	16	9	1	15	5	1	12	13	10	20	11	10	21	11	1	34	1	4	9	6	7	3	0	1	10	15	10	17	18	10	1	18	15	19	5	0	13	4	2	3	4	3	44	13	42								

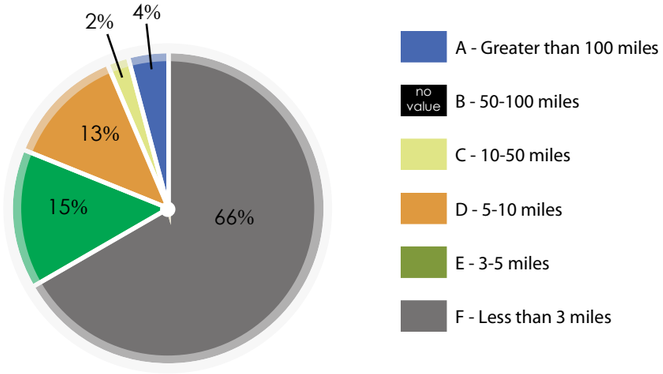
Survey Data

32nd Street Trailhead

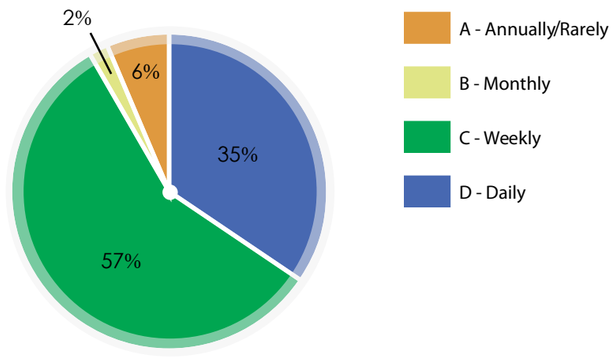
User Survey Comments

- Better marking of trails
- More parking
- Signage advising visitors of potential vehicle break-ins
- Trail maintenance
- More enforcement regarding pet rules (especially regarding dog waste and leashes)
- Provide restrooms at this location
- Open gates earlier

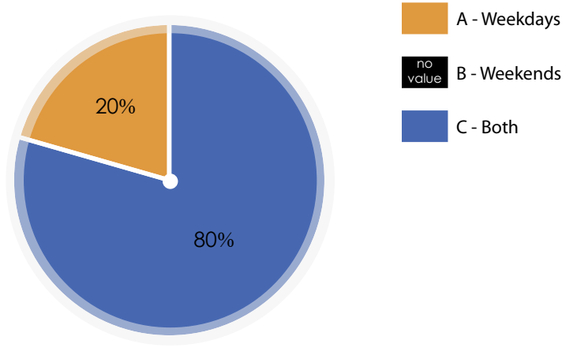
How far did you travel to come to the park?



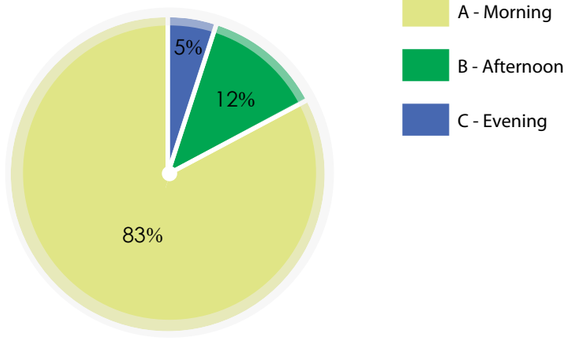
How often do you use the park facilities?



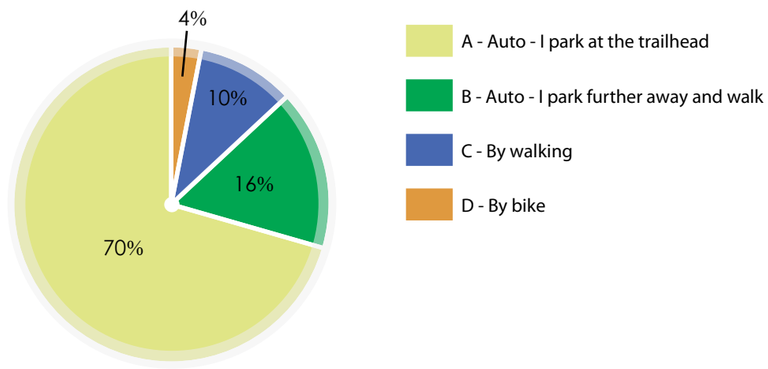
Generally when do you use the trail(s)?



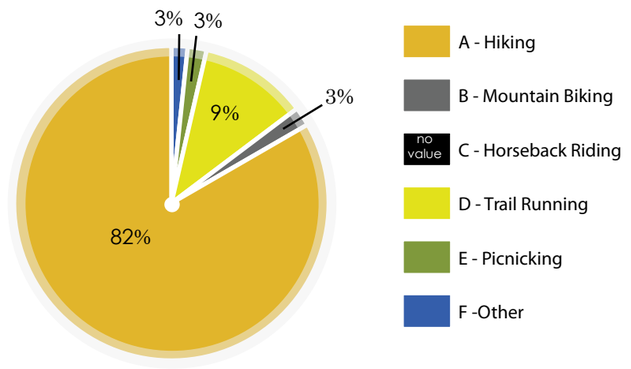
What time of day do you use the trail(s)?



