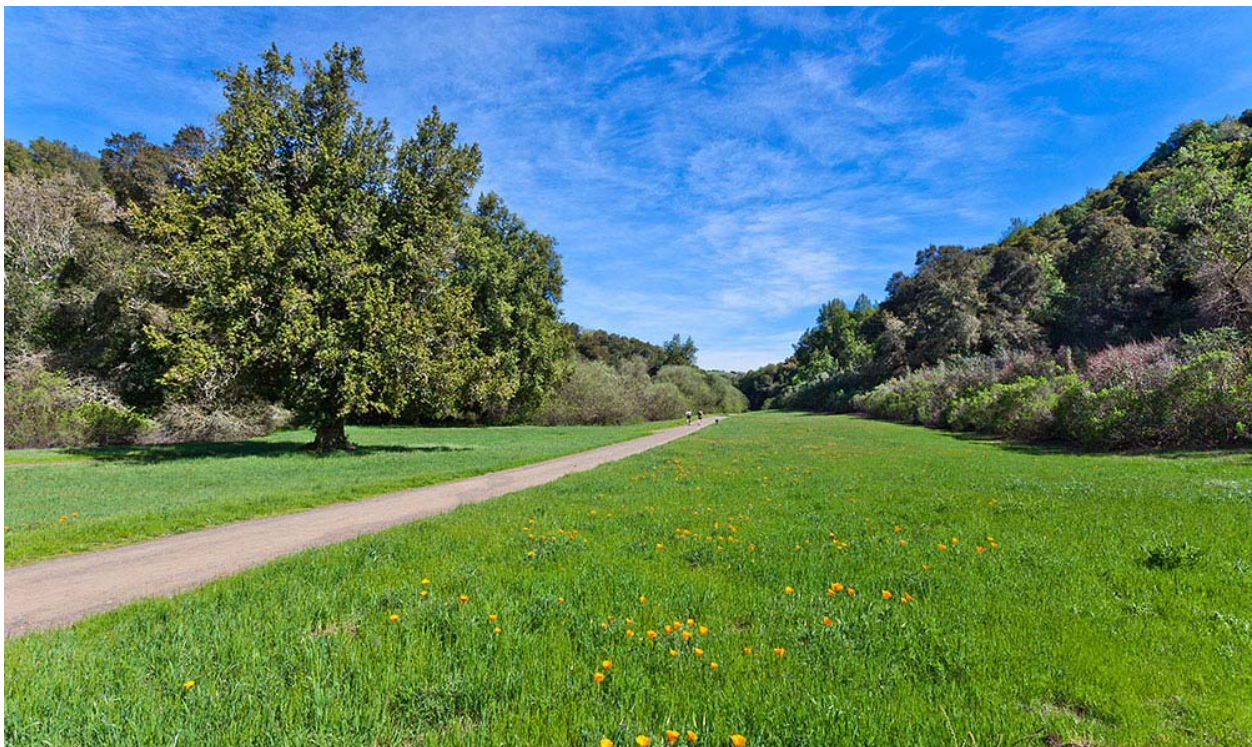




Rancho San Antonio Multimodal Access Study

DRAFT Multimodal Access Strategies Report



Prepared by **IBI Group**
For the **Midpeninsula Regional Open Space District**

January 2021

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List of Terms, Acronyms, and Abbreviations

Accessibility _____	The quality of travel of a certain mode of transportation
ADA _____	Americans with Disabilities Act
ADT _____	Average Daily Traffic
class 1 e-Bike _____	Low-speed, pedal-assisted electronic bicycle, equipped with a motor that provides assistance when the rider is pedaling up to 20 mph
class 2 e-Bike _____	Low-speed, throttle-assisted electronic bicycle, equipped with a motor that can exclusively propel the bicycle up to 20 mph
Class I bike path _____	Physically separated path from vehicular traffic
Class II bike lane _____	Pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel
Class III shared roadway _____	Bicyclists share use with motor vehicles within the same travel lane
Class IV separated bike lane _____	Bike facilities on a roadway but physically separated from vehicles
Committee _____	Planning and Natural Resources Committee
District _____	Midpeninsula Regional Open Space District
EIR _____	Environmental Impact Report
GHG _____	Greenhouse Gas Emissions
IBI _____	IBI Group, consultant
Micromobility _____	The use of small, lightweight vehicles such as e-scooters, and e-bikes
Mobility _____	The ability and level of ease of moving goods, services, and people
Multimodal _____	A transportation corridor that accommodates multiple modes of transport
Preserve _____	Rancho San Antonio Open Space Preserve
Study _____	Rancho San Antonio Multimodal Access Study
TDM _____	Transportation Demand Management
TOI _____	Traffic Operational Improvements
Valley Water _____	Santa Clara Valley Water District
VDM _____	Visitor Demand Management
VTA _____	Santa Clara Valley Transportation Authority
Wayfinding _____	Information that guides people through a physical environment

1. Introduction

The Rancho San Antonio Multimodal Access Study (Study) examines current access and parking conditions at the Rancho San Antonio County Park and Open Space Preserve (Preserve or Rancho San Antonio) and analyzes multimodal strategies to lessen demand on the Preserve's limited parking supply.

Rancho San Antonio is located west of the City of Cupertino and south of I-280, off Cristo Rey Drive. Rancho San Antonio consists of Rancho San Antonio Open Space Preserve, owned and managed by Midpeninsula Regional Open Space District (District) and Rancho San Antonio County Park, owned by Santa Clara County and managed by the District through an operation and management agreement.

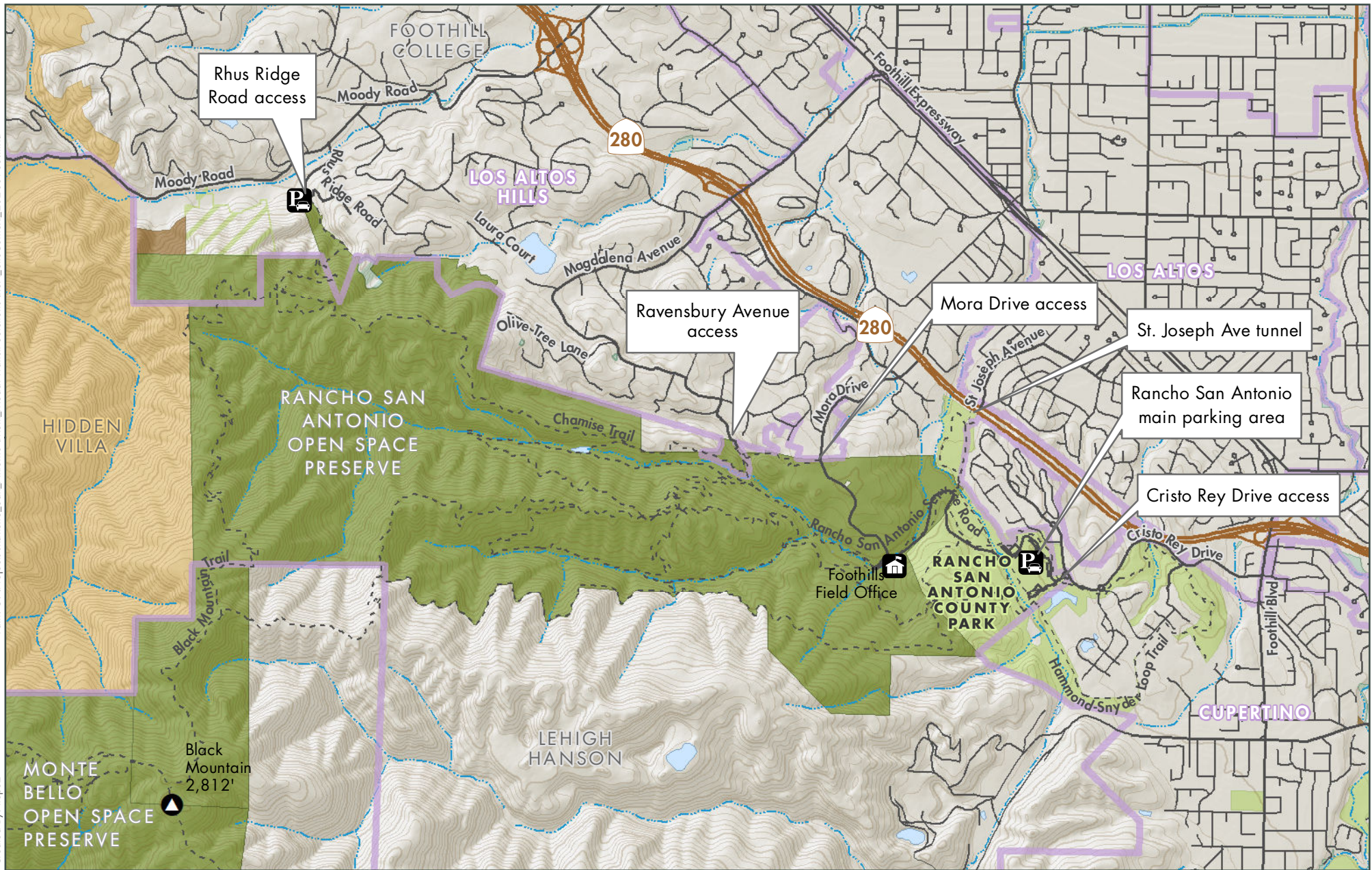
Through the agreement, which is regularly renewed, the District manages a 165-acre portion of the County Park that serves as the gateway to the Preserve. The agreement sets out each agency's rights and responsibilities and provides for the implementation of District management policies and regulations. Alterations to Park facilities and changes to the operations and maintenance of the Park requires discussion, coordination, and agreement between the two agencies.

Rancho San Antonio is the most visited preserve among the 26 preserves managed and operated by the District. The Preserve has an estimated 700,000 visitors per year because of its popularity and proximity to Cupertino, Los Altos Hills, and the greater San Jose metro area. The high visitation rates continually cause the parking supply at the Preserve to reach capacity during peak visitation times, especially on weekends, holidays and summer weekdays. Visitation intensifies when the weather is good.

The Study focuses on the Preserve's main entrance via Cristo Rey Drive, where most people access the Preserve, while also evaluating surrounding parking supply and demand, and opportunities for improved accessibility from other various existing and potential entrance points. Currently, the supply in and around the main entrance includes 327 parking spaces, 12 of which are ADA (Americans with Disabilities Act) accessible, 5 of which are dedicated for motorcycles, and an equestrian trailer parking and staging area. This Study seeks to evaluate potential solutions to address vehicular parking shortfalls during peak times, as well as improving multimodal access to promote the use of alternative modes of transportation to and from the Preserve.

This report documents the existing transportation and parking conditions present at the Preserve, analyzes parking demand, offers a menu of Transportation Demand Management (TDM) Strategies, and recommends TDM strategies for implementation. TDM are strategies aimed at maximizing visitor accessibility by providing visitors with solutions that expand their travel mode choices. The TDM strategies follow a methodology to score, rank, and tier TDM strategies. A suite of multimodal access strategy recommendations are presented by prioritization tiers.

Figure 1.1 shows the site context of Rancho San Antonio Open Space Preserve and County Park in relation with its existing vehicular access.



Rancho San Antonio Site Context

- | | | |
|------------------|-----------------------|------------------------|
| Midpen preserves | Other protected lands | Parking area |
| Private property | Land trust | Foothills Field Office |

Midpeninsula Regional
Open Space District
(Midpen)
12/14/2020



Figure 1.1

While the District strives to use the best available digital data, these data do not represent a legal survey and are merely a graphic illustration of geographic features.

1.1. Study Purpose

Over the past 20 years, the Preserve has seen a significant increase in visitors. Rancho San Antonio is the District's most popular preserve because of its proximity to numerous communities and ease of access, coupled with a large network of trails and opportunities to connect with nature, enjoy a workout or even visit a farmstead. Due to the Preserve's popularity, parking demand spikes during peak hours and visitors often must wait or idle to secure a parking space. The lack of adequate parking supply during peak hours detracts from the overall experience the Preserve aims to provide, leading visitors to park along roadside shoulders outside the Preserve parking entrance, seek alternative times to visit, or stop going to the Preserve altogether.

The District is actively interested in evaluating existing parking and access conditions, understanding when, how, and why visitors access the Preserve, and identifying strategies to encourage other modes of travel in an effort to reduce parking demand. The data and information synthesized in this report will be used as the foundation to promote multimodal access solutions, reduce on-site vehicle congestion, and reduce parking impacts within the site and its adjacent communities.

On June 28, 2017, the District and Santa Clara County Parks held a meeting to discuss these issues with local public agency stakeholders from the Cities of Cupertino, Los Altos, Los Altos Hills, and Mountain View; Valley Transportation Authority (VTA), and Santa Clara Valley Water District (Valley Water). Takeaways from the meeting identified the need for a feasibility study to evaluate parking and access issues at the Preserve, and to consider short-, medium- and long-term strategies that address these issues.

On March 14, 2018, the District's Board of Directors (Board) received a memorandum on the Rancho San Antonio Multimodal Access Study. The memo called for the exploration of non-motorized alternatives, transit options, and parking alternatives for the Preserve.

On April 16, 2019, the proposed Rancho San Antonio Multimodal Access Study scope of work was presented to the Planning and Natural Resources Committee for the first time. The Planning and Resources Committee reviewed and provided input on the study scope.

At the June 26, 2019 Board meeting, District staff presented the scope of work for the Study and a variety of short-, medium-, and long-term measures to address parking and congestion issues at the Preserve. The intent of the Study was to further evaluate and add to these measures. Measures ranged from educational campaigns, partnering with rideshare entities, bicycle and trail enhancements, improving wayfinding signage, and identifying potential parking lots improvements. The Board accepted both the scope of work for the study and the table of short-, medium-, and long-term measures. The General Manager directed staff to proceed with a Request for Proposal process for the Study while concurrently initiating the short-term, immediate, and low-cost measures to encourage visitors to use other modes of transportation besides a car.

On September 25, 2019, the District awarded IBI Group the contract to perform parking and transportation demand analyses for the Rancho San Antonio Multimodal Access Study. This study reviews plans, policies, and programs, performs parking analyses, summarize potential transportation demand management policies, and provides recommendations to address the parking and access challenges at the Preserve.

Rancho San Antonio

Existing Conditions



2. Existing Conditions Summary

This Existing Conditions section highlights existing parking and accessibility conditions at Rancho San Antonio and synthesizes previous and existing plans, policies, reports, and studies relevant to the Multimodal Access Study. Studies to date have shown an increase in Preserve visitation over the last 20 years. As visitor use and parking demands increase at Rancho San Antonio, the District recognizes the impact on visitor experience. Master Plan updates and other improvements have expanded Preserve access, but due to existing gaps in the multimodal accessibility network, have not been a viable solution to reduce parking demand.

This section documents existing transportation and parking conditions at Rancho San Antonio with a particular focus on the main entrance area, which serves as the main public access point. The main findings of the existing transportation and parking conditions are summarized below:

- Rancho San Antonio is the most popular Preserve managed by the District, mainly due to its proximity to neighboring cities and ample, diverse trails. The popularity of the Preserve has resulted in high parking demand that exceeds supply during peak visitation times, which has historically been weekends, holidays, and summer weekdays.
- Rancho San Antonio has two public vehicular access points at Rhus Ridge Road and the main entrance on Cristo Rey Drive. Only the main entrance has significant public parking available.
- The Cristo Rey Drive main entrance area just west of the City of Cupertino provides access to five lots with a combined 310 standard parking spaces, 12 ADA accessible spaces, 5 motorcycle spaces, and an equestrian trailer parking and staging area.
- Overflow parking typically occurs on-street along Cristo Rey Drive and may stretch close to Foothills Boulevard. Other alternative parking beyond Cristo Rey Drive is largely limited, as possible parking locations are either restricted, far from a Preserve access point, or only available with a fee.
- Bicycle, pedestrian, and transit access leading into the Preserve is limited, as there is no Class II on-street bike lane, sidewalk infrastructure, or transit line that leads directly into the Preserve through the foot/bike/horse access points. The only direct bicyclist and pedestrian access point to the Preserve connects to Deer Meadow Trail via St. Joseph Avenue north of the I-280. VTA provides transit service to Foothill Boulevard and Cristo Rey Drive via VTA Route 51, which is located about one mile away from the Cristo Rey Drive main entrance.
- The District has been collecting information regarding parking/visitation data, jurisdictional multimodal access plans, and recent Park developments, and has also been supporting transportation demand management strategies that improve overall accessibility to the Preserve. In general, adjacent jurisdictions and agencies have identified a need to expand multimodal access in their own jurisdictions as well as to the Preserve. Plans have been adopted that call for enhanced bicycle and pedestrian accessibility on Cristo Rey Drive and for access

from a southern entrance to the Hammond-Snyder Loop Trail via Stevens Creek Boulevard.

Though opportunities exist to expand parking supply, this tactic is insufficient to fully solve the parking demand problem and address impacts to the visitor experience. Therefore, this study considers other opportunities focused on multimodal accessibility. Strategies discussed in later sections of this report will build off previous studies and introduce new and innovative solutions to address parking and access.

As part of the Rancho San Antonio Multimodal Access Study, the team performed a parking analysis of the Preserve by conducting hourly parking counts and average daily traffic counts. Visitor intercept and online surveys were also used to identify potential parking management strategies that can be used to minimize parking demand during peak times. New data was compared with previous studies to confirm or update results and recommendations. The Study's parking and traffic counts, coupled with the surveys and visitation counts, were paramount in the provision of new strategies to address parking shortfalls and to promote alternative modes of transportation to and from the Preserve.

3. Existing Parking Conditions

This section highlights the location of parking resources, existing conditions, and overall accessibility of the Preserve. A detailed description of the five parking lots at the main entrance parking area is provided in Sections 3.2.1 through 3.2.5.

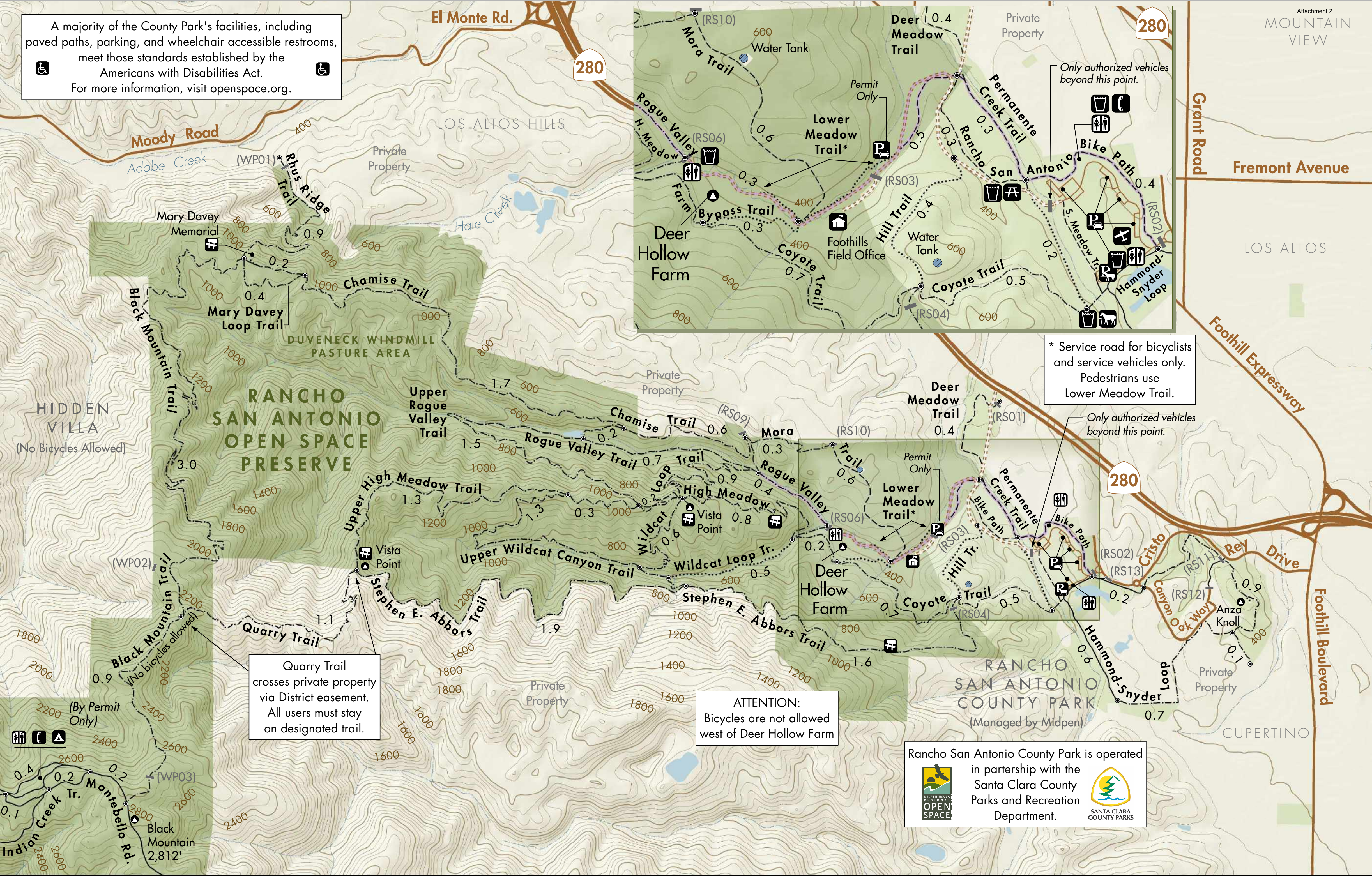
3.1. Location


Rancho San Antonio is one of 26 open space preserves operated by the District. Rancho San Antonio is located just east of I-280 between CA-85 and El Monte Avenue. The Preserve is set just west of the City of Cupertino, and south of the City of Los Altos and the Town of Los Altos Hills. The Preserve is bounded by the Lehigh/Hanson Permanente Quarry to the south and Hidden Villa land to the west. Rancho San Antonio connects to Monte Bello Open Space Preserve to the southwest through the Black Mountain Trail. Figure 3.1 below is the official map of all preserves managed by the District. Rancho San Antonio is number 14 in the list.

Figure 3.1: Midpeninsula Regional Open Space District Preserve Map



Santa Clara County Parks owns the area just east of the Preserve, including Deer Meadow Trail, Permanente Creek Trail, Hammond-Snyder Loop Trail, and the Rancho San Antonio main entrance and parking areas. The main entrance and parking area are located off Cristo Rey Drive between Oak Valley Road and the Hammond Way roundabout. The main parking area is located just south of the City of Cupertino Oak Valley neighborhood, east of Permanente Creek, west of Cristo Rey Drive, and north of the new Permanente Creek Flood Basin. For reference, the official Preserve and County Park map is presented in Figure 3.2. A focused aerial of the Preserve study area is shown in Figure 3.3.





Rancho San Antonio

Open Space Preserve

Map Legend

Midpen Preserve	Road	Trail Junction
Other Public Land	Vehicle Driveway	Gate (#)
Private or Leased Land - No Public Access	Hiking Only	Parking Lot
No Public Entry in Midpen Water Areas	Hiking, Bicycling	Equestrian Parking
	Hiking, Equestrian	Restroom
	Hiking, Bicycling, Equestrian	Field Office
	Easy-Access Trail	

Point of Interest
 Backpack Campground (Permit Only)
 Picnic Table
 Bench
 Public Phone
 Model Aircraft Field
 Drinking Water
 Water Tank
 Water Trough (Not Potable)

In case of emergency, call 911 or 24-hour Ranger Dispatch at (650) 968-4411.

For your safety, and the protection of the preserves:

The preserve is open from dawn until one-half hour after sunset; Please leave natural features, plants, and animals undisturbed;




Pack it in, pack it out- please do not litter;
Auto burglaries are increasing; Take valuables with you and lock your vehicle.

