



# SENTINEL PEAK REGIONAL NATURAL RESOURCE PARK MASTER PLAN REPORT

JUNE 2009

Revised August 2013 By Tucson Parks and Recreation Staff to comply with Tucson City Council Action of SS/DEC 14-10-477



**Sentinel Peak Regional Natural Resource Park Master Plan (Continued  
from the meeting of November. 9, 2010)  
(Ward 1) SS/DEC14-10-477**

**Council Member Romero MOVED and it was duly seconded to accept the Sentinel Peak Master Plan as brought forward with the exception of any portions of the Master Plan that refer to the loop road and the eastern overlook closures or changes from current usage and direction of traffic. Any reference to closure of the loop road or of parking at the eastern overlook should be removed and there should be no plans to include those closures now or in the future. Likewise the plans to widen any part of the loop road including west, south, east, and north portions should also be removed from the approved plan.**

**It was FURTHER moved that should the Sentinel Peak Park proposal in the Pima County bond package be passed by voters in the future or if any other funding materializes, then City Council directs Parks staff to schedule a series of widely publicized public participation processes including meetings, the web, surveys etc., to remind our citizens throughout Tucson of the contents of the plan and to hear all voices that wish to comment and prioritize the improvements.**

**In advance of these public meetings, staff should prepare an itemized list of proposed improvements from the plan (with the obvious exception of the aforementioned reference to the loop road closure) and should determine the estimated cost of each improvement. This information will be used at those public meetings and should help to determine by the public how the allocated funding will be spent and the public's preference and priorities of those improvements.**

**This item should return for approval as planned on a future consent agenda, consistent with this direction.**

**Motion PASSED by a vote of 7 to 0**



## ACKNOWLEDGMENTS

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City of Tucson Ward 1 Office Diana Rhoades, Council Aide Mac Hudson, Council Aide
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*Santa Cruz River from Sentinel Peak, 1904  
Photo: Arizona Historical Society Photo #24868*

### **SIGNIFICANCE OF SENTINEL PEAK**

A prominent landmark rising to the west of downtown Tucson, Sentinel Peak is acknowledged as the birthplace of Tucson. The name of our city references the hill itself:

“...from the Piman “Slyuk-son” meaning a dark or brown spring. Originally it was probably a Papago word..”styuk for black, and “son for foot or base of a hill; or near a spring” (Barnes 455).

“...in years gone by there was a Papago village, or ranche-ria, at the foot of the hill known to us as Sentinel Peak... the Indians called “Styook-zone.” This hill is still known to the Papagoes as “Styook,” meaning black, and derives its name from the weather stained volcanic rock with which it is covered. The word “zone” means foot or base, that is, the foot or base of a hill” (Freeman 5).

### **VISION STATEMENT**

“Sentinel Peak is a place where people, whether lifetime Tucson resident or first time visitor, can experience a visual and spiritual connection to the past, present and potential future of the natural and cultural communities that began at the spring at the base of the dark hill.”

### **PROBLEM STATEMENT, GOALS & OBJECTIVES**

Develop an attractive, safe and environmentally sustainable city park for Tucson residents and visitors that provides a variety of experiences.

Site analysis of existing conditions will ask:  
How well does it function? What is working? What isn't?

Why was the master plan needed?

The park is of significant importance to the City of Tucson, both for its history and the enviable amenity of a Natural Resource Park one mile from the city center.

The plan will address safety and restoration issues, and look at options to serve more users. The master plan will guide future development of Sentinel Peak Park with consistency of goals and design style.



*Aerial view of Sentinel Peak from Northeast  
Photo: Peter Kresan, 1983, [http://www.geo.arizona.edu/Tucson/image\\_archive/mountains/mountains.html](http://www.geo.arizona.edu/Tucson/image_archive/mountains/mountains.html)*

## HISTORIC EXCERPT

*It might be pertinent here to insert an article printed in the Tucson Citizen under date of June 21st, 1873, which is headed: TUCSON A CENTURY AGO, and which is as follows:*

“We met an old lady this week, who is supposed to be over one hundred years old, and was born in Tucson. Her name is Mariana Dias, and from her we obtained several historical items relating to old times, which were very interesting to us. She says as long ago as she can remember, Tucson consisted of a military post, surrounded by a corral, and that there were but two or three houses outside of it. The country was covered with horses and cattle, and on many of the trails they were so plentiful that it was quite inconvenient to get through the immense herds. They were valuable only for the hides and tallow, and a good sized steer was worth only three dollars. This country then belonged to Spain and the troops were paid in silver coin, and on all the coin the name of Ferdinand I., was engraved, and money was plentiful. Goods, such as they were, were brought from Sonora on pack animals. They had in those days no carts or wagons. The fields in front and below Tucson were cultivated and considerable grain was also raised upon the San Pedro. With an abundance of beef and the grain they raised, they always had an ample food supply. They had no communication with California and she never knew there was such a country until she had become an old woman...When she was a girl, the Apaches made two attempts to capture Tucson. The first time nearly all the soldiers and men were away. The Apaches learning of this, took advantage of the absence of the defenders and attacked the town, and would have taken it and murdered every one in it, but for the timely assistance of the Pima and Papago Indians, who came to the rescue in large numbers, attacking the Apaches on two sides, driving them off and killing many. The next time the sentinel on the hill west of town discovered them coming; he gave the alarm, and after a severe fight, the Indians were driven off. The Apaches had no firearms in those days, and were armed with spears, bows and arrows...”

*Above excerpt from:  
History of Arizona  
Thomas Edwin Farish  
Volume I.  
Phoenix, Arizona  
1915.*



*City of Tucson, Carleton E. Watkins, 1880*

*Photo: The Bancroft Library, University of California, BANC PIC 1957.028--ffALB VAULT*



*City of Tucson, 2009*

*Photo: WSA, 2009*

## SCOPE

The planning process involved public charettes (interactive workshops) and site analysis followed by planning and public review. Site assessment for Sentinel Peak included the entry road, loop drive, parking, picnic areas, and trails. The Master Plan consist of evaluation and recommendations for:

- Environmental Conditions
- Site Amenities
- Circulation and Signage
- Safety and Maintenance
- Park Programming
- Historic and Site Interpretation

Evaluation for geographical areas beyond these limits will be discussed as necessary for context and connections.

Applicable codes and policies include:

- City of Tucson Parks and Recreation Standards
- Dark Sky Ordinance

## PROJECT AREA

Sentinel Peak Park is west of the Santa Cruz River, between S. Greasewood Road and S. Mission Road. The entrance to the Park is approximately 1.5 miles west of downtown Tucson. Established in 1933, the Park is 378 acres in area and is designated by City of Tucson Parks and Recreation as a Regional Natural Resource Park. This Park type is characterized by an emphasis on nature, both for the enjoyment of visitors and for the protection of biological resources.



Figure 1: Location Map

## ADJACENT FEATURES

### *The Spring (exact location unknown, east side of Peak)*

Historic accounts describe drawing water from the perennial spring and marshes at Sentinel Peak. These perennial water sources dried up early in the 20th century. A drainage project at the northern base of Sentinel Peak, completed in 1995, included an earthen dam intertwined with a “snake” built of the surrounding basalt stone. The name, La Corua, is a reference to the local cultural belief that serpents guard sacred sources of water. Currently, this feature is in disrepair.

### *Tumamoc Hill*

Tumamoc Hill is home to the Desert Laboratory, founded in 1903 by the Carnegie Institute to study adaptations of desert plants. Acquired by the University of Arizona in 1956, the Desert Laboratory continues ecological research on vegetation plots to the west of Sentinel Peak. Tumamoc Hill is an important open space link between Sentinel Peak and the Tucson Mountains.

### *Warner’s Mill*

The Mill was built in 1875 as a flour mill by Solomon Warner, west of Mission Road at Mission Lane. The Mill was powered by water diverted from the Santa Cruz River. Remains of this canal have been found in the recent Convento excavations. The two story structure was built from rock quarried from the hill; some wall fragments are still standing. (Refer to page 26 for historic reference to the Mill).

### *Sentinel Peak Quarry*

The quarry provided basalt, a dark grey or black volcanic rock, for the construction of many houses and fences on Tucson’s west side and throughout the West University District. In the late 1920s, the Dodson family claimed “A” mountain via the Homestead Act in an attempt to quarry all of “A” mountain. Tucson residents fought them in court, arguing that they wanted to keep the mountain as a residential park. The quarry is no longer operational, but it remains a significant feature at the northeastern edge of Sentinel Peak’s base.

### *Tucson Origins Heritage Park (Future)*

A phased development including the San Agustin Mission Site, the Mission Garden Site, and the Presidio Site. An extensive archaeological survey recently com-

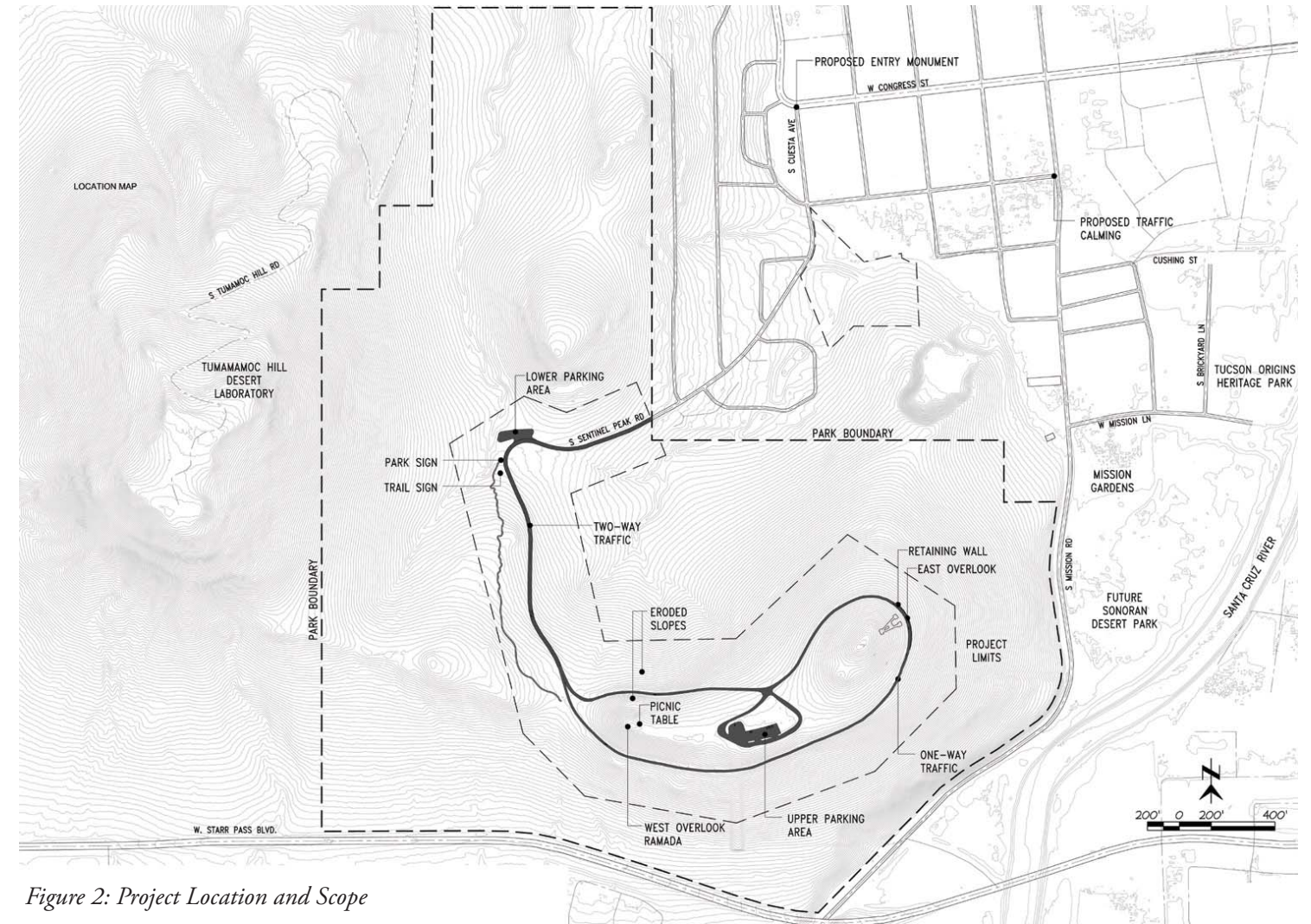


Figure 2: Project Location and Scope

pleted uncovered pithouses and canals in close proximity to Sentinel Peak. The Heritage Park is between the Santa Cruz River and Sentinel Peak.

### *Santa Cruz River*

The river flows from the high grasslands of southeast Arizona southward into Mexico, then reenters Arizona near Nogales, reaching from the Tucson Basin to the Santa Cruz Flats just to the south of Casa Grande and the Gila River. Today, the stretch of river through Tucson is dry most of the year and deeply entrenched, due to groundwater pumping, grazing and climate impacts. However, at one time this river was a verdant oasis through the valley, giving respite to travelers and people who settled its banks. Even today, vestiges of riparian habitat remain, offering important habitat for wildlife.

Near Sentinel Peak, underlying volcanic substrate forces ground water to the surface, historically this was one of the last stretches of the Santa Cruz in the Tucson Valley to run dry in drought. This may be the spring that

is referenced in connection with Sentinel Peak, although the exact location is unknown.

A shared-use path has been built on the banks of the River in the vicinity of Sentinel Peak.

### *Tucson Mountain Park*

Tucson Mountain Park is a 20,000-acre preserve of Upland Sonoran Desert with conservation and recreation opportunities. Sentinel Peak is an eastern outlier of these Mountains.

### *Mission Road*

From Congress Street, Mission Road travels south to San Xavier del Bac. A significant roadcut was made on the eastern edge of Sentinel Peak to accommodate the roadway. Mission Road is both a biological barrier between the Park and the Santa Cruz River, and an important north-south transportation route.

## PHYSICAL RESOURCES

### Geology

The Sonoran Desert lies in a region of the West called the Basin and Range geologic province. The land was shaped by a combination of tectonic faulting and volcanic activity with a topography characterized by dropped valleys (basins) and uplifted mountains (ranges). Tucson sits within such a valley, between the Santa Catalina Mountains to the north and the Tucson Mountains to the west. Much of the Tucson Mountains is composed of rhyolite, an extrusive igneous rock that was created during the eruption of a volcano 30 million years ago. The surrounding mountains continue to erode, filling the valley below with sediment more than 5000 feet thick.

Sentinel Peak is at the eastern edge of the Tucson Mountains. The Peak is primarily composed of basalt rock, which gives the landform its distinctive dark color. The soils are typically shallow.

### Topography

The eastern peak most visible from city center rises to an elevation of 2898 feet, 410 feet above the valley floor. A smaller peak, 240 feet to the southwest, is separated by a small saddle. A ridge running 1200 feet roughly east to west ends at the western high point. With steep slopes ranging from 20% to 50% for most of the Park, this ridge offers relatively flat topography. The upper parking lot is located here.

Prominent peaks visible from Sentinel Peak include Cat Mountain to the southwest, Pusch Ridge to the north, and Rincon Peak to the east.

### Hydrology

There are no major washes within the park boundary. A wash with less than 500 cubic feet per second is located on the north slope. Drainage structures have been built in the neighborhood to the north to mitigate the concentrated flows from this wash. Although a relatively small watershed, flows from strong rain events impact the neighborhoods to the north and east.