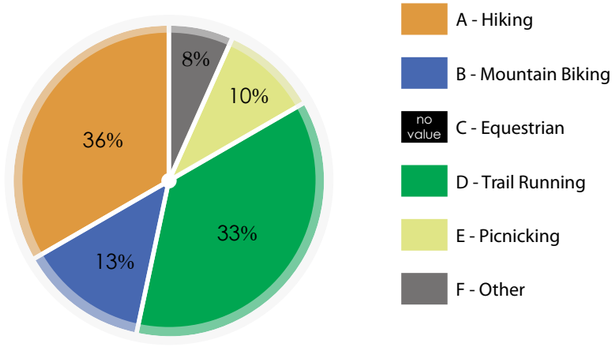
How do you access the park? (circle all that apply)



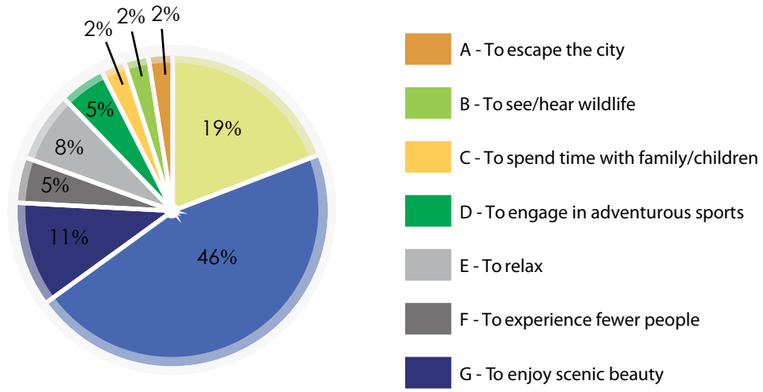
What is your primary activity in the park? (Circle one)



If applicable, what is your secondary activity at the park? (circle one)

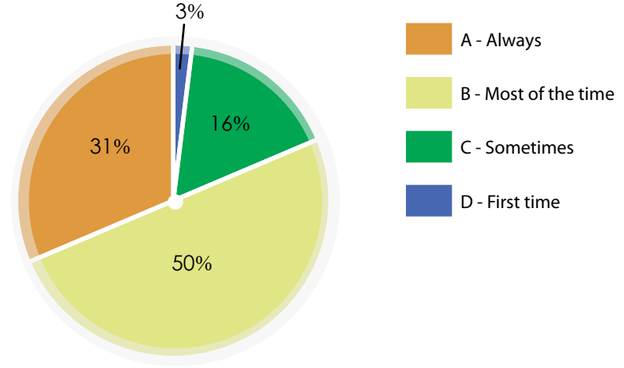


Why did you choose to visit the park?

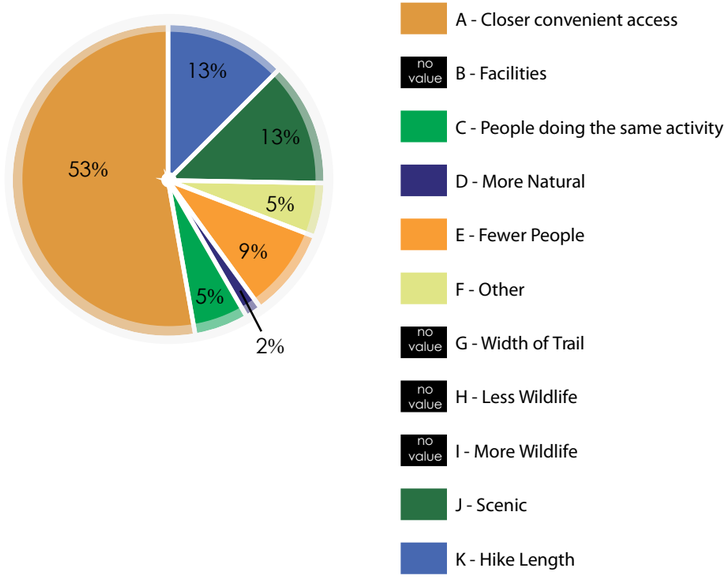


How would you describe your experience finding a parking space when visiting the park?