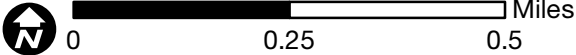
For More Information
Visit openspace.org
or call (650) 691-1200

Figure 3.2

Rancho San Antonio Study Area



-  Rancho San Antonio Main Entrance Parking Area
-  Santa Clara County Rancho San Antonio County Park
-  Rancho San Antonio Preserve



3.2. Main Entrance Parking Setting

The main entrance parking area is located on the east side of the Preserve. Entry and parking at the County Park and Preserve are free. The main entrance parking area is comprised of five surface parking lots (denoted as Lots 1 through 5) with a total of 327 parking spaces, including 310 standard spaces, 12 ADA spaces, 5 motorcycle spaces and an equestrian trailer parking and staging area. Four of the five lots are located adjacent to and along the Rancho San Antonio Service Road, a 25-foot wide two-lane road. The fifth lot is the newest parking lot, which feeds to and from the Rancho San Antonio Service Road just beyond the main entrance point. There is a 75-foot bus/ shuttle drop-off area within the main parking lot off the Rancho San Antonio Service Road.

The furthest parking lot along the service road is found at the bottom of a bluff and can be characterized as the main lot due to its location, amenities, and capacity. The other three lots along the service road are located at the top of the bluff and are characterized as overflow parking supply for the main parking lot as well as parking for visitors flying model aircraft. The fifth or newest lot is also found at the bottom of the bluff but to the south, and characterized by its close proximity for access to the Stephen E. Abbors Trail. The five lots are summarized in Table 3.1 below and are assigned lot numbers for clarity.

Table 3.1: Main Entrance Parking Lots

Parking Lot	Vehicular Parking Spaces	ADA Parking Spaces	Other Parking Spaces
Lot 1: Rancho Main Lot	111	5	5 (Motorcycle)
Lot 2: North Overflow Lot	49	0	None
Lot 3: Central Overflow Lot	22	2	None
Lot 4: South Overflow Lot	48	1	None
Lot 5: Hammond-Snyder Lot	80	4	Equestrian Area
Total	310	12	5

A total of five lots surround a bluff and a meadow along the north, east, and south sides. The meadow in between the main lot and the newest lot is over 200,000 square feet, or over 5 acres. The undeveloped flat bluff between the slope and the three parking lots on the bluff is approximately 83,500 square feet, or just under 2 acres. A detailed view of the Rancho San Antonio Parking Area is found in Figure 3.4.



Central Meadow and Bluff from the Stephen E. Abbors Trail

Rancho San Antonio Main Entrance Parking Area

Attachment 2
Figure 3.4



1 Rancho Main Lot
(121 spaces)

2 North Overflow Lot
(49 spaces)

3 Central Overflow Lot
(24 spaces)

4 South Overflow Lot
(49 spaces)

5 Hammond-Snyder Lot
(84 spaces + equestrian area)



0 0.05 0.1 Miles

3.2.1. Lot 1 – Rancho Main Lot

Figure 3.5 shows the Rancho Main Lot (Lot 1) and provides a count of parking spaces by segment. Lot 1 is located northwest of the main parking area entrance. The lot has a total of 121 parking spaces, of which 5 are designated as ADA accessible and 5 are designated as motorcycle spaces.

The Rancho Main Lot serves as the primary lot for visitors due to its adjacency to Permanente Creek Trail, the main and most traveled trail connection into the larger trail system. There are two entrance points into the Preserve from Lot 1:

- To the northwest via the Rancho San Antonio Bike Path
- To the southwest via the Rancho San Antonio Service Road

The service road splits Lot 1 into two sections. The north section of Lot 1 has 91 spaces and includes all 5 of the ADA spaces and all 5 of the motorcycle spaces. The south section of Lot 1 has 30 spaces and functions with a one-way drive aisle from southwest to northeast. There are two entry points into the north section of Lot 1 accessed from the service road. Both entry points provide two-way access. In the west area of the north section, vehicles can only travel in one direction, creating a counterclockwise loop for vehicles.

The north section is over 60,000 square feet or approximately 1.38 acres. The much smaller south section of Lot 1 is only 15,200 square feet or about 0.35 acres. Combined, Lot 1 is roughly 75,200 square feet or 1.73 acres, excluding the Rancho San Antonio Service Road.

The Rancho Main Lot has the most infrastructure, facilities, and amenities compared to the other four lots. Amenities include the Rancho San Antonio Bike Path to the north, three bike racks, restrooms, stretching poles, an information/lost and found board, an open grassy area north of the restrooms, benches, a service road, a loading/ unloading bus/ shuttle zone, and ample shade from tree overhangs.

Vehicles park perpendicularly to drive aisles except for two parallel parking spaces adjacent to motorcycle parking. Vehicles may either drive forward into or back into the perpendicular parking spaces. Parking spaces are approximately 20 feet long and 9 feet wide (except for the 5 spaces on the south side of the restroom building, which are 9 feet 6 inches wide) and separated by single white painted lines. Each ADA space has an



South/Southeast Area of Lot 1

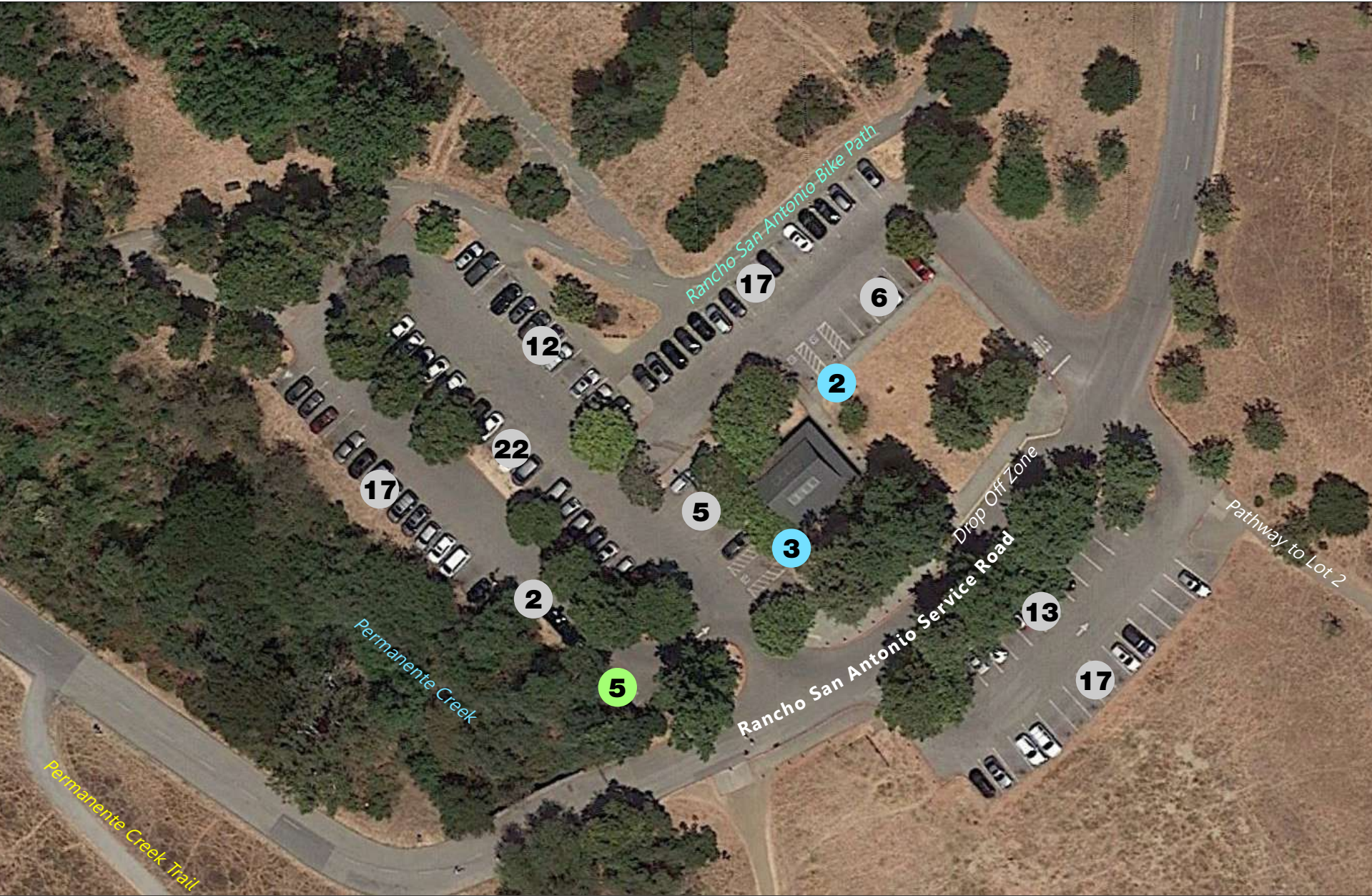




North Area of Lot 1

approximately 5-foot-wide loading/unloading zone on its left. Drive aisles are typically 25 feet wide.

Curb parking is not permissible, except for the two parallel spaces. Most curbs are painted red to indicate a fire lane or that parking is not permitted. Signage is posted for “No Parking” in the loading/unloading bus/ shuttle zone.

Lot 1: Rancho Main Lot



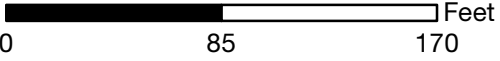



111 Standard Spaces

121 Total Parking Spaces

5 ADA Accessible Spaces

5 Motorcycle Spaces



3.2.2. Lot 2 – North Overflow Lot

Figure 3.6 shows the North Overflow Lot (Lot 2) and provides a count of parking spaces by segment. Lot 2 is located east of Lot 1 along the upper bluff. The lot has 49 parking spaces spread between two areas with no ADA spaces.

Lot 2 primarily serves as the first overflow lot in the event that Lot 1 is near or at capacity. There is a ramp from the northwest corner of the lot that winds down the bluff to the southeast corner of the Rancho Main Lot.

Lot 2 has 27 parking spaces in the north section, and 22 parking spaces in the south section. The two subareas are divided by a landscaping break and a slight change in angle. This lot is one-way only, accessed from the Rancho San Antonio Service Road which runs adjacent to and along the lot to the east. The single entrance is to the south, and the exit is at the north end of the lot, as depicted by the directional arrows painted on the road.

Lot 2 is just under 23,000 square feet, or 0.53 acres. The figure also illustrates the adjacent pathway that connects to Lot 1 to the west and Lot 3 to the south. Lot 2 does not provide any of the amenities available in Lot 1.

Vehicles park perpendicular to drive aisles and can either drive forward into or back into the parking spaces. The parking spaces are approximately 20 feet long and 9 feet wide and separated by single white painted lines. The drive aisle is typically 25 feet wide.



Entrance of Lot 2 Facing North



North End of Lot 2 Facing Southeast

Lot 2: North Overflow Lot



49 Standard Spaces
49 Total Parking Spaces

0 ADA Accessible Spaces

0 Motorcycle Spaces



0 60 120 Feet

3.2.3. Lot 3 – Central Overflow Lot

Figure 3.7 shows the Central Overflow Lot (Lot 3) and provides a count of parking spaces by segment. Lot 3 is located between Lot 2 and Lot 4, to the north and south respectively. This lot has 24 spaces, 2 of which are ADA spaces. Lot 3 is the smallest among the lots and is the furthest distance from any Preserve access point, which results in the lot being underutilized.

Lot 3 has 14 parking spaces west of the drive aisle, and 10 spaces to the east. The two northern most parking spaces on the west side are ADA spaces. Similar to Lot 2, Lot 3 is one-way only, accessed from the Rancho San Antonio Service Road which runs along the east edge of the lot. A single entrance into this lot is provided to the south with the exit located at the northern end of the lot, as depicted by the painted directional arrows on the road.

Lot 3 is the smallest by area at just 12,000 square feet, or 0.28 acres. Lot 3 has no amenities except for a walkway that connects to Lot 2 to the north and Lot 4 to the south.

Vehicles park perpendicular to drive aisles and can either drive forward into or back into the parking spaces. The parking spaces are approximately 20 feet long and 9 feet wide and separated by single white painted lines. Each ADA space has a 9 foot 6-inch-wide loading/unloading zone on its left. The drive aisle is typically 25 feet wide.



Lot 3 Facing North



Lot 3 Facing South

Lot 3: Central Overflow Lot

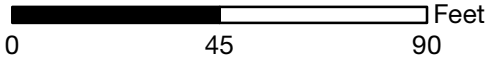


22 Standard Spaces

2 ADA Accessible Spaces

0 Motorcycle Spaces

24 Total Parking Spaces



3.2.4. Lot 4 – South Overflow Lot

Figure 3.8 shows the South Overflow Lot (Lot 4) and provides a count of parking spaces by segment. Lot 4 is the closest lot to the main parking area entrance, just west of Cristo Rey Drive and the Rancho San Antonio Service Road intersection. This lot has 49 spaces, one of which is an ADA space. This lot primarily serves as the parking location for the Rancho San Antonio Remote Control Aircraft Flying Field, and provides overflow parking for the Hammond-Snyder Lot (Lot 5) at the bottom of the bluff.

Lot 4 has 25 spaces to the west of the drive aisle and 24 spaces on the east side of the drive aisle. The northernmost parking space on the west side is designated as an ADA spot. Similar to the other two overflow lots (Lots 2 and 3), Lot 4 is one-way only, accessed from the Rancho San Antonio Service Road which runs along the east side of the lot. The single entrance is to the south, and the exit is provided the north end of the lot per the directional arrows painted on the road.

Lot 4 is just under 22,000 square feet, or 0.5 acre. Lot 4 has a few amenities, including the walkway that connects to Lot 3 to the north, flying field informational signage, wind gauges, and two benches for model aircraft viewing.

Vehicles park perpendicular to drive aisles and can either drive forward into or back into the parking spaces. The parking spaces are approximately 20 feet long and 9 feet wide and separated by single white painted lines. The ADA space has an approximately 5-foot-wide loading/unloading zone to its right. The drive aisle is 25 feet wide.

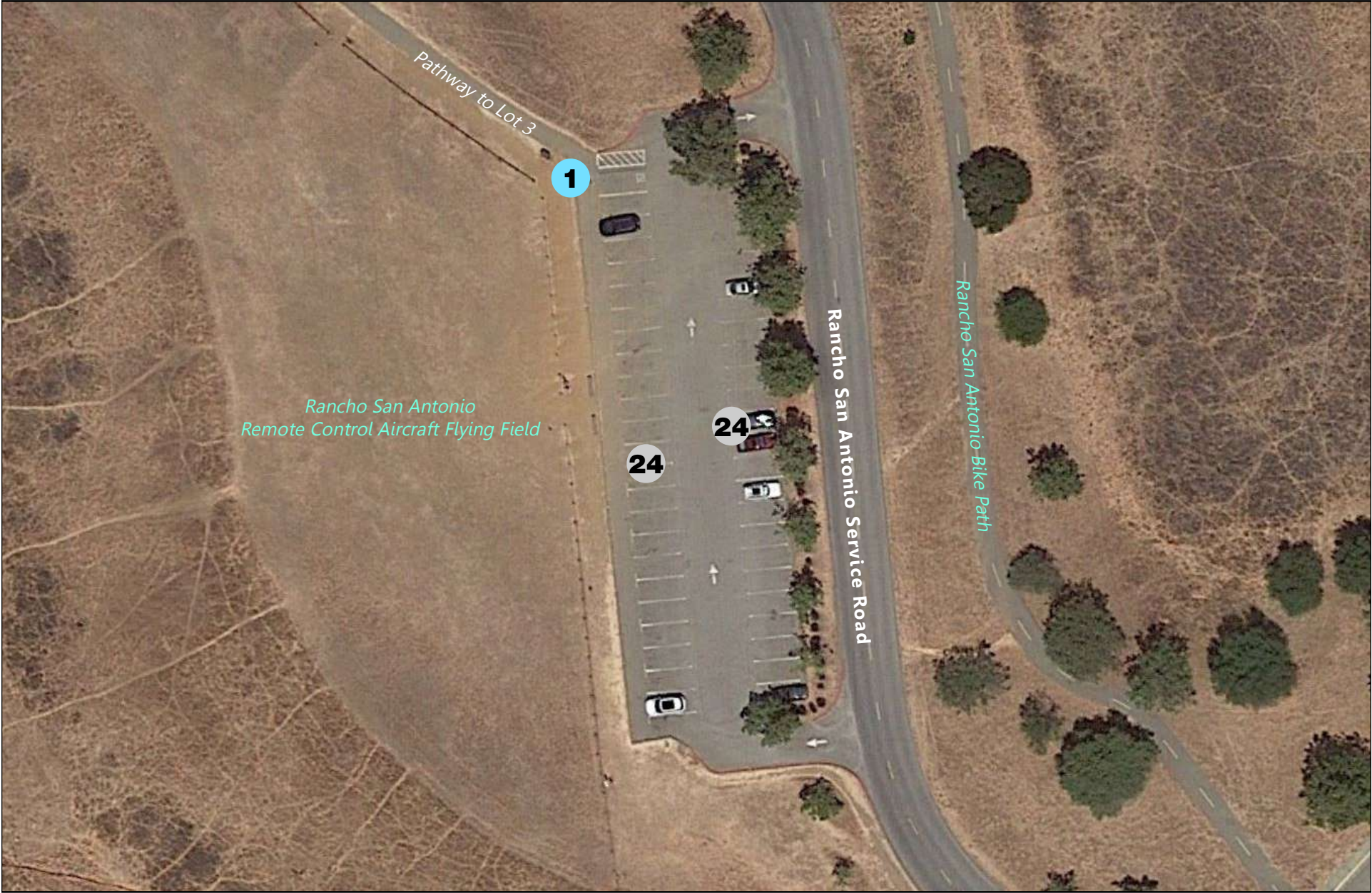


Lot 4 Facing North



The Flying Field at Lot 4

Lot 4: South Overflow Lot

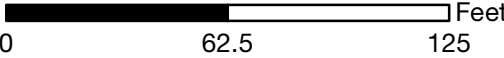


48 Standard Spaces

1 ADA Accessible Spaces

0 Motorcycle Spaces

49 Total Parking Spaces



3.2.5. Lot 5 – Hammond-Snyder Lot

Figure 3.9 shows the Hammond-Snyder Lot (Lot 5) and provides a count of parking spaces by segment. Lot 5 was recently built in 2017. Lot 5 is the southernmost lot located at the bottom of the bluff abutting the Permanente Creek Flood Basin. This lot has a total of 84 spaces, 4 of which are ADA spaces, as well as an equestrian trailer parking and staging area. The lot primarily serves as the access point for the Stephen E. Abbors Trail (formerly known as the PG&E Trail), which starts at the southwest corner of the lot.

Lot 5 has two entryways. The northern one-way entryway and drive aisle lead to a parking area with 59 paved spaces, which includes 4 ADA spaces. The southern one-way entryway splits into two one-way drive aisles that lead to an equestrian trailer parking and staging area and a 25-car parking area, both located on decomposed granite. All three one-way parking drive aisles connect to and return to the Lot 5 entranceway through a paved outlet. Directional arrows are located in the paved portions of the lot and drive aisles.

Lot 5 is approximately 56,500 square feet, or about 1.30 acres. Lot 5 has a few amenities, most notably a new restroom facility, and a couple bicycle racks near the restrooms and the Stephen E. Abbors Trail trailhead. When the Permanente Creek Flood Basin project is complete, access to the Hammond-Snyder Loop Trail to the south will be reopened to Lot 5.

Vehicles park perpendicular to drive aisles and can either drive forward into or back into the parking spaces. The parking spaces are approximately 19 feet long and 9 feet wide. Where Lot 5 is paved, spaces are separated by single white lines. Vehicular parking spaces in the decomposed granite section are marked with white reflectors to act as striping, which may not be as clear as anticipated. The equestrian trailer parking and staging area is unmarked. Both pairs of ADA spaces share a loading/unloading zone between them. The northernmost ADA space has an additional large loading/unloading zone to its right. Drive aisles are typically 24 feet wide.

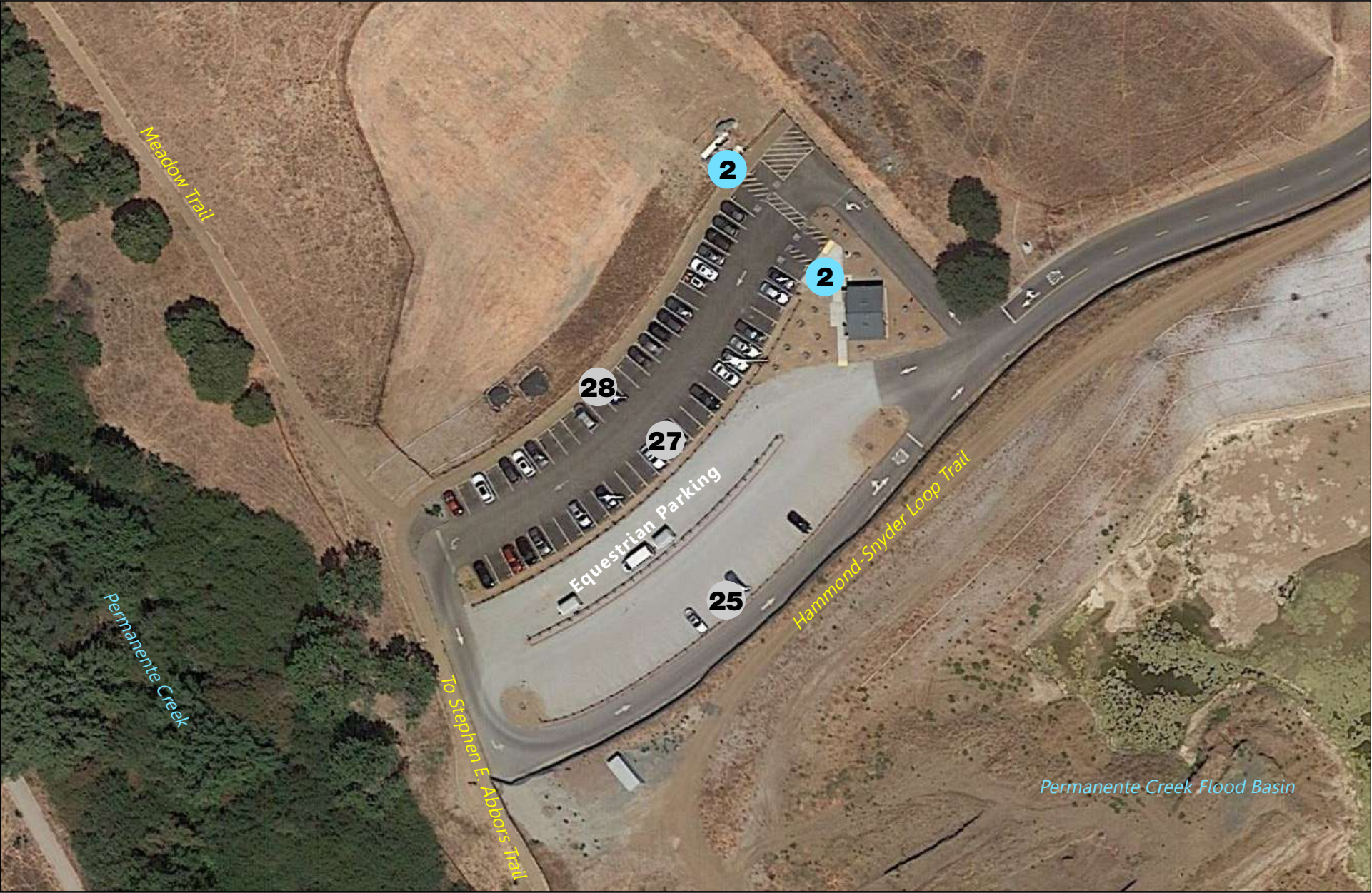




Lot 5 Facing East



Paved Section of Lot 5 Facing West

Lot 5: Hammond-Snyder Lot



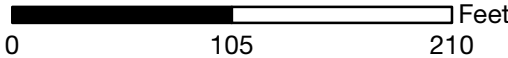



80 Standard Spaces

84 Total Parking Spaces (not including equestrian area)

4 ADA Accessible Spaces

0 Motorcycle Spaces



3.3. Alternative Vehicle Parking and Bicycle Parking Locations

Vehicle parking at other locations that provide access to Rancho San Antonio apart from the main parking area is limited. This section details existing alternative parking options, including existing bicycle parking locations. Table 3.2 below displays an overview of vehicle parking locations not associated with the main parking area. Figure 3.10 displays the location of each of the alternative vehicle parking locations.