Sentinel Peak sits between the Santa Cruz River to the east and the Silvercrock Wash to the west.

## BIOLOGICAL RESOURCES

### Vegetation

Of the southwestern deserts, the Sonoran Desert

Upland is comparatively lush and features a rich diversity of arborescent cacti and shrubby trees Brown (1994). The high biodiversity is partly attributed to the rainfall pattern, with rainy seasons in summer and winter, and the varied terrain. Despite the rocky soil, Palo Verde and Saguaro flourish on the hillsides of Sentinel Peak. Other prominent plant species are Ocotillo and Barrel cactus.

Exotic grasses, with buffelgrass the most significant threat, cover much of the disturbed land. The grass crowds out native species and introduces fire threat into a non-fire based ecosystem.

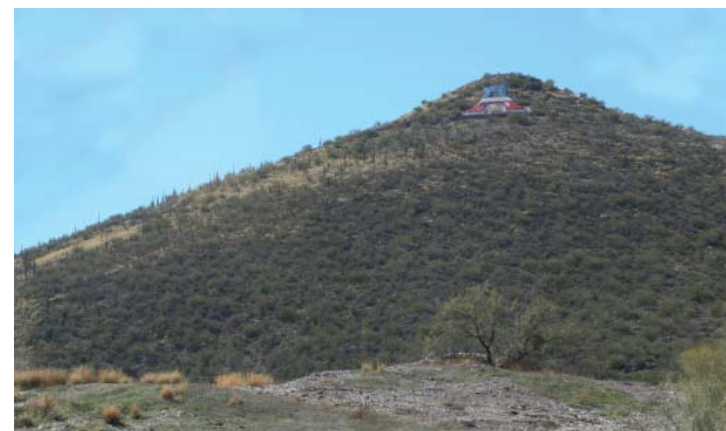
### Wildlife

The Park offers important habitat for wildlife. Large mammals such as deer, javelina and coyote, and numerous bird and reptile species utilize the habitat of the Park. The most significant threat to this habitat is isolation and habitat fragmentation. Development is impacting open space links to Tucson Mountain Park and the Santa Cruz River.



Road cut at Mission Road

Photo: WSA, 2008



View of the Peak from the future Mission Gardens site

Photo: WSA, 2008

## CULTURAL RESOURCES

Several archaeological excavations in the area between the Santa Cruz River and Sentinel Peak have uncovered a lengthy history of occupation. Although little formal excavation has occurred on the Peak itself, artifact scatter and bedrock mortars does indicate that the Peak has been part of the lives of people living here for centuries. Field work by the Rio Nuevo Archaeology Project has documented 4,100 years of occupation and 3,500 years of irrigated agriculture in the floodplain of the Santa Cruz River, east and northeast of Sentinel Peak. The settlements, from early Agricultural Communities through Hohokam, typically consists of pithouses, storage pits, maize remnants and some of the earliest known pottery of the Southwest. An extensive network of irrigation canals have also been uncovered.

To the west of the Peak, traces of trincheras features are visible on Tumamoc Hill. Trincheras (a Spanish word meaning entrenchments) are a series of prehistoric walls stepping up a hillside, giving a fortified appearance. The terraced hillside village of Cerro Prieto is a Hohokam site 40 miles to the northwest, similarly situated on a dark, volcanic hill.

In 1692, Spain's Jesuit missionary, Padre Eusebio Francisco Kino came to the Santa Cruz valley and encountered Piman speaking farmers living in villages such as Bac and Styook-zone (Tucson). For most of the settlement period of this area, the Santa Cruz was a perennial river, combined with reliable springs and a high water table. A riparian plant community including mesquite bosques provided a reliable food source. These environmental resources enabled settlement and agriculture.

San Agustin Mission was established in 1771 as a *visita* in support of San Xavier del Bac to the South. The mission (later referred to as the Convento) had extensive gardens and canals.

Beginning in the late 1700's immigrants began settling in the area around the San Agustin Mission and the Presidio. But it was the arrival of the railroad in 1880 that profoundly impacted the population of the area. Today, the current population of the Tucson metropolitan area is over one million people. Rapid population growth and development threatens historic (and environmental) resources.



Acequia Excavation, Convento Site

Photo: The Center for Desert Archaeology

[http://www.cdarc.org/pages/what/past/rio\\_nuevo/places/conventol](http://www.cdarc.org/pages/what/past/rio_nuevo/places/conventol)



Remains of Warner's Mill

Photo: WSA, 2009

The surrounding neighborhoods of Sentinel Peak are rich in cultural and archaeological resources, including the site of Warner's Mill and the Convento (mostly destroyed by the 1950's). Efforts are under way to build the Tucson Origins Heritage Park in this area to preserve and interpret this history.

A notable feature of Sentinel Peak is the large "A" on the east face of the hill. The "A" was built of locally gathered basalt rock on March 4, 1916 by University of Arizona students to celebrate a football game victory. Traditionally whitewashed, the "A" has been unofficially painted red white and blue as well as green for St. Patrick's Day. At 70 feet wide and 160 feet tall, the "A" dominates the view of Sentinel Peak from the University campus and downtown; many people refer to the Peak as "A" mountain.

**TIMELINE**

11,500?-7500 B.C. Paleoindian  
 7500-2100 B.C. Archaic  
 2100 B.C. - 50 A.D. Early Agricultural

2100 B.C. Farming settlement with pithouses and cultivated fields between Sentinel Peak and the Santa Cruz River  
 1500 B.C. First Irrigation Canals

20 A.D. - 500 A.D. Early Ceramic Period  
 500 A.D. - 1450 A.D. Hohokam Sequence  
 A.D. 1450-1697 Protohistoric Period  
 A.D. 1694-1821 Spanish Historic Period

1771 completion of San Agustin Mission

A.D. 1821-1856 Mexican Historic Period

1832 San Agustin Mission abandoned

A.D. 1856-1912 American Territorial Period

1880 Population approximately 8,000  
 Quarry operations begin on NE flank  
 Railroad reaches Tucson

A.D. 1912-present American Statehood

**Key Dates:**

1900 State population is 122,931  
 1912 Arizona becomes 48th state  
 1916 University students build "A" on E. slope  
 1915 Schwalen develops Menlo Park  
 1922 Hiram Banks homesteads south of Sentinel Peak  
 1933 City establishes Sentinel Peak Park  
 1950 City population is 120,000  
 1956 Quarry operations cease  
 2000 City population is 486,699



University of Arizona "A" Day 1924  
 Photo: University of Arizona Archives

**NEIGHBORHOODS OF SENTINEL PEAK**

**Menlo Park**

**Boundaries:**  
 North: St Marys Road (south side) from Freeway to Silverbell Road  
 East: Freeway from south side of St. Marys Rd. to north side of 22nd St.  
 West: Tumamoc Hill to south side of Anklam Road, East side of Silverbell rd. from junction of Anklam Rd. to south side of St.  
 South: 22nd Street (north side) from Freeway to foot of A Mountain

In 1915, Henry Schwalen was the owner of much of the property that now comprises Menlo Park, a subdivision name which reflected Schwalen's fondness for the town of Menlo Park in the San Francisco Bay Area. The Schwalen home, constructed around the original 2-room mud adobe core that may be the oldest structure still in use in Menlo Park, is still standing on Melwood Avenue, and is one of the recognized historic structures in Menlo Park.

**Panorama Estates**

**Boundaries:**  
 North: Broadway Extension; East: Clausen Circle  
 West: Panorama Circle; South: Sentinel Peak

**"A" Mountain**

**Boundaries:**  
 North: Starr Pass Boulevard; East: Mission Road  
 West: La Cholla Blvd.; South: 36th Street

The "A" Mountain neighborhood was first homesteaded in 1922 by Hiram Banks, under the Homestead Act of 1862. Mr Banks divided his homesteaded property in 1938 into lots so African American families could buy and build homes. Another major land owner in the early years of the neighborhood was James Benefield. He was also a builder of low cost housing which he marketed to minority veterans after World War II.

**Barrio Sin Nombre**

**Boundaries:**  
 North: Clearwater Lane; East: Santa Cruz River  
 West: Mission Road; South: Mission Lane

**Kroeger Lane**

**Boundaries:**  
 North: Simpson St./Mission Ln.; East: Julian Wash to 21st St.; West: Santa Cruz Ln/Santa Cruz River  
 South: 21st St.(both sides)

This area was named after an Anglo doctor who lived in this area for several years, a Dr. Kroeger. The area was also nicknamed Sal Si Puedes due to occasional flooding leaving only one or two exits out of the area. The area has a rural flavor; some residents keep horses and other livestock.

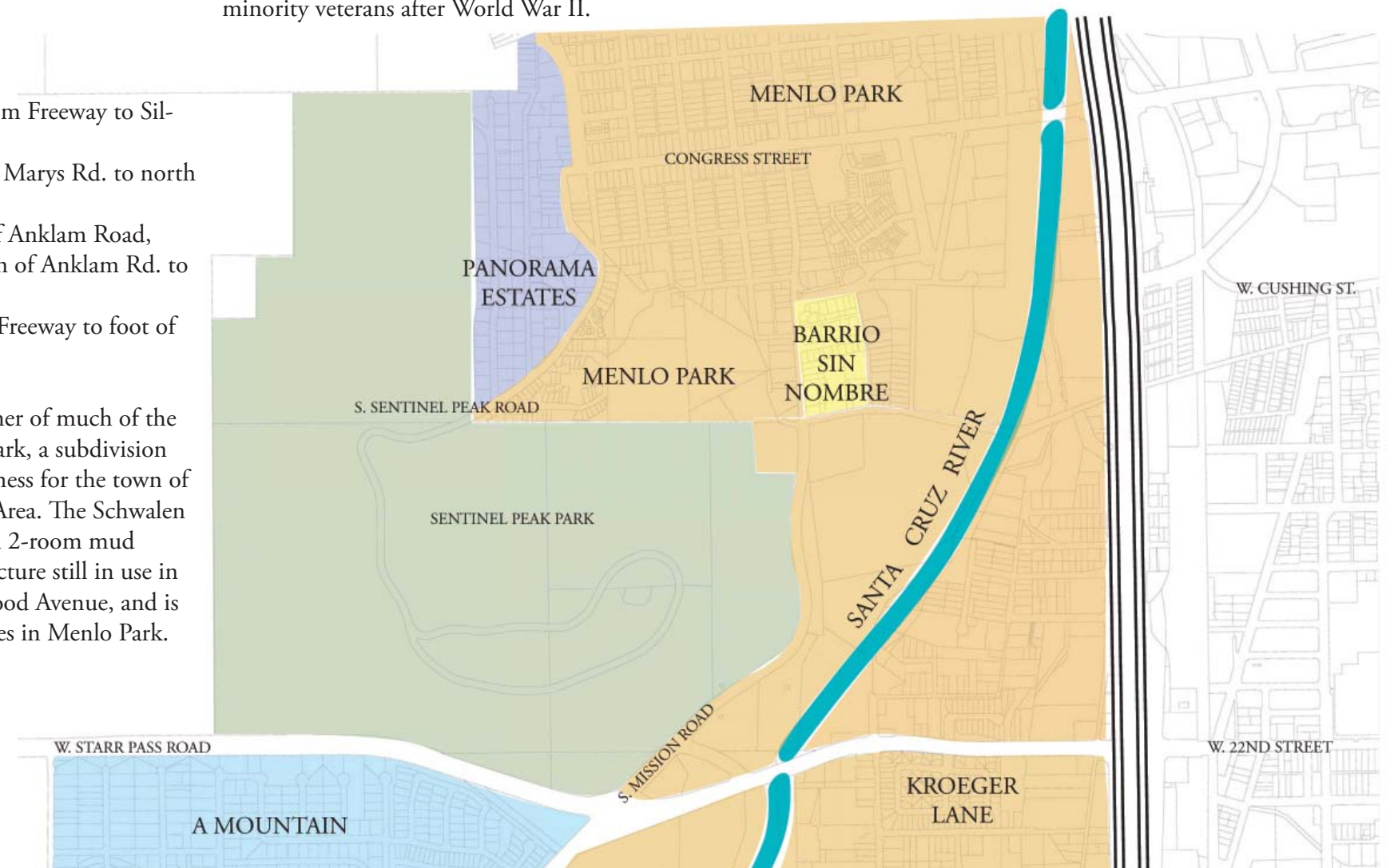


Figure 3: Neighborhood Associations



## TRANSPORTATION LINKAGES

### Bus Routes

The Suntran bus route is on Congress St. and there is a stop 400 feet east of the intersection of Congress Street and La Cuesta Ave. It is .63 miles to the lower parking lot from this intersection, and 1.2 miles to the upper parking lot. There is currently no bus access to the Park.

### Bicycle Routes

The bicycle route on Congress is designated as a bike route with striped shoulder, Sentinel Peak is designated as paved shoulder only.



Figure 4: Bus Routes



Figure 5: Bike Routes

### Pedestrian

A pedestrian crossing has been proposed at Cushing Street and the Santa Cruz River as part of the Rio Nuevo development; this will give pedestrian access from downtown to the proposed Convento Museum site and the Mission Gardens. The Streetcar may also extend from Downtown to Tucson Origins Heritage Park.

Sentinel Peak Park is approximately 1 mile west of the Santa Cruz River Park, which affords extensive north-south linkages. It is possible to link the Santa Cruz River Park shared-use path with the trail system of Sentinel Peak. Pedestrian access may also be feasible in the future with a pedestrian crossing on Mission Road west of the Barrio Sin Nombre neighborhood.

## PLAN DEVELOPMENT CHRONOLOGY

The master plan was developed from input from the charettes, open houses and site analysis by the design team.

- July 28, 2007 A Mountain (Sentinel Peak) Charette I
- September 29, 2007 A Mountain Charette II
- March 17, 2008 Focus Group Meeting
- May 17, 2008 On-Site Meeting
- July 16, 2008 Focus Group Meeting
- October 27, 2008 Open House
- October to November, 2008 Public Comment Period
- March 19, 2009 Public Presentation Open House
- April 2009 Master Plan Report
- Summer 2009 Archaeology Assessment
- Fall 2009 SWCC Trail Building
- Summer 2010 Phase 1 Construction Documents
- Fall 2012 Begin Phase 1 Construction

## CHARETTE SUMMARY

The first charette was held in July 2007, The comments from the community were grouped into general categories as summarized below:

### Environmental Conditions

#### Context

- Plan for Wildlife Corridors
- Provide connections between Santa Cruz River and Tucson Mountain Park

#### Erosion & Drainage

- Address erosion problems on Sentinel Peak Road
- Repair damaged native vegetation, social trails
- Address drainage on north slope
- Incorporate check dams, water detention features

#### Vegetation

- Remove invasive plant species
- Plant native shade trees
- Incorporate water harvesting
- Plant several trees in the core-area of the park and use the parking lot to harvest rainwater for the irrigation of these new plantings.

### Goals

Mitigate existing environmental damage and minimize impact of future development



Erosion on north face of Sentinel Peak  
Photo: WSA, 2008



Approach to Sentinel Peak Park  
Photo: WSA, 2008

### Circulation & Signage

- Entry and directional signage lacking
- Issues regarding frequency, consistency of signage directing people to Sentinel Peak Park. Discourage traffic from entering neighborhood.
- Identify South Cuesta Ave as the public entrance to the park.
- Entry signage and hours of operation clearly posted before reaching gate.