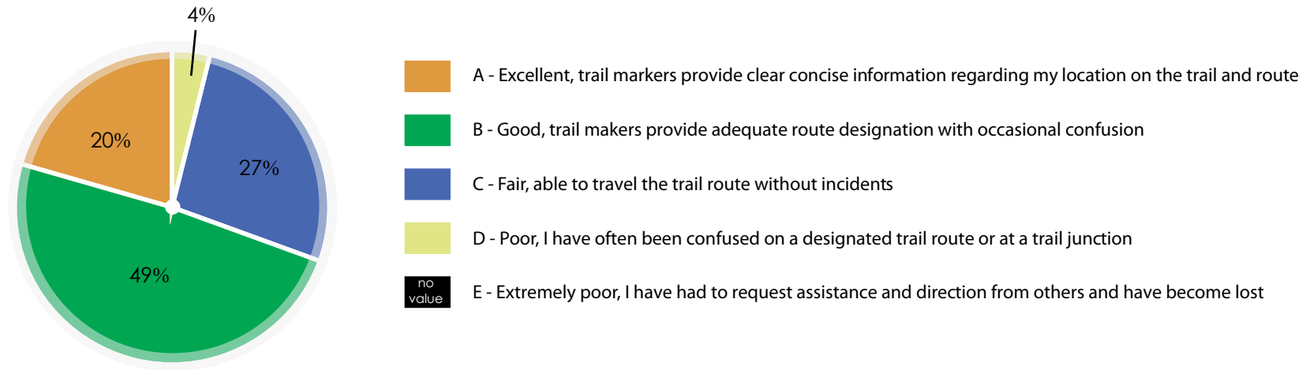
How often do you use this route/trail? (circle one)



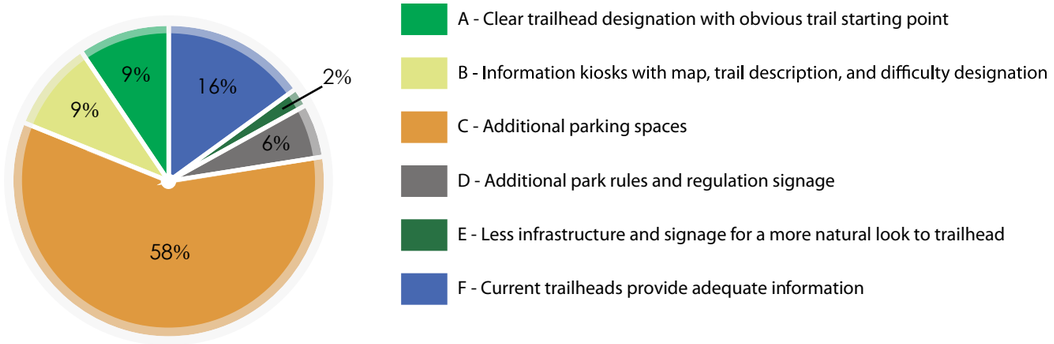
Why did you choose this trail/route? (circle one)



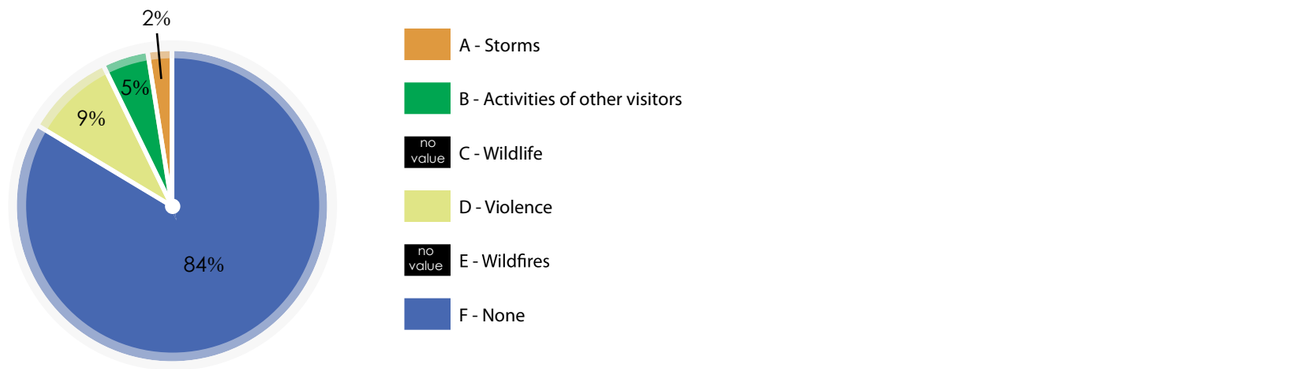
How would you describe the effectiveness of trail markers showing the designated trail routes? (circle one)



What trailhead improvements would you like to see most at the park?



Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



RAW USER SURVEY DATA

PHOENIX MOUNTAIN PRESERVE
USER SURVEY

DATE: 2/10/2015
LOCATION: 32nd Street Trailhead

Question No.