Table 3.2: Alternative Vehicle Parking Locations

Parking Location	Number of Spaces	Distance to an RSA Access Point	Parking Availability
Foothills Field Office Permit Lot	Approximately 10	0 miles	By permit only
Rhus Ridge Lot	9 spaces	0 miles	Free
Montebello Road Permit Lot	5 spaces	2.7 miles	By permit only
Montebello Preserve Lot	67 spaces	3.1 miles	Free
Los Trancos Preserve Lot	15 spaces	3.1 miles	Free
Foothills College	Ample	1.2 miles	\$3 daily; \$90 annually
Street Parking	Ample	Varies	Available on Cristo Rey; Restricted elsewhere

3.3.1. Foothills Field Office Permit Lot

Along the Rancho San Antonio Service Road, past the main lot and beyond a District staff only entrance gate, is a permit only parking area. This lot is located near the District's Foothills Field Office. Because it is a dirt lot, there are no marked spaces. The practical capacity of this lot is approximately 10 vehicles, and the use of the lot is subject to District approval and a permit. Permits are only granted on a limited basis for special events or accommodations.

3.3.2. Rhus Ridge Lot

At the start of the Rhus Ridge Trail is a small decomposed granite parking lot available to the public. There are five standard and one ADA perpendicular parking spaces to the south side of the lot, and adequate space for about three cars to parallel park to the north side of the lot. Rhus Ridge Road is a private road with no on-street parking. There are signs that indicate additional parking is available at Foothill College, just under one mile away from the Rhus Ridge Lot.

3.3.3. Montebello Road Permit Lot

On the east end of Montebello Open Space Preserve, at the intersection of Montebello Road and Waterwheel Creek Trail is a small 5-vehicle capacity permit only parking lot. Although not adjacent to Rancho San Antonio, the Preserve can be reached by hiking along the Black Mountain Trail through the Monte Bello Open Space Preserve. This lot is

a 2.7-mile hike and a 290-foot elevation gain away from the southwest corner of Rancho San Antonio.

3.3.4. Montebello and Los Trancos Preserve Lots

The Montebello Preserve and Los Trancos Preserve main parking lots are located along Page Mill Road, 1.5 miles east of Skyline Boulevard. The publicly-available lots are adjacent to each other and both are a 3.1-mile hike and a 590-foot elevation gain away from the southwest corner of Rancho San Antonio. The two lots combine for 65 standard spaces, 2 ADA accessible spaces, and also features a restroom facility.

3.3.5. Foothill College

Foothill College is an existing option for those looking to avoid the Preserve main entrance. Park visitors can purchase a \$3 daily pass and walk to the Rhus Ridge trailhead, just under one mile away traveling along an overall gentle grade. Options are also available for quarterly permits for \$26.65 or annual permits for \$90.

There is a sidewalk available on the south side of Moody Road leading to Rhus Ridge Road. However, there are no sidewalks on Rhus Ridge Road leading to the trailhead.

3.3.6. Street Parking

In instances where parking demand exceeds capacity, many Preserve visitors park on-street along Cristo Rey Drive in locations where street width is wide enough to allow through-traffic to continue. Overflow parking is not restricted on Cristo Rey Drive. At times, parking for the Preserve may reach close to Foothills Boulevard.

In other areas, street parking is generally not feasible near the main parking area entrance primarily due to recent regulations levied by adjacent cities that prevent overflow parking in residential neighborhoods. In neighborhoods that spur from Cristo Rey Drive, the City of Cupertino has instituted permitted parking at peak Preserve times. Newly installed signs read “Permit Parking Only 7AM – 4PM Sat – Sun & Holidays”.

Street parking is also prohibited at all times near other Los Altos Hills access points along the northern edge of the Preserve.

Rancho San Antonio visitors sometimes park in the Woodlands Acres neighborhood of Los Altos (north of I-280 and south of Foothill Expressway) and use the St. Joseph Avenue undercrossing as a pedestrian access point to get to the Preserve. This has led the City to install “Resident Parking Only” signs on many residential streets in this neighborhood, including along St. Joseph Avenue.

3.3.7. Bicycle Parking

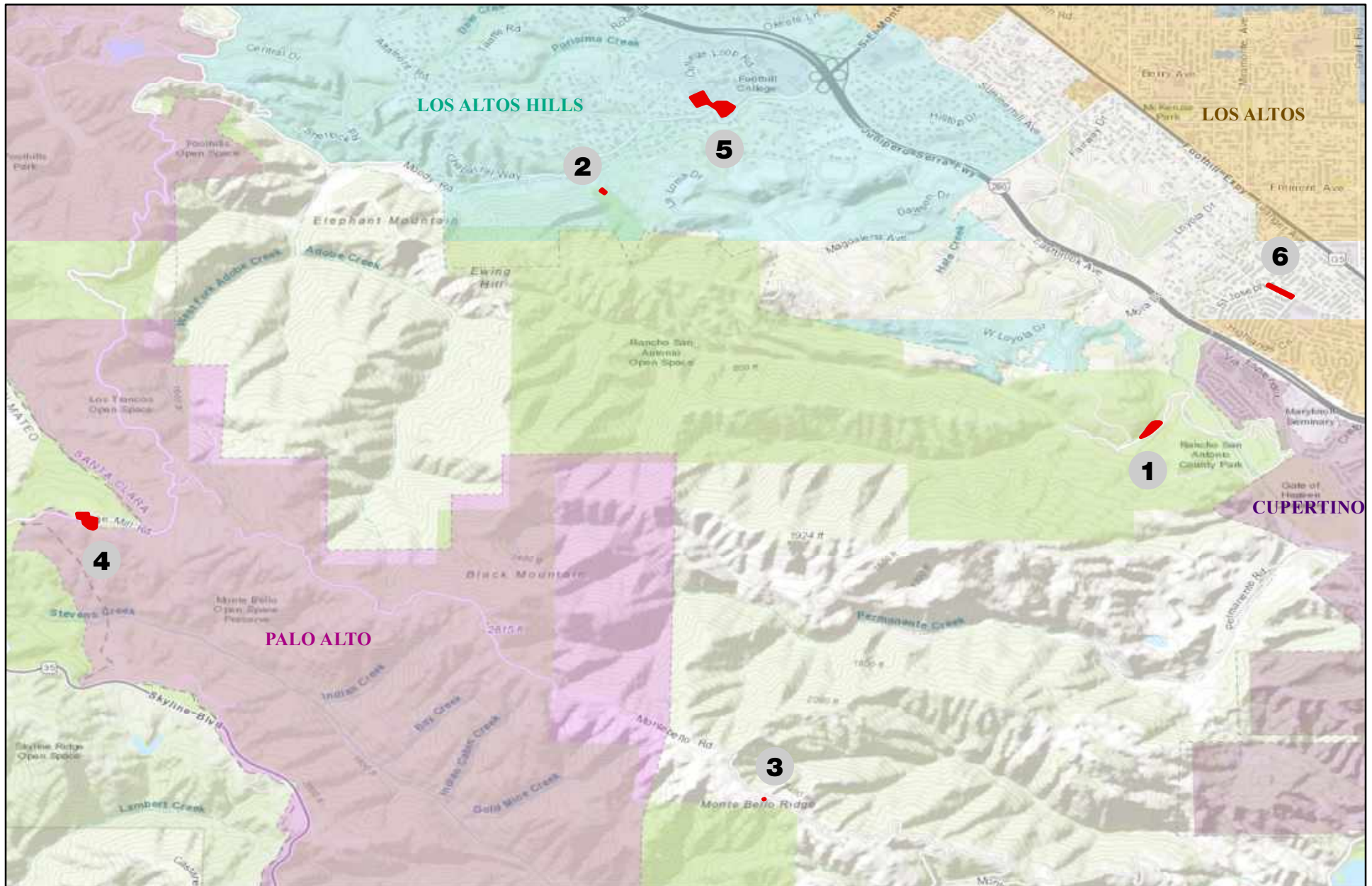
Bicycle parking fundamentally contributes to an accessible and multimodal environment. The District has taken initiatives recently to build upon their bike parking facilities, in the form of bicycle racks, to support visitors who want to access the Preserve by bicycle. Within the interior of the Preserve near Deer Hollow Farm/Open Air Barn, there are three bicycle racks that can hold a total of 20 bicycles. The main parking area entrance provides three two-loop racks for 27 bicycles. A description of bicycle facilities at the Preserve is below in Table 3.3.

Table 3.3: Bicycle Parking Facility Locations

Parking Location	Parking Description	Parking Capacity
Open Air Barn	Three Loops	5
Deer Hollow Farm	Non-standard	10
Volunteer Memorial Sign (near Deer Hollow Farm)	Three Loops	5
Across from Lot 1: RSA Main Lot Restroom	Eight Loops	12
Next to Lot 1: RSA Main Lot Restroom	Three Loops	5
Next to Lot 5: Hammond-Snyder Lot Restroom	Three Loops	5
At Lot 5: Hammond-Snyder Lot Trailhead	Three Loops	5
Total		47

Rancho San Antonio Alternative Vehicle Parking Locations

Attachment 2
Figure 3.10



1 Foothills Field Office

2 Rhus Ridge Lot

3 Montbello Road Lot

4 Montbello Preserve/
Los Trancos Preserve
Lots

5 Foothills College

6 Street Parking*

*Area designated as street parking represents
a popular street parking location (St. Joseph Ave)



0 0.75 1.5 Miles

4. Accessibility

4.1. Roadway Characteristics and Vehicular Access

There are four vehicular access points for the Rancho San Antonio Open Space Preserve although parking is not available at all of them (Figure 4.1) and only two entrances are accessible to the public via vehicle (the remainder are accessible to the public by foot, horse, or bicycle):

- Main Entrance via Cristo Rey Drive (parking)
- Mora Drive (no parking)
- Ravensbury Avenue (no parking)
- Rhus Ridge Road (limited parking)

4.1.1. Main Entrance

The main entrance is one of two vehicular access points with significant public parking. Because of the small size of the Rhus Ridge Road Lot, the Main Entrance parking area is the only viable option for most Preserve visitors. To arrive at the main entrance, vehicles must take Cristo Rey Drive via Foothill Boulevard. The distance from the Foothill Boulevard and Cristo Rey Drive intersection to the main entrance is approximately one mile. There are no streetlights or stop signs on this portion of Cristo Rey Drive. However, all vehicles must yield at a five-point roundabout.

Cristo Rey Drive is a 28-foot-wide, two-lane collector with a 30-mile per hour speed limit. There are no bike lanes along the street. There is a sidewalk on the south side of the street for a majority of this segment, stemming from just beyond Kring Way to the Preserve entrance. There are crosswalks but no connecting sidewalks on Cristo Rey Drive at the Foothill Boulevard intersection, even for the 50 feet from the southwest corner to the nearest bus stop. Installing sidewalks on Cristo Rey Drive would promote walking and another potential multimodal option to access Rancho San Antonio.

Cristo Rey Drive connects to the Rancho San Antonio Service Road, which leads to public parking and a gated drive aisle for District staff to access the Foothills Field Office within the Preserve. The Rancho San Antonio Service Road continues into the Preserve, and extends to and beyond Deer Hollow Farm.

4.1.2. Mora Drive

The Mora Drive entrance is one of two entrances limited to public access via foot, by bicycle, or horse. There is no public vehicular connection at this entrance and no public vehicular parking on and beyond Mora Drive. The Rancho San Antonio Service Road is gated at Mora Drive.

This access point is reached by taking the Magdalena Avenue exit from I-280, continuing south on Eastbrook Avenue, and turning right onto Mora Drive.

Mora Drive is an 18-foot wide two-lane local road with a 25-mile per hour speed limit. Mora Drive is primarily a residential street. The drive has no bike lanes or sidewalks west of Eastbrook Avenue.

At the access point, Mora Drive forks to a private drive to the left and a gated vehicular entry to the Preserve meant for District staff. Mora Trail beyond the vehicular gate is paved through its connection to the Rancho San Antonio Service Road just east of Deer Hollow Farm.

4.1.3. Ravensbury Avenue

Like Mora Drive, the Ravensbury Avenue access point also does not include parking and is only publicly accessible via foot and horse. This access point is reached after taking a left from Magdalena Avenue onto Ravensbury Avenue.

Ravensbury Avenue is an 18-foot-wide two lane local road with a 25-mile per hour speed limit. Ravensbury Avenue is primarily a residential street. The roadway does not have any bike lanes or sidewalks.

At the access point, Ravensbury Drive forks to a private road to the right and a gated entry to the Preserve. The Ravensbury Trail, which connects to the Rogue Valley Trail and the Chamise Trail, begins just beyond the access point.

4.1.4. Rhus Ridge Road



The Rhus Ridge Road access point is the furthest access location on the north and west ends of the Preserve and is publicly accessible by vehicle. To arrive at the access point, vehicles would take the El Monte Road exit from I-280, take a left on Moody Road, and take another left on Rhus Ridge Road.

Rhus Ridge Road is an 18-foot-wide two-lane private road. It is a private residential street with public access to the preserve parking lot. There are no bike lanes or sidewalks along the road.

At the access point, there is a small parking lot at the Rhus Ridge trailhead.

Rancho San Antonio Vehicular Access








1 Rhus Ridge Rd Access


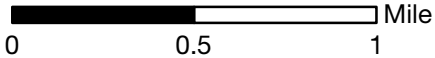
2 Ravensbury Ave Access

3 Mora Dr Access

4 Cristo Rey Dr Access

 Santa Clara County County Park

 Rancho San Antonio Open Space Preserve

4.2. Bicyclist and Pedestrian Access

There are numerous opportunities to access Rancho San Antonio by foot or by bike. The most common access point is through the main entrance via Cristo Rey Drive. Although there are no bike lanes, bicyclists utilize an 8-foot-wide shoulder for about 1,000 feet from the Foothill Boulevard intersection to Kring Way. Vehicle volumes and speeds are generally low on Cristo Rey Drive, which may allow bicyclists to utilize the remaining segment as a de facto Class III shared roadway (bicyclists share use with motor vehicles within the same travel lane).

Existing bicycle infrastructure is provided via Class II bike lanes (defined by pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel) on Foothill Boulevard, leading northward to the Foothill Boulevard and Cristo Rey Drive intersection. However, bike lanes drop north of this intersection, most notably due to a large number of intersections between Cristo Rey and Homestead Road, including the Foothill Boulevard interchange with the I-280. According to the VTA Santa Clara Valley Bikeways Map, there is a Class II bike lane in both directions on Stevens Creek Boulevard, but there is currently no public access to connect Stevens Creek Boulevard/Permanente Road to the Rancho San Antonio main entrance.

The Rancho San Antonio Bike Path originates just beyond the main entrance gate and is approximately ten feet wide. The path starts heading north from the gate just east of the three parking lots on the bluff. The bike lane heads west and runs adjacent to Lot 1 and continues into the Preserve. The bike path follows alongside the Rancho San Antonio Service Road but concludes at the Lower Meadow Trail. Bicyclists often utilize the service road itself to continue bicycling within the Preserve.

Preserve visitors are also able to walk or bike in using St. Joseph Avenue as an access point, which connects to Deer Meadow Trail just south of I-280. St. Joseph Avenue is closed to vehicular access just north of I-280 and south of the I-280 undercrossing. Restricting vehicular through-traffic limits Preserve visitors from accessing and parking in the Woodland Acres neighborhood. Parking along St. Joseph Avenue south of the Eva Avenue intersection is permitted for residents only.

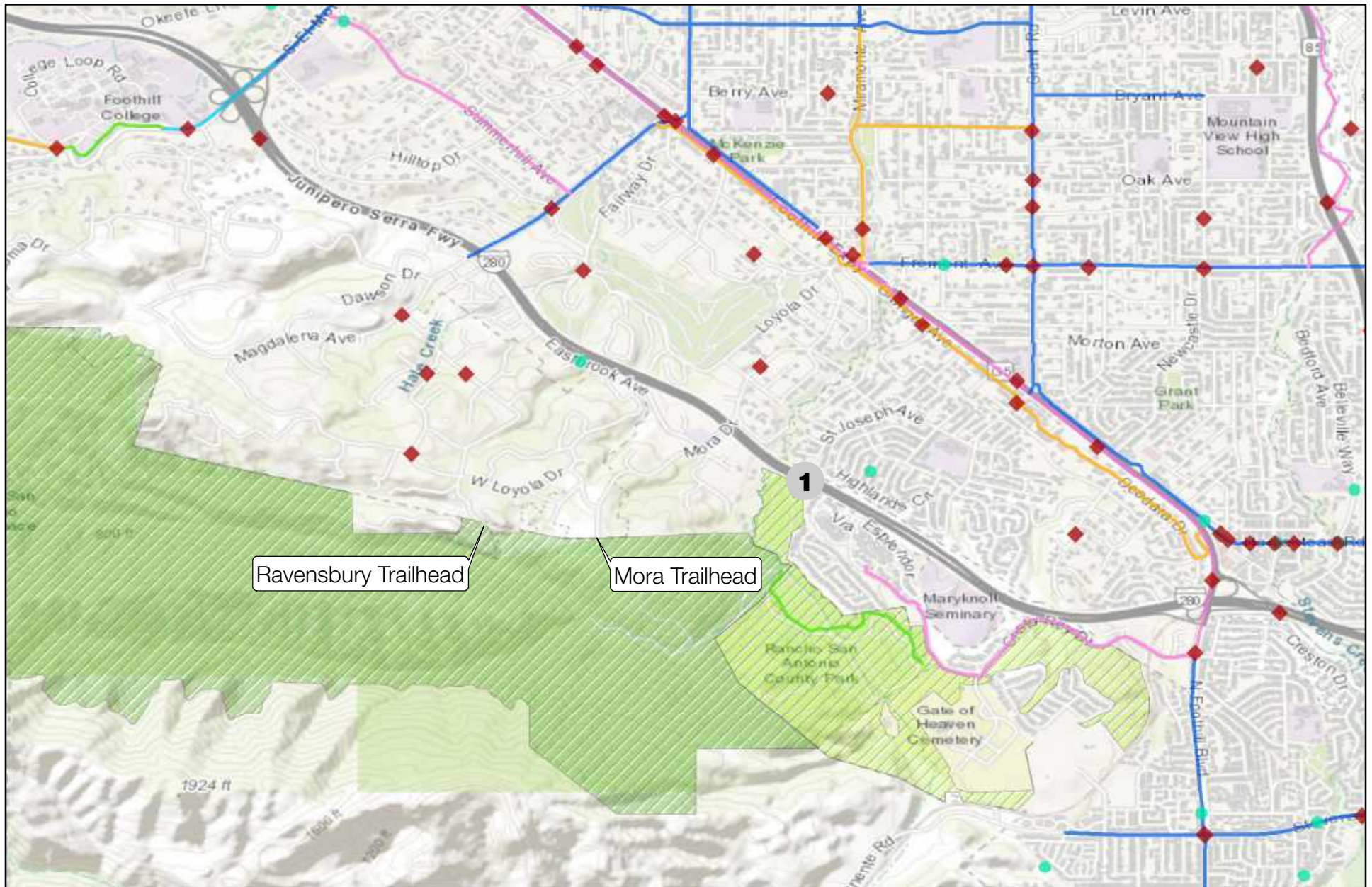
Mora Drive is also a bicycle and pedestrian access point. Mora Trail is paved, which is convenient for bicyclists. However, there are no bike lanes or sidewalks on Mora Drive, creating accessibility issues when entering the Preserve from the Mora trailhead.

The Ravensbury and Rhus Ridge trailheads are accessible for pedestrians, but bicycling is not permitted on the trails. There are no sidewalks or bike lanes on either of the two access roads. Additional neighborhood access points to the Chamise Trail exist on Laura Court/Stonebrook Drive and Olive Tree Lane. There is no parking in this area nor are bikes permitted on the trail.

Preserve access points from St. Joseph Avenue, Mora Drive, and Ravensbury Avenue lack public parking. Figure 4.2 outlines designated bicyclist and pedestrian routes surrounding Rancho San Antonio.

Rancho San Antonio Bicyclist and Pedestrian Access

Attachment 2
Figure 4.2



- | | |
|---|--|
| — Proposed Bike Facility | ◆ Bicycle Collisions |
| — Class I Off-Street | ● Pedestrian Collisions |
| — Class II On-Street | Santa Clara County |
| — Class III Sharrow | Rancho San Antonio Open Space Preserve |
| — Class IV Protected On-Street | |

1 St. Joseph Ave Bicyclist and Pedestrian Access Point

*Bicycle and pedestrian collision data from the Santa Clara Valley Transportation Authority (2008-2012)



0 0.5 1 Mile

4.3. Transit Access

Transit service in the greater San Jose area is provided by the Valley Transportation Authority (VTA). VTA provides a few routes within the vicinity of the Preserve, but no routes currently provide direct service to any access points. The few routes in the vicinity are VTA Local Routes 40, 51, and 52, as well as VTA Express Routes 101, 102, 103, and 182. While the Express Routes all utilize I-280, none of the four Express Routes stop near the Preserve.

Local Route 51 runs along Foothill Boulevard, which provides the closest transit access to the Rancho San Antonio main entrance. Route 51 is a new VTA route as of Fall 2019 with service from Moffett Field/Ames Center to West Valley College. This route has replaced former Route 81 service along Foothill Boulevard. Route 51 stops at the southwest corner of Foothill Boulevard and Cristo Rey Drive traveling southbound, and the southeast corner of Foothill Boulevard and Starling Drive heading northbound. These stops are approximately one mile away from the Rancho San Antonio main entrance.

Weekday access is provided at these stops from approximately 8:47 AM to 5:07 PM northbound, and from approximately 9:12 AM to 4:42 PM southbound. No weekend service is provided on Bus Route 51. There are 11 northbound trips and 10 southbound trips as of June 13, 2020, which average approximately 45-minute headways or intervals at the Stevens Creek Boulevard and Foothill Boulevard bus stop. A single ride fare for an adult is \$2.50. Figure 4.3 shows the extent of transit access at Rancho San Antonio.

Local Routes 40 and 52 also provide access to Foothill College via El Monte Road. The nearest bus stop served by Routes 40 and 52 to the closest Preserve access point, Rhus Ridge Trailhead, is approximately 1.3 miles away.