### Vehicular Circulation

- Address dangerous intersections and unsafe areas of the access road
- Assess parking needs (consider shuttle for special events)

## CHARETTE SUMMARY

### Pedestrian and Bicycle Circulation

- Plan to reduce conflicts with vehicles and pedestrians
- ADA access

### Trails

- Improve hiking trails
- Revegetate redundant social trails
- Include a trail from the parking lot to the top of Sentinel Peak

### Goals

Improve safety and ease of circulation.

### Safety & Maintenance

- Address vandalism
- Improve safety
- Need trash removal
- Add guardrails on the north side of loop drive west of the upper parking lot entrance. Guardrails should be designed to be unobtrusive and blend with the natural landscape as much as possible
- Traffic calming measures -(speed tables, designated pedestrian crossings)
- Closure Times (good location to see sunset)
- Volunteer Programs
- Neighborhood Integrity
- Encourage people to help in the cleanup of Sentinel Peak Park by providing recycle containers, a dispenser for trash bags if people want to pickup trash, and a dog waste cleanup bag dispenser.

### Goals

Encourage legitimate use through positive design and active programming.



*Existing Upper Parking Lot*  
Photo: WSA, 2008



*Graffiti*  
Photo: WSA, 2009

### Site Amenities

- Shade Trees
- Picnic Tables
- Seating
- Overlooks
- Ramadas
- Restroom facilities
- Recycle & Trash Containers
- Bike Racks
- Consider a solar powered composting toilet.
- Improve the existing “Sentinel” overlook (the rock gazebo-like structure west of the parking lot)
- Provide improved (ADA) access to the existing “Sentinel” overlook.
- Remove or improve the unsafe picnic tables near the “Sentinel” overlook.

### Goals

Provide adequate site amenities to increase user comfort and ease of use

### Park Programming

- Existing Events
- Interpretative Programming

### Historic & Site Interpretation

- History, timeline & significance
- Culture, geography, geology, ecology
- Media for site interpretation
- Develop an interpretive plan and provide unobtrusive signs to interpret the past and present cultural uses, natural history, and views from the mountain.
- Public Art

### Goals

Provide site interpretation.



*Existing Trail Sign*  
Photo: WSA, 2008



*Picnic Table*  
Photo: [www.flickr.com/Sentinel Peak](http://www.flickr.com/Sentinel Peak)

## PART 2 SITE ANALYSIS AND PLAN DEVELOPMENT



*On-site meeting with design team  
Photo: Howard Dutt, 2009*

### ENVIRONMENTAL CONDITIONS

The most significant environmental threats to Sentinel Peak are deterioration of habitat, erosion, and the spread of invasive species. Without a clearly defined trail system, many social or wildcat trails are in use in the park. These trails are unplanned, unofficial trails established by park visitors over a period of time. A few of these trails are good candidates for inclusion in a Park trail system, however most should be closed and obliterated to prevent further destruction of habitat by increasing erosion and acting as conduits for invasive species. Desert landscapes are fragile and can be slow to re-establish, due to low rainfall and typically poor soil fertility.

The area around the upper parking lot is the hardest hit in terms of human impact. What little soil exists has been packed down, and plants are not establishing in areas of frequent off-trail use. There is also a high concentration of trash in this area. Viewed from the parking lot, the west slope of the Peak is marked by numerous trails that cut across contour, creating erosion and dangerous scree slope conditions.

Invasive plants including Buffelgrass and Fountain Grass are widespread in the Park, displacing native flora and increasing fire risks. Volunteer efforts have been ongoing to reduce the exotic grasses on the Peak.

The loss of vegetation cover increases erosion and concentration of water flows. A landslide feature is apparent on the northern slope below the existing ramada. Sheet flow from the Peak, although a small watershed, impacts the neighborhoods below to the north and east. Future work must stress reducing impervious surfaces and increasing rainfall infiltration. The use of re-vegetation and passive water harvesting techniques, and closing redundant trails, will help to stabilize the desert habitat.

### CIRCULATION & SIGNAGE

Sentinel Peak Road enters the Park as a two-way road and becomes one-way around the peak. Two parking lots are available. Both are paved with asphalt and are absent of shade trees.

Signage in the Park is infrequent. After the entry gate and first parking lot, an entry monument of uncertain age greets visitors. The Park rules are posted at the lower parking lot. A small trail sign, obscured by the entry monument, marks the beginning of Sentinel Ridge Trail,

but offers no other information, such as the length of the trail or connections.

The Traffic Analysis Report survey on Jan 26, 2008 recorded approximately 25 vehicles per hour with the highest volume of vehicles (37) entering the park from 1:00 PM to 2:00 PM. Data collected on pedestrian and bicycle volumes were recorded only for the time period when the Park was open to vehicles (the Park allows pedestrians to enter before the gate is opened to vehicles). The peak was 10 users from 11:00 AM to 12:00 PM.



*Erosion below existing Ramada  
Photo: WSA, 2008*



*Buffelgrass  
Photo: WSA, 2008*

## SITE ANALYSIS

### SAFETY & MAINTENANCE

People use Sentinel Peak Road for walking and running and have been observed using the road throughout the day. As there are no designated walking paths and the shoulder tends to be narrow and unprotected from falls, most of these people have been in the actual roadway. Pedestrian and vehicular conflicts are the most concentrated at the East Overlook.

Vandalism in the Park is concentrated at the saddle, where the upper parking lot is located, and around the “A” feature. The ramada and rock outcroppings have been repeatedly targeted by graffiti. The “A” feature itself has been unofficially painted many times over the years. Also widespread throughout the visited areas, broken glass and bottle cap litter carpet the ground. Adding to the degradation, an untold amount of artifact scatter has been removed by visitors.

### SITE AMENITIES

The existing site amenities are minimal and mostly include two parking areas, a small ramada, some site furniture and one signed trail. The ramada, with panoramic views to the Tucson Mountains, is approximately 16 feet in diameter and accommodates small group of peoples at a time. It is also not ADA accessible. Site furnishings include two picnic tables and barrels used for trash collection. One of the tables is precariously located close to an eroded slope near the ramada.

#### Existing Built Amenities

- Paved Road
- Parking Areas (2)
- Ramada (1)
- Picnic Tables (2)
- Hang Gliding Launch Pad (1) (By Permit Only)
- Trails (1 signed)

#### Available Utilities

- Potable Water: None
- Reclaimed Water: None
- Electric: None
- Sewer: None

## PARK PROGRAMMING

The park is used throughout the year by a variety of user groups. Typical uses include:

- Photo Opportunity and Tourist Destination  
Although the focus is on the downtown view from the east overlook, the saddle also offers grand views in all directions. From the saddle, a visitor can see the Tucson Mountains, Pusch Ridge and the Santa Catalina Mountains, and Rincon Peak to the east. There are also views to the Santa Cruz River a short walk from the parking lot.

- Exercise  
Walkers, runners, and cyclists all use the Peak for fitness. The Park offers an alternative to nearby Tumamoc Hill, the road to the research buildings is crowded with walkers when open for this activity. At Sentinel Peak, currently the road is closed to cars early in the morning, allowing for a brief window of time for non-vehicular use. At other times of the day, pedestrians and cyclists share a narrow shoulder of the roadway that varies in width from two to five feet.

- Ramada Rental  
City of Tucson Parks and Recreation receives reservation requests for the one existing ramada. The ramada is small and not well sited for large events, but has been used for weddings and other activities. The existing ramada will need to remain for now, but its size, location, accessibility and maintenance problems suggest replacement.

- Good Friday Procession  
Since 1969, Roman Catholic families have carried a wooden cross to the saddle of Sentinel Peak, just east of the parking lot. A vigil is kept over the cross until Easter Sunday. As many as 500 have attended the sunrise service.

- Fund-raiser Walk  
The Park has been used for charity events.

- Model Plane Flying  
Remote control model aircraft have been observed from the east overlook on several visits.

- 4th of July Fireworks  
Fireworks are set off from Sentinel Peak on the Fourth of July, despite obvious fire risks. The tradition began in 1984 and provide enjoyment for many people. The master plan will need to accommodate adequate fire truck access and firework staging areas.

### HISTORIC & SITE INTERPRETATION

A bronze plaque installed at the foot of the “A” feature provides a brief historic statement in English and Spanish. The plaque is located on the side of the road, opposite the pullout area (the area directly in front of the plaque is actually a bike lane). Approximately 20 feet to the south is an older stone marker erected February 22, 1933 by the Tucson Chapter of the Daughters of the Revolution commemorating the Peak as a lookout point to defend against attack.



Fireworks on Sentinel Peak

Natural Resource Parks in the Tucson Area		Bicycling	Camping	Classroom	Drinking Water	Environmental Ed.	Equestrian Access	Hiking/Walking	Historic Site/Artifacts	Multi-Use Trail	Picnic Area	Playground	Ramadas	Restrooms	Wildlife Viewing	Public Art
Facility	Size (Ac)															
<b>Pima County</b>																
Agua Caliente Regional Park	101			X	X	X		X	X	X	X			X	X	
Empirita Ranch							X	X	X						X	
Feliz Paseos Park	50				X	X		X	X	X			X	X	X	
Gilbert Ray Campground			X										X	X	X	
Grijalva Canoa Conservation Park						X		X	X	X					X	
Tortolita Mountain Park								X	X						X	
Cienega Creek Natural Preserve	4100							X	X						X	
Tucson Mtn. Park/ Gates Pass Scenic Overlook	20,000	X			X		X	X	X	X	X		X	X	X	
<b>City of Tucson</b>																
Case Park (Metro)	40.5			X	X			X		X	X	X	X		X	X
Greasewood Park (Metro)	160							X			X		X		X	
Rio Vista Park (Community)	38.7				X			X								
Miramonte Natural Resource Park (Mini)	1				X			X			X	X				X
<b>Sentinel Peak Park (Regional)</b>	<b>378</b>	<b>X</b>						<b>X</b>	<b>X</b>						<b>X</b>	

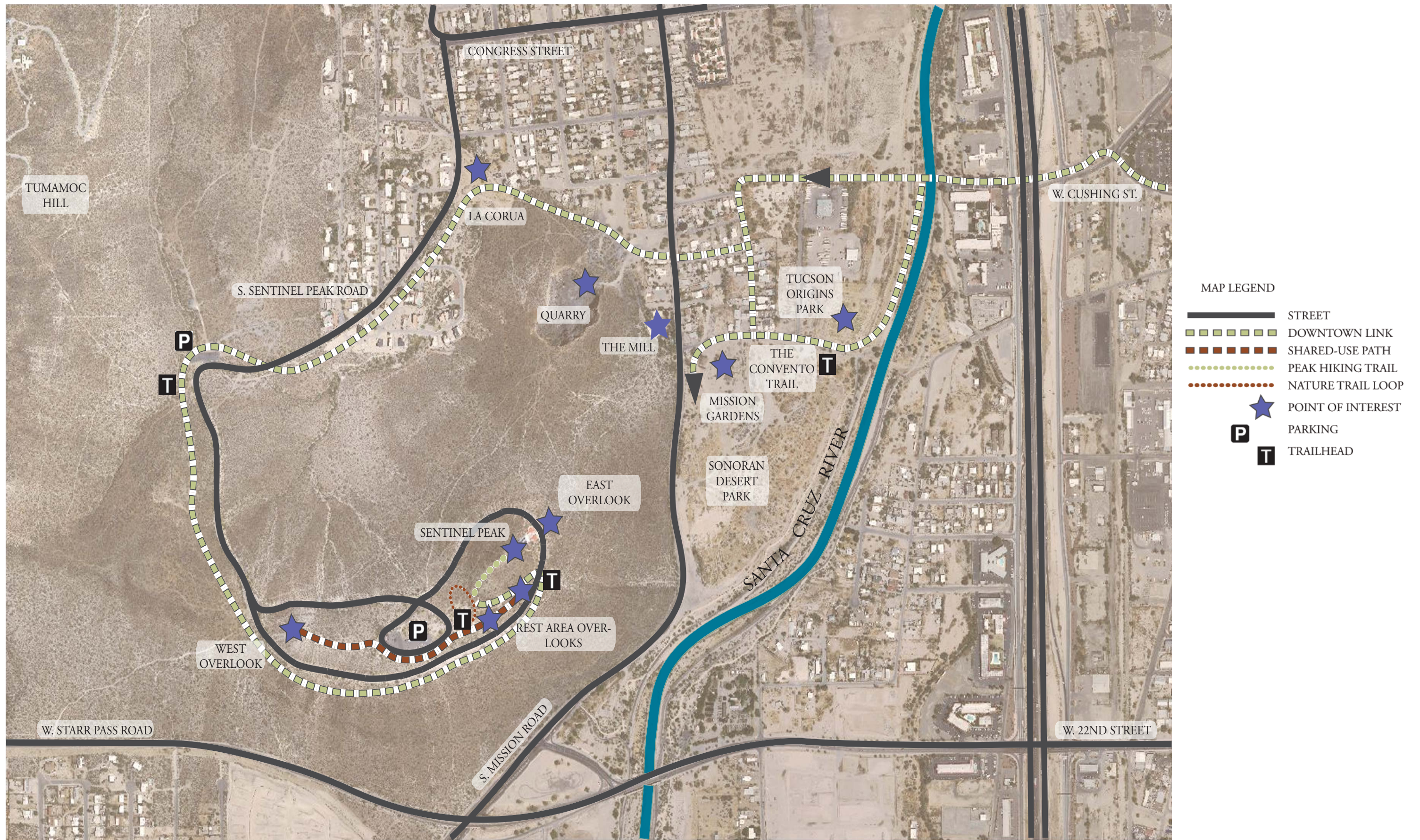


Figure 6: Circulation & Adjacencies Study with proposed area development

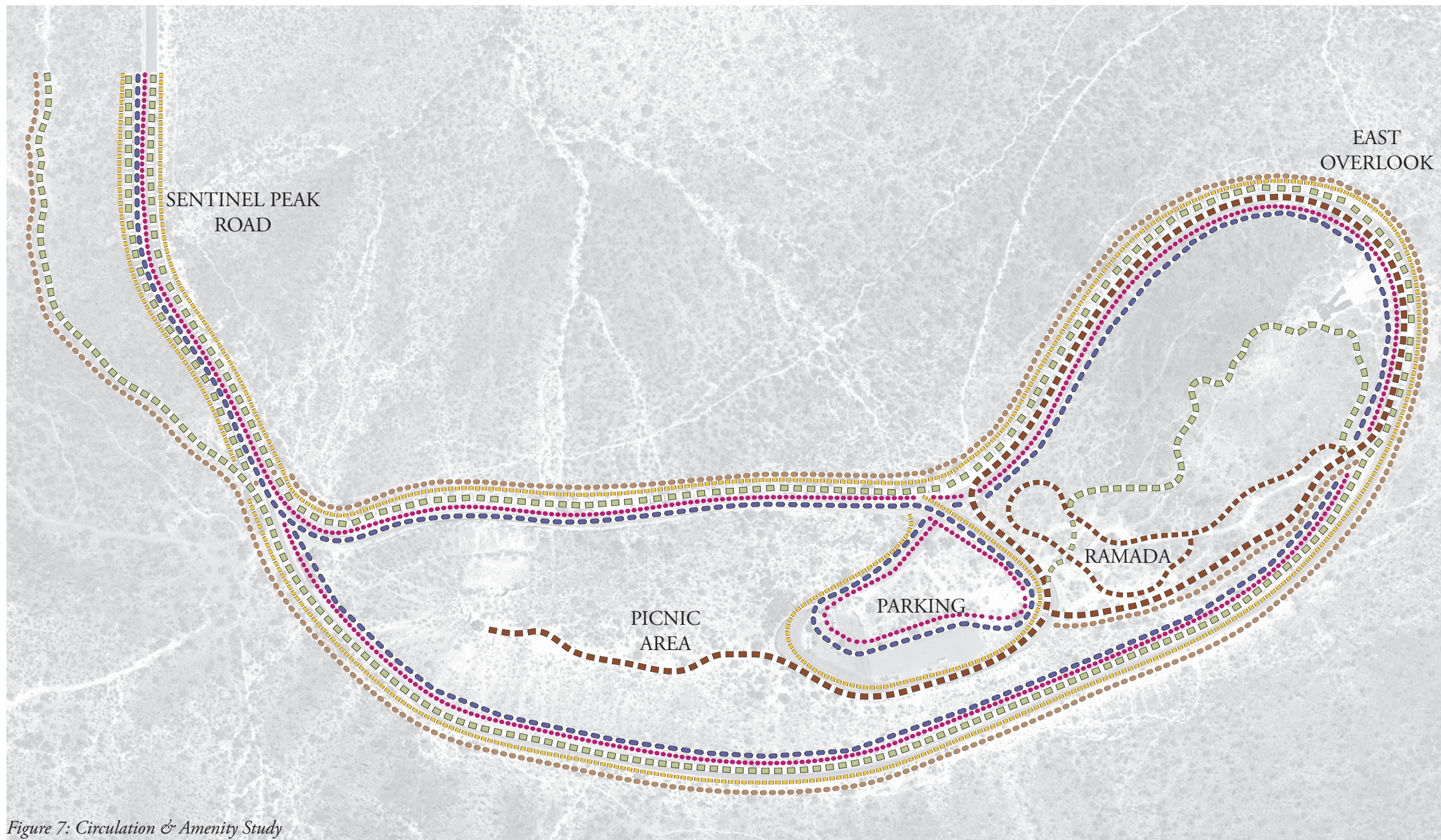


Figure 7: Circulation & Amenity Study



Family walking to East Overlook from Upper Parking Lot  
Photo: WSA, 2009



Shared-Use Path, Santa Cruz River  
Photo: <http://www.flickr.com/photos/lasertrimguy/1461259126/>



## PLAN DEVELOPMENT

### CIRCULATION STUDY

As identified in the charrette discussions, addressing circulation and signage will be critical for the success of the Park.