Survey No.	1							2				3			4			5				6					
	A	B	C	D	E	F	Zip Code	A	B	C	D	A	B	C	A	B	C	A	B	C	D	A	B	C	D	E	F
1				X			85023				X			X	X				X			X					
2				X				X				X			X				X			X					
3						X	85016			X				X	X	X	X			X		X					
4					X						X			X	X			X				X					
5			X				85296	X						X	X			X				X					
6	X						77321	X						X	X			X				X					
7					X					X		X			X			X				X					
8						X	85018				X			X	X			X				X					
9						X	85253				X	X			X			X				X					
10						X	85253			X		X			X			X				X					
11						X				X				X	X			X				X					
12						X	85253				X	X			X			X				X					
13					X		85018				X			X	X			X				X					
14						X	85016			X				X	X			X				X					Dog walking
15						X	85018			X				X	X			X				X					
16	X						23936			X				X	X	X		X				X					
17						X	85018				X			X	X			X				X					
18						X	85253			X		X			X			X	X			X					
19						X	85018			X				X	X			X				X					
20					X		85016			X				X		X		X				X					
21						X	85016			X				X	X			X				X					
22					X					X				X	X			X				X					
23						X				X				X	X			X	X			X					
24						X			X			X			X	X	X	X				X					
25						X					X			X	X			X		X		X					
26						X	85018			X		X			X	X		X				X			X		
27						X	85016			X				X	X					X	X				X		
28						X	85016				X			X	X					X					X		
29							85008				X			X	X			X							X		
30						X	85016				X			X	X			X				X					
31						X				X				X	X			X	X			X					
32						X	85253			X				X	X			X				X					
33					X						X			X	X			X	X			X					
34						X	85016			X				X	X			X				X					
35						X	85253			X				X	X			X				X					
36						X				X				X	X			X				X					
37						X	85253				X			X	X			X				X					
38						X	85253			X				X	X			X		X		X					
39				X						X				X	X				X			X					
40				X			85251			X				X	X			X	X			X					
41					X						X			X	X			X	X	X	X	X	X		X	X	
42						X	85253			X				X	X			X				X					
43				X			85018			X		X			X			X	X						X		
44						X	85016				X			X	X			X				X					
45						X	85253			X				X	X	X		X				X					
46						X					X			X	X	X	X	X				X					
47				X			85257			X				X	X			X				X					
48						X				X				X	X			X				X					
49						X					X	X			X			X				X					
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	A	B	C	D	E	F	Zip Code	A	B	C	D	A	B	C	A	B	C	A	B	C	D	A	B	C	D	E	F
TOTALS	2	0	1	6	7	32		3	1	28	17	10	0	39	48	7	3	43	10	6	2	45	1	0	6	1	1

Survey No.	7						8									9					10				11										
	A	B	C	D	E	F	A	B	C	D	E	F	G	H	I	A	B	C	D	E	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K
1					X									X					X				X				X								
2														X	X				X				X											X	
3		X									X											X			X										
4														X				X			X				X										
5															X			X						X						Friends					
6													X		X				X								X								
7														X					X		X								X						
8	X													X					X		X													X	
9						Dog								X					X		X									Dog friendly					
10	X													X	X			X			X				X										
11														X			X					X			X										
12														X			X					X			X										
13				X										X						X		X												X	
14					X				X				X					X		X		X			X										
15				X										X			X				X														X
16	X													X			X					X			X										
17				X										X				X				X			X										
18														X				X					X				X								
19														X	X		X					X			X										
20				X										X	X				X		X				X										
21				X								X								X	X								X						
22				X										X				X				X													X
23														X	X			X				X			X										X
24				X										X	X			X			X				X										
25											X			X	X			X				X													X
26							X				X	X	X		X				X		X														
27	X													X					X			X			X										
28	X													X				X			X				X										
29														X				X			X				X										
30														X	X					X	X				X										
31														X	X		X					X							X						
32	X													X					X			X			X										
33														X				X					X		X										
34	X													X			X					X													X
35													X	X	X			X				X			X										
36		X											X	X	X			X				X			X										
37														X					X		X				X										
38	X													X				X				X			X										
39				X									X					X			X								X						
40		X												X			X					X			X										
41	X	X		X	X			X		X	X	X	X	X	X			X					X		X									X	X
42										X								X				X			X										
43	X									X							X						X							Random					
44														X		X						X			X										
45														X				X				X			X									X	
46							X	X	X	X	X	X	X	X	X		X					X						X	X					X	X
47				X							X						X						X											X	
48				X										X				X					X		X										
49						Yoga							X							X		X			X										
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	A	B	C	D	E	F	A	B	C	D	E	F	G	H	I	A	B	C	D	E	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K
TOTALS	10	4	0	11	3	2	2	2	2	4	6	4	9	38	16	1	11	21	11	5	15	24	8	1	29	0	3	1	5	3	0	0	0	7	7