4.3.1. City of Cupertino Shuttle Program

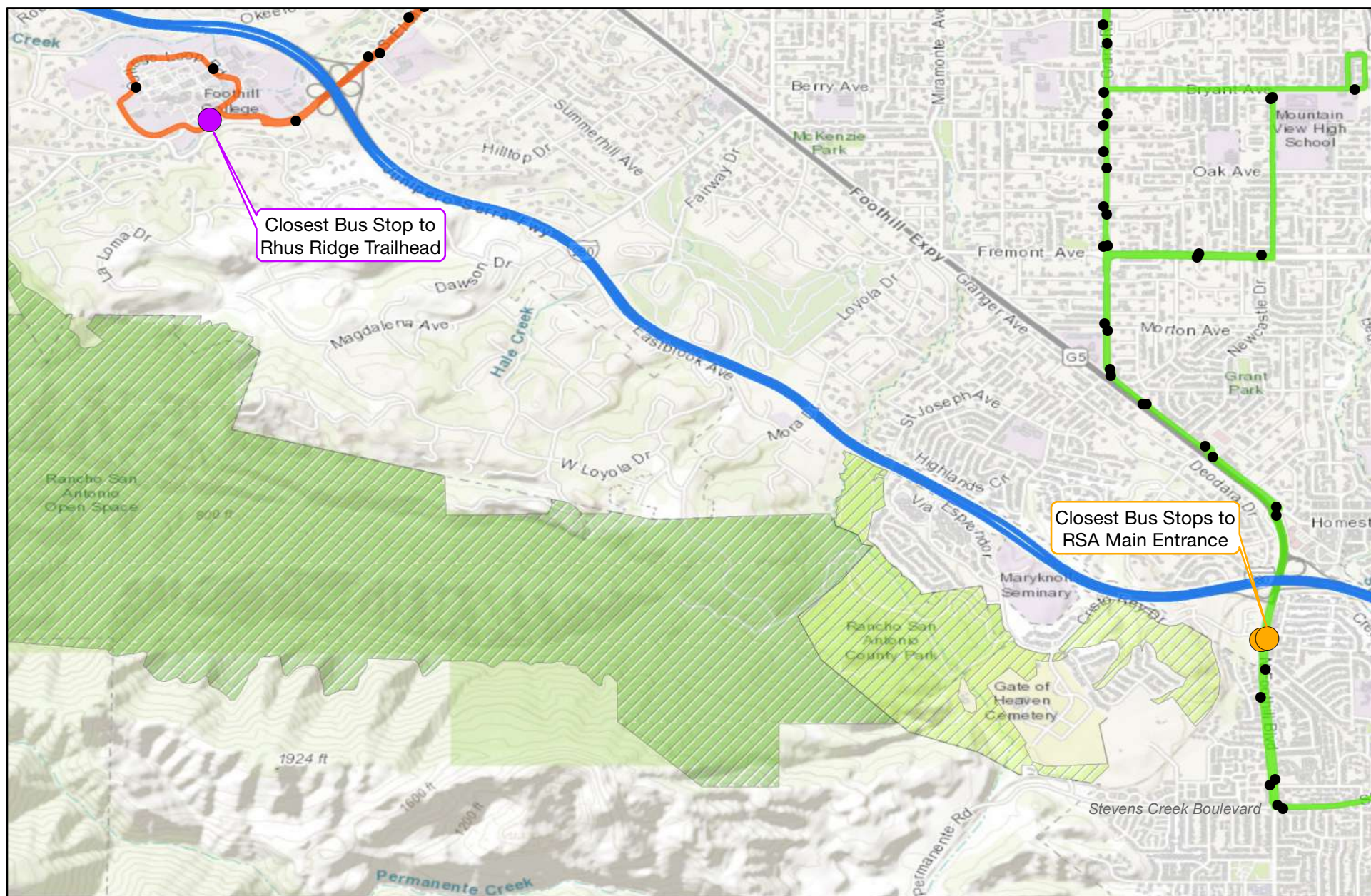
The City of Cupertino launched an 18-month on-demand shuttle program in October 2019. The City partnered with Via, a ride-sharing service, to introduce Via-Cupertino, an on-demand van shuttle service providing transportation largely in Cupertino as well as to the Sunnyvale Caltrain station. The Via-Cupertino service area includes the Rancho San Antonio County Park and main entrance parking area. The City placed the program temporarily on hold beginning August 22, 2020 due to the current COVID-19 coronavirus crisis that has challenged operational conditions and affected ridership.

The initial concept focused on alleviating traffic congestion in the tri-school area of Monta Vista High School, Abraham Lincoln Elementary School, and John F. Kennedy Middle School with a fixed-route shuttle. In 2018, Cupertino Public Works Department conducted a survey within the community to gather feedback on preferred destinations for a fixed-route shuttle. After evaluating survey responses and discussing with community members, an on-demand shuttle service was preferred over a fixed-route shuttle. An 18-month on-demand pilot program was approved June 2018 by Cupertino City Council.

Via-Cupertino was designed to take any rider on-demand from any origin to any destination within the service area (and Sunnyvale Caltrain). Rancho San Antonio can be chosen as an origin or destination location for this pilot program. A user would request a ride using the 'Via' app, or by calling Via customer service. Mercedes vans are equipped with a bike rack. Rides cannot be scheduled in advance, and rides are projected to have an average wait time of 15 minutes. Via-Cupertino was designed to operate weekdays from 6:00 AM to 8:00 PM. A one-way fare was set at \$3.50 and half-off for senior, low-income, disabled, and student users.

Rancho San Antonio Transit Access

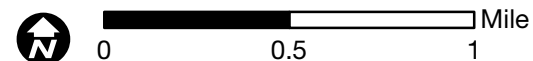
Attachment 2
Figure 4.3



- VTA Local Bus Routes 40 and 52
- VTA Local Bus Route 51
- VTA Express Bus Routes 101, 102, 103, and 182

- Cristo Rey Dr/ Foothills Blvd Bus Stops
- Foothill College Loop Bus Stop
- Other Bus Stops

- Santa Clara County County Park
- Rancho San Antonio Open Space Preserve



5. Relevant Studies/Documents

5.1. Rancho San Antonio Program Phase Document (April 1990)

Prepared for: County of Santa Clara Parks and Recreation Department

The Rancho San Antonio Program Phase Document (Program) was developed to guide future phases of Design Development and Master Planning of the Rancho San Antonio County Park, not including the Preserve. The Program discusses site conditions and evaluates concepts for activities, facilities, and environmental resources that would be appropriate and compatible for a Regional Park as determined by user surveys and the site's character and setting. The Program discusses site conditions and evaluates them in terms of compatibility, constraints, and opportunities. The evaluation process resulted in guidelines for decisions affecting development and management of the Park. The program includes the following guidelines:

- Park access and parking for Rancho San Antonio lands continue to reflect an open, passive character.
- The level of development and use will preserve and protect the site's vegetation, wildlife, and riparian habitats.
- The site's staging areas for trails and uses for access and parking will remain essentially the same.
- There are proposals to remove court games, relocate picnic facilities, develop meadow areas, and create an interior loop trail among other changes.

Surveys conducted in 1987 and 1989 led to the following determinations about park users and park demand:

- Approximately 72% to 88% of visitors used the park for hiking, running, or visiting Deer Hollow Farm.
- The park turnover rate averaged at 1.5 hours per visitor.
- Average distance traveled to the park was 6.5 miles.
- Visitors, on average, accessed the park 9.6 times per month.
- On Sunday, which was the peak day measured, 1,102 cars entered the park.
- At no point in the month-long survey did parking reach capacity. Park staff indicated that parking capacity was exceeded at times.

The Program concluded that expanding parking capacity appears arbitrary and that development of bus parking should be provided.

5.2. Rancho San Antonio County Park Master Plan (May 1992)

Prepared for: County of Santa Clara Parks and Recreation Department

The Rancho San Antonio County Park Master Plan coordinates the enhancement of recreational, aesthetic, and natural resources within Rancho San Antonio County Park. This plan includes a discussion of all proposals affecting site improvements and management of recreational and natural resources, as well as fiscal impacts, prioritization strategies, and a Master Plan Map. The purpose of this plan is to inform improvements to the Park. Summarized highlights of the plan are:

- Rancho San Antonio will function as a regional facility.
- The natural characteristics of the Park are to be highly valued and preserved.
- The proposed improvements are intended to accommodate user needs while maintaining the Park's natural character.
- Improvements include two open meadow areas, pedestrian trails, a nature trail, a family picnic area, and parking.
- Proposed uses, management, and operation will respect the biotic resources.

The plan detailed existing conditions, proposed improvements related to recreation and land uses, vehicular circulation, main entrance gates, parking, trail uses, interpretational features, management of land and biotic resources, maintenance, operations, patrol, utilities, planting, amenities, and park expansion.

Proposed improvements that have been executed include:

- Removal of basketball, tennis, and handball courts, backstops, and group picnic facilities
- Facilitation of open meadows with drought-tolerant grass
- Addition of a trail in the 'north wing' (Deer Meadow Trail)
- Additional restroom building
- Continuance of the model airplane facility with signage improvements
- A relocated and enlarged median island which could accommodate an information gazebo
- A parking lot path to enhance circulation between the upper parking lots and Park
- A path around the southerly open meadow (Meadow Trail)
- Closure of the Volunteer Trail
- A trail junction adjacent to the restroom building with comprehensive signage and information
- Installation of benches, bicycle racks, drinking fountain, signage, and stretching post
- The addition of a hitching post and watering trough for the equestrian staging area
- Timer-operated automatic gates to accommodate early-hour users
- A large vehicle pull-out pocket at the main entrance

Proposed improvements that have yet to be implemented include:

- Installation of a family picnic area within the Deer Meadow Trail Loop
- An information gazebo
- Additional bus transportation to the Park
- A northerly path around the open meadow

For parking specifically, the plan calls for a 24-space parking lot, among other small changes, for an increase of 31 spaces, from 228 to 259 spaces total. The proposed changes were projected to cost \$167,680 at the time of Master Plan preparation. The plan also allows for two potential lots in the future, "only when and if increased parking demand dictated", accounting for an additional 44 spaces. If the two potential future lots were implemented, parking would increase from 228 to 303 spaces total. The increase in spaces came from converting parking in the existing equestrian lot into vehicle parking. The Preserve main entrance has 322 vehicular parking spaces today. Parking was set as a 'Priority One' issue, based upon need, sequencing, and logistics.

5.2.1. Master Plan Map (May 1992)

Prepared for: Midpeninsula Regional Open Space District

This map details existing, proposed, and potential development of Rancho San Antonio. The map shows the park entrance where it currently exists, followed by a fork in the road to either travel left to an “existing” equestrian area or to the right for vehicle parking. If traveling to the right, a car would be met by an “Existing Temporary Parking Lot (50 spaces, to be paved)” which currently exists as Lot 4: South Overflow Lot, “Existing Parking Lot (25 spaces)” which exists as Lot 3: Central Overflow Lot, and “Potential Future Parking Lot (24 spaces)”, which today exists as 49-space Lot 2: North Overflow Lot. Continuing down the slope, there was a “Potential Future Parking Lot (20 spaces)” between the top of the bluff and the main lot, which was never built. The main lot shown on the map had 114 reconfigured parking spaces. Lot 1: Main Lot exists today with 121 total spaces. The map shows a paved loop path, an earthen path, and a fitness course between the main lot and the equestrian lot below the bluff.

5.2.2. Initial Study (August 1991)

Prepared for: County of Santa Clara Parks and Recreation Department

This Master Plan Initial Study is an expanded preliminary impact analysis to allow expansion of Rancho San Antonio. The Initial Study identifies related environmental effects of the Master Plan, provides the County with mitigation guidelines, informs stakeholders of the proposed action and consequences of approval, and provides a level of impact assessment to guide implementation of master plan actions. The Initial Study resulted in a Negative Declaration that evaluated the following environmental factors:

- Land Use
- Circulation, Access and Parking
- Hydrology
- Biology
- Noise
- Public Utilities and Services
- Visual and Other Design Factors
- Geology and Soils
- Air Quality
- Energy
- Archaeology

The Initial Study projected that park traffic would increase by 12% (and up to 18% due to nearby residential developments) over the next 10 years, which is the equivalent of 25 to 40 additional vehicles during the peak period (Sunday 9:30AM to 10:30AM). Under this projection, parking supply would show a deficit of 5 to 20 spaces during peak times.

Parking mitigation measures included prohibiting on-street parking on Cristo Rey Drive and neighboring areas, as well as at the cemetery, and a rigorous patrol and ticketing program. To account for the parking demand, the study considered a 10 to 15 space parking lot outside of the park gate that would be utilized before park opening hours or for spillover parking during operating hours. The 10 to 15-space parking lot outside the gate was the only parking mitigation effort not implemented.

The Initial Study recognized that the planned new parking lots may help resolve the parking dilemma, but would have undesirable visual impacts, may alter the park's open space character, and increase runoff into Permanente Creek. Additional lots should be scattered in nodes, setback away from the creek, and graded to direct runoff away from the creek.

5.3. Deer Hollow Farm Visitor Survey (2013-2014)

Prepared for: Friends of Deer Hollow Farm

Deer Hollow Farm is a regional environmental education center with approximately 100,000 annual visitors from the surrounding 12 Bay Area cities. Deer Hollow Farm is centrally located within the Preserve along the Rancho San Antonio Service Road, about a mile west of the main parking area entrance. The 160-year-old Farm is a destination for educational programs, outdoor classes, and a summer day camp. The Farm is a major attraction for the Preserve, which has contributed to an increase in vehicles at the main parking area entrance. Cities with the highest Farm visitor rates as a percent of total City population include Los Altos (36%), Cupertino (20%), Los Altos Hills (15%), Sunnyvale (14%), and Mountain View (13%).

5.4. Midpeninsula Regional Open Space District Vision Plan (2014)

Prepared for: Midpeninsula Regional Open Space District

The mission of the District is to acquire and preserve a regional greenbelt of open space land in perpetuity, protect and restore the natural environment, and provide opportunities for ecologically sensitive public enjoyment and education. The District developed 54 priority action portfolios focused on land protection, habitat restoration, and low-impact recreation. The vision identifies five core themes and associated goals representing the social values of the region. The five themes are:

- Outdoor Recreation and Healthy Living
- Enjoyment of Natural, Cultural, and Scenic Landscapes
- Healthy Nature (Plants, Animals, Lands and Waterways)
- Connecting with Nature and Each Other
- Viable Working Lands

The 54 priority action portfolios are split amongst two tiers. *Action Item Number 11: Rancho San Antonio Interpretive Improvements, Refurbishing, and Transit Solutions* is listed as a Tier 1 priority. This priority action calls for adding a welcome center, as well as exploring alternative mode options such as extending bike trails, bike share, and bus service. By doing so, this action would seek to improve access to trails and eliminate barriers to using open space. In two separate instances elsewhere, the Vision Plan calls to "enhance capacity of high use areas" and "preserve agricultural fields" at Rancho San Antonio.

5.5. Map and Construction Plan for Permanente Creek Flood Protection Project (June 2016)

Prepared for: Valley Water

This project is located just south of the Rancho San Antonio main parking area entrance. This construction plan outlines the design process for a flood control retention basin called 'North Basin'. The plan also demolishes an existing parking lot to be replaced and relocated as the Hammond-Snyder Lot, which has since been completed and is referenced in detail in Section 2.2.5 of this document. During construction, the Hammond-Snyder Loop Trail would be realigned in between the proposed locations of the North Basin and Hammond-Snyder Lot with provisions for a new Basin Loop trail around the extent of the basin.

5.6. Rancho San Antonio OSP: Transportation Context Map (June 2017)

Prepared for: Midpeninsula Regional Open Space District

This map provides context to proposers interested in providing the District with proposals for the Rancho San Antonio Multimodal Access Study project. The main entry to Rancho San Antonio is just west of Cupertino off Cristo Rey Drive on Santa Clara County Parks land. In the Transportation Context Map, the main entrance is shown to provide 332 parking spaces among five parking lots, although a parking space inventory study prepared as part of this Rancho San Antonio Multimodal Access Study determined that there are 327 spaces among the five lots. The Rancho San Antonio Open Space Preserve: Transportation Context Map details access points to the Park and Preserve. The main entrance via Cristo Rey Drive is approximately 1.2 miles from the closest transit bus route. The VTA Bus Route 81 (now Route 51) serves as the closest bus stop for the Preserve and is located at the intersection of Cristo Rey Drive and Foothill Boulevard. The map also shows other access points located on Rhus Ridge Road, Ravensbury Avenue, and Mora Drive to the north of the Preserve. Montebello Road provides access to the Preserve from the south.

5.7. Rancho San Antonio County Park Potential New Pathway Memorandum (September 2017)

Prepared for: Midpeninsula Regional Open Space District

This memorandum provides information in response to a potential new pathway at Rancho San Antonio, and feedback on the pathway's merits. The pathway would connect Lot 4: South Overflow Lot to the south end of Lot 5: Hammond-Snyder Lot for safer access to park visitors. Currently, park visitors can either walk a steep grassy hillside or along the edge of a vehicular road with no sidewalk. The data showed that approximately 7 to 15 people per hour use the road for access.

The pathway is consistent with the intent of the Rancho San Antonio County Park Master Plan. The District would accept responsibility for design and construction of the new pathway, however, the pathway has not been built and is still under consideration.

5.8. Visitation Use Estimation Project (Updated August 2020)

Prepared for: Midpeninsula Regional Open Space District

This two-phase project gathered and analyzed visitation levels at specific locations within the District, with a focus on Rancho San Antonio. In Phase I, counts were administered

from October 2016 to July 2020. Before COVID-19, visitation at Rancho San Antonio peaked from March 2017 to August 2017 with an average of 44,300 monthly vehicle entries over that period. Because of strong visitation during the summer months in 2017, the Rancho San Antonio main entrance area in 2017 saw the greatest number of visitors (726,276) and vehicle entries (470,109) in the last four calendar years. Visitors and vehicle counts declined between in 2018 but rose to nearly 670,000 visitors in 2019. In calendar year 2019, visitation peaked in April and July with over 84,000 visitors. Visitors per vehicle has remained relatively constant from 2017 to 2018, at approximately 1.55 visitors per vehicle.

Rancho San Antonio has seen a significant uptick in visitation in 2020, mainly due to the Preserve's ability to maintain social distancing practices related to the COVID-19 pandemic. From May 2020 to July 2020, visitation has skyrocketed at over 109,400 visitors per month on average. May 2020 recorded the highest visitation count of over 111,100 visitors, which is 50% higher than the previous four-year May average.

From October 2016 to November 2017, weekends and holidays (3,225 visitors on average) showed significantly higher visitation numbers than weekdays (1,442 visitors on average). The highest average vehicle occupancy occurred from 9:00AM to 11:00AM. Sunny days with moderate to cool temperatures drew the largest number of visitors. Sunny hot days or days with rain subsequently drew the lowest hourly visitation.

A goal of Phase II of the Visitation Use Estimation Project aimed to install counters at all significant Rancho San Antonio entry points to obtain total visitor counts for the park and the Preserve. This goal has been completed, as significant visitation entrances have been outfitted with nine new infrared sensors. In addition, two entrances have been outfitted with bicycle counters.

5.9. San Francisco State University Midpeninsula Survey Report (January 2018)

Prepared for: Midpeninsula Regional Open Space District

The District contracted with Dr. Tierney, a professor at San Francisco State University, to conduct a study of open space preserve visitors through visitor intercept surveys coupled with an online follow-up survey. The overall goals of the project were to:

- Gather and analyze information on preserve visitor characteristics/demographics, trip purpose, planning and activities
- Understand the preserve and trail visitor experience
- Count and estimate number of visits to District preserves
- Understand visitor desires and preferences regarding preserve themes, experiences, facilities and resources
- Understand visitor interests in stewardship of preserves

For Rancho San Antonio, 65% of visitors were white, 21% of visitors spoke a language other than English, and 87% had a bachelor's degree or higher. In addition, 98% of visitors rated their experience as good or very good. The top three primary reasons to visit were to hike, jog, and be with friends. Among surveyed respondents, 10.3% had transportation and/or parking problems, while the most frequent suggestions were to improve parking, restrooms, and trails.

5.10. Visitor Use Level Measurement Project Memorandum (April 2018)

Prepared for: Midpeninsula Regional Open Space District

The District's Visitor Services Department implemented the Visitor Use Level Measurement Project focused on gathering visitor use information at the front entrance to Rancho San Antonio in order to pilot visitor use surveys at other preserves. The average number of people per car was shown to be 1.55. In addition, average car occupancy was shown to be 1.34 on weekdays and 1.89 on weekends and holidays. The highest vehicle occupancy occurred from 9:00AM to 11:00AM with a second peak from 2:00PM to 3:00PM.

Rancho San Antonio entrance gate visitor statistics from the Visitation Use Estimation Project were provided for 2017 in this document. There were 726,276 visitors in the 2017 calendar year. Highest visitation occurred from March to August with an average of 67,000 monthly visitors and 43,830 monthly vehicles entering the Preserve. Visitation was also highest on the weekends, averaging 163,397 visitors and 88,583 vehicles between Saturdays and Sundays. In 2017, there was on average a 39% increase of vehicles from a typical weekday to a typical weekend day.

5.11. Rancho San Antonio Entrance Stats 2016 through 2019 (June 2019)

Prepared for: Midpeninsula Regional Open Space District

Person per car observation counts were conducted over 143 days spanning 973 hours. The average person occupancy per car ranged from 1.45 to 1.53 depending on the time of day and day of week. Visitation statistics were collected per month for three consecutive years. On average, the peak visitation months were May, July, and August. The lowest visitation months were January, February, and October. The highest recorded visitation month was in March of 2017 with over 70,000 visitors and 46,000 recorded vehicles. Visitation was up roughly 22,000 from January through April 2019 from the previous year over the same period (January through April 2018). For the same period from January through April over the last two years, recorded cars entering the main entrance area was up 15,000.

5.12. Agreement for Operation and Management of Rancho San Antonio County Park (Renewed September 30, 2019)

Prepared for: Santa Clara County Parks and Midpeninsula Regional Open Space District

This agreement sets out the terms of the District's management of the developed portion of the County Park that serves as the main entrance to the County Park and Preserve. The District and County Parks established the initial agreement in 2000 to avoid entrance fees proposed in 1999 by County Parks for its parks, including Rancho San Antonio. Renewed in 2019 for a period of five years, the agreement sets out each agency's rights and responsibilities and provides for the implementation of District management policies and regulations. It also ensures a clear communication process if either agency wishes to propose changes that would affect park access or usage.

5.13. Bicycle and Pedestrian Plans of Adjacent Organizations

5.13.1. Los Altos Hills General Plan - Pathways Element (May 2008)

Prepared for: Town of Los Altos Hills

The Pathways Element is the ninth and final chapter of the Los Altos Hills General Plan, adopted in April 2007. The purpose of the Los Altos Hills Pathways Element is to provide circulation throughout the community, safe access, emergency routes, outdoor recreation, and preservation of open character. Los Altos Hills pathways complement the roadway system and enhance non-motorized circulation between neighborhoods and destinations.

The Element references Rancho San Antonio, suggesting that connections to the Preserve from the Town are intended for local residents, and have limited parking. Los Altos Hills also calls for improved access to open space lands.

5.13.2. City of Los Altos Bicycle Transportation Plan (April 2012)

Prepared for: City of Los Altos

This update to the Los Altos Bicycle Transportation Plan presents strategies to improve bicycling conditions and use in Los Altos. Of the goals presented in the Plan, ensuring bikeways connect to all community destinations is listed as a priority.

The Plan proposes Eva Avenue from Granger Avenue as well as St. Joseph Avenue from Eva Avenue to the I-280 undercrossing for a Class II bike lane. The plan identifies that this will connect the existing Class III bike route on Granger Avenue to Rancho San Antonio.

5.13.3. City of Los Altos Pedestrian Master Plan (August 2015)

Prepared for: City of Los Altos

The Los Altos Pedestrian Master Plan provides a vision, strategies, and actions for improving the pedestrian environment in Los Altos. The Plan contains goals and policies related to Rancho San Antonio as well. Goal 2.1 calls to “develop and promote a pathway system within the City, which also connects to open space and trails in the surrounding areas.” Policy 2.1.2 calls to “connect to surrounding local and regional trails and open space”. One of the action items looks to explore the potential for developing a trail connection to Rancho San Antonio from Los Altos through Los Altos Hills and/or Cupertino.

The plan calls for a Class I multi-use path (physically separated path from vehicular traffic) on St. Joseph Avenue from Montclair Middle School to I-280 undercrossing, which leads directly to the Deer Meadow Trail trailhead.