Travelers seeking access to Sentinel Peak Park must look for small and inconsistent signs from the approach roads. Clear signage on Congress Street, Silverbell Road, and Mission Road combined with a clear entry monument will help visitors locate the proper route to access the Park, and deter traffic from entering the surrounding neighborhoods. There is also a need to sign park closure times at the first opportunity on the Park loop road.

Within the park, signage is needed for park rules and location of amenities. Designated trails should also be clearly signed, which will help in the closure of redundant social trails.



*Cyclist crossing road to stay in bike lane*



*Space available at East Overlook*



*Vehicular/Pedestrian use of roadway*



*Pedestrians in Roadway at East Overlook*



*Runners using roadway while closed to vehicles*



*East overlook with parked vehicles, traffic, and pedestrians*

*Pedestrian and Traffic Conflicts*  
Photos: WSA, 2009

## PLAN DEVELOPMENT

### East Overlook

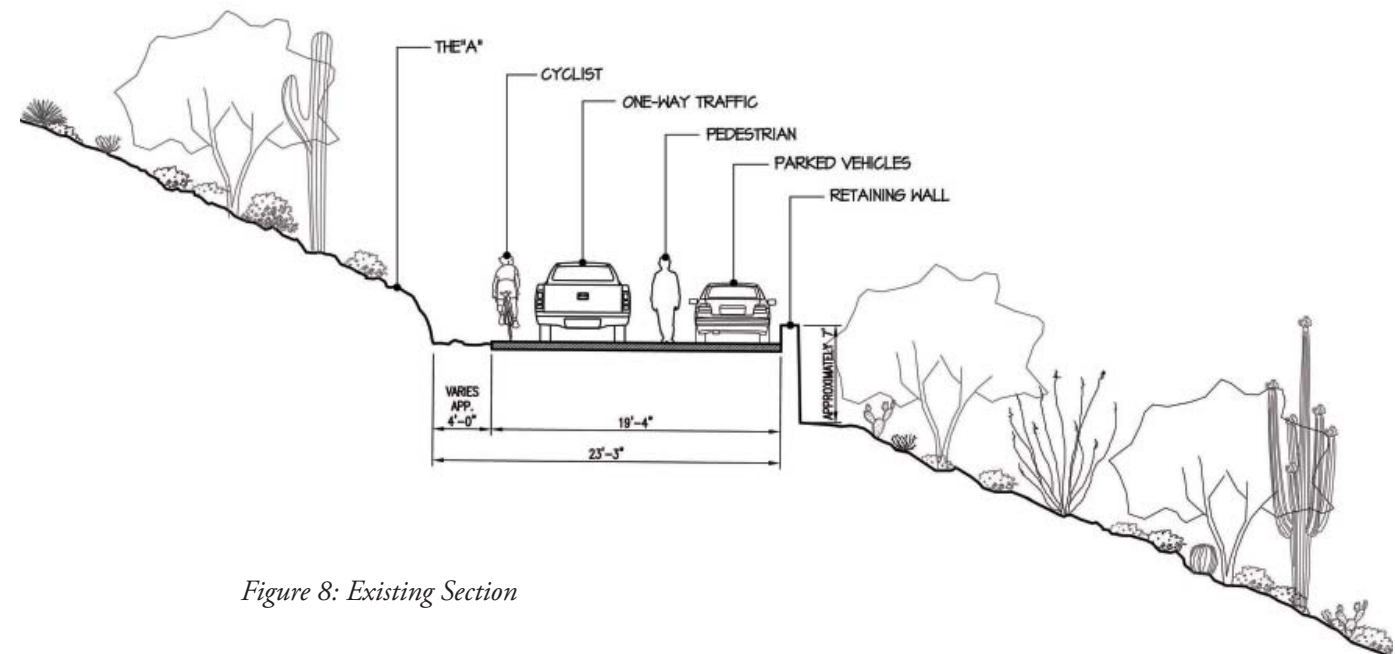
Plan development was guided by topics generated from the observations of the design team and the contributions of comments at the charrettes. There were several issues relating to vehicular/pedestrian/cyclist conflicts and the steep slopes.

The East overlook was identified as one area requiring future detailed study. This overlook affords visitors an iconic view of downtown Tucson, with drivers parking here briefly (refer to the Traffic Analysis Report April 2009 for vehicle duration times). There is a concentration of activity at the overlook, with pedestrians, cyclists and vehicles all vying for the narrow roadway.

The brief duration of stay could be attributed to lack of amenities such as shade or seating, and no clearly designated pedestrian area separate from vehicles. Apart from a historic plaque located across the roadway, there is no interpretative signage at the overlook.

### Upper Parking Lot

Other areas of study included the layout of the existing parking lots. The parking areas have extensive areas of asphalt where vehicles are parked at random. A more efficient layout would minimize the impact of paving and visual obtrusiveness. Extensive views from the upper parking lot include all major mountain ranges of the Tucson Basin: Santa Catalinas, Rincons, Tucson Mountains, and the Santa Ritas.



*Figure 8: Existing Section*

## PROGRAM STUDY

The Functional Analysis diagram (Figure 10) illustrates how program elements, such as parking and trail heads, could be related to one another. The diagram indicates proximity of elements to one another and the importance of connections between them.

The site map in Figure 6 illustrates the potential of connections from Sentinel Peak to other nearby points of interest.

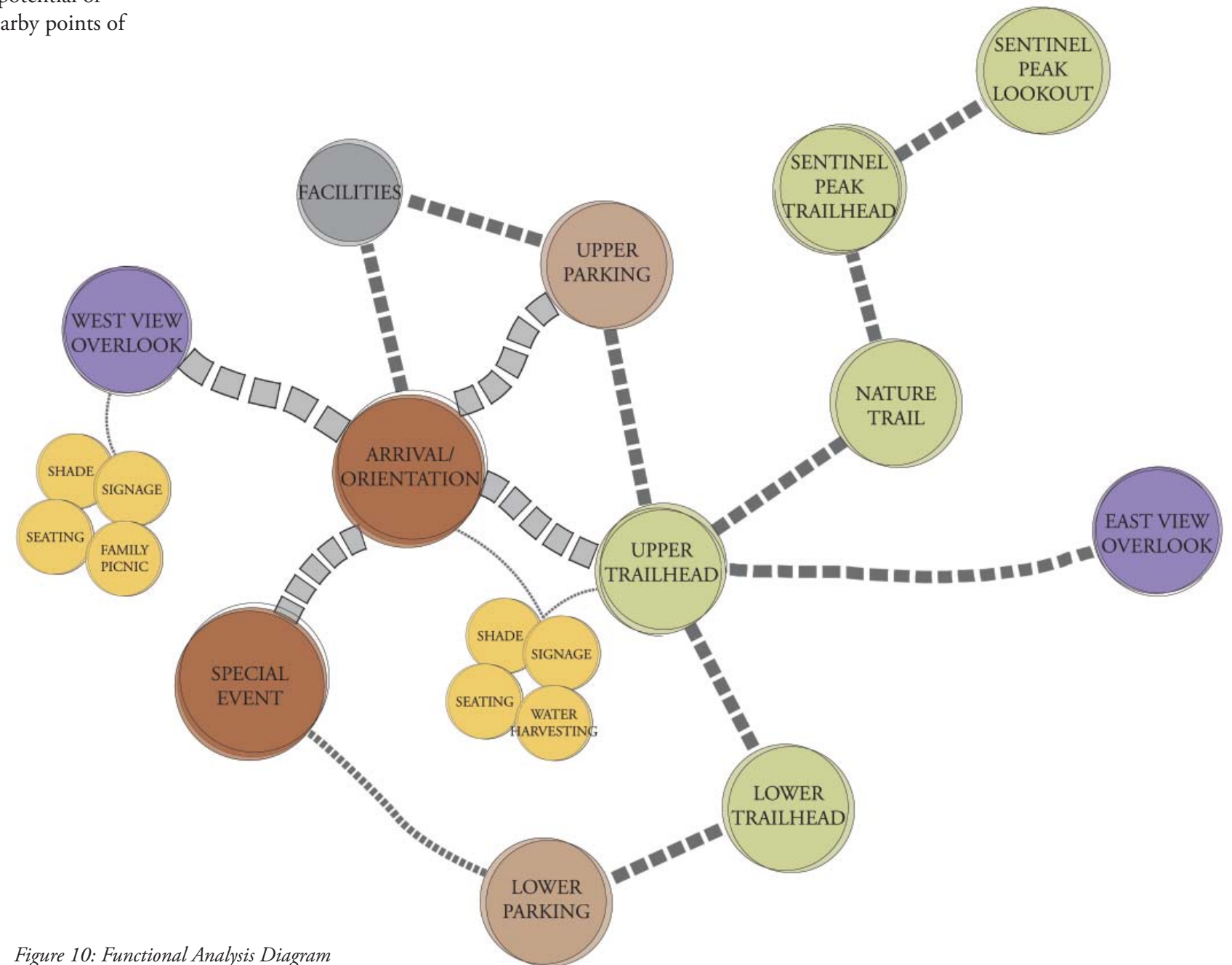


Figure 10: Functional Analysis Diagram



## DESIGN PRECEDENTS

### Historic Traditions

A lasting legacy on Public Park Lands is the work created by the Civilian Conservation Corps (CCC) in the 1930's. Some structures in Tucson Mountain Park are attributed to the CCC, as well as the visitor center at Colossal Cave Mountain Park east of Tucson. Characterized by rustic materials, such as stone and timber, the buildings, walls and campgrounds were made possible by abundant labor during the Great Depression. The use of indigenous materials helped the facilities to blend with their environment, and met the public's expectation of a "wilderness" experience.

The next wave of park building in the 1960's introduced a modernist architecture to enhance and expand the ailing infrastructure of National Parks in response to increased visitation. The new facilities expressed the modern ideals of streamlined function and accessibility, as well



Three Mile Rest House, Bright Angel Trail, Grand Canyon  
Photo: [www.flickr.com/photos/GrandCanyonRestHouse](http://www.flickr.com/photos/GrandCanyonRestHouse)



Visitor Center, Zion National Park, 1957  
Photo: <http://www.flickr.com/photos/firehole/2066505387/>



CCC era building, Gates Pass, Tucson Mountain Park  
Photo: WSA, 2008



CCC era building, Colossal Cave Mountain Park  
Photo: WSA, 2009

as expressing new innovations in materials like concrete and large expanses of glass. Preservationists are currently working to preserve this legacy that is threatened by demolition and "rustication" re-design efforts (Allaback).

Contemporary examples of architecture in the Southwest demonstrate an emphasis on balancing the integrity of materials with the the natural setting and complimenting the environment with site-inspired forms.

### Design Identity

Successful park experiences have a strong "sense of place" guided by the natural setting and supported by the built elements of the park that offer a memorable experience to the user. This applies to the hardscape of the site (the pathways, parking lots, and plaza spaces), the structures such as restrooms and ramadas, and the many other conveniences such as signs, seating, and trash containers. The goal is to develop facilities that are harmonious with one another and to the site.

A good example of successful execution of this principle is the Lost Dog Wash Trail head, in the McDowell Sonoran Preserve, Arizona, designed in 2006. Although a comfortable and convenient arrival point for visitors accessing the trail systems, nature dominates the experience. Plants, wildlife and the views are the primary focus. The



Parking, Lost Dog Wash Trail head



Site Furnishings, Lost Dog Wash Trail head  
Photos: WSA, 2008

design of the various elements enhances the experience without distraction. There is minimal impact to natural processes and, a strong sense of identity.



Trail, Lost Dog Wash Trail head



Site Furnishings, Lost Dog Wash Trail head

## DESIGN PRECEDENTS

### Accessibility

The Universal Trail Assessment Process (UTAP) was developed by Beneficial Designs, Inc. in 1993, as a system of objectively documenting trail systems. Trail signs clearly explain the trail ahead, allowing individuals to choose the trail that best matches their abilities.

Signs include The Five Access Characteristics:

- Grade
- Cross Slope
- Width
- Surface
- Trail Length

UTAP is a possible management tool for Parks such as Sentinel Peak, where steep slopes and rugged terrain predominate. Circulation can be graduated in difficulty, offering multiple choices for a variety of users. Stability of surface material and frequent, shaded rest areas are two ways to mitigate steeper slopes for some visitors. Main pedestrian circulation routes must however be fully accessible in accordance with the Accessibility Guidelines (ADAAG). Feliz Paseos Park, in Pima County was developed as a model of universal access design in an urban park.

Other accessibility measures, in addition to UTAP compliant signs, include interpretative and wayfinding signs for the visually impaired using audio and braille. At Sentinel Peak, a three-dimensional model of the landform could be an appealing wayfinding and interpretative tool.



Interpretative Sign with Audio, Feliz Paseos Park  
Photo: WSA, 2008



Trail Sign, Feliz Paseos Park  
Photo: WSA, 2008

## DESIGN PRINCIPLES

As a natural resource park, the design of amenities and infrastructure should complement the natural setting and processes. Structures and site furnishings should be visually unobtrusive, and the quality of construction reflect the significance of site. The goals of site development:

- Reclaim and enhance the natural character of the site
- Minimize future disturbance
- Integrate design and site
- Provide for habitat and biodiversity
- Practice environmentally responsible and green building construction practices
- Avoid sensitive archaeological sites

Sentinel Peak is a prominent feature viewed from many places in Tucson. Minimizing environmental and visual impacts will be important not only for the visitor experience from inside the Park, but also from the city below. Sentinel Peak is an iconic skyline; the saddle where the upper parking lot is located is visible from downtown Tucson. Structures will need to be sited carefully, within existing contours to minimize visual obtrusiveness.