Survey No.	12					13						14						15			16					17
	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
1		X						X									X		X		6	6	5		5	
2		X						X									X				6	6	6	6	6	Better parking at 32nd St & Lincoln
3	X					X						X							X							I love our park
4		X				X		X									X	X			1					
5				X				X									X		X							
6		X						X									X		X							
7	X							X									X									Vandalism
8			X					X									X		X							More parking
9			X					X							X				X							Car broken into; keep the trails dog friendly
10	X										X						X		X							
11			X			X		X									X	X			6	6	6	6	4	
12			X						X				X					X			1	3	5	0	2	Better enforcement of leash law for dogs and pick up dog poop
13	X						X										X	X			6	6	6		6	Additional parking
14	X							X									X		X							Love the place - parking would be better
15		X						X					X													Car broken into
16	X						X										X		X							
17			X					X											X		6	6	6	4	3	
18		X									X						X	X			5	6	6	4	2	
19			X														X		X							Trash can; dog poop; erosion on trail
20	X							X									X		X		6	6	6			
21		X						X									X	X							3	
22			X				X										X		X							
23			X					X	X		X						X		X							
24		X						X									X	X								More trash cans
25		X						X										X		Pitbull tried to attack	5	3	6	4	2	Open gates really early (at least 1 hour before sunrise)
26			X					X																		
27		X					X										X		X		6	6	5	3	5	More parking at 32nd St & Lincoln
28		X									X						X		X							Love this trail; maybe doggie poop bags would be great. Thanks.
29		X						X									X		X							
30		X						X											X							Some breakins when cars are parked. It's wonderful to have all the parks, perhaps the biggest issue I worry about it car break ins.
31	X																X		X							None I like it the way it is.
32		X							X								X	X		Dogs						Dog poop
33			X					X							X			X		Dogs on leashes	1	6	6	3	4	Bathrooms at 32nd St; more parking at 32nd St; no dogs or better enforcement of leash and poop laws.
34		X								X	X						X		X		1	1	1	1	1	This area is not as busy; that's why I like it (probably because of parking lot size); litter.
35		X						X							X			X			1				3	Parking, bathrooms, drinking fountain
36			X					X							X			X								Not enough parking; breakins
37		X						X									X		X							Better security in parking lot
38		X						X									X		X						6	Cars broken into; clear debris
39			X					X									X	X			0	0	0	0	0	
40				X		X	X	X											X							Better marking of trails.
41	X										X						X		X		6	6	6	0	6	Great work; more trails and trail length are always more fun.
42		X															X		X							
43		X															X	X		Right of way						
44		X						X									X	X		Dogs not on leash; not picking up poop.	2	3	6	0	2	
45		X						X									X		X							Clear some rocks from storm
46		X									X						X		X							People need to pick up after their dogs.
47	X										X						X		X		6	6	6	6	6	
48			X			X		X										X		Car breakins						
49		X						X									X		X		0	0	0	0	0	
50																										
51																										
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	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
TOTALS	10	24	13	2	0	5	5	31	3	1	8	1	2	0	4	0	36	16	29							

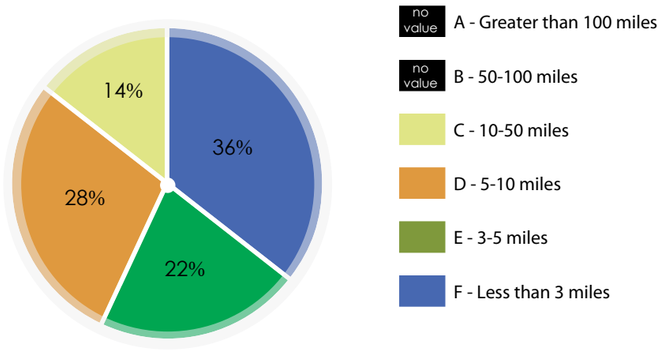
Survey Data

Dreamy Draw Trailhead

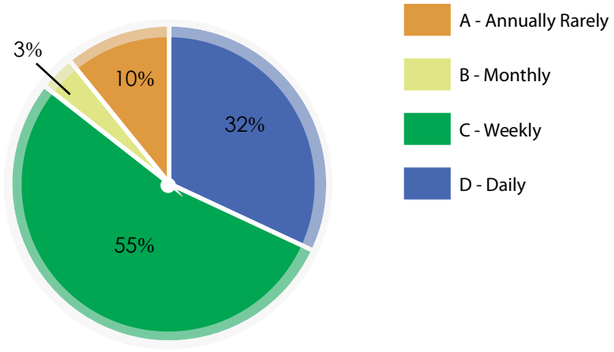
User Survey Comments

More signage indicating mileage
More parking
Signs indicating trail user hierarchy. Who yields to whom?
Trail maintenance
More enforcement regarding pet rules (especially regarding dog waste and leashes)
Better maintenance of trailhead facilities
Reduce or eliminate non-designated trails, improve natural setting

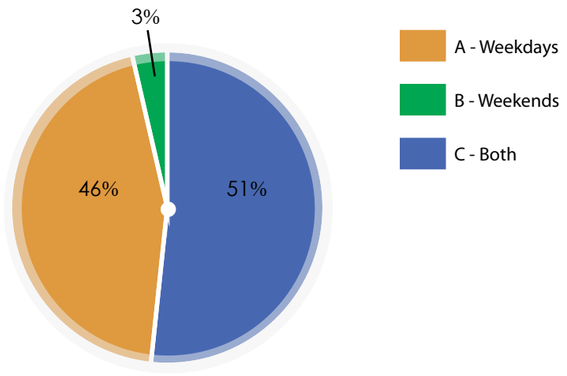
How far did you travel to come to the park?