5.13.4. Mountain View Bicycle Transportation Plan Update (November 2015)

Prepared for: City of Mountain View

The objective of the Mountain View Bicycle Transportation Plan is to implement the City’s 2030 General Plan mobility goals by specifically addressing bicycle-related needs of the community. The plan calls to provide a safe and efficient bicycle network that improves access and eliminates barriers for bicycle travel, as well as promotes cycling as a

recreational activity. The plan calls for improvements to network gaps along Springer Road at El Monte Road and leading toward Magdalena Avenue, as well as Grant Road toward Foothill Expressway, which are key corridors that connect to existing Rancho San Antonio access points.

5.13.5. City of Cupertino Bicycle Transportation Plan (June 2016)

Prepared for: City of Cupertino

The City of Cupertino envisions an exceptional bicycling environment that supports active living and provides access to recreation. The Plan also outlines three goals, one of which increases bicycle access to community destinations such as Rancho San Antonio.

Rancho San Antonio County Park was identified as a bicycling attractor and generator. Because of this, the plan calls for an update in bicycle facilities, including bicycle parking. The Cristo Rey Drive corridor from Foothill Boulevard to the Preserve was identified as either medium-high to high stress for bicycling.

The proposed bicycle plan calls for a new Class II bicycle lane from Foothill Boulevard to the start of the existing Class I bicycle path at the Hammond-Snyder Loop Trail and St. Francis Drive. The plan also calls for a new Class I bicycle path from the Hammond Snyder Loop Trail to Stevens Creek Boulevard, including a bicycle-pedestrian bridge just east of the Snyder-Hammond House at the proposed Class I bicycle path and Union Pacific rail crossing. A Class IV separated bike lane (bike facilities on a roadway but physically separated from vehicles) on Stevens Creek Boulevard and a Class II buffered bike lane on Foothill Boulevard are identified in the 'separated' bikeway network.

5.13.6. Town of Los Altos Hills Master Path Plan (September 2013) & Study of Pedestrian Path along W. Loyola and Mora Drives (October 2016)

Prepared for: Town of Los Altos Hills

The Los Altos Hills Master Path Plan identifies existing, approved, and proposed paths and roads within the City boundary. Mora Drive, from the Mora Trail trailhead to Eastbrook Avenue was identified for a proposed off-road and roadside path.

This pedestrian path study addresses the feasibility of constructing a pedestrian path along the south side of Mora Drive and West Loyola Drive. The addition of a pathway along Mora Drive would significantly improve pedestrian access to Rancho San Antonio via the Mora Trail trailhead. The total cost to construct a path along Mora Drive was estimated to range between \$433,000 and \$557,000.

5.13.7. City of Cupertino Pedestrian Transportation Plan (February 2018)

Prepared for: City of Cupertino

This Plan serves as the blueprint for Cupertino to achieve its vision of an inviting, safe, and connected pedestrian network as an integral part of the City's multimodal transportation network.

The Cristo Rey Drive corridor from Foothill Drive to the Preserve was mostly identified as having medium-high demand for pedestrians, even though sidewalks are not present adjacent to the neighborhood connector.

Stevens Creek Drive, west of Foothill Boulevard, including the segment over the Union Pacific rail line connecting to the Hammond-Snyder Loop was identified as a priority project for new sidewalks.

5.13.8. Sunnyvale Active Transportation Plan (Adopted August 25, 2020)

Prepared for: City of Sunnyvale

The purpose of the 2020 Sunnyvale Active Transportation Plan is to create a safe, connected, and efficient citywide active transportation network. When finalized, this plan will update Sunnyvale's 2006 Bicycle Plan and 2007 Pedestrian Safety Study. Sunnyvale has nearly 90 miles of bikeways among all four main bicycle classes.

The Plan calls for the adoption of a low-stress 'spine' network throughout the city, including on SR-85. The existing Class II bicycle lane on Homestead Road is the main connecting facility that may take park visitors to and from Rancho San Antonio from Sunnyvale. The Plan calls for numerous north-south connections to make getting to the Homestead Road facility possible, including a shared-use path on Bernardo Avenue (high-priority), and bicycle boulevards on Wright Avenue, (medium-priority), Kennewick Drive (medium-priority), and Belleville Way (low-priority). These changes would be possible by a one-way roadway conversion on Bernardo Avenue, and the removal of on-street parking on Homestead Road from Bernardo Avenue to Samedra Street. There is an existing bicycle lane on Mary Ave, which also connects to Homestead Road.

The Active Transportation Plan also addressed a host of medium-priority Safe Routes to School Improvements in the southwest corner of Sunnyvale, which may benefit pedestrian connectivity to Cupertino Middle School as well as Rancho San Antonio.

5.13.9. Santa Clara Countywide Bicycle Plan (May 2018)

Prepared for: Santa Clara Valley Transportation Authority (VTA)

The Santa Clara Countywide Bicycle Plan envisions a countywide bicycle network that is safe, convenient, and connected, enabling people to easily bike to work, school, transit, recreation, and elsewhere. This plan, an update from VTA's 2008 Bicycle Plan, expands and prioritizes a network of Cross County Bicycle Corridors (CCBCs), Across Barrier Connections (ABCs), and bicycle superhighways.

The Plan outlines four goals to achieve the Plan's vision. Goal 1: *Develop a Comprehensive and Continuous Countywide Bicycle Network*, calls for the creation of links to parks and other destinations, as requested by the Plan's outreach participants. Goal 1, Action 1A-1 calls for the development of selected CCBCs and ABCs with support of County Parks.

The Plan identifies Foothill Expressway and Foothill Boulevard to Stevens Creek Boulevard and Cristo Rey Drive from Foothill Boulevard to The Forum as priority CCBCs. Previously, Cristo Rey Drive was determined as an unconstructed on-street CCBC in February 2016. The Plan also identifies a bicycle-unfriendly freeway interchange on Foothill Boulevard at the I-280 interchange. The interchange is planned to be addressed as a priority element. In addition, there is a planned grade-separated crossing at the Hammond-Snyder Loop Trail entrance pathway stemming from Stevens Creek Boulevard, placed at the railroad crossing just east of the Snyder-Hammond House.

5.14. Other Supporting Documents

5.14.1. National Parks Service Congestion Management Toolkit (March 2014)

Prepared for: National Park Service

This toolkit provides a list of congestion mitigation solutions and tools that can be applied to address specific congestion problems in National Park settings. The Congestion Management System/ Process aims to solve congestion based on adaptive management. Types of Congestion Management Approaches in the toolkit include:

- Additional Capacity (AC) - 5 tools
- Electric Systems (ES) - 10 tools
- Public Transportation (PT) - 9 tools
- Traffic Operational Improvements (TOI) - 22 tools
- Visitor Demand Management (VDM) - 13 tools

Each tool is given a description and is evaluated based on best fit for location, strategies achieved, implementation considerations, coordination needed, time to implement, cost information, examples, performance standards for measurement, and additional resources. Past and future data collection efforts can be used to inform appropriate congestion management strategies for Rancho San Antonio.

A few tools that have been used by the District include:

- AC-3 Expand Parking Supply
- TOI-20 Turn Prohibitions/ Restrictions
- TOI-21 Vehicle Use Restrictions
- VDM-4 Media/ Social Media/ Mobile Device Apps
- VDM-7 Partnerships, Collaboration, Public Involvement, and Outreach

52 unique sources are referenced in this document, including:

- The Transportation Toolkit for Federal Land Managers.
- Service Times and Capacity at National Park Entrance Stations
- Intelligent Transportation Systems Costs Database
- The Toolbox for Alleviating Congestion and Enhancing Mobility

Rancho San Antonio

Parking Analysis



6. Parking Analysis Methodology

This section establishes the methodology for collecting parking data, summarizes previously collected parking data, and analyzes existing parking conditions at Rancho San Antonio. The information and analysis contained in this section informs the multimodal access opportunities and constraints.

In addition to evaluating existing and future bicycle or pedestrian-focused entrances to the Preserve, the Study carefully analyzes the Rancho San Antonio main entrance via Cristo Rey Drive and its corresponding parking supply and demand issues as it is the main preserve entrance and the only entrance with significant public parking. This study seeks to evaluate potential solutions regarding mitigating parking demand during peak times, as well as improving multimodal access.

6.1. Previous Parking Data Collection

The District has a substantial amount of parking data for the Preserve that was collected prior to the initialization of the Study. This data sets a foundation for Preserve parking behaviors and trends for individual days, days of the week, and throughout the years. IBI Group acquired these parking datasets from the District at the beginning of this study.

Previous data collection efforts each took place for a single project. These previous parking related documents include:

- Visitation Use Estimation Project (December 2017, updated March 2019)
- Visitor Use Level Measurement Project Memorandum (April 2018)
- Rancho San Antonio Entrance Stats 2016 through 2019 (June 2019)

Data from these three documents was compiled and used to better understand the history of parking conditions at the Preserve. This data will be analyzed together with more recent data collected by IBI Group to inform parking management strategies for the Preserve and reduce parking demand.

6.2. Multimodal Study Parking Data Collection

IBI Group, with the assistance of National Data & Surveying Services, collected parking demand and vehicle entrance data during two separate three-day data collection periods. The first data collection period was from Thursday, October 17, 2019 to Saturday, October 19, 2019. During this time period, three data collection processes took place:

- Inbound and outbound 24-hour traffic counts at the main parking area entrance
- Parking counts every 30 minutes from 3:30 PM to 6:30 PM on Thursday and Friday, as well as 7:30 AM to 4:00 PM on Saturday for parking lots accessed from the main parking area entrance
- Parking and access in-person surveys

Data was also collected from Friday, November 29, 2019 to Saturday, December 1, 2019 to assess holiday demand, as this time period followed the Thanksgiving holiday. During this time period, one data collection process took place:

- Inbound and outbound 24-hour traffic counts at the main parking area entrance

The data collected during these time periods reveal parking behaviors, specifically peak parking per lot, per time of day, peak parking per day of week, and holiday parking demand. The parking data collection days and times were selected in consultation with District Ranger staff and are consistent with data collection best practices to capture the extent of peak parking demand at the main entrance.

Although the Preserve sees highest parking demand in summer months, the Multimodal Access Study project schedule dictated collection dates occurring in October and November. These dates were chosen in coordination with District staff. These months historically do not see the highest parking demand in the calendar year. Nevertheless, collected data was extrapolated in the parking analysis conclusions to reflect demand in the summer months, which typically is the period with the highest parking demand.

6.3. Parking and Access Survey Data Collection

IBI Group and the District created the Rancho San Antonio Parking and Access Survey to capture visitor input on parking at the Preserve. The survey asked parking visitors who experience the parking problem about possible options to resolve the issue.

The 12-question online survey was initially created on surveymonkey.com and can be found in Figure 6.1 and Figure 6.2. The online survey was available to the public online from October 17, 2019 to January 3, 2020. In order to advertise and kick off the survey, IBI Group and National Data and Surveying Services (NDS) distributed the survey in-person for three consecutive days from October 17, 2019 to October 19, 2019. The in-person surveys were conducted by asking Preserve visitors arriving at or leaving the five entrance parking lots if they had a moment to answer Preserve parking-related questions. Survey administrators were strategically located at the three parking entrance points near the Rancho Main Lot (Lot 1) and the Hammond-Snyder Lot (Lot 5) (See Figure 8.1). In-person survey results were later entered on surveymonkey.com manually.



For Preserve visitors who did not have time to answer the survey, the survey administrators handed out business cards with web links to the online survey. The business cards were in the same color scheme as the survey. At the end of the three-day in-person survey period, one blank survey was used as an advertisement and the remaining online link cards were posted onto the Rancho San Antonio message board near the restrooms in the Rancho Main Lot (see image) in an effort to increase survey participation from visitors who did not visit the Preserve during the three-day period noted above.

The online survey was also advertised in a variety of ways to increase the number of responses and achieve a statistically valid sample size. These included:


- A descriptive section of the Multimodal Access Project on the District's Rancho San Antonio landing page.
- A landing page on the District website dedicated to the Rancho San Antonio Multimodal Access Project with a link to take the survey.
- District Instagram posts on October 22, November 28, and December 20, 2019.
- District Facebook posts on October 22, November 28, and December 20, 2019.
- District Twitter Posts October 22, November 28, and December 20, 2019.
- District Twitter Retweets from the SV Bike Coalition post on December 16, 2019.
- Direct emails to District stakeholders and email notification lists.

In total, 105 surveys were conducted in-person and an additional 895 surveys were received online through the surveymonkey.com link:

<https://www.surveymonkey.com/r/RSASurvey>.

At the end of the survey period, exactly 1,000 respondent surveys were recorded.

Figure 6.1: Rancho San Antonio Parking and Access Survey (Front)



Rancho San Antonio Parking & Access Survey

This survey is being conducted on behalf of the
Midpeninsula Regional Open Space District.

1. Why do you come to the Rancho San Antonio Preserve? (choose all that apply)

<input type="checkbox"/> Hike	<input type="checkbox"/> Enjoy nature	<input type="checkbox"/> Take the family
<input type="checkbox"/> Bike	<input type="checkbox"/> Fitness	<input type="checkbox"/> See wildlife
<input type="checkbox"/> Explore	<input type="checkbox"/> Relax	<input type="checkbox"/> Fly model aircraft
<input type="checkbox"/> Other (please specify)		

2. How frequently do you come to the Rancho San Antonio Preserve?

<input type="checkbox"/> At least 3 times per week	<input type="checkbox"/> Once or twice per month
<input type="checkbox"/> Once or twice per week	<input type="checkbox"/> Less than once per month

3. Who do you typically visit Rancho San Antonio Preserve with?

<input type="checkbox"/> Friends / family	<input type="checkbox"/> Alone
<input type="checkbox"/> Other or organized group (please specify)	

4. What days do you typically visit the Rancho San Antonio Preserve?

<input type="checkbox"/> Weekdays (Monday-Friday)	<input type="checkbox"/> Weekends (Saturday-Sunday)
---	---

5. On average, how long do you stay at the Rancho San Antonio Preserve?

<input type="checkbox"/> About an hour or less	<input type="checkbox"/> 2 to 4 hours
<input type="checkbox"/> About 1 or 2 hours	<input type="checkbox"/> More than 4 hours

6. How do you typically get to the Rancho San Antonio Preserve?

<input type="checkbox"/> Walk	<input type="checkbox"/> Carpool
<input type="checkbox"/> Bike	<input type="checkbox"/> Uber / Lyft / Rideshare
<input type="checkbox"/> Drive alone	<input type="checkbox"/> Public transit
<input type="checkbox"/> Other (please specify)	

Figure 6.2: Rancho San Antonio Parking and Access Survey (Back)

7. If you typically drive alone or carpool to Rancho San Antonio, which access improvement would help you switch to another mode instead of driving?

- ☐ New or improved walking access to the site (new sidewalks, etc...)
- ☐ New or improved bike access to the site (new or expanded bike lanes, etc...)
- ☐ Bike facilities (Bike racks, repair stations, lockers, etc...)
- ☐ Free or low cost shuttle service from another locations
- ☐ On-demand shuttle service (similar to City of Cupertino's pilot shuttle program)
- ☐ Improved public transit options (expanded routes, closer bus stop, etc...)
- ☐ Improved or discounted rideshare options (designated drop-off area, discounts)
- ☐ Use of bikeshare or similar (e-scooters, dockless bike share)
- ☐ A park access point closer to my residence / place of origin
- ☐ None of these / I wouldn't switch to another mode of transportation
- ☐ I'd also consider (please specify):

8. What are the biggest barriers to coming to the Rancho San Antonio Preserve by any mode besides a car?

9. What is your Zip Code of residence?

10. What is your primary race(s)?

- | | |
|---|--|
| <input type="checkbox"/> White or Caucasian | <input type="checkbox"/> American Indian or Alaska Native |
| <input type="checkbox"/> Black or African American | <input type="checkbox"/> Native Hawaiian or other Pacific Islander |
| <input type="checkbox"/> Hispanic or Latino | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> Asian or Asian American | |
| <input type="checkbox"/> Another race (please specify): | |

11. Which category best describes your total annual household income?

- | | | |
|---|---|---|
| <input type="checkbox"/> Less than \$25,000 | <input type="checkbox"/> \$75,000 to \$99,999 | <input type="checkbox"/> \$250,000 or more |
| <input type="checkbox"/> \$25,000 to \$34,999 | <input type="checkbox"/> \$100,000 to \$124,999 | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> \$35,000 to \$49,999 | <input type="checkbox"/> \$125,000 to \$149,999 | |
| <input type="checkbox"/> \$50,000 to \$74,999 | <input type="checkbox"/> \$150,000 to \$249,999 | |

12. Please provide any additional comments on parking at or accessing the Rancho San Antonio Preserve:

Thank You!

7. Existing Rancho San Antonio Entrance Data

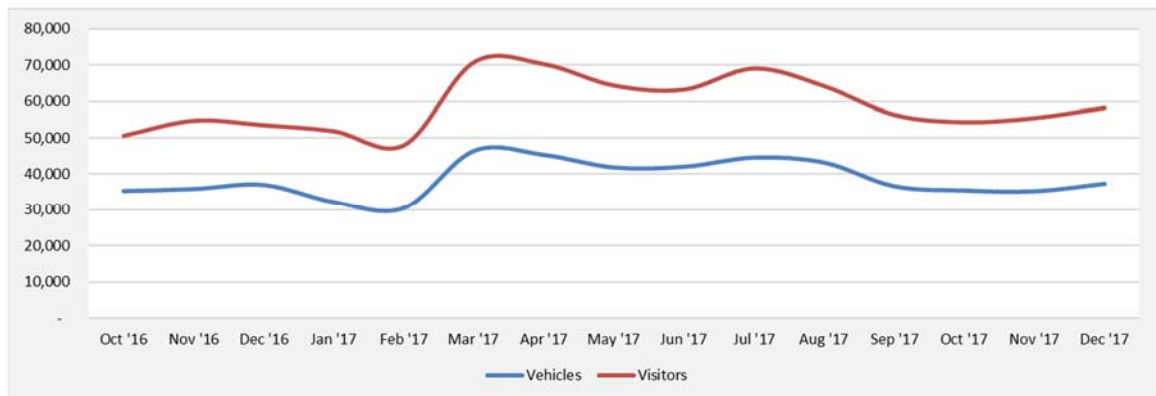
Data from this section summarizes the Visitation Use Estimation Project (2016 - 2019), a culmination of previous parking data collection efforts designed to gather quantitative data on parking utilization and Preserve visitation. Electronic instrument collection and observational data collection were used at Rancho San Antonio to assess visitation counts and patterns.

7.1. Vehicle and Visitor Counts by Month

The following is a summary of electronic instrument counts collected for the project. Electronic instrument counts only account for vehicles at the main entrance. Therefore, data presented in this section does not include pedestrian or bicyclist entrance counts, or vehicle counts at other entrances. Figure 7.1 shows Rancho San Antonio visitation to the Main Lot by month from January 2016 to April 2019.

Visitor counts were conducted for this study from October 2016 to December 2017 by noting the number of occupants in each vehicle entering through the main entrance. From this, an average number of visitors per car per month could be calculated. In 2018 and 2019, this average was then applied to the vehicle counts to estimate the number of visitors. Figure 7.1 shows vehicle counts and observed occupants per vehicle from October 2016 to December 2017.

Figure 7.1: Rancho San Antonio Observed Occupant Counts and Vehicle Entries by Month (October 2016 to December 2017)



Vehicle occupancy (number of people per car) ranged from 1.40 (March 2016) to 1.61 (January 2017) from the visitor counts conducted from October 2016 to December 2017. Average occupancy was 1.46 in 2016 and 1.55 in 2017.

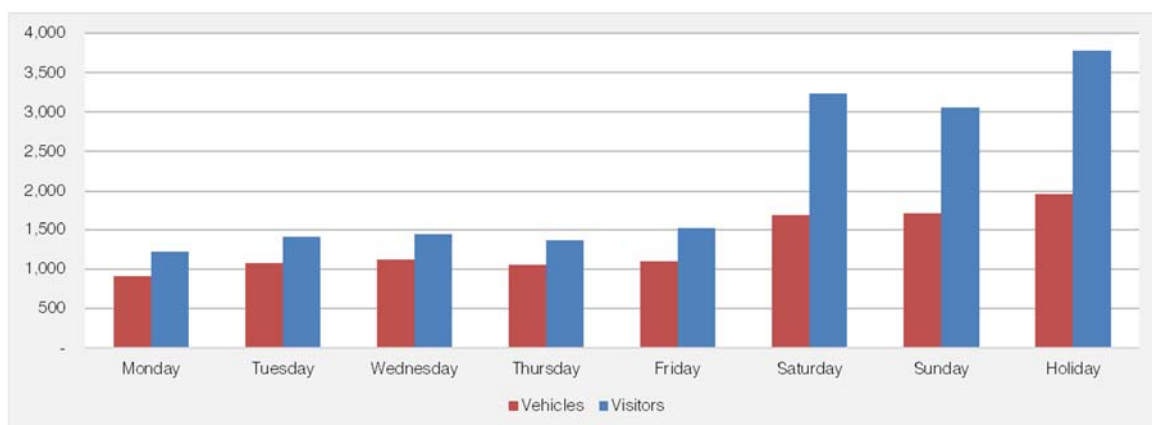
In general, the number of Rancho San Antonio visitors using the Main Lot has remained relatively constant over a three-year period, with peaks in the spring and summer and lower turnout in winter months. The highest recorded month in number of vehicles and visitors was March 2017 with over 46,000 vehicle entries and over 70,000 total visitors. Over the three-year period the highest recorded months were May and July in 2016, March and July in 2017, and May and July in 2018.

7.2. Vehicle and Visitor Counts by Day of Week (2017)

Data was also categorized by day of week to determine which day(s) typically see high or low visitation demand. This data is useful in determining peak parking demand. Holidays were calculated separately from a traditional day of the week to avoid skewed data. Figure 7.2 shows total vehicle and visitor counts by day of week for one calendar year (2017).

Monday through Friday have similar data points for number of vehicles and number of visitors among the five days. A typical weekday would average over 1,000 vehicles and 1,380 visitors per day. However, these figures noticeably rise for Saturday and Sunday, when there were approximately 1,700 vehicles and 3,000 visitors for an average weekend day. For the ten federally recognized holidays in 2017, the number of vehicles and visitors averaged higher than any weekday or weekend day at nearly 2,000 vehicles and over 3,700 visitors on average.

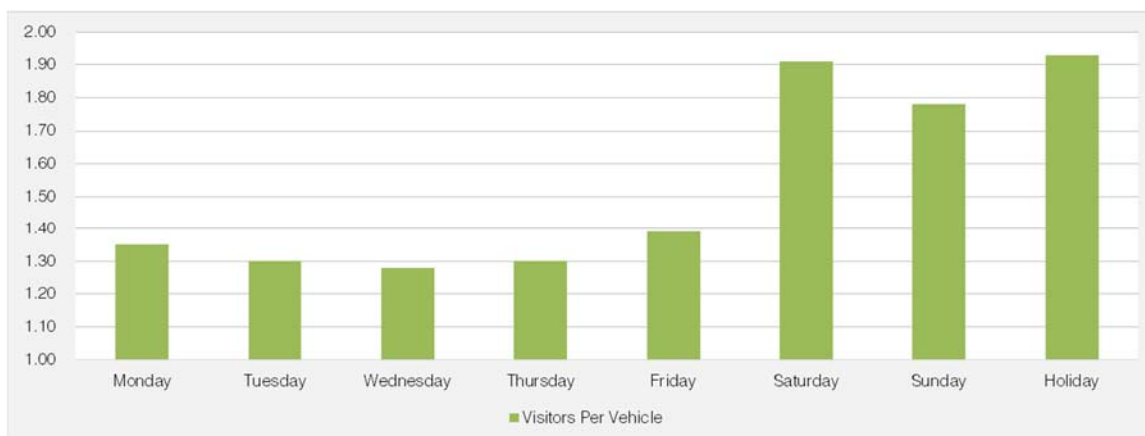
Figure 7.2: Rancho San Antonio Visitation Totals by Day of Week for One Calendar Year (2017)



Based on this data, a ratio was calculated for each day of the week (or holiday) by dividing the number of visitors by the number of vehicles to determine the average number of visitors per vehicle. Figure 7.3 shows Rancho San Antonio visitors per vehicle by day of the week.