Natural features (e.g. boulder outcroppings, desert pavement topsoil, native plant materials) should be protected to the fullest extent possible. Also, site adjustment of design elements in the field will help to avoid disturbing significant natural features such as washes and significant stands of vegetation.

Responding to the qualities of the Sonoran Desert and specific characteristics of the site will generate a design aesthetic unique to Sentinel Peak. In addition to careful siting of park elements, the chosen materials can support the goals of site integration. In general, materials expressive of the site, like stone and earth, have the least visual impact.



Sentinel Peak Hiking Trail  
Photo: WSA, 2008



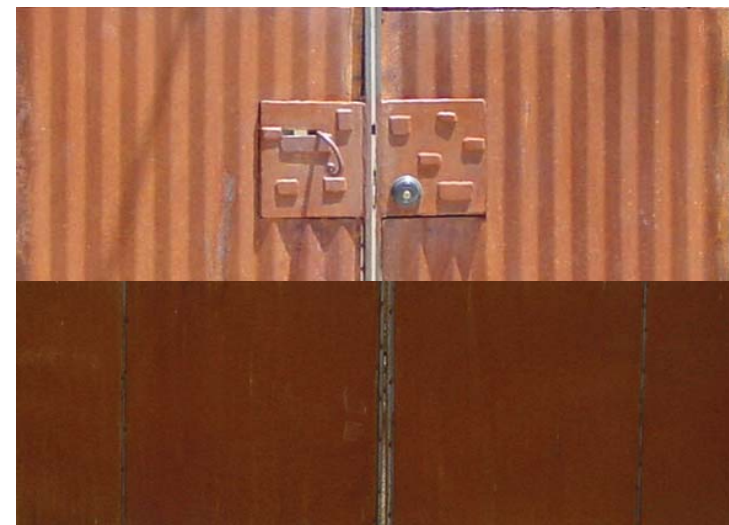
Sentinel Peak, looking east from the existing ramada  
Photo: WSA, 2008



Columbus Park seatwalls, WSA, 2008



Vernacular structures as inspiration for design  
Photo: Theodore Hetzel, 1960's. From the Center of Southwest Studies Collection SW P003B5gFol2Item12



Building materials: Weathered Metal  
Photos: WSA

## DESIGN STANDARDS

### Building and Paving Materials

The materials used in construction and site furnishings must complement the surrounding desert landscape.

A volcanic rock, dark brown to charcoal in color, was quarried from the Peak for several decades but the quarry is no longer in operation. In neighborhoods such as West University and Menlo Park, rock walls built from this



Building materials: Adobe Wall  
Photo: WSA, 2008



Building materials: Taliesen, Scottsdale, Frank Lloyd Wright  
Photo: <http://www.flickr.com/photos/teachandlearn/2215076907>

material are common. Small amounts of salvaged rock may be available, but not in sufficient quantities for large structures. The rock material is visible in the terrain of Sentinel Peak (early Piman words for the landmark refer to the dark hill). Integral color concrete, textured with exposed aggregate or built with scoria, are appropriate alternative materials to suggest this material in the landscape.

Earthen materials, such as rammed earth and adobe, respect the desert palette and the history of the site. These materials also perform well in the extreme climate of the Sonoran Desert. Rammed earth stabilized with cement and adobe are durable and have the advantage of thermal regulation. One consideration, however, is the impact of vandalism on park structures. Anti-graffiti coatings are available that meet green building criteria and can help to protect walls by easing the removal of graffiti.

Alternative pavement materials such as stabilized aggregate and sand-set pavers offer both environmental and visual benefits. Sand-set pavers allow for water infiltration into the soil and can be used in smaller, defined gathering areas. Stabilized aggregate pavement for the shared-use pathways and parking area is an economical and attractive option for more extensive areas of paving. Two options are the resin stabilized Natural Pave manufactured by the Soil Stabilization Company, Inc. and PurPAVE manufactured locally by Ensoulutions. These are aesthetically more compatible with the desert terrain, and a significantly cooler surface than black asphalt.

The selection of materials can also aide in the interpretation of the settlement history at the base of the Peak. The seatwalls built at Columbus Park (images at upper left) are an example of referencing historic building practices. The progression of building materials in the Tucson area ranged from wattle and daub, adobe, to milled lumber, and then to the steel and glass buildings of downtown. Many examples of this building legacy are visible from the Peak.



Building materials clockwise from top left: Sandblasted Concrete Block, Rammed Earth, Masonry Wall with rock quarried from Sentinel Peak, and Cast-in-Place Concrete with Scoria Aggregate  
Photos: WSA



Paving materials clockwise from top left: Exposed Aggregate Finish Integral Color Concrete, Stabilized Aggregate Pavement, Stabilized Decomposed Granite, and Etched Finish Integral Color Concrete with Tile Inserts  
Photos: WSA

## DESIGN STANDARDS OF SITE AMENITIES

### Signage

Two types of signage are required at Sentinel Peak: functional and interpretative. Examples of functional signage include the entry monument, parking directional signs, and trail head signs.

Many educational and interpretive opportunities exist in the Park. Resident survey information indicated an interest in both natural history and cultural history themes. An audio component could include oral histories of the Peak. The Park is also an excellent vantage point to observe the city and its surrounding mountains.

Educational opportunities could include information encouraging people to stay on trails, and to have respect for artifacts they find in the Park.



Figure 11: Proposed Signage in Seatwall Concept

The interpretative signs should be integrated into structures wherever possible, such as the seatwalls and landscape walls around future structures. To some degree, the materials can speak for the history as well. Construction of site amenities can reference historic building practices for deeper significance.

### Structures and Trails

New shade structures, or ramadas, will be an appreciated amenity in the Park, as well as improving the function and accessibility of the existing ramada. The ramadas can range from small, simple structures at the picnic site to a larger central arrival/orientation ramada spacious enough to accommodate groups of people, such as students on a field trip of a hiking group.

A restroom building is sited in the master plan. With



Figure 12: Proposed Signage Concept



Existing Historic Marker (East Pullout Area)  
Photo: WSA, 2008



Existing Historic Marker (East Pullout Area)  
Photo: WSA, 2008

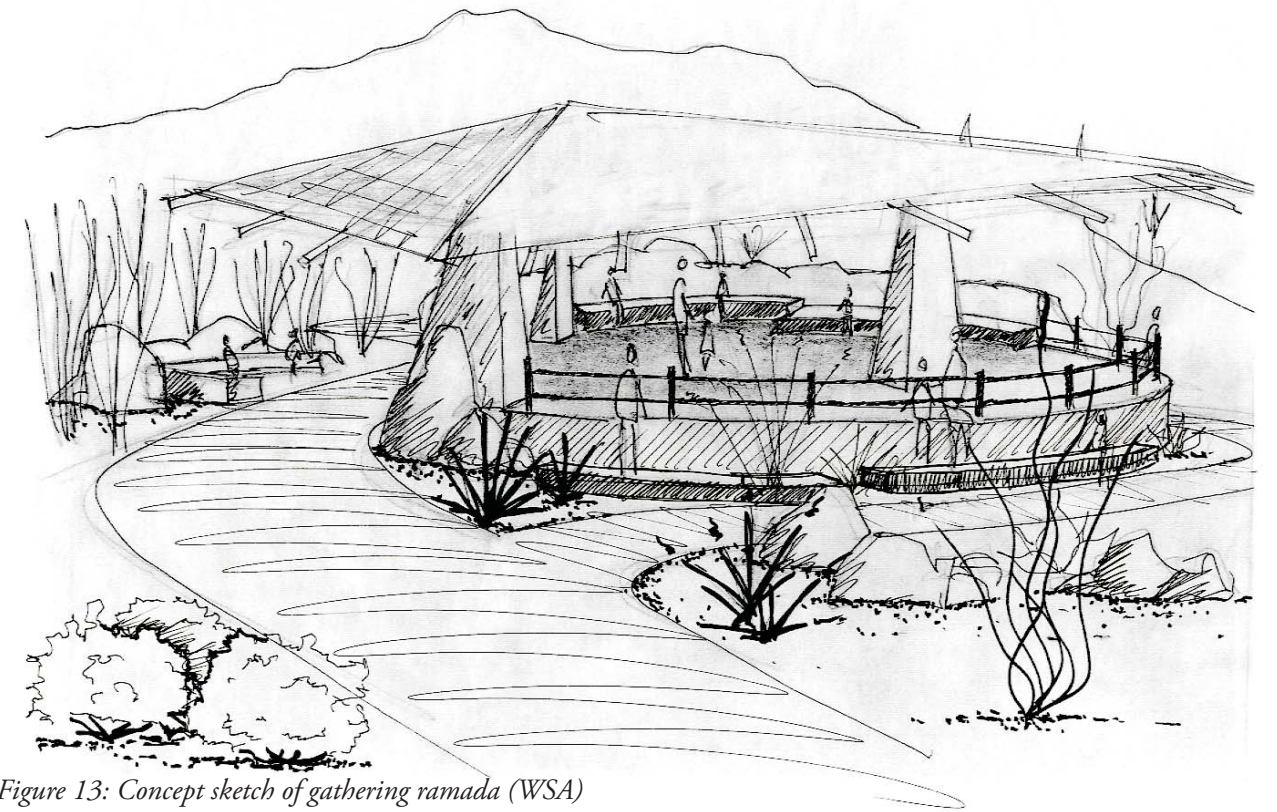


Figure 13: Concept sketch of gathering ramada (WSA)

no potable water available, solar powered composting toilets would be a feasible solution. Typically, the restroom building would have some storage capacity for maintenance. The roof could also be used for rainwater collection for supplementary irrigation in select areas.

Design and construction in the Park will require Archaeological coordination to avoid disturbance of sensitive areas. Future structures may impact unrecorded below-grade features, and other activities such as weed and graffiti removal may pose threats to archaeological features.

### Site Furnishings

Ideally, a public space should offer a variety of seating options and orientations. Allowing park visitors to choose between shaded or sunny areas is one example of increasing user comfort. Another choice is to offer grouped seating areas to allow for conversing groups, and also areas for solitary quiet. Coordination of site furnishings to each other and to other materials and colors will create a complementary palette. The palette should be responsive to the landscape.

### Lighting

There are no utilities to the Park; therefore solar power should be considered for lighting, which is likely to

consist of low level path lighting and parking lot lighting. Unobtrusive fixtures that are Dark Sky Ordinance compliant are required.

### Parking

A typical parking lot is a large expanse of black asphalt, absorbing the heat of a summer afternoon. This necessary but often unattractive space can be mitigated with the placement of shade trees that separate the parking into smaller bays, and by utilizing alternative surfacing materials.



Visitors on rock terrace, Grand Canyon South Rim  
[www.flickr.com/GrandCanyonSouthRim](http://www.flickr.com/GrandCanyonSouthRim)

## DESIGN STANDARDS

Minimizing the environmental impacts of large paved areas will also be important. Reducing impervious pavement and stormwater runoff reduces erosion. Stormwater that does runoff pavement can be directed to planting areas.

### Plant Materials

Native plantings will be used to re-vegetate disturbed areas and enhance built site amenities. The vegetation is typical of Sonoran Desertscrub Upland, with dominant plant species including Foothills Palo Verde (*Cercidium microphyllum*), Creosote (*Larrea tridentata*), Saguaro, (*Carnegiea gigantea*), Ocotillo (*Fouquieria splendens*), Barrel Cactus (*Ferocactus wislizenii*), Prickly Pear (*Opuntia engelmannii*), and Bursage (*Ambrosia deltoidea*). Wildflowers observed on site include poppy, phacelia, and mallow.

All plants will need to be able to survive on rainfall after establishment. No potable or reclaimed water is available; a limited amount of irrigation may be possible from rainfall collected from the roofs and paved areas. Concentrating re-planting in the disturbed areas around the upper parking lot will allow for a nature trail loop. The proposed nature trail, with cactus and ocotillo, is an opportunity for out-of-town visitors to marvel at our vegetation. Historic interpretation of plants will be available in the Mission Gardens below Sentinel Peak.

Numerous social trails exist in Sentinal Peak Park. These trails are unplanned, unofficial trails used by park visitors over a period of time. As these social trails can degrade desert habitat, increasing erosion and acting as conduits for invasive species, individual trails will need to be evaluated for closure. Trail obliteration is accomplished by blocking trails with vegetation (dead or viable), and rocks. The added material deters pedestrians and allows for micro-habitats for seed establishment. Seeding can also be used to re-vegetate disturbed areas. The selection of species for appropriateness to habitat will have to be carefully considered.

Removal of invasive species is an ongoing effort in the Park. Invasive grasses, such as Buffelgrass, Fountain grass and Red Brome crowd out native species and increase fire risks. Removal of these invasive species should remain part of the Park's management plan.



Globe Mallow, Photo: WSA 2009



Creosote, Photo: WSA 2009



Foothills Palo Verde, Photo: WSA 2007

Refer to Appendix A3 for complete flora and fauna of Sonoran Desert Upland vegetation.

### Water Harvesting

Tucson is experiencing a growing awareness of water harvesting to reduce dependence on groundwater. The many strategies can be organized as two types: passive or active. Passive water harvesting is making improvements to the contours of the land that encourages rainwater to infiltrate the soil. By working with site grades and features, the moisture retention of soil is improved and plant growth is encouraged. Microbasins are shallow planted basins that detain rainwater after a storm event, to be used by the vegetation. Check dams are used to slow the flow of runoff in a drainage. Low walls can be used to direct and concentrate stormwater where needed. Although the greatest storage capacity for rainwater is in the soil, passive systems cannot supply water on demand in times of drought.

Rainwater stored in built structures (cisterns) for future use is considered an active water harvesting system. Using mechanical devices and structures like cisterns, water could be collected from the roof of the future restroom building or shade structure into a cistern that is used to irrigate plantings at the arrival plaza.



Trail obliteration and re-vegetation, Saguaro National Park  
The trail was rerouted and the upper trail closed (on the right).

Photo: WSA 2009



Water Harvesting Check Dams

Photo: WSA 2008



## MASTER PLAN

The master plan was developed in response to needs expressed in the charettes and public open houses, and to meet the goals consistent with the design of a Natural Resource Park.

The plan provides an arrival plaza, ADA accessible paths, view overlooks, hiking trails, picnic areas, and locates a future restroom facility.

## DESIGN NARRATIVE

The entry monument at Cuesta Avenue and Congress Street provides a gateway to the Park. Built of dark, roughly textured rock historically mined from the hill itself and weathered metal, the sign introduces the design style and materials used throughout the park. With arid-adapted plants at the rock base, the sign provides a welcoming gesture to visitors.

As visitors enter the park, signage at the entry gate will indicate Park hours and direction to the lower parking lot (used for some of the hiking trails and event overflow parking) and to the main upper parking lot at the ridge above. Both parking lots offer 133 parking spaces for visitors.

Driving into the parking areas, visitors are greeted with a soft, naturalized landscape. The paving surface is stabilized aggregate. Flush curbs allow stormwater to drain into the desert plantings shading the parking spaces. From the car, one can walk to the path at the south edge of the parking lot. To the west is the picnic area and Tucson Mountains Overlook; to the east is the arrival plaza with information regarding park facilities and trails.