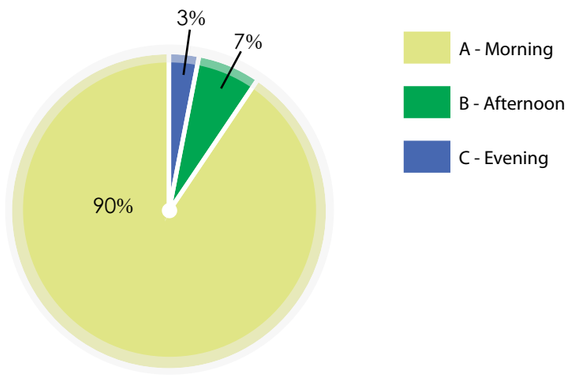
How often do you use the park facilities?



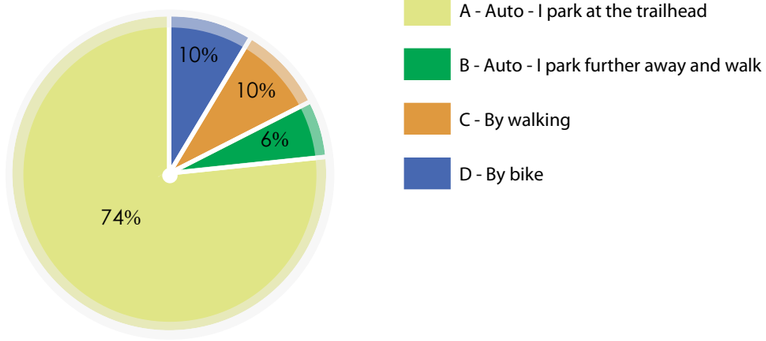
Generally when do you use the trail(s)?



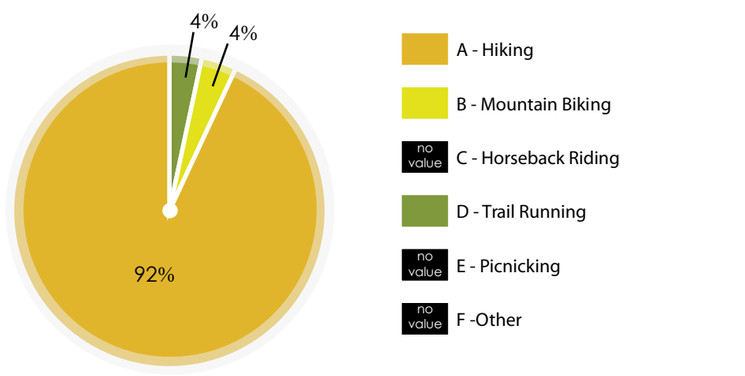
What time of day do you use the trail(s)?



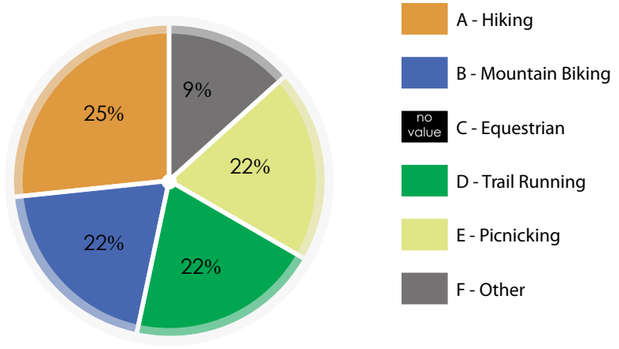
How do you access the park? (circle all that apply)



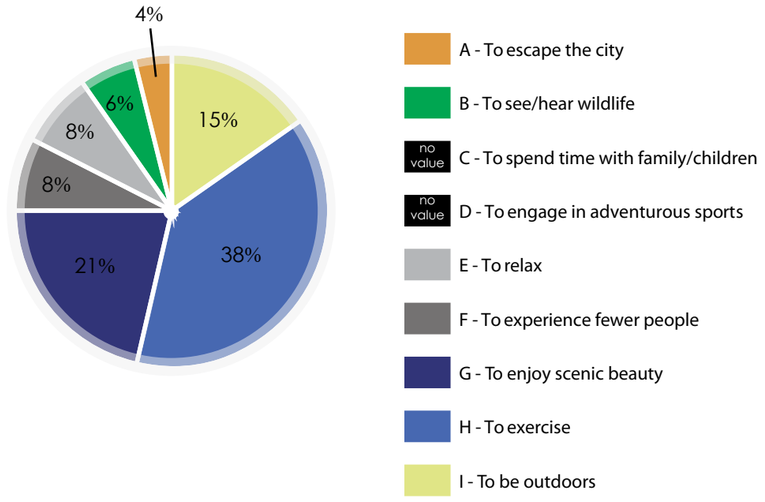
What is your primary activity in the park? (circle one)



If applicable, what is your secondary activity at the park? (circle one)

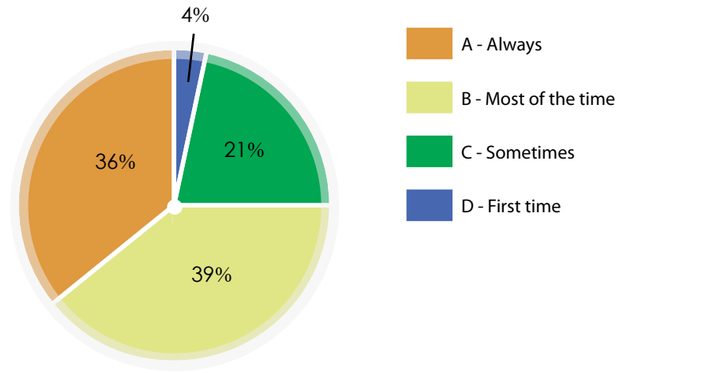


Why did you choose to visit the park?