Monday through Friday have similar data points for the number of visitors per vehicle among the five days, with an average of 1.32. However, this figure noticeably rises for Saturdays (1.91), Sundays (1.78), and holidays (1.93). This rise in visitors per vehicles for weekend days and holidays could be attributed to a higher rate of family and group trips who are carpooling to the Preserve.

Figure 7.3: Rancho San Antonio Visitors per Vehicle by Day of the Week (2017)

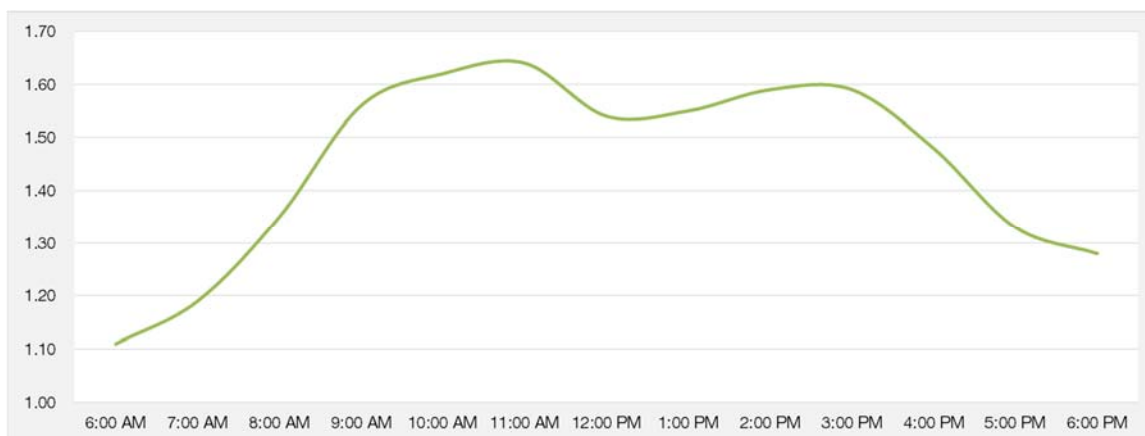


7.3. Visitors per Vehicle by Hour of Day

Data was also provided for visitors per vehicle by hour of the day for all days of the week. Figure 7.4 shows visitors per vehicle by time of day at Rancho San Antonio.

Peak car occupancy occurs from 10:00 AM (1.62) to 11:00 AM (1.64), as well as a smaller peak in the afternoon period from 2:00 PM to 3:00 PM (both 1.59). The lowest vehicle occupancy occurs in the early morning (1.11). Average peak occupancy throughout the day is 1.45 visitors per vehicle. Peak car occupancy tends to match peak parking demand times. District Ranger observations indicate that solo visitors who regularly come for exercise tend to arrive early in the mornings on weekends and weekdays. District staff note that groups such as families come later in the day.

Figure 7.4: Rancho San Antonio Visitors per Vehicle by Time of Day



8. Rancho San Antonio Parking Analysis

This section outlines the results from the IBI Group's data collection conducted for the Multimodal Access Study and includes a summary of the parking analysis and daily traffic analysis for each individual study day.

8.1. Daily Parking Analysis

Parking counts were conducted on Thursday, October 17, 2019 and Friday, October 18, 2019, from 3:30 PM to 6:30 PM in an effort to capture what District staff observe to be peak visiting times for October, when this study began. Peak visiting times change with the seasons as the days lengthen and the Preserve remains open longer after people get off work. District Ranger staff observe that the peak visitation season starts in April (March if the weather is good) and lasts through August.

Parking counts were also conducted on Saturday, October 19, 2019 from 7:00 AM to 4:00 PM to capture visiting times throughout the day on the weekend days when visitation is typically higher. All charts in this section are compared against total parking inventory, which is 322 spaces (including 12 accessible spaces and excluding 5 motorcycle spaces) and is marked by a dark green line in each chart. The Preserve entry gate closes at or near sunset. When the parking count was measured, sunset occurred between 6:25 p.m. and 6:28 p.m.

The five lots within the Preserve main entrance off Cristo Rey Drive were studied. The five lots are described as follows:

- Rancho Main Lot (Lot 1) – 116 parking spaces, 5 of which are accessible
- North Overflow Lot (Lot 2) – 49 parking spaces
- Central Overflow Lot (Lot 3) – 24 parking spaces, 2 of which are accessible
- South Overflow Lot (Lot 4) – 49 spaces, 1 of which is accessible
- Hammond-Snyder Lot (Lot 5) – 84 spaces, 4 of which are accessible

Average Daily Traffic (ADT) counts were collected at the main entrance of the parking facility. The ADT counter was placed at the main entrance to capture all vehicles entering and exiting the facility and used to determine at what time vehicles entered and exited the Preserve, as well as how many vehicles were in the Preserve at any given time.

The location of each of the five lots respective of the Rancho San Antonio main entrance, as well as the location of the ADT counter, is shown below in Figure 8.1.

Rancho San Antonio Main Entrance Parking Facility



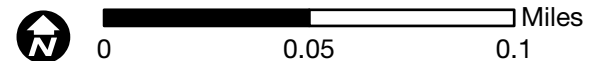
1 Rancho Main Lot

2 North Overflow Lot

3 Central Overflow Lot

4 South Overflow Lot

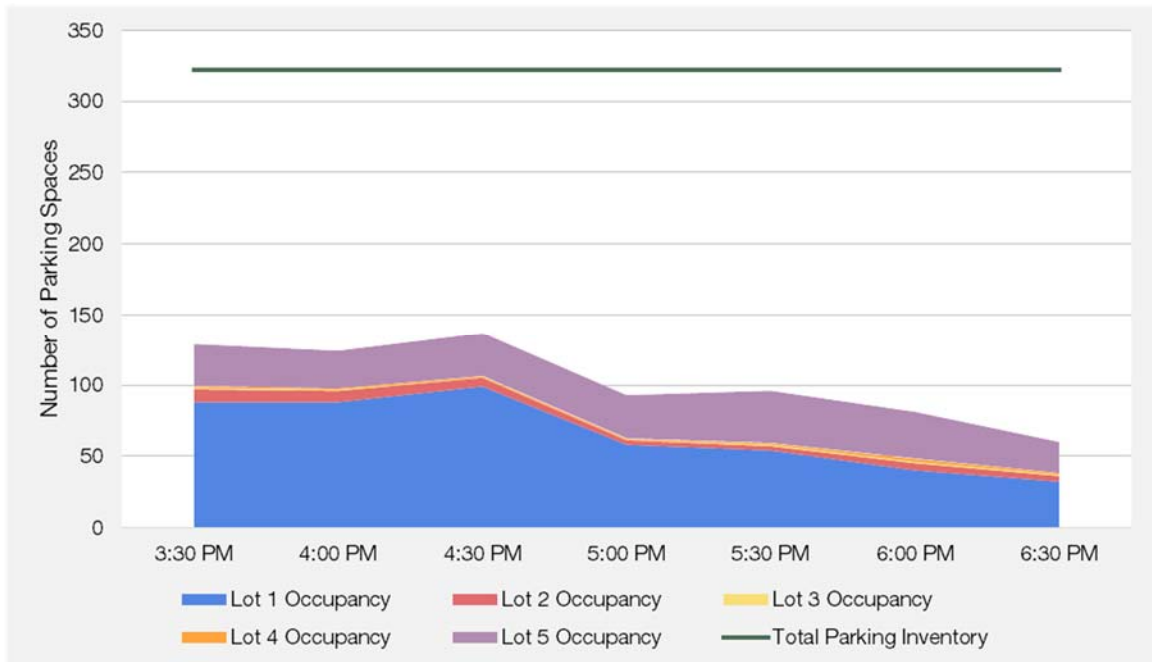
5 Hammond-Snyder Lot



8.1.1. Thursday

Peak time on Thursday afternoon was at 4:30 PM, when 132 vehicles were parked across all five lots. In general, parking demand slowly declined from 4:30 PM to 6:30 PM over this time period. Lot 1 saw the highest parking demand by total and percentage, at just over 85% at 4:30 PM. Lot 5 peaked at 37 vehicles at 5:30 PM, or 44% of capacity. Lots 2, 3, and 4 saw no more than 10 cars each at any one time. At peak, the 132 vehicles counted at 4:30 PM equates to 43% of parking capacity. Figure 8.2 details Thursday, October 17, 2019 afternoon parking occupancy pattern.

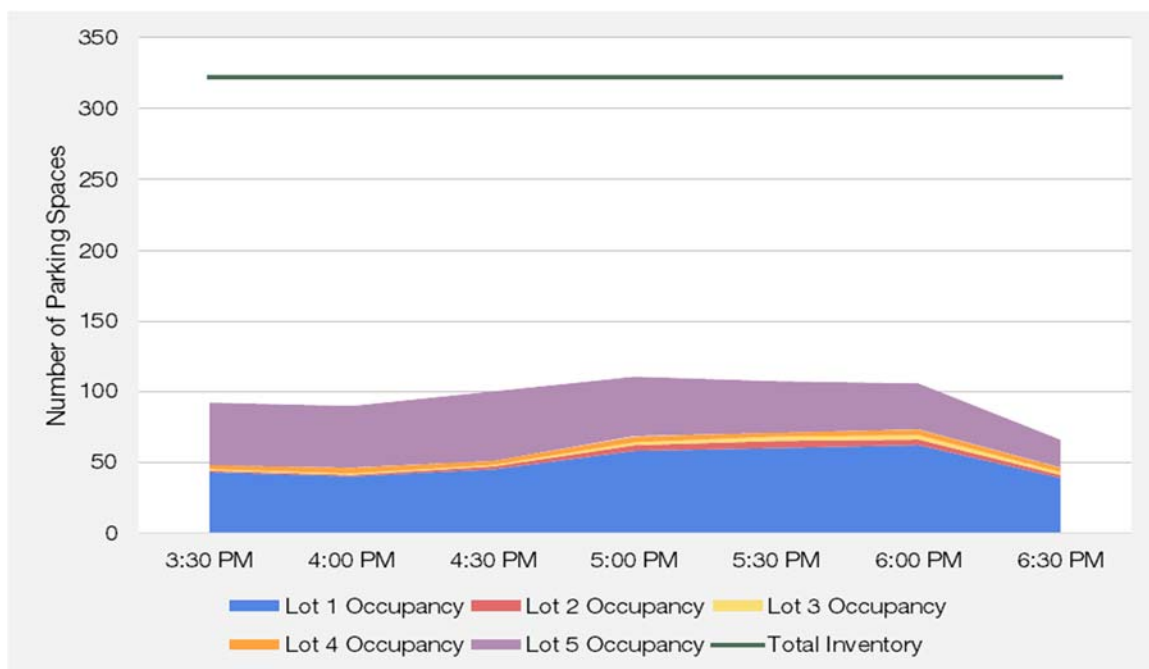
Figure 8.2: Thursday Parking Occupancy



8.1.2. Friday

Peak time on Friday afternoon was at 5:00 PM, when 110 vehicles were parked across all five lots. In general, parking demand slowly rose from 3:30 PM to 5:00 PM, then plateaued until 6:00 PM. Lot 1 saw the highest parking demand by total and percentage, at just over 53% at 6:00 PM. Lot 5 peaked at 49 vehicles at 4:30 PM, or 58% of capacity. Lots 2, 3, and 4 saw no more than 5 cars each at any one time. At peak, the 110 vehicles counted at 5:00 PM equates to 34% parking capacity. Figure 8.3 details Friday, October 18, 2019 afternoon parking occupancy.

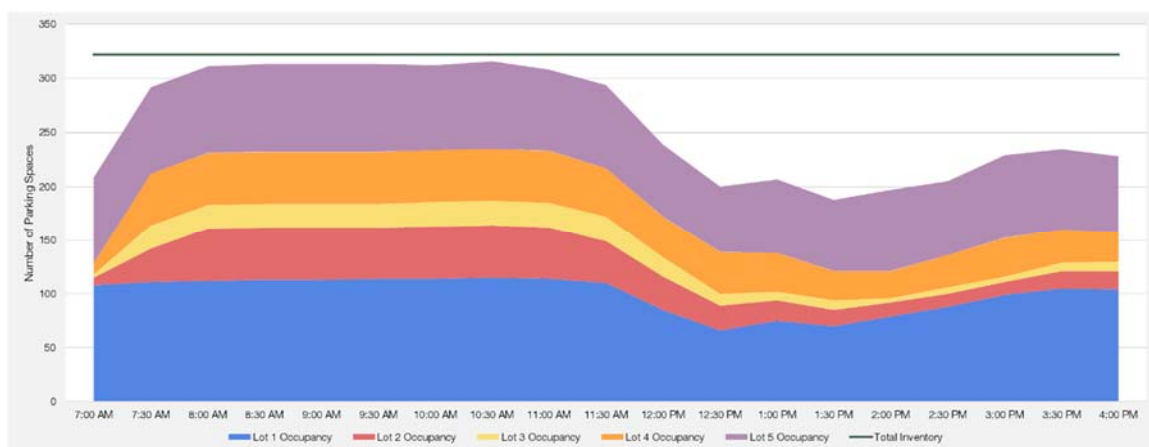
Figure 8.3: Friday Parking Capacity



8.1.3. Saturday

Peak time on Saturday was at 10:30 AM, when 316 vehicles were parked across all five lots. In general, parking demand rose substantially and remained high from 7:00 AM to 11:00 AM, reaching full capacity during the latter portion of this time period (excluding accessible spaces). There was a smaller peak in the afternoon, with demand reaching as many as 235 vehicles at 3:30 PM. All five lots reached 100% utilization for standard spaces during the morning peak period, from 8:00 AM to 10:30 AM. Figure 8.4 details Saturday October 19, 2019 parking occupancy. It is important to note that at 7 AM or Preserve opening, Lot 1 and Lot 5 quickly reached 94% capacity. The gap between the total inventory line and peak demand is represented by only unutilized ADA-accessible spots.

Figure 8.4: Saturday Parking Occupancy



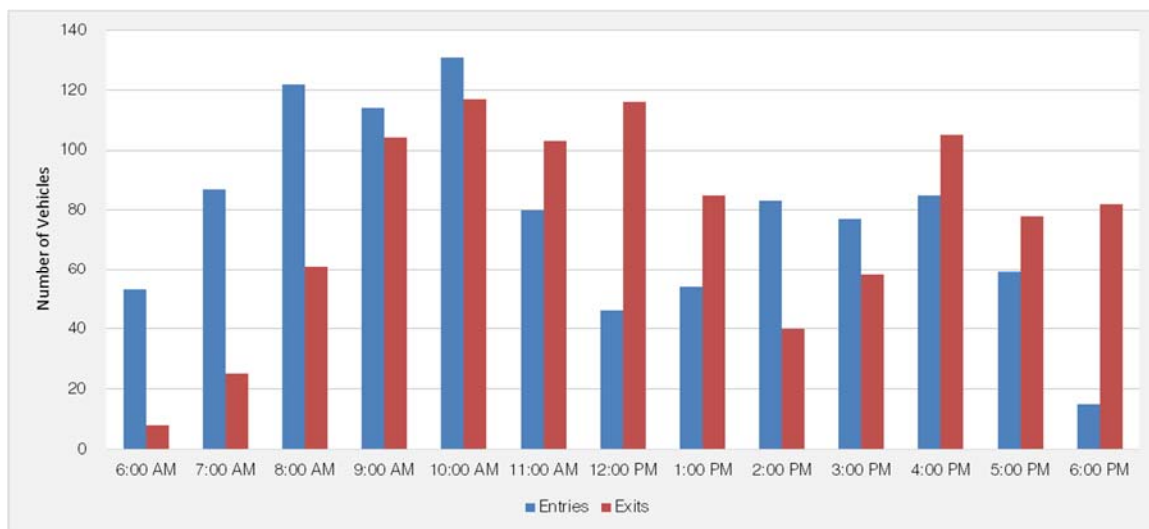
8.2. Daily Traffic Analysis

Daily vehicular traffic counts were taken at the main entrance of the Preserve, which is the main vehicular ingress and egress point for public visitors. Counts are summarized by 15-minute intervals for 24 hours a day, providing holistic data on how many vehicles enter and exit the Preserve, and at what times. Vehicle traffic counts were conducted on October 17, 2019 to October 19, 2019. All charts in this section are compared against total parking inventory, which is 322 spaces (including 12 accessible spaces and excluding 5 motorcycle spaces) and is marked by a dark green line. The weather over the three days was clear to fair with temperature highs of 69 to 71 degrees Fahrenheit. District Ranger staff observe that visitation increases significantly on days when the weather is good.

8.2.1. Thursday

On Thursday, the peak entrance time was at 10:00 AM to 11:00 AM with 131 vehicle entries. Peak exit time was also from 10:00 AM to 11:00 AM with 117 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 11:00 AM, as well as during the afternoon peak from 2:00 PM to 4:00 PM. The largest difference between entries and exits was 7:00 AM to 8:00 AM, when 61 more vehicles entered, and at 12:00 PM to 1:00 PM when 70 vehicles left. In general, peak entries were typically followed by peak exits approximately 2 hours later, inferring that the average time spent at the Preserve per visitor is approximately 2 hours. In total 1,007 vehicles entered the Preserve on this study day.

Figure 8.5: Thursday Daily Traffic

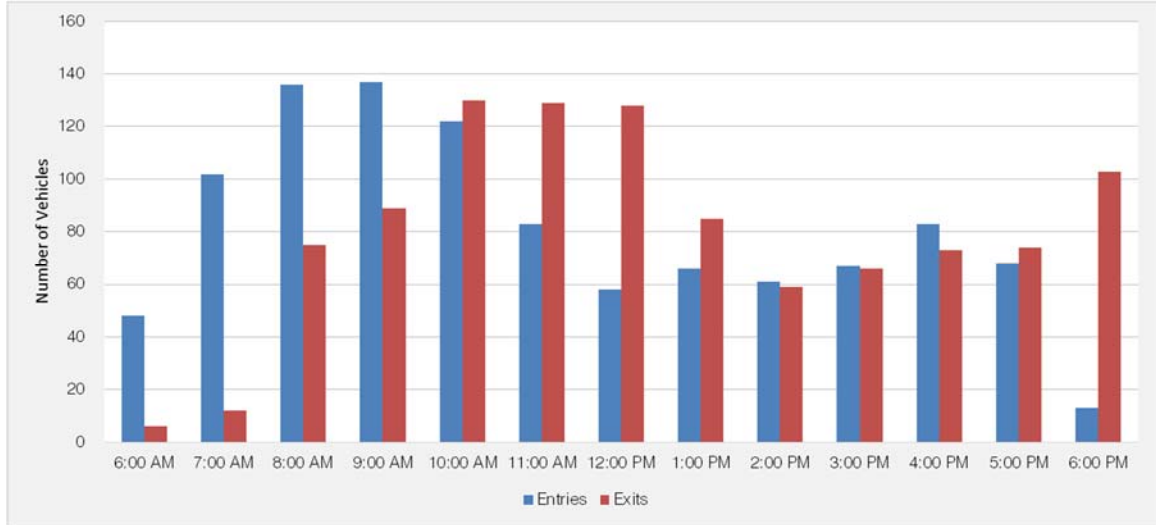


8.2.2. Friday

On Friday, the peak entrance time was at 9:00 AM to 10:00 AM with 137 vehicle entries. Peak exit time was from 10:00 AM to 11:00 AM with 130 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 10:00 AM, as well as at the afternoon peak from 2:00 PM to 5:00 PM. The largest difference between entries and exits was at 7:00 AM to 8:00 AM, when 90 more vehicles entered than left, and at

6:00 PM to 7:00 PM when 90 more vehicles left than entered. In general, peak entries were typically followed by peak exits approximately 2 hours later. In total 1,047 vehicles entered the Preserve on this study day.

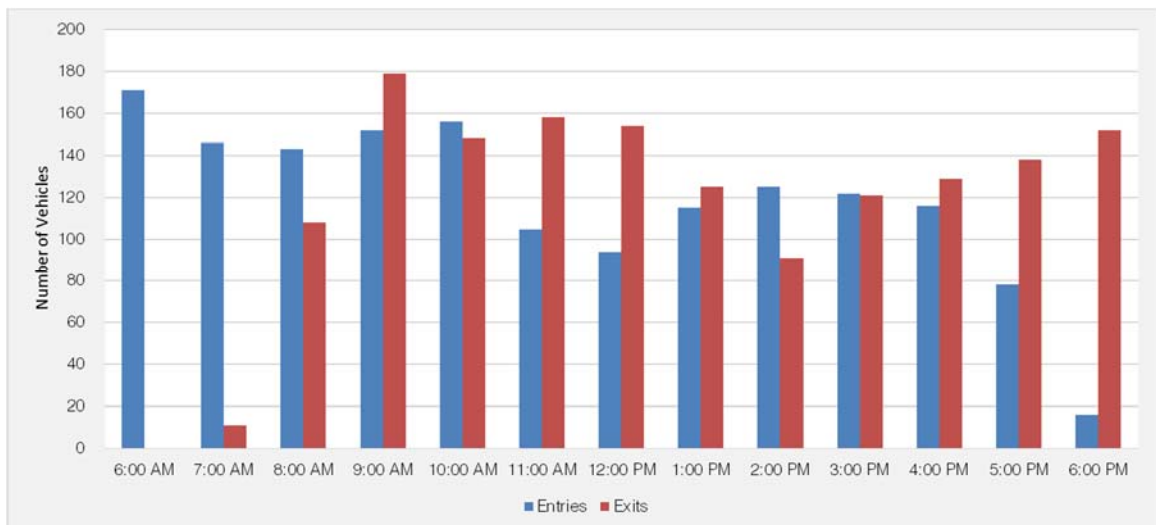
Figure 8.6: Friday Daily Traffic



8.2.3. Saturday

On Saturday, the peak entrance time was at 6:00 AM to 7:00 AM with 171 vehicle entries. Peak exit time was from 9:00 AM to 10:00 AM with 179 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 9:00 AM, as well as at the afternoon peak from 2:00 PM to 4:00 PM. The largest difference between entries and exits was at 6:00 AM to 7:00 AM, when 171 vehicles entered and none left, and at 6:00 PM to 7:00 PM when 136 more vehicles left than entered. In general, peak entries were typically followed by peak exits approximately 2 hours later. In total 1,546 vehicles entered the Preserve on this study day.