The picnic area offers picnic tables located in a shady grove of desert trees. Simple ramadas add more shade. The ramada at the west Overlook offers a sheltered vantage point to see sweeping views of the Tucson Mountains. The existing ramada has been incorporated into a design more accommodating to groups of people. The seating dissolves into a series of terraced steps that reach the highest point of the view.

At the east edge of the parking lot, an arrival plaza with large ramada offers an orientation point to groups of people, such as small classes or outdoor recreation groups. A solar-powered restroom building is located a short dis-

tance away. Water collected from the restroom roof and ramada, and paving is directed to enhanced planting areas that help visitors to experience the diverse plant species of the Sonoran Desert.

From here, an ADA accessible path leads to the East, providing a connection to two scenic overlook plazas. At approximately 500 feet in length one-way, the round-trip distance for this ADA path is 0.2 miles. There is also a trail to hike to the peak, or a less challenging nature trail loop at its base. All trails are signed for accessibility and direction. Interpretative signs at the ramada and rest areas are integrated into the site amenities.

Simple, solar powered lighting will increase safety and visibility in the parking and gathering areas.



Figure 15: Upper Parking Lot Concept

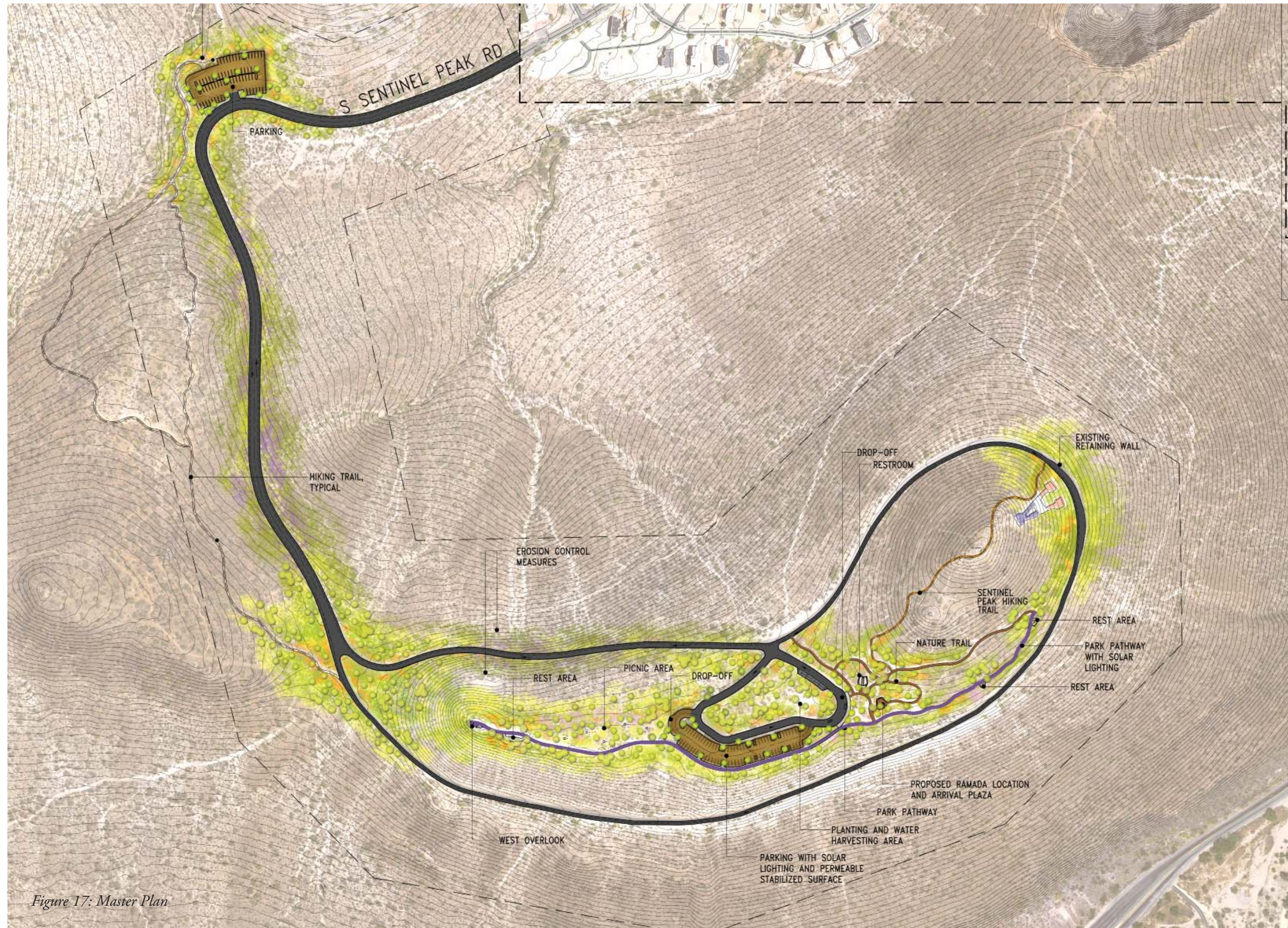


Figure 17: Master Plan





## PLAN IMPLEMENTATION

The elements of the master plan were prioritized with feedback from public comments with a focus on safety and restoration to initiate a Phase 1 scope of work to fit available funds.

## PHASE 1 IMPROVEMENTS

### *Handicap Parking*

- Two HC parking spaces
- ADA accessible path to Trailhead Plaza

### *Trailhead Plaza*

- Drop-off, loading/unloading area
- Seatwalls
- Trails map and park orientation graphics
- Benches
- Bicycle Parking

### *Park Pathway*

- Path, 6-8 feet wide stabilized aggregate with accessible grade, from existing upper parking lot to two Scenic Overlooks.

### *Scenic Overlooks (Figure 19)*

- Seatwalls
- Shade structure

### *Landscape*

- Passive water harvesting and xeric desert plants

### *Interpretative Signage*

- Signs at each scenic overlook and Trailhead Plaza to interpret Sentinel Peak's natural and cultural history

### *Sentinel Peak Entry Monument*

An important element of Phase 1 is establishing a welcoming entry to Sentinel Peak Park. The entry monument will also help to discourage extraneous traffic through the residential neighborhood at the base. If salvaged quarry rock is available, this would be an ideal building material for the monument. Alternatively, a dark integral color concrete will serve as the base for a sign of weathered metal (Figure 22)



Figure 19: Phase 1 Rest Area (Overlook) Concept

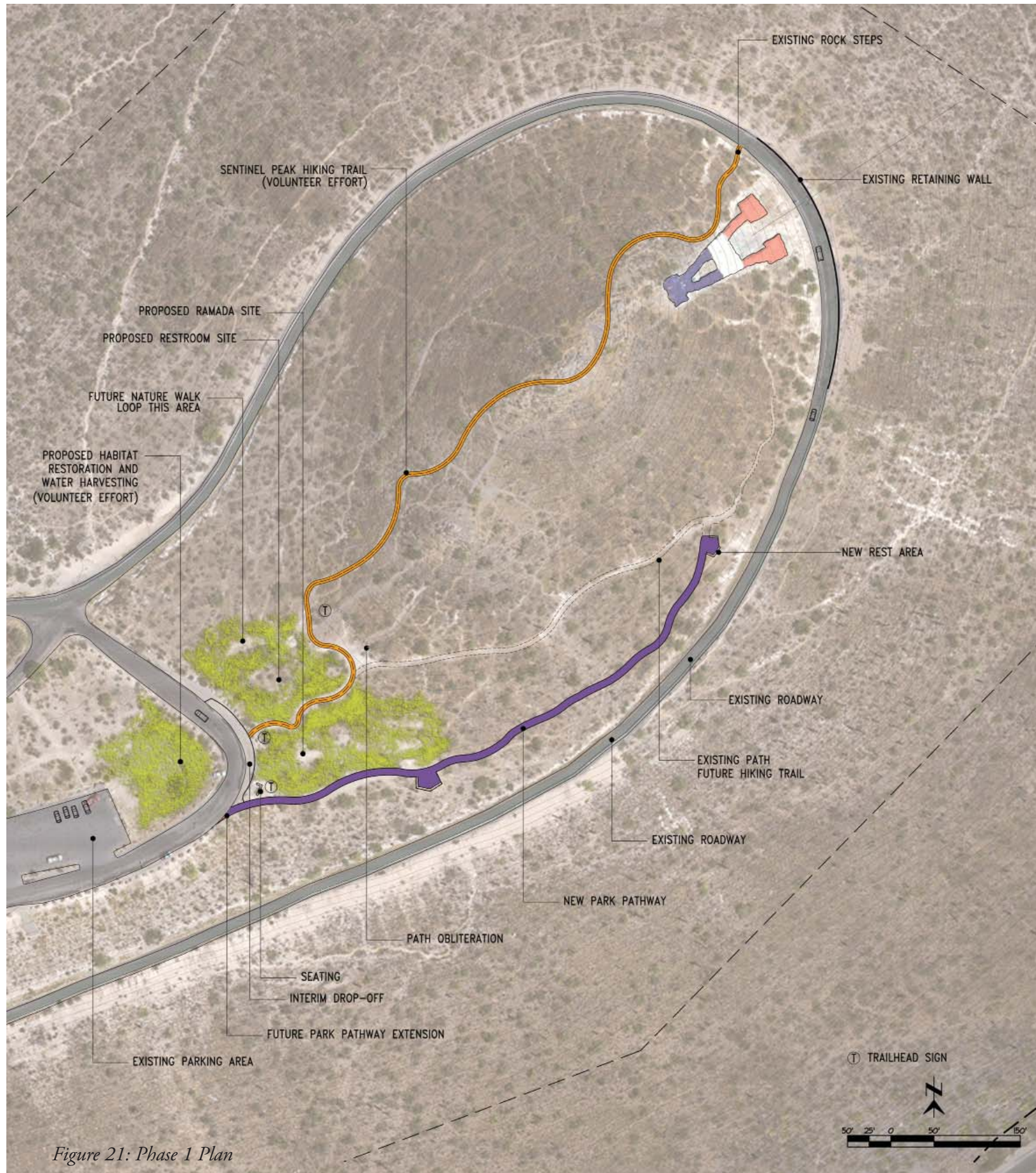


Figure 21: Phase 1 Plan



Cuesta Ave and Congress St. Intersection  
Photo: WSA 2008



Figure 22: Proposed Entry Monument Concept at Cuesta Ave.

## VOLUNTEER OPPORTUNITIES

Volunteer efforts will greatly help the development of Sentinel Peak Park. The volunteer projects are a cost effective strategy to provide more enhancements to the Park, with the added benefit of increased community involvement and interaction.

### • *Invasive Plant Removal*

Currently, volunteers work to pull Buffelgrass from Sentinel Peak, an on-going effort throughout the Sonoran Desert region.

### • *Trail Building*

Opportunities also exist in trail building, especially for the Sentinel Peak Trail that will lead from the upper parking area to the summit. Related to this effort is trail obliteration of numerous social trails that crisscross the fragile desert habitat. The Southwest Conservation Corps will be organizing local youth to build trails in the Park.

### • *Water harvesting*

Small water harvesting projects such as microbasins to establish new plant growth are good opportunities for improvements by volunteer labor. The Watershed Management Group is an example of an organization that could be involved with restoration efforts at Sentinel Peak.



*Buffelgrass removal*

*Photo: <http://sccorps.org/>*



*Trail building, Southwest Conservation Corps*

*Photo: <http://sccorps.org/>*

## OPEN HOUSE AND SURVEY RESPONSES

Surveys were distributed at the Open House for feedback on the proposed improvements to Sentinel Peak. The surveys were also available on-line the month of November. A summary of the Survey results are shown here; complete survey results will be included in the Master Report.

- 66 people filled in the survey
- 38% of respondents live near Sentinel Peak Park
- 23% reported visiting the park yearly
- 15% reported visiting monthly and 15% weekly

An opening question of the survey asked people what they see as barriers to their use of the park now. 37 of 66 people wrote in a response. The responses fell into the following categories (some people had multiple issues):

Traffic conflicts with pedestrians	13
Unsafe Environment	8
Cyclist Safety	4
Vandalism and Trash	4
Closure Times	3
No Shade	2
Entry and Signage	2
Child Safety	2
Accessibility	2
Not much to do	2

Crowding at overlook	2
Parked cars blocking view	2
Too narrow roadway	2
Pollution from vehicles	1
Noise (music from parked vehicles)	1
Poor aesthetics	1
Restroom, water	1
Total	52

Asked if they thought the park was currently child-friendly on a scale of 1 (un-friendly) to 5 (friendly), the average response was 1.9

Sample answers:

- Too much traffic, not pedestrian safe
- Reckless traffic, dangerous roadway
- As a walker, I'm worried I'll be run over by a car, or bike
- Would like better bike paths on road
- Unsafe environment
- Other than the view and the 'round' structure not much else on the peak

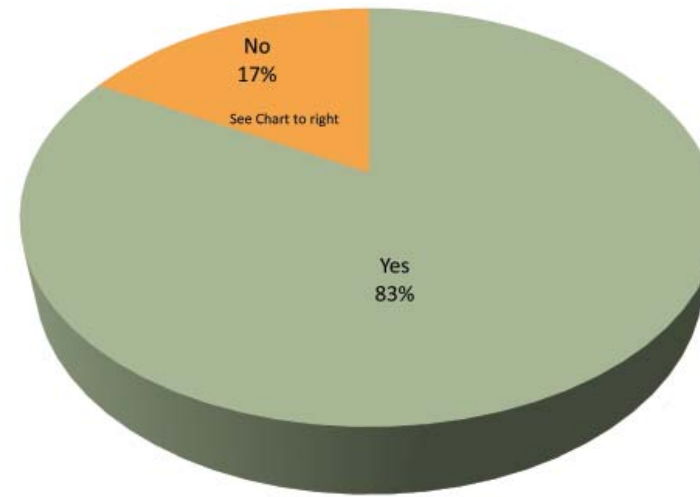


Chart 4 Would you use the park more with the proposed Phase 1 Improvements and/or with the Master Plan?

- No parking. No accessibility for wheelchairs. Too many cars parked in the road blocking the view. Security issues.
- Overcrowded, views blocked by parked cars. Lack of assessable trail, cycling unfriendly
- Fast cars, hot sun
- Narrowness and poor condition of the road
- No water, signs, restrooms

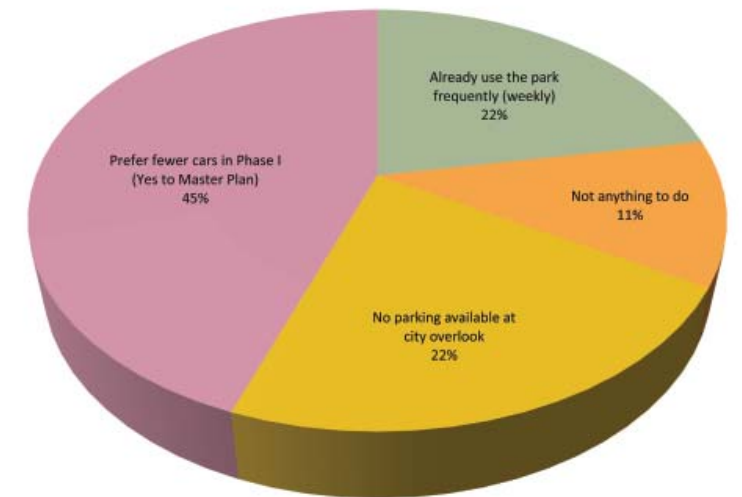


Chart 5 Analysis of the No Responses

## Conclusions

In conclusion, the survey responses supported the proposed Master Plan. Responses indicated strong support for a pedestrian oriented park with an emphasis on habitat restoration, improved amenities, and increased safety.