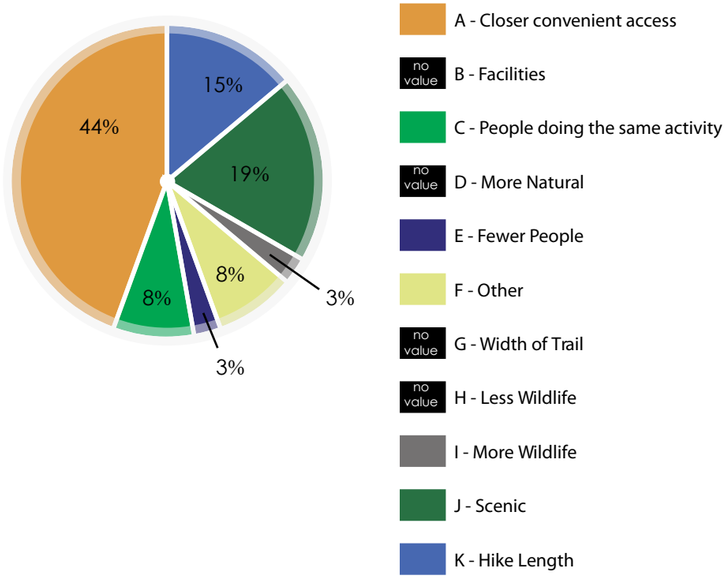


How would you describe your experience finding a parking space when visiting the park?

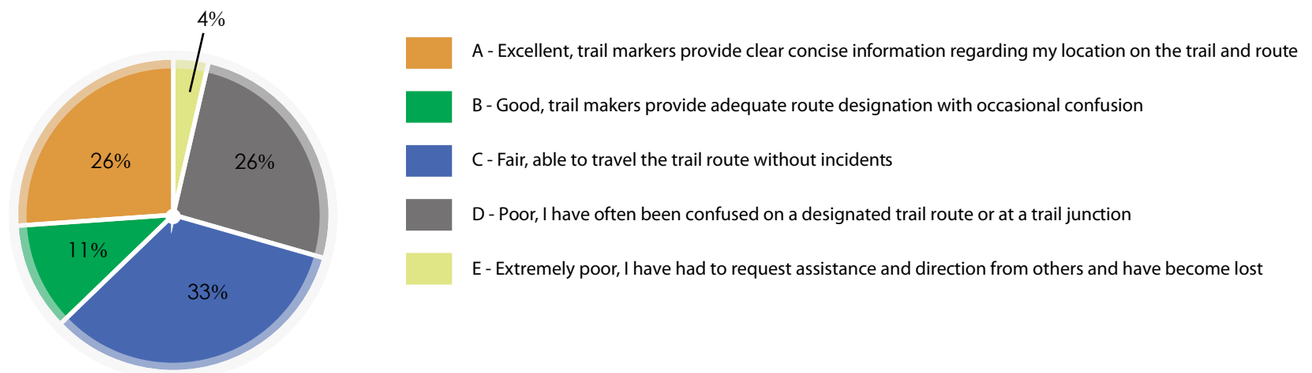
How often do you use this route/trail? (circle one)



Why did you choose this trail/route? (circle one)

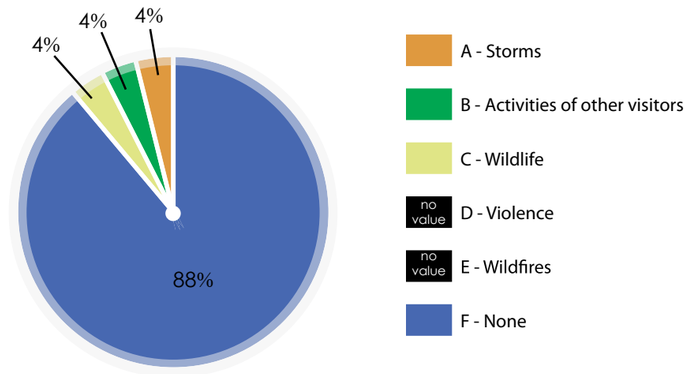


How would you describe the effectiveness of trail markers showing the designated trail routes? (circle one)



What trailhead improvements would you like to see most at the park?

Do any of the following things make you feel unsafe about being in the park or in the park proximity? (circle all that apply)



RAW USER SURVEY DATA

PHOENIX MOUNTAIN PRESERVE
USER SURVEY

DATE: 2/13/2015
LOCATION: Dreamy Draw

Question No.