Figure 8.7: Saturday Daily Traffic



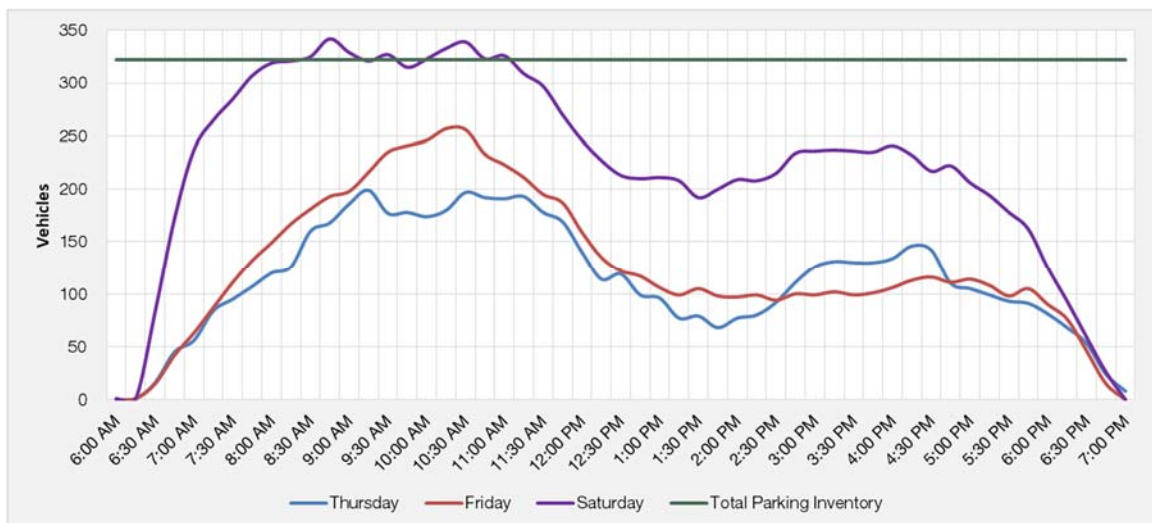
8.2.4. Vehicles in the Preserve Main Lot

When using daily traffic data that monitors the number of vehicles entering and exiting the Preserve at specific times, deductions can be made on how many vehicles are in the parking lots at any given time. The number of vehicles in the parking lots can be compared against the number of parking spaces to determine at which times the number of vehicles meet or exceed capacity.

In general, parking demand at the Preserve can be characterized as having a peak demand period during the morning period, and to a lesser extent, peak demand period in the afternoon. It should be noted that the weekday pattern measured during this study is affected by the earlier fall closing time for the Preserve. It is expected and reported by District staff that visitation peaks after work on longer weekdays in the late spring through summer. Longer summer days also affects weekend visitation with a second peak lasting later into the afternoon in the summer. Weekend demand far exceeds weekday demand. Saturday's observed demand exceeded capacity on multiple occasions between 8:30 AM to 11:00 AM. For weekdays, Friday showed a higher morning peak period, but Thursday shows greater demand in the afternoon. On Saturday at 8:45 AM, there were 342 cars in the Preserve, the largest number among all studied times.

Figure 8.8 shows the number of vehicles in the Preserve by day of the week and by the time of day.

Figure 8.8: Vehicles in the Preserve Main Lot



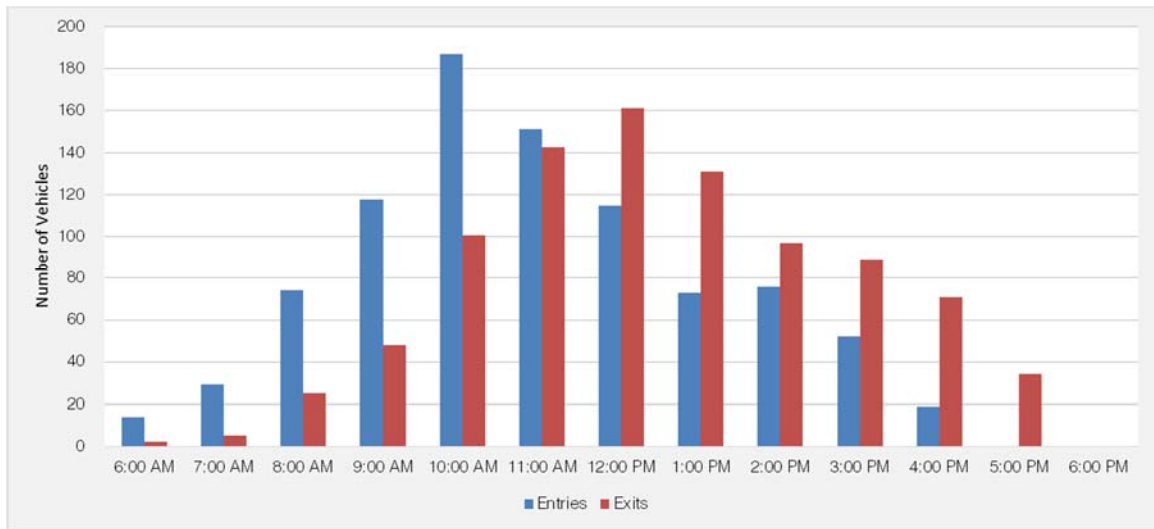
8.3. Thanksgiving 2019 Daily Traffic Analysis

Parking demand was also measured on the weekend after Thanksgiving to determine how holidays may affect Preserve visitation. The weather over the 2019 Thanksgiving weekend was cool and cloudy, with light rain and temperature highs of 49 to 53 degrees Fahrenheit. Visitation increases significantly on Thanksgiving weekends when the weather is good.

8.3.1. Thanksgiving 2019 Friday

On the Friday after Thanksgiving, the peak entrance time was at 10:00 AM to 11:00 AM with 187 vehicle entries. Peak exit time was from 12:00 PM to 1:00 PM with 161 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 12:00 PM. The largest difference between entries and exits was at 10 AM to 11 AM, when 86 more vehicles entered than left and at 1:00 PM to 2:00 PM when 58 more vehicles left than entered. In general, peak entries were typically followed by peak exits approximately 2 hours later. In total, 908 vehicles entered the Preserve.

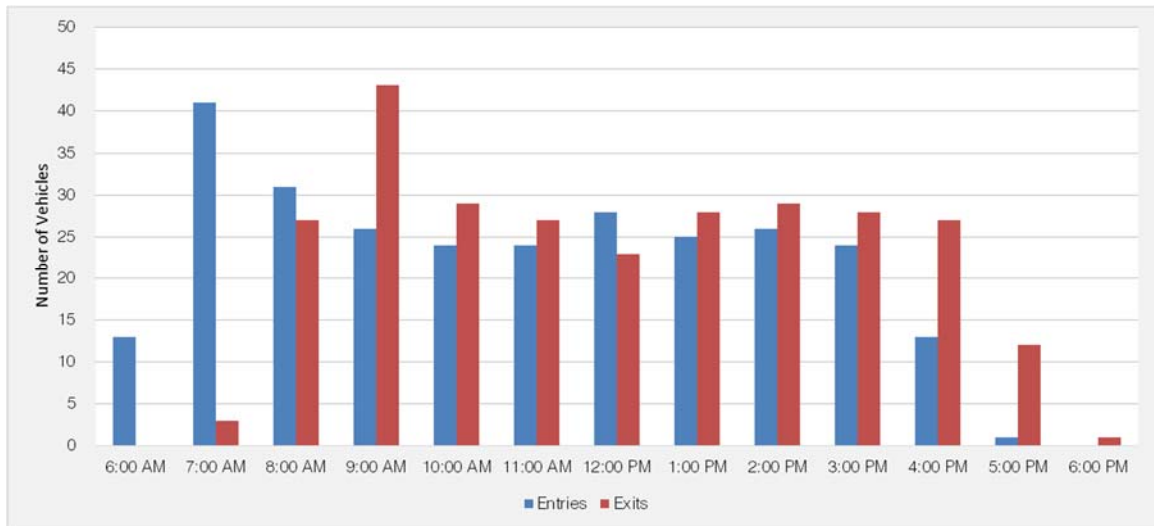
Figure 8.9: Friday Thanksgiving 2019 Traffic



8.3.2. Thanksgiving 2019 Saturday

On the Saturday after Thanksgiving, the peak entrance time was at 7 AM to 8 AM with 61 vehicle entries. Peak exit time was from 9:00 AM to 10:00 AM with 69 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 8:00 AM, as well as in the afternoon from 1:00 PM to 3:00 PM. The largest difference between entries and exits was at 7 AM to 8 AM, when 53 more vehicles entered than left and at 9:00 AM to 10:00 AM when 27 more vehicles left than entered. Distribution of entries and exits varied widely. In total, 334 vehicles entered the Preserve.

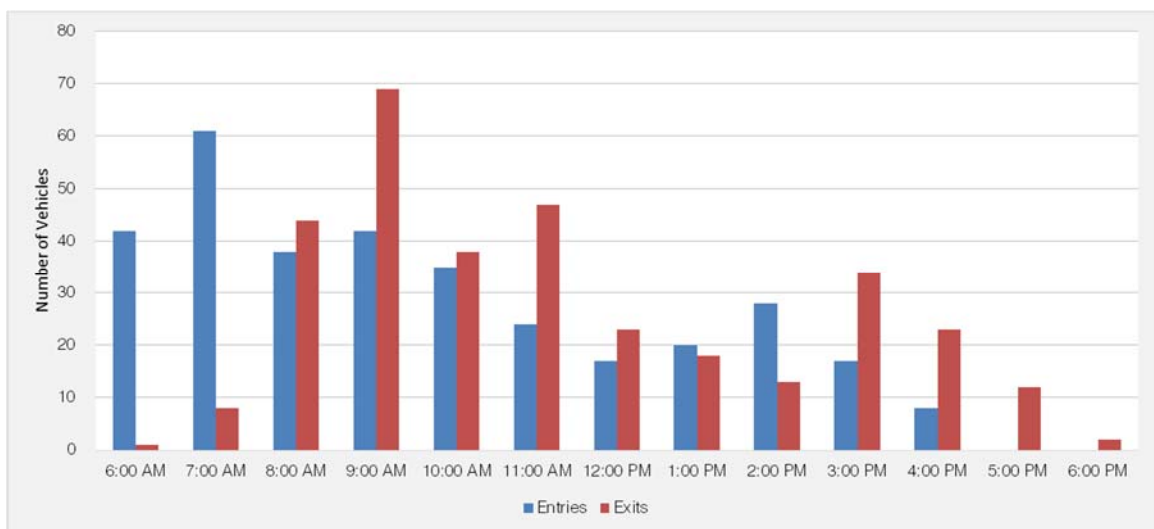
Figure 8.10: Saturday Thanksgiving 2019 Traffic



8.3.3. Thanksgiving 2019 Sunday

On the Sunday after Thanksgiving, the peak entrance time was at 7 AM to 8 AM with 41 vehicle entries. Peak exit time was from 9:00 AM to 10:00 AM with 43 vehicle exits. The number of vehicle entries surpassed the number of vehicle exits from 6:00 AM to 9:00 AM, as well as in the afternoon from 12:00 PM to 1:00 PM. The largest difference between entries and exits was at 7:00 AM to 8:00 AM, when 38 more vehicles entered than left, and at 9:00 AM to 10:00 AM when 17 more vehicles left than entered. Distribution of entries and exits varied widely but was similar to the previous day's traffic demand. In total, 278 vehicles entered the Preserve.

Figure 8.11: Sunday Holiday Traffic



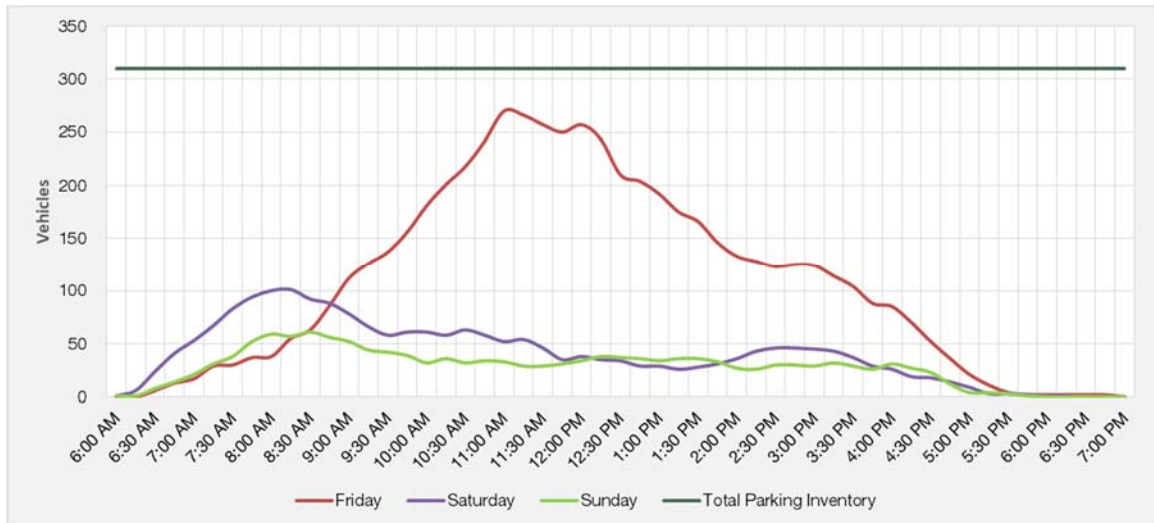
8.3.4. Vehicles in the Preserve Main Lot (Thanksgiving 2019)

In general, the three-day holiday weekend had decidedly less vehicle traffic, and likely less parking demand than the three-day study period in mid-October. District Ranger staff observed that the cold, rainy weather this particular weekend may have driven down visitation and that weather can play a significant factor in visitation rates on holidays. Some of the highest visitation days at the Preserve have occurred on Thanksgiving weekends when the weather was good and the sun was out.

Based on vehicle entry and exit data and rates, it was observed that at no point did parking demand exceed capacity. For Saturday and Sunday, there were no more than 101 vehicles in the Preserve main entrance at any time. Friday saw the most parking demand among the three days, with peak of 270 vehicles at 11:00 AM. The Thanksgiving visitation time behaviors this particular year were different than the other days measured. The Thanksgiving 2019 days received only one peak, which noticeably shifted on Friday to later hours around 11:00 AM to 12:00 PM. Saturday and Sunday saw peaks at 8:15 AM to 8:30 AM but did not peak in the afternoon. Friday's trend line was fairly consistent with a typical Friday trend line.

Figure 8.12 shows the number of vehicles in the Preserve by day of the week and by the time of day on the Thanksgiving 2019 holiday weekend.

Figure 8.12: Vehicles in the Preserve Main Entrance (Thanksgiving 2019)



9. Rancho San Antonio Survey Results

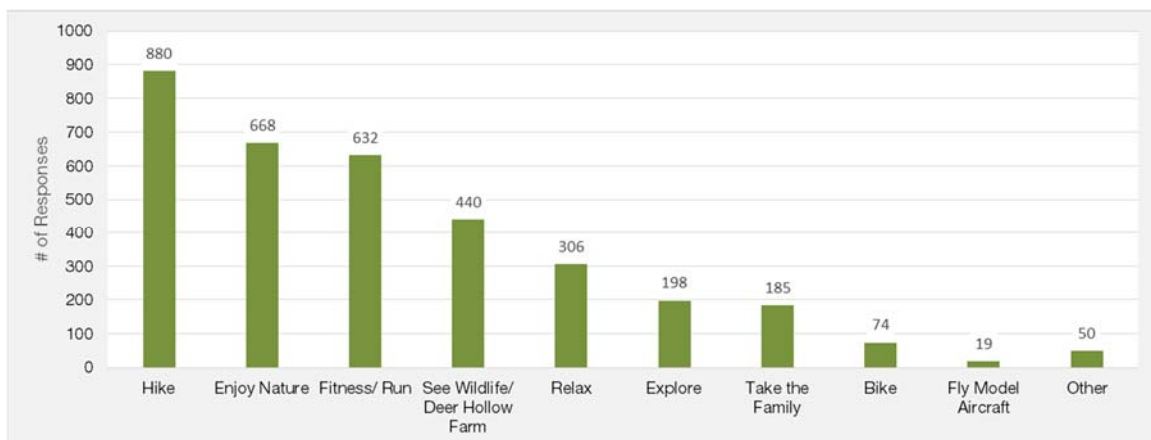
The Rancho San Antonio Parking and Access Survey was conducted online from October 17, 2019 to January 3, 2020. The survey was utilized to collect meaningful input from visitors who experience the parking dilemma facing Rancho San Antonio. The survey was conducted online throughout the survey period, as well as in-person for three consecutive days from October 17 to October 19. Over 100 respondents took the ‘in-person’ version of the survey over the three-day survey period. In total, a combined 1,000 respondents completed the survey either in-person or online, creating a statistically significant sample.

The survey had eight parking related questions, three demographic questions, and a section of additional comments related to the Preserve’s parking dilemma. The average time to complete the survey online was just over 3 minutes. Summarized survey responses for each question of comment box are found below in Sections 9.1 through 9.12. Survey trends can be found in Section 9.13.

9.1. Preserve Purpose for Visiting

Respondents were asked: “Why do you come to the Rancho San Antonio Preserve?” Respondents were able to choose any number of answer choices or add their own reason for visiting the preserve. All 1,000 respondents answered this question. A majority of respondents chose hike (88%), enjoy nature (67%), and fitness (63%) as their main reasons for visiting the Preserve. Other popular options included seeing wildlife (44%) and relaxing (30%) as other reasons to access the Preserve. Less popular reasons to visit the Preserve were to explore (20%), take the family (19%), bike (7%), and fly model aircraft (2%). Many respondents chose “Other” as none of the survey’s standard categories fit their purpose for visiting. Other reasons offered by respondents included socializing, photography, equestrian, working/volunteering, mental health purposes, and geocaching.

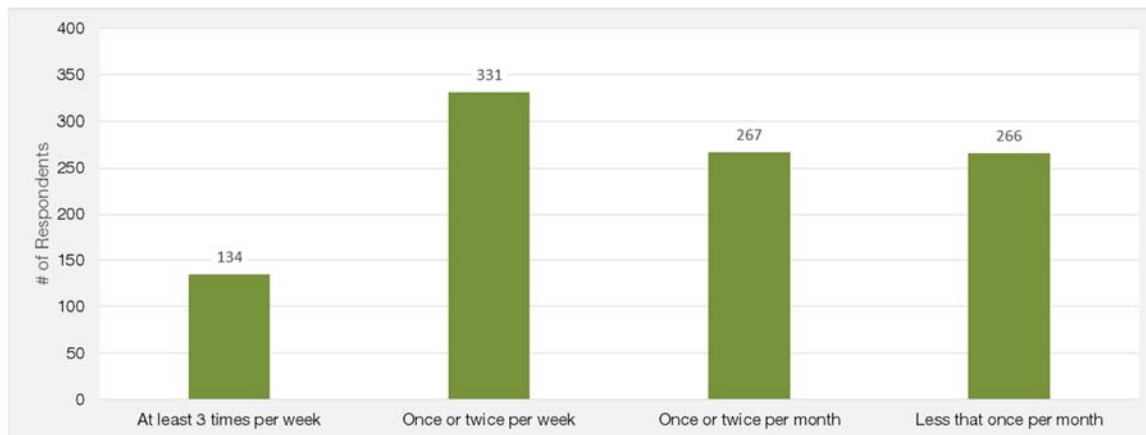
Figure 9.1: Q1 – Why do you come to the Rancho San Antonio Preserve?



9.2. Preserve Frequency

Respondents were asked: “How frequently do you come to the Rancho San Antonio Preserve?” Respondents were able to choose one of four possible frequencies. The most popular choice was “Once or twice per week” (33%). About 26% of respondents visit “Once or twice per month” and another 26% visit “Less than once per month”. The fewest number of respondents visit “At least 3 times per week” (13%). Two respondents did not answer this question.

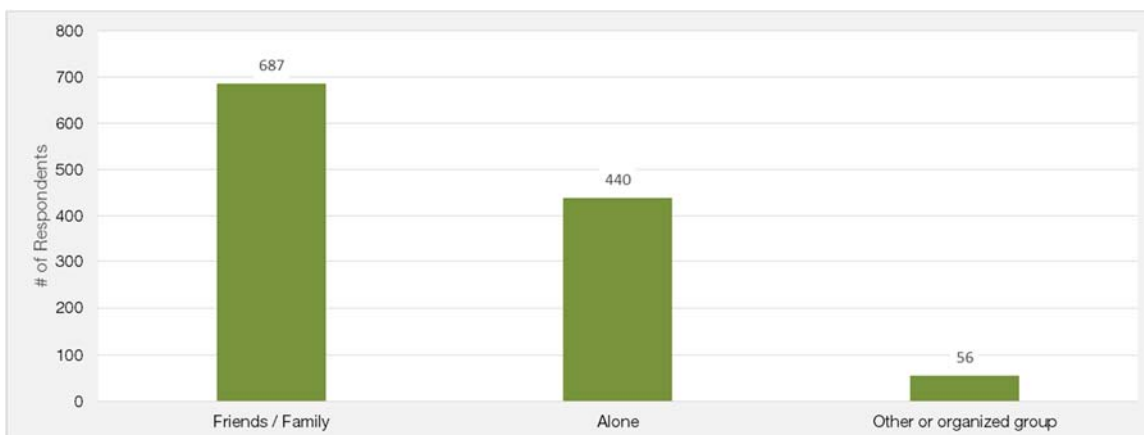
Figure 9.2: Q2 – How frequently do you come to the Rancho San Antonio Preserve?



9.3. Preserve Visitation by Group

Respondents were asked: “Who do you typically visit Rancho San Antonio with?” Choices included “with friends/family”, “alone”, or “other” or “organized group”. Those who chose “other” or “organized group” were asked to specify. Most people who responded to the survey visit the Preserve with friends or family (69%). Slightly less than half of respondents (44%) visit Rancho San Antonio by themselves. 5% of respondents answered that they visit the Preserve in an organized group or other group. Most groups include hiking or running clubs and work or school groups. Visitor per vehicle data in Section 7 aligns with the results of this question, indicating that friends and family may still drive alone even when carpooling may be a viable solution. Six respondents did not answer this question.

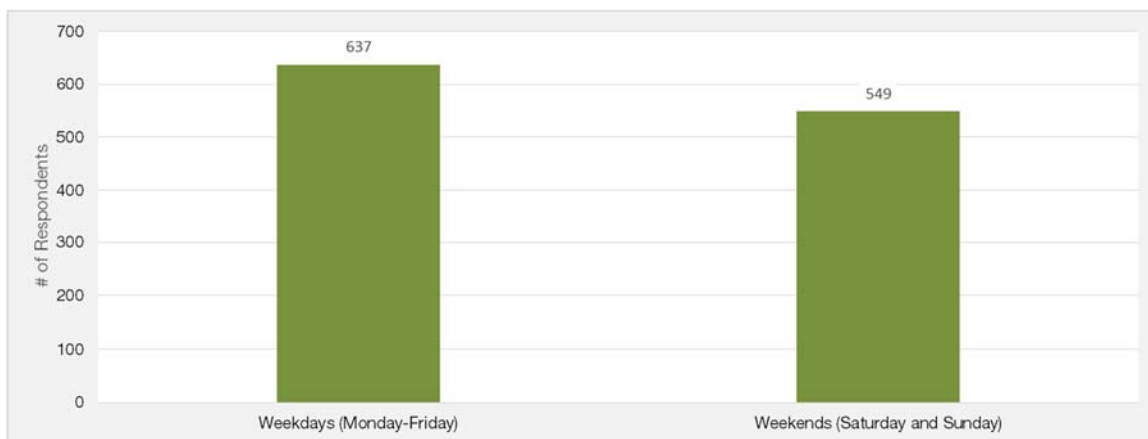
Figure 9.3: Q3 – Who do you typically visit Rancho San Antonio with?



9.4. Preserve Visitation by Day of Week

Respondents were asked: “What days do you typically visit the Rancho San Antonio Preserve?” Weekdays (Monday – Friday) and Weekends (Saturday and Sunday) were the only two answer choices for this question. Respondents were able to choose both options if necessary. Among the 994 respondents who answered this question, 64% typically visit on weekdays, and 55% visit on weekends. Weekdays may have seen a greater number of responses because there are three more weekdays than weekend days. If extrapolated based upon the number of weekdays and weekend days (assuming all days are equal), 13% of respondents visit any specific weekday, while 28% of respondents visit any specific weekend day. Six respondents skipped this question.

Figure 9.4: Q4 – What days do you typically visit the Rancho San Antonio Preserve?

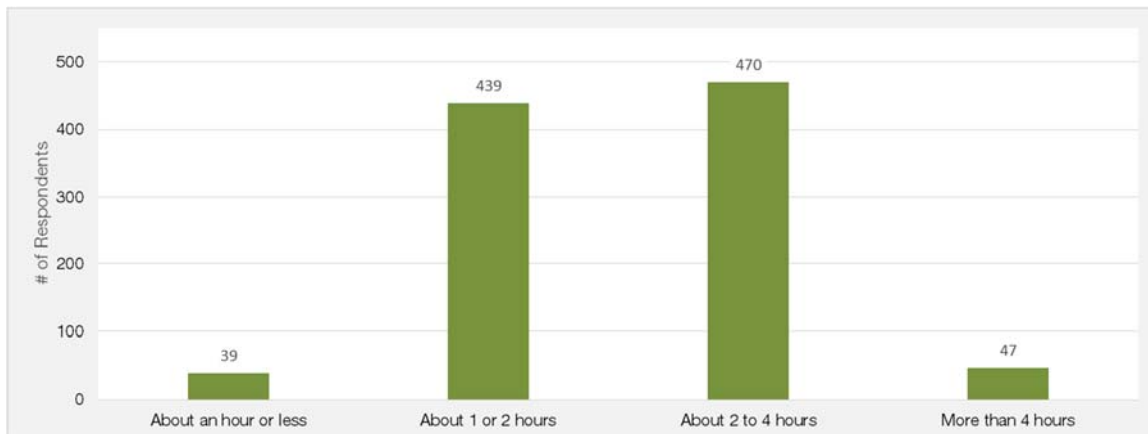


9.5. Preserve Length of Stay

Respondents were asked: “On average, how long do you stay at the Rancho San Antonio Preserve?” Among four choices, respondents could only choose one answer choice for this question. Most respondents were evenly split between “About 1 or 2 hours” (44%) and “About 2 to 4 hours” (47%). Few respondents stay “About an hour or less” (4%) or “More than 4 hours” (5%). The data presented in this section supports entry and exit data

collected in Section 8.2 that shows that the number of entries in any given hour has a similar exit count two hours later. Five respondents did not answer this question.

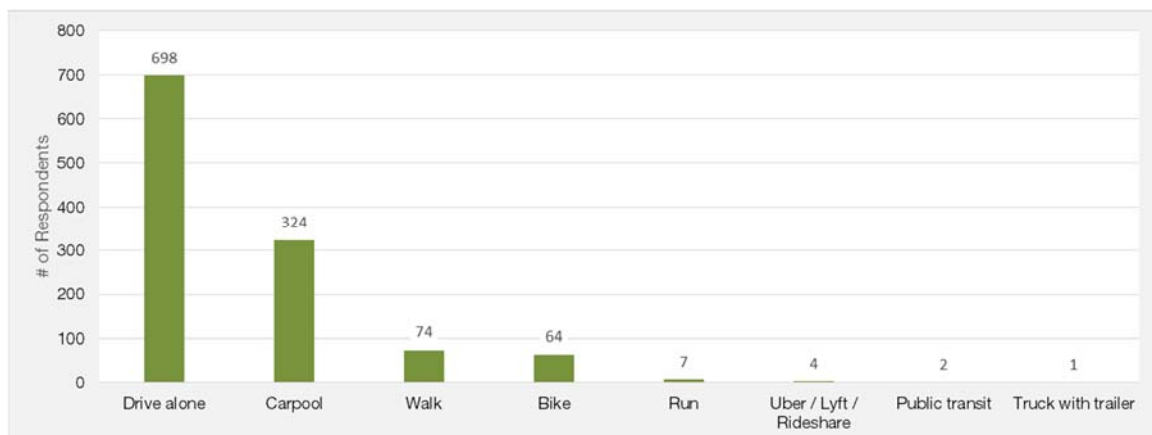
Figure 9.5: Q5 – On average, how long do you stay at the Rancho San Antonio Preserve?



9.6. Preserve Access Mode

Respondents were asked: “How do you typically get to the Rancho San Antonio Preserve?” An overwhelming majority of visitors access the Preserve by vehicle (87%). In addition, among those who arrive by vehicle, 68% of them drive alone compared to the 32% who carpool. This occurrence serves in contrast to Question 3, meaning a majority of visitors visit with friends and family, but are likely to drive alone to get to the Preserve to then carpool with others. A small portion of visitors walk (7%), bike (6%), or run (1%) to get to the Preserve. Four respondents did not answer this multiple answer question.

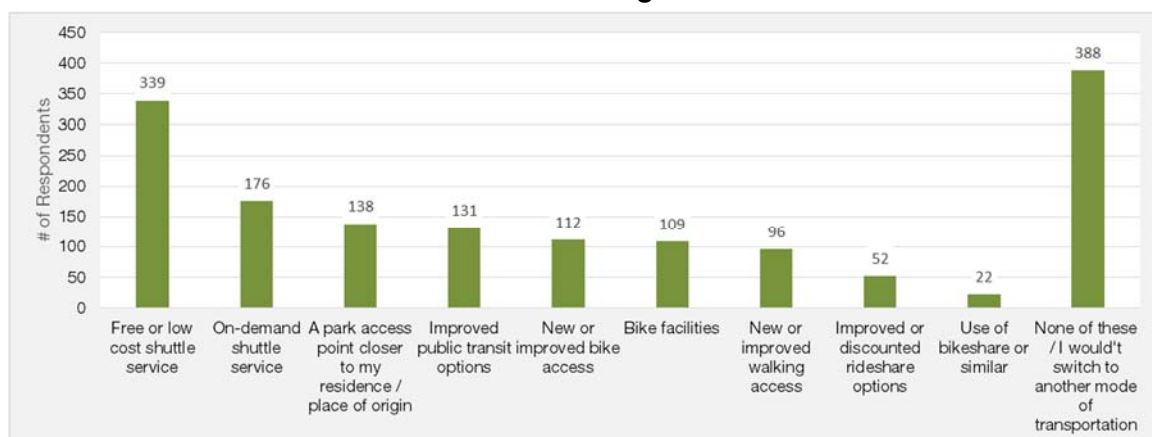
Figure 9.6: Q6 – How do you typically get to the Rancho San Antonio Preserve?



9.7. Potential Preserve Access Improvements

Respondents were asked: “If you typically drive or carpool to Rancho San Antonio, which access improvements would help you switch to another mode instead of driving?” Among all improvements, nearly 39% of respondents chose that they would not switch to another mode of transportation regardless if the Preserve was made more accessible by other modes. For the remaining 61% of respondents, the most popular access improvements would be the implementation of a free or low-cost shuttle service (34%) or on-demand shuttle service (17%). The next most popular choices were closer access points to visitors’ places of origin (14%) and improved public transit (13%). 22% of respondents would like new or improved bike access paired with on-site bike facilities. The potential for improved and new walking access (9%), rideshare (5%), and bikeshare (2%) were the least influential to get visitors to switch modes.

Figure 9.7: Q7 – If you typically drive or carpool to Rancho San Antonio, which access improvements would help you switch to another mode instead of driving?

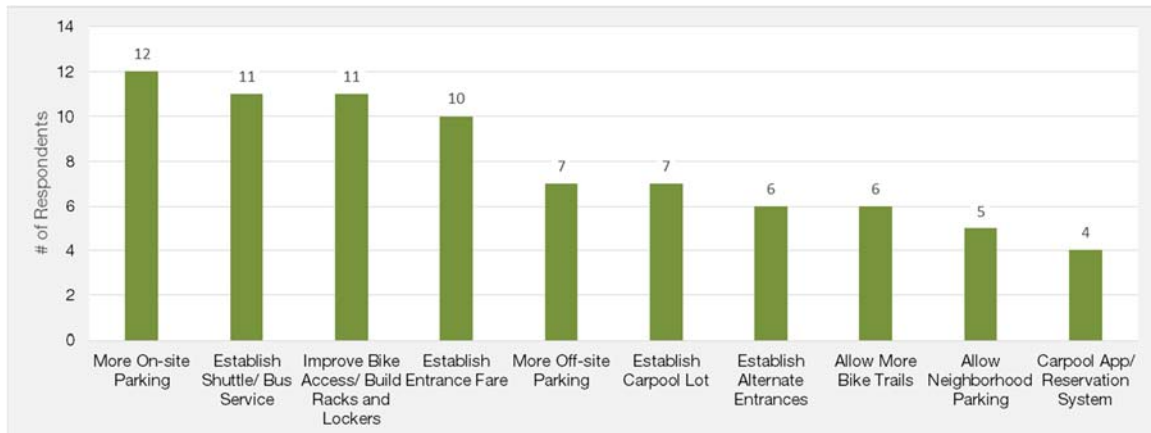


There were 98 respondents who wrote a comment in the “I’d also consider” section of Question 7. The responses were analyzed and categorized into ten major categories. The categories reflect respondent input, and responses may not be related to a potential access improvement.

The most popular consideration was to construct more parking on-site in order to alleviate parking congestion, rather than reduce demand. Other suggestions were to establish a shuttle or bus service to the Preserve, and improve bike access by creating bike lanes, bike lockers, and storage lockers at the Preserve main lot. One percent of respondents called for an entrance fee as a way to dissuade Preserve visitors from arriving during peak times.

Other options included more off-site parking, a carpool lot, alternate entrances or additional parking at existing entrances, a technology-based carpool mobile app or reservation system, and the re-establishment of neighborhood parking. Six respondents said that they would bike to the Preserve if they could bike on the trails, but currently do not bike because most of the existing trail system is not open to bicycle use. 58 respondents did not answer this question.

Figure 9.8: Q7 – I'd also consider...



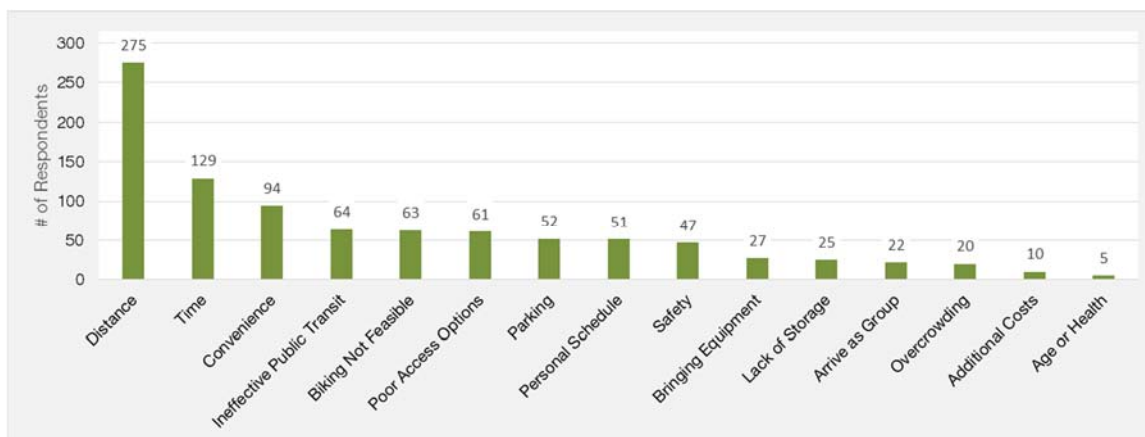
9.8. Preserve Access Barriers

Respondents were asked: “What are the biggest barriers to coming to the Rancho San Antonio Preserve by any mode besides a car?” This was an open-ended question with no answer choices. Among the 1,000 respondents, 796 answered this question. The responses were analyzed and categorized in 15 major categories.

The most frequently occurring barriers to coming to the Preserve by any mode besides a car include distance (28%), time (13%), and convenience (9%). Those who cited distance said that the Preserve was too far away to feasibly take any other mode. Those who cited time said that their schedule was too busy to fit in extra time arriving and leaving the Preserve, or that they wanted to spend their time within the Preserve, not spend it getting there. Ineffective public transit (6%) was the fourth most popular response, with respondents noting that there is no efficient way to get the Preserve by bus or other public transit option. Another 6% of respondents said that biking infrastructure is their biggest barrier, noting that they would be too far away to bike, there is a large hill between them and the Preserve, there is no safe bike access route, there are no bike lockers on-site, and that biking is not allowed on trails within the Preserve.

Poor access options were a concern for 6% of respondents, noting that other modes do not exist or they are unaware of them. 5% of respondents considered their personal schedule as a barrier, suggesting that what they do before or after the Preserve requires their vehicle. Other respondents noted personal safety for other modes (5%), ability to carry/bring additional items (3%), a lack of on-site storage (3%), carpooling (2%), higher costs of other modes (1%), and personal health (1%) as barriers to switching to any mode besides a vehicle.

Figure 9.9: Q8 – What are the biggest barriers to coming to the Rancho San Antonio Preserve by any mode besides a car?

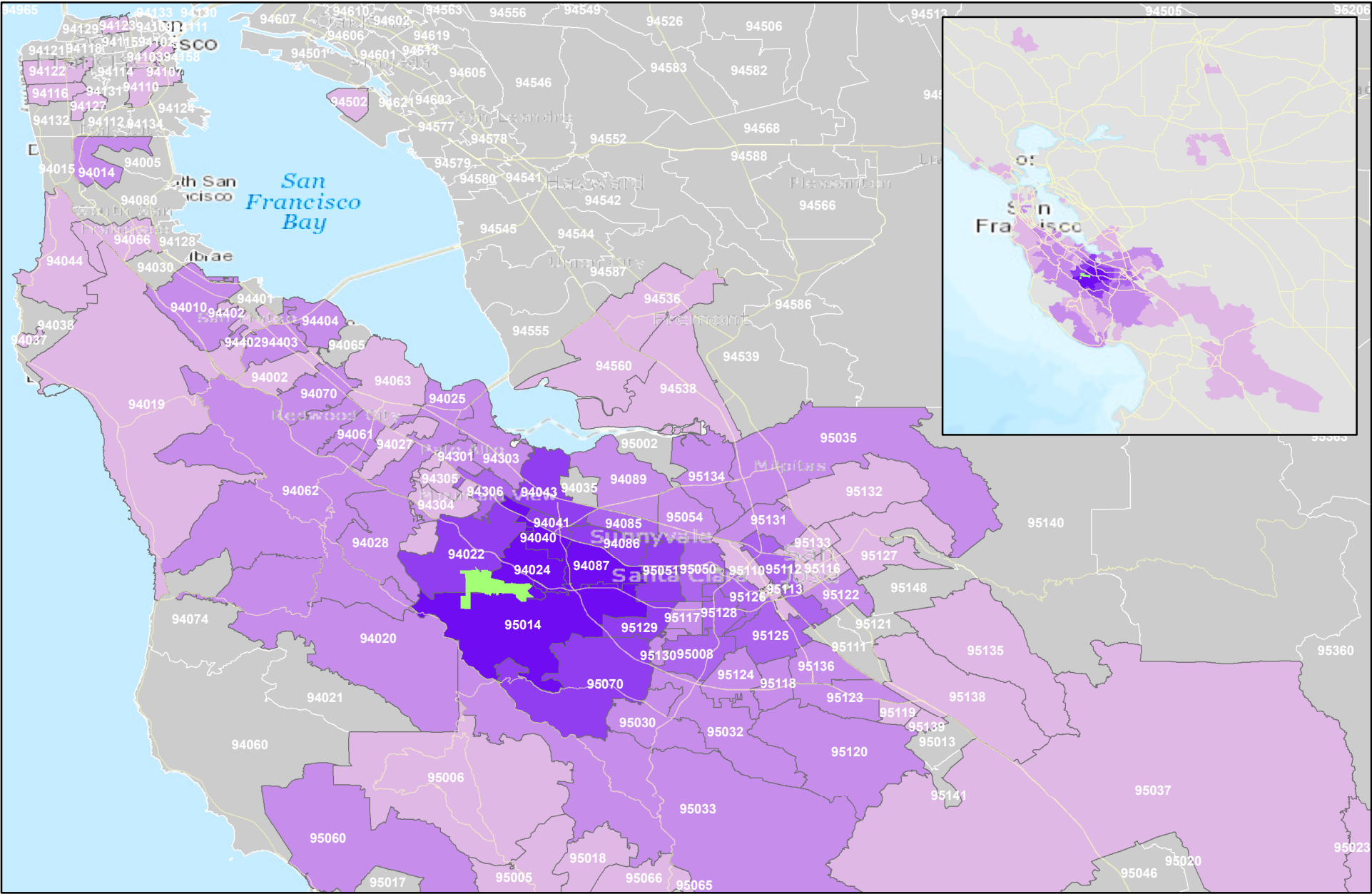


9.9. Respondent Zip Code

The remaining questions, excluding the additional comments section, captured the respondents' demographic information. For Question 9, respondents were asked: "What is your Zip Code of residence?" This was an open-ended question. In total, among the 969 respondents who answered this question, visitors came from exactly 100 unique Zip Codes. The most common Zip Codes were 94024 (13%) - the Los Altos/ Loyola/ Woodland area, 94087 (12%) - the south Sunnyvale area, and 95014 (9%) - the Cupertino area. Other common Zip Codes were 94040 (7%) - the El Camino Real Road Mountain View area, 94022 (4%) - Los Altos/Los Altos Hills area, 94043 (4%) - the north Mountain View area, 94086 (4%), and 95051 (4%) - the southwest Santa Clara area. There was only one respondent from out of state, in Annapolis, Maryland.

There are three zip codes that are directly adjacent to the Preserve, including 94022, 94024, and 95014. Visitors from these bordering zip codes make up 27% of all survey respondents. This means nearly three quarters of the remaining respondents travel from at least one zip code away to access the Preserve, equivalent to either a long bike ride or a driving-distance journey. Figure 9.10 shows that Preserve visitors come from all over the region, which inform that parking reduction strategies should be developed with a regional-serving perspective, balanced with local input.

Survey Respondents by Zip Code of Residence



Number of Survey Respondents

No Respondents 1 - 2 3 - 10 11 - 20 21 - 50 51 - 131 Respondents

Rancho San Antonio Open Space Preserve

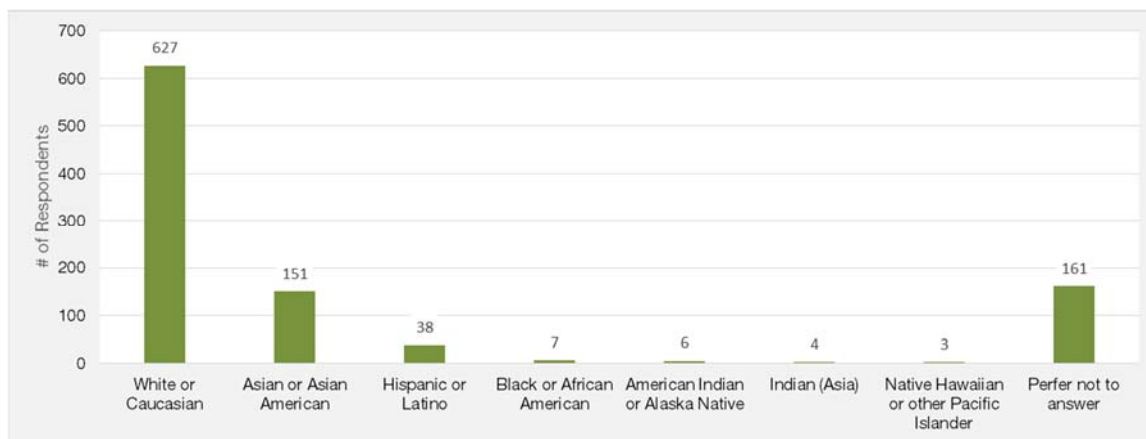


0 10 20 Miles

9.10. Respondent Race

Respondents were asked: “What is your primary race(s)?” Respondents are primarily White or Caucasian (63%). Asian or Asian Americans make up the next largest grouping of respondents at (15%). All other races, including Hispanic or Latino, did not make up more than 4% in any group. A fair portion (16%) of respondents preferred not to answer. There were 22 respondents who skipped the question entirely.

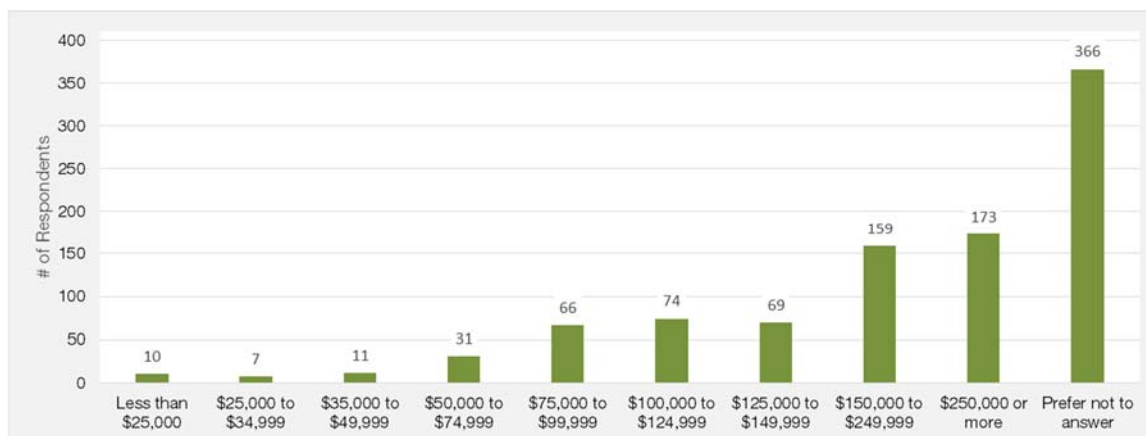
Figure 9.11: Q10 – What is your primary race?



9.11. Respondent Income

Respondents were asked: “Which category best describes your total annual household income?” In general, of the respondents who provided income information, the greater the annual household income, the greater the number of respondents. Overall, 37% of respondents preferred not to answer. Of those who did, annual income above \$150,000 is most common (33%) among respondents. There might be bias in the data as there may be a correlation between annual household income and willingness to disclose annual household income. There were 34 respondents who did not answer this question.

Figure 9.12: Q11 – Which category best describes your total annual household income?



9.12. Additional Comments

Respondents were asked to “Please provide any additional comments on parking at or accessing the Rancho San Antonio Preserve.” This was an open-ended question with no answer choices. Among the 1,000 respondents, 530 answered this question. The responses were analyzed and categorized in 16 major categories. The categories reflect respondents’ input and represent a wide range of issues related to the Preserve.

Add or Improve On-Site Parking (18%): The largest portion of respondents are mainly unhappy with the current parking supply and would like more parking to match demand.

Respondent Avoids Peak Periods (14%): A portion of respondents mainly avoid peak weekend times by coming on weekdays, less popular weekend times, or have stopped coming altogether.

Willingness to Pay for Parking (8%): A portion of respondents are willing to add a Preserve entrance fee in an effort to limit the number of Preserve visitors at peak times.

Add Off-Site Parking (8%): A portion of respondents are willing to park at further locations either in neighborhoods, existing parking lots, or newly constructed parking lots near the main entrance or at alternate access points.

Introduce Shuttle/ Improve Transit (8%): A portion of respondents support a shuttle service or expanded bus service to the Preserve.

Allow Bike Trails/ Add Lockers (5%): A portion of respondents suggest that allowing bikes on trails in the Preserve or constructing secure bike lockers would shift their mode of arrival.

Parking Etiquette/ Attendant (5%): A portion of respondents suggest that visitors should follow a parking etiquette during peak times, or that there is a need for a parking rules enforcer such as a parking attendant.

Establish Parking Technology (4%): A portion of respondents suggest that technology should be used to resolve the parking dilemma, including a reservation system, or timed parking spots.

Additional Access Points (3%): A portion of respondents call for alternative ways to access the Preserve, or alternative ways to access the main lot either by St. Joseph Avenue or past the Snyder-Hammond House.

Request to Keep Parking Limited (2%): A portion of respondents disagree that expanding Preserve access