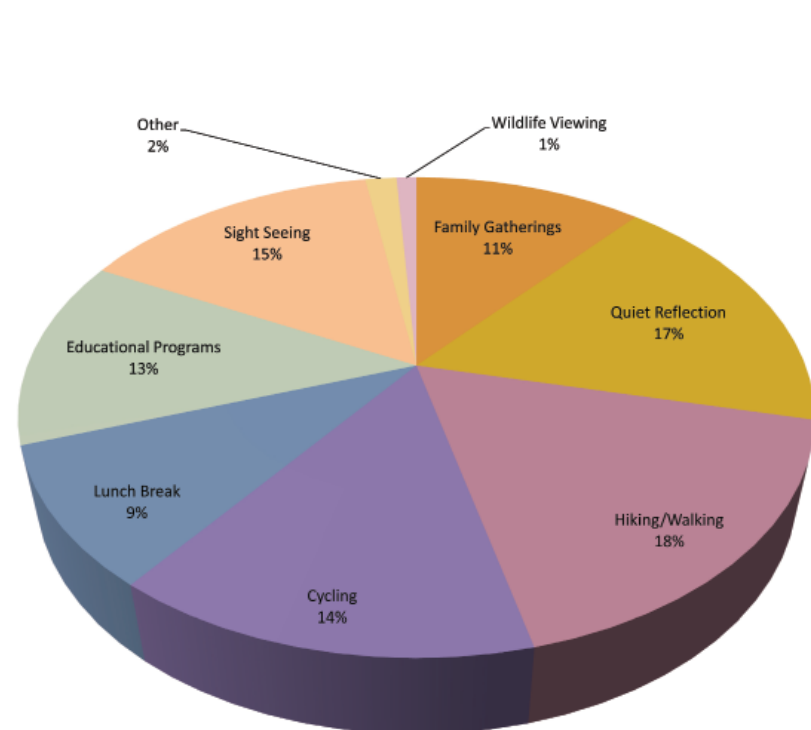


Chart 1 What Activities are most important to you?

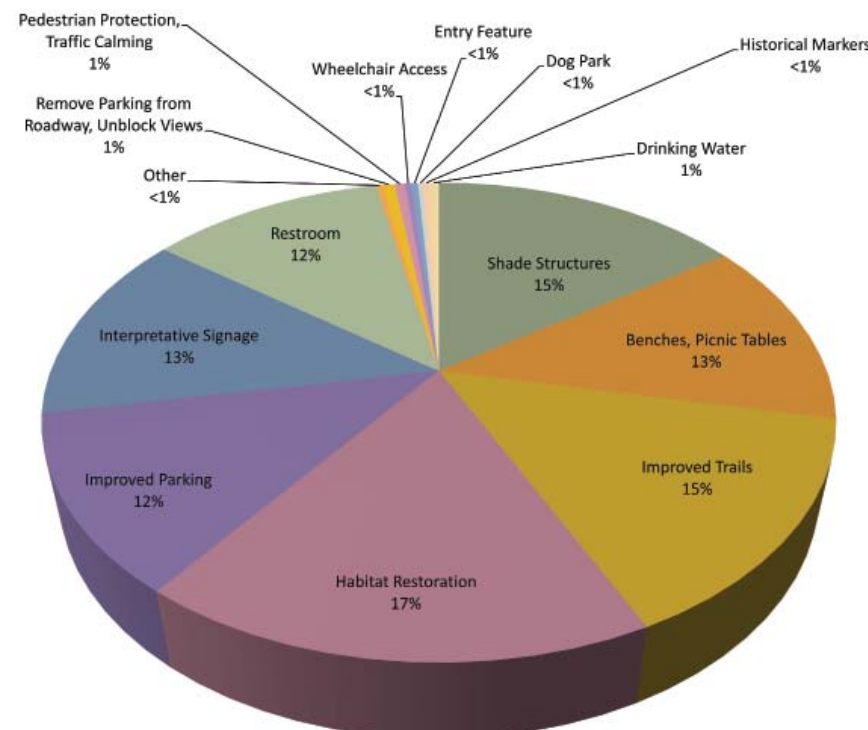


Chart 2 What amenities are most important to you?

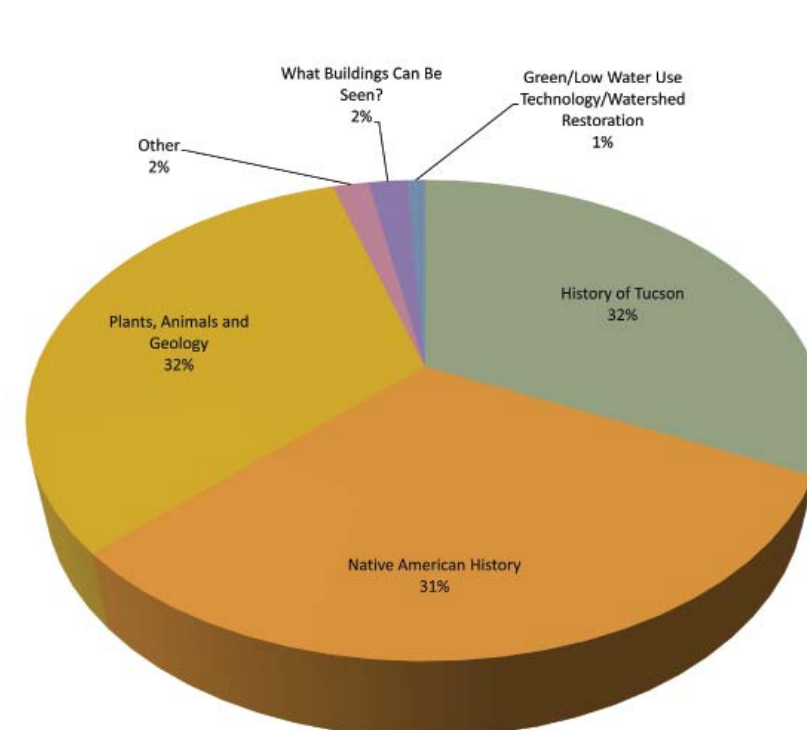


Chart 3 What Interpretative Sign Themes appeal to you most?

## AN ARIZONA CLOUD-BURST:

### SIX IMMENSE RIVERS COME DOWN THE HILLS UNDER A CLOUDLESS SKY.

*From the Tucson (Arizona) Citizen,*

On Sunday afternoon one of those curious phenomena of nature occurred about 30 miles south-west of Tucson, and from the description given by eye-witnesses it was the largest cloudburst ever known in this country. From Judge R. D. Ferguson the following account was gathered: On Sunday he was returning from a trip to the southern part of the county. At 10 o'clock he put up at Brown's station to await dinner and avoid the heat of the day. The sky all day was cloudless, except a thunderstorm that was observed traveling the summits of the Santa Catalinas and disappearing over the Rincons in the north-east. Otherwise not a cloud or a vapor of any kind was to be seen. The sun was shining in all his vigor, and as he passed to the west his strength and glory seemed undiminished. At 3 o'clock Judge Ferguson resumed his journey toward Tucson, He had come about five miles, when his attention was attracted by a roaring and crackling toward the west, and looking up he saw a river of water, as big as the Santa Cruz when it runs through Warner's mill tail-race, coming toward him. Telling his driver to halt, they stopped on top of a little knoll, and watched the waters as they violently plowed the desert, tearing up stones and brush. They had evidently spent their force. After the flood had passed by the face of the country was disfigured, and a large gutter had been cut across the valley. The current came down off a small range of low, rolling hills to the west. Although the Judge and his companion strained their eyes in the direction from which the water came not a cloud was to be seen. After the water had subsided sufficiently to let them pass they went on. They had hardly gone half a mile when, to their astonishment, there was another stream equally as large as the first one. Again they peered toward the west in hopes to find some indication of its source. Passing on their astonishment was doubled to find another stream, and in this manner five successive raging currents were crossed. But all their reserve was called forth when four miles from where they struck the first stream they discovered a sixth one as large as all the others combined. Its angry waters were roaring and hissing as if maddened at the resistance they met on their way from the hills down to the desert. This river was unfordable, and to cross it was impossible, so they halted on a knoll and watched it for two or three hours as it boiled and sizzled and cut a bed for itself, in some places as deep as 15 feet and over 200 yards wide. It was not till after sundown that they dared to attempt a crossing. What renders it so curious is that no one at Brown's station saw the clouds. It may be possible that some hidden springs were uncorked by some subterranean earthquake. At any rate, it is a great wonder.

Published: October 7, 1883  
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*Creosote in Rock, Sentinel Peak*

## SONORAN DESERTSCRUB FAUNA

### MAMMALS

*Ammospermophilus harrisi* A. leucurus  
*Antilocapra immanis* sonorensis  
*Bassanus astutus*  
*Canis latrans*  
*Dicotyles uijucu*  
*Dipodomys deserti*  
*D. merriami*  
*D. peninsularis* peninsularis  
*Equus asinus*  
*Lepus californicus*  
*Macrotis californicus*  
*Myotis californicus*  
*Neotoma albigula*  
*Odocoileus kemionus* crooki  
*Perognathus amplus*  
*P. baileyi*  
*P. iornosus*  
*P. penicillatus*  
*Peromyscus eremicus*  
*P. eremicus eremicus*  
*Spermophilus tereticaudus*  
*Sylvilagus auduboni*  
*Urocyon cinereoargenteus*  
*Vulpes inunctus*

### BIRDS

*Amphispiza bilineata*  
*Athene cucullata*  
*Auriparus flaviceps*  
*Calypte costae*  
*Campylorhynchus brunneicapillus*  
*Cardinalis sinuatus*  
*Chordeiles acutipennis*  
*Colaptes auratus*  
*C. chrysoides*  
*Colinus virginianus* nd^wayi  
*Geococcyx californianus*  
*Lophortyx californicus*  
*L. douglassii*  
*Melanerpes uropygialis*  
*Micrathene whitneyi*  
*Myiarchus tyrannulus*  
*Parabuteo unicinctus*  
*Phainopepla nitens*  
*Picoides scalaris*  
*Poioptila melanura*  
*Scardafella inca*  
*Toxostoma bendirei*  
*T. curvirostris*  
*T. lecontei*  
*Zenaidura macroura*

*Harris' Ground Squirrel*  
*White-tailed Antelope Ground Squirrel*  
*Sonoran Pronghorn*  
*Ring-tailed Cat*  
*Coyote*  
*Peccary, Javelina*  
*Desert Kangaroo Rat*  
*Merriam's Kangaroo Rat*  
*Vizcaino Desert Kangaroo Rat*  
*Feral Burro*  
*Black-tailed Jackrabbit*  
*California Leaf-nosed Bat*  
*California Myotis*  
*White-throated Woodrat*  
*Desert Mule Deer*  
*Arizona Pocket Mouse*  
*Bailey's Pocket Mouse*  
*Long-tailed Pocket Mouse*  
*Desert Pocket Mouse*  
*Cactus Mouse*  
*Arizona Cactus Mouse*  
*Round-tailed Ground Squirrel*  
*Desert Cottontail*  
*Gray Fox*  
*Kit Fox*

*Black-chinned Sparrow*  
*Burrowing Owl*

*Verdin*  
*Costa's Hummingbird*  
*Cactus Wren*  
*Pyrrhuloxia*  
*Lesser Nighthawk*  
*Gilded Flicker*  
*Masked Bobwhite*  
*Roadrunner*  
*California Quail*  
*Elegant Quail*  
*Gila Woodpecker*  
*Elf Owl*  
*Wied's Crested Flycatcher*  
*Harris' Hawk*  
*Phainopepla*  
*Ladder-backed Woodpecker*  
*Black-tailed Gnatcatcher*  
*Inca Dove Bendire's Thrasher Curve-billed*  
*Thrasher LeConte's Thrasher White-winged Dove*  
*Mourning Dove*

### AMPHIBIANS AND REPTILES

*Arizona elegans*  
*A. elegans eburnata*  
*A. cicaias tiocivtigis*  
*Bufo rcticus*  
*Caulokauria dxaconoides*  
*Chionactis cinctus*  
*Chionactis occipitalis*  
*Cnemidophorus byrrhura*  
*C. tigris griicilis*  
*C. tigris muhiscutatus*  
*C. tigris tigris*  
*Culeonyx variegatus*  
*Crotalus atrox*  
*C. cerastes*  
*C. rubeus*  
*C. scutulatus*  
*C. tigris*  
*Dipsosaurus dorsalis*  
*Gopherus agassizii*  
*H. suspectus*  
*H. suspectus suspectus*  
*Lichanura trivirgata*  
*Micruroides euryxanthus*  
*Phrynosoma m'calli*  
*P. platyrhinos calidarium*  
*P. solare*  
*Phyllorhynchus decurtatus*  
*Salvadora hexalepis*  
*Sauromalus obesus*  
*Sceloporus magister*  
*Sonora semiannulata*  
*Terrapene ornata*  
*Uma inornata*  
*U. notata*  
*Urosaurus graciosus*  
*U. microscutatus*  
*U. ornatus*

*Glossy Snake*  
*Desert Glossy Snake*  
*Arizona Glossy Snake*  
*Sonoran Green Toad*  
*Zebra-tail Lizard*  
*Banded Sand Snake*  
*Western Shovel-nose Snake*  
*Orange-throat Lizard*  
*Southern Whiptail*  
*Coastal Whiptail*  
*Western Whiptail*  
*Banded Gecko*  
*Western Diamondback Rattlesnake*  
*Sidewinder*  
*Red Diamond Rattlesnake*  
*Mohave Rattlesnake*  
*Tiger Rattlesnake*  
*Desert Iguana*  
*Desert Tortoise*  
*Gila Monster*  
*Reticulated Gila Monster*  
*Rosy Boa*  
*Arizona Coral Snake*  
*Flat-tail Horned Lizard*  
*Southern Desert Horned Lizard*  
*Regal Horned Lizard*  
*Spotted Leaf-nose Snake*  
*Western Patch-nose Snake*  
*Chuck walla*  
*Desert Spiny Lizard*  
*Western Ground Snake*  
*Ornate Box Turtle*  
*Fringe-toed Lizard* *Brush Lizard* *Small-scaled Lizard* *Tree Lizard*