Survey No.	1							2				3			4			5				6					
	A	B	C	D	E	F	Zip Code	A	B	C	D	A	B	C	A	B	C	A	B	C	D	A	B	C	D	E	F
1			X				85022	X				X		X	X	X		X				X					
2				X					X					X	X			X							X		
3						X	85028				X			X	X					X		X					
4						X	85021			X		X			X			X				X					
5						X	85028			X		X			X			X				X					
6					X						X			X	X			X				X					
7						X	85020				X			X	X			X				X					
8				X						X				X	X			X				X					
9					X		85014				X			X	X			X				X					
10			X							X		X			X			X				X					
11				X			85023			X		X			X						X		X				
12					X		85021			X		X			X			X				X					
13						X	85016				X			X	X	X	X	X	X	X	X	X					
14				X			85254			X				X	X			X				X					
15						X	85021			X		X			X			X				X					
16			X					X					X		X			X				X					
17					X		85016			X		X			X			X				X					
18				X			85250			X		X			X			X				X					
19					X		85016			X				X	X			X	X	X	X	X					
20				X			85032			X				X	X			X				X					
21						X	85020			X				X	X			X				X					
22				X			85051				X			X	X			X				X					
23						X	55906				X			X	X			X				X					
24						X	85021			X		X			X			X				X					
25					X		85021				X	X			X			X				X					
26				X			85023				X	X			X			X				X					
27			X				85225	X				X			X			X				X					
28						X	85016			X				X	X			X				X					
29																											
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TOTALS	0	0	4	8	6	10		3	1	15	9	13	1	15	28	2	1	26	2	3	3	26	1	0	1	0	0

Survey No.	7						8									9					10				11										
	A	B	C	D	E	F	A	B	C	D	E	F	G	H	I	A	B	C	D	E	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K
1							X	X				X	X	X	X					X			X		X									X	X
2														X		X							X							Closer to home					
3														X			X					X			X										
4		X												X		X					X				X										
5														X		X					X				X										
6								X								X			X		X				X								X	X	
7		X									X					X					X				X										
8													X	X	X		X	X			X				X									X	
9														X			X					X							X						
10													X	X	X		X					X			X									X	
11	X													X	X						X				X										
12					X									X			X					X			X										
13		X				Meditating						X	X	X	X	X							X							Change of scenery					
14	X												X	X			X			X		X			X		X								
15				X										X		X					X														X
16													X				X					X												X	
17						Picking up dog waste								X		X						X			X										
18					X								X				X						X				X								
19				X							X												X				X								
20					X		X				X	X			X		X					X			X										
21														X			X					X			X										
22								X					X	X	X	X			X		X									More trails					
23													X						X		X													X	
24	X													X		X					X				X										
25														X		X						X													X
26				X							X	X	X	X	X	X						X			X										
27													X			X								X										X	X
28	X													X						X			X												X
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TOTALS	4	3	0	3	3	2	2	3	0	0	4	4	11	20	8	13	10	1	3	3	10	11	6	1	16	0	3	0	1	3	0	0	1	7	5

Survey No.	12					13						14						15			16					17
	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	A	B		Dog Walk.	Run / Jog	Hiking	Horse Ride	Mtn Bike	Comments
1		X						X									X		X		0	0	0	0	0	Needs additional parking - weekends I prefer to hike not drive in circle waiting for a space to park.
2			X														X		X		0	0	0	0	0	I am not sure why this area has multiple trail designations for one trail; I don't like how some mountains create a paved or cement trail all the way to the top with handrails and stairs. Please leave the mountain as a mountain.
3				X			X										X	X			3	5	6	4	4	Fewer trails (small non-official ones)
4	X																X		X							
5				X					X								X		X							Better signs
6		X									X						X		X							
7	X					X											X		X		0	0	0	0	0	
8			X					X						X					X							Lots of dog poop, grafitti that needs cleaned up; parking is a zoo on weekends.
9				X				X					X						X		0	0	0	0	0	Lighting
10			X			X		X									X		X							Stall doors in bathroom and hand soap
11				X			X		X								X		X							Keep dogs on leash; better signs on trails.
12			X			X											X		X							Well maintained and pleased with park
13	X									X							X	X			5	5	5	6	5	Fewer signs; resent 10 mph spped limit; open up more parking in the flood zone on the way to the parking lot. It never floods but come times that parking is needed. NO PARKING METERS
14					X	X	X										X	X							3	Dog poop is a big problem; bikes can be a problem.
15				X				X									X		X		4	4	4	4	1	
16	X							X									X		X		0	0	0	0	0	
17			X				X											X							3	Feel unsafe when bikers don't let hikers know they are coming from behind.
18	X					X											X		X							
19	X									X		X						X			6	6	6	6	6	Ban high intensity lights on Squaw Peak
20			X				X										X		X							Maps
21			X			X											X		X		6	6	6	6	6	Great views
22				X				X									X		X							Educate dog owners about wild life
23			X			X		X									X		X							
24				X			X	X									X									
25										X							X		X		0	0	0	0	0	Once some religious folks were prosylityzing and I thought that was not ok
26			X				X										X		X							
27	X						X										X	X								
28		X						X									X		X							More parking please
29																										
30																										
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TOTALS	7	3	9	7	1	7	8	10	2	3	1	1	1	1	0	0	24	6	21							