## SONORAN DESERTSCRUB FLORA

Scientific Name	Common Name
Abronia villosa	Sand Verbena
Acacia constricta	Whitethorn, Mescat Acacia
A. greggii	Cat-claw Acacia, Una de Cato
A. neovernicosa	Viscid Acacia
Agave avellanidens	—
A. cerulata	Blue Agave
A. deserti	Desert Agave
A. shawii	Maguey
Ambrosia ambrosioides	Canyon Ragweed, Chicura
A. bryantii	Bryant Bursage
A. camphorata	Estafiate
A. ckenopodiivlia	San Diego Bursage
A. deltoidea	Triangle-leaf Bursage
A. divaricata	—
A. dumosa	White Bursage
A. magdalenae	Magdalena Bursage
Anisiomthus thurburi	Chuparosa, Desert Honeysuckle
Aristida spp.	three-awns
Atamisquea emarginata	Sonoran Caper
Athplex canescens	Fourwing Saltbush, Chamiso
A. canescens ssp. lineans	Narrow-leaved Wingscale
A. hymendyua	Desert Holly
A. iulaceu	—
A. lentiformis A polycarpa	Quail Brush, Lens Scale
Baccharis sarothroides	All-scale, Cattle Spinach
Berberis trifoliata	Desert Broom, Romerillo
Bromus mbens	Algarito, Algerita
Bursera hindsiana	Red Brome, Foxtail Chess
B. laxiflora	Torchwood, Copal
B. microphylla	Copal, Torote Prieto
B. odora	Elephant Tree, Torote
Caesalpinia pumila	Torote, Chutama
Calliandra eriophylla	—
Canotia holacantha	False Mesquite, Fairy Duster
Carnegiea gigantea	Crucifixion Thorn, Canotia
Castela emoryi	Saguaro
Celastrum pauciflorum	Corona-de-Cristo
Ceibo acuminata	Desert Hackberry, Granjeno
Ceratoides lanata	Pochote
Cercidium flodidum	Winterfat
C. microphyllum	Blue Paloverde
C. praecox	Littleleaf Paloverde, Foothill Paloverde, Dipua
C. sonorae	Palo Brea
Chilopsis lineans	Sonoran Paloverde, Palo Estribo
Chorizanthe rigida	Desert Willow
Cnidoscolus flabellifolium	Rigid Spiny Herb
Cordia parvifolia	—
Coreocarpus parthemoides	Palo de Asta
Coursetia glandulosa	—
Croton sonorae	Chino, Samo Prieto
Descurainia pinnata	Sonoran Croton
D. sophia	Tansy Mustard
Dyssodia anthemidiolia	—
Echinocactus horizontalis var. nichollii	—
Echmoceius engelmannii	Eagle Claw Cactus
E. fasciculatus	Engelmann Hedgehog Cactus
E. fendleri var. fendleri	—
E. maritimus	Fendler Hedgehog
Encelia californica	Seaside Hedgehog
E. farinosa	California Encelia
E. farinosa var. phemcodoma	White Brittlebush, Incienso
Ephedra trijura	—
Eriogonum deserticola	Longleaf Ephedra, Canutillo
	Desert Buckwheat

Scientific Name
Eriogonum fasciculatum
Erodium cicutarium
Euphorbia magdalenae
E. misera
E. tomentulosum
E. xanthii
Eysenhardtia orthocarpa
Ferocactus acanthodes
F. wislizenii
F. tchammeha watsoni
Fouquieria columnaris
F. diguetii
F. macdougalii
F. splendens
Frankenia palmeri
Guaiacum couleri
Hilaria rigida
Hymenoclea salsola var. pentalapida
I. lyptis emoryi
Ipomoea arborescens
laocoma acradenm
I. heterophylla
I. tenuisecta
Isomeris arborea
jacobinia ovata
jdtopha cardiophylla
I. cinerascens
I. cordata
I. cuneata
lusiata California!
Krameria grayi
K. parvifolia
Lactuca serotina
Lantana horrida
Larrea tridentata
Lophocereus schottii
Lycium andersonii
L. berlandieri
L. brevipes
L. californicum
L. fremontii
Lysiloma candida
Mammillaria grahamiae var. olivacea
M. microcarpa
M. tetrandria
M. thornberi
Mesembryanthemum crystallinum
Muhlenbergia penderi
Mynillocactus cochal
Neoevansia striata
Neolloydia erectocentra var. acunensis
Olneya tesota
Opuntia acanthocarpa var. major
O. acanthocarpa var. thornberi
O. arbuscula
O. basilaris
O. bigelovii
O. cholla
O. ciriba
O. echinocarpa
O. fulgida
O. fulgida var. mammillata
O. kleinwe
O. leptocaulis
O. molesta
O. phaeacantha
O. phaeacantha var. discata
O. phaeacantha var. major
O. prolixa

Common Name
Bush Buckwheat
Filaree, Heron's Bill
Magdalena Spurge
Shrubby Spurge
Kidneywood
—
Compass Barrel Cactus
Fish-hook Barrel Cactus
Jito
Boojum, Cirio
Tree Ocotillo, Palo Adan
Ocotillo, Coachwhip
Palmer Alkali Heath, Yerba Rucma
Guayacan
Big Galleta
Cheesebrush, White Burrobrush
Desert Lavender
Tree Morningglory, Palo Santo
Alkali Goldenbush
Jimmy Weed, Rayless Goldenrod
Burweed
Bladderpod
Espuela de Caballero
Limberbush, Sangre-de-Cristo
Lomboy
Jiotillo, Copalillo, Miguelito
Sangre-de-drago
Chuparosa, Desert Honeysuckle
White Ratany
Little-leaved Ratany
Prickly Lettuce, Wild Lettuce
Lantana, Heba-de-Cristo
Creosotebush, Gobemadora
Senita, Old Man, Sina
Anderson Thornbush
Cilindrillo, Barchata
Tomatillo
—
Fremont Thornbush
Palo Bianco
—
Fish-hook Pincushion
—
Thornber Pincushion
Ice Plant, Flor-de-Sol
Bush Muhly
Cochal
Sacamatraca

Ironwood, Palofierro
Thornber Buckhorn Cholla
Pencil Cholla
Beavertail Cactus
Teddy Bear Cholla
Cholla
Silver Cholla, Golden Cholla
Jumping Cholla, Chain Fruit
Cholla Boxing Glove
Klein Cholla
Desert Christmas Cactus
Wicked Cholla

Brown-spined Prickly Pear
Engelmann Prickly Pear
—
—

Scientific Name
O. ramosissima
O. spinosior
O. stanlyi
O. stanlyi var. kunzei
O. suiniyi var. peeblesiana
O. thurberi
O. versicolor
O. wigginsii
Pachycereus pecten-aboriginum
P. pringlei
Pachycormus discolor
Parkinsonia aculeata
Parthenium incanum
Pedilanthus macrocarpus
Peniocereus greggii
P. greggii var. trammontanus
Pithecellobium confine
Plantago insularis
Prosopis glandulosa var. torreyana
P. pubescens
P. velutina
Psoralea spinosa
P. schottii
Randia thurberi
Rhus lamina
Ribes tonosum
Ruellia peninsularis
Salsola kali
Sarcobatus bilocularis
Schismus arabicus
S. barbatus
Simmondsia chinensis
Sisymbrium irio
Solarium hindsianum
Sphaeralcea coulteri
S. iendleri
Stenocereus ulamosensis
S. gummosus
S. thurberi
Suaeda torreyana var. ramosissima
Tetradlea scabra
Tetradlea seicca
Tillandsia recurvata
Viguiera iuciniata
Viscaria geniculata
Yucca vitifolia
Zinnia acerosa
Zizyphus obtusifolia

Common Name
Diamond Cholla
Cane Cholla
Devil's Club Ground Cholla
Kunze Ground Cholla
Peebles Ground Cholla
Thurber Cholla
Staghorn Cholla
—
Hecho, Cardon Hecho
Cardon, Cardo Pelb
Copalquin
Retama
Mariola
Candelilla
Night Blooming Cereus
—
Woolly Plantain
Western Honey Mesquite
Screwbean Mesquite
Velvet Mesquite
Smoketree
Indigo Bush
Papache
Laurel Sumac
—
Ruellia
Russian Thistle, Tumbleweed
Mexican Jumping Bean, Yerba de la Flecha
Arabian Grass
Mediterranean Grass
Jojoba, Goat Nut, Coffee Berry
Yellow Rocket
Hinds Nightshade
Coulter Globe Mallow
Fendler Globe Mallow
Octopus Cactus, Sina
Pitahaya Agria
Organ Pipe Cactus, Pitahaya
Desert Seep Weed
Yellow Trumpet Bush, Gloria
Arrow-weed
Ballmoss, Gallitos, Heno Pequeno
Ragged-Leaf Coldeneyc
Guayacan
Datilillo
Desert Zinnia
Graythorn



## DEFINITIONS

### Accessible Path

A path with a smooth, stable surface and grades less than 5%. Shaded rest areas provided intermittently along the trail increase comfort and usability.

### Bike Lane

A portion of the roadway, which has been designated by striping and pavement markings for the preferential or exclusive use of bicyclists.

### Buffelgrass *Pennisetum ciliare*

Buffelgrass is a shrubby grass to 1.5 feet tall and 3 feet wide, originating from South Africa. Inflorescences are 1.5 to 5 inches long, fat brown to purplish when fresh or occasionally straw-colored. The spikes are crowded with dense bristly fruit which are actually burs without hardened spines. This is primarily a warm-season grass.

### Charette

A design session by one or a group of individuals; typically used to describe the event of group design of a building, device, or plan. Characterized by a group collaboratively creating a design or plan rapidly, iteratively, with intensity, continuously (or near continuously). Charettes are often used in architecture for building design, and by extension, in community planning. Charettes are also used in a variety of settings for any group decision-making activity.

### Check Dam

Low barrier placed perpendicular to the flow of water within an intermitent drainage to slow and spread the flow of water to increase infiltration.

### Detention Basin

A structure that decreases stormwater flow from a site by temporarily holding the runoff on site.

### Greenway

A corridor of undeveloped land, as along a river or between urban centers, that is reserved for recreational use or environmental preservation.

### Fountaingrass *Pennisetum setaceum*

A clumping grass that grows up to 3 ft tall and wide. Its

long, wiry leaves are 11 to 30 in long from the base and form dense, light green clumps in summer. The cylindrical inflorescences are thick, 4 to 14 in long, round in cross-section, pink, or purplish during colder weather, and dry white. It is a warm season grass. Introduced from South Africa as an ornamental.

### Invasive Plants

Exotic plant species that spread into existing habitats, displacing native species and altering ecosystem process such as water availability and fire regimes.

### Red brome *Bromus rubens*

A cool season, winter annual grass from the Mediterranean region. Several to numerous stems from an erect to spreading base, growing 8 to 20 inches tall. The seedhead is erect, dense, compact, almost spike-like panicle, 2 to 3 inches long, reddish-purple when mature.

### Shared-Use Path

A Path physically separated from motor vehicle traffic by an open space or barrier and either within a highway right-of-way or within an independent right-of-way, used by bicyclists, pedestrians, joggers, skaters, and other non-motorized vehicles. Also called a Multi-Use Path.

### Natural Resource Park

A park established to protect, preserve and restore open space resources. People's needs for outdoor recreation are balanced with the environment's need for habitat preservation.

### Native Plants

Plants growing naturally in a given geographic area; non-introduced. The geographic area can be broad (Sonoran Desert) or narrow (Tucson basin) in scope.

### Permeable Paving

A term used to describe paving methods for roads, parking lots and walkways that allow the movement of water and air around the paving material. Reduces water runoff from paved surfaces.

### Speed Table

A speed table is a traffic calming device designed as a long speed hump with a flat section in the middle. Speed tables are generally long enough for the entire wheelbase of a

passenger car to rest on top. The long, flat design allows cars to pass without slowing as significantly as with speed humps. Because they slow cars less than similar devices, speed tables are often used on roads with low speed limits. Speed tables are effective in calming traffic on streets where the speed limit needs to be maintained rather than slowing cars more significantly.

### Visita

A mission without a priest in residence.

### Water Harvesting

Capturing rainwater on site for use. Passive systems slow and/or detain flow and allow for infiltration of rainwater into soil. Rainwater stored in built structures (cisterns) and pumped are considered active systems.

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## RELATED REPORTS

Traffic Analysis for Sentinel Peak Improvements  
Kimley-Horn and Associates, Inc.  
2009

Archaeological Survey of Sentinel Peak Park Improvements, City of Tucson Project 09-10, Pima County, Arizona  
SWCA Environmental Consultants  
2009

### Celebrate Sentinel Peak (“A” Mountain) Park

#### OPEN HOUSE SURVEY

The goals of the Sentinel Peak Park plans are to increase safe access, restore the natural environment, improve trails, provide shade and interpret Tucson’s history. **Phase 1 Improvements** focus on safety and improved access. The **Master Plan** will guide the completion of Sentinel Peak as a premier Regional Natural Resource Park. The City has approximately \$130,000 to spend on **Phase 1 Improvements**. The City and County are also both supporting a \$2.5 million bond that will need to be approved by voters in 2009 or 2010. The **Master Plan** will guide how to spend those funds to improve the park.

*Please tell us how you feel about the plans for the project as presented at the open house by answering the following questions.*

How frequently do you use Sentinel Peak Park?	Yearly	Monthly	Weekly
How do you use Sentinel Peak Park?	Not At All	Somewhat	Frequently
Driving	1 2	3 4	5
Hiking/walking	1 2	3 4	5
Cycling	1 2	3 4	5
Taking in scenic views/sunset	1 2	3 4	5
Other _____	1 2	3 4	5

What do you see as barriers to your use of the park now?

Do you live near Sentinel Peak? Yes No

Do you consider Sentinel Peak a good destination for visitors? Yes No

What amenities are most important to you?	Not At All	Somewhat	Very Important
Improved Trails	1 2	3 4	5
Benches, Picnic Tables	1 2	3 4	5
Shade Structures	1 2	3 4	5
Habitat Restoration	1 2	3 4	5
Improved Parking	1 2	3 4	5
Interpretative Signage	1 2	3 4	5
Restroom	1 2	3 4	5
Other _____	1 2	3 4	5

What activities are most important to you?	Not At All	Somewhat	Very Important
Family Gatherings	1 2	3 4	5
Quiet Reflection	1 2	3 4	5
Hiking/Walking	1 2	3 4	5
Cycling	1 2	3 4	5
Lunch Break	1 2	3 4	5
Educational Programs	1 2	3 4	5
Sight Seeing	1 2	3 4	5
Other _____	1 2	3 4	5

Survey continues on back



Do you use Tumamoc Hill for walking? Yearly Monthly Weekly

Could you use Sentinel Peak Park for the same purpose? Yes No  
If no, why?

Do you think the Park is currently child friendly?  
Not At All Somewhat Very Much  
1 2 3 4 5

What is most appealing for you as themes for the interpretative signage?	Not At All	Somewhat	Very Important
History of Tucson	1 2	3 4	5
Native American History	1 2	3 4	5
Plants, Animals and Geology	1 2	3 4	5
Other _____	1 2	3 4	5

Would you use the Park more with the proposed Phase 1 Improvements? Yes No

With the Master Plan? Yes No

How important is it to you to link Sentinel Peak Park with other destinations, for example a hiking trail from the peak to the Santa Cruz River Park?

Not At All Somewhat Very Important  
1 2 3 4 5

What do you like most about the Phase 1 Improvement Plan?

What do you like least?

What do you like most about the Proposed Future Master Plan?

What do you like least?

General Comments:

*Thank you. Please hand in your answers tonight or mail them to the following address by November 30<sup>th</sup>:*

Wheat Scharf Associates  
442 N Sixth Ave, Tucson 85705





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	3	2	2	2			2		1	3	2	3	4		117
		3	1				3	5	3	1	1	3	2	2	145
		2	1				3		1	1	1	1	1	1	97
	4	3	2	2				5	3	3	3	4	5	2	155
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			1	1	1			1	1	1	1	1	1	1	58
	1						1								5
	0	3	2	4	3		4	5	5	4	1	4	5	4	238
	0	0	3	3	5		4	5	3	4	2	3	5	1	197
	0	5	3	5	5			4	4	4	2	4	5	3	226
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		1		1				1	1	1					42
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	3	2	3		1		2	3	1	3	3	2	1	1	102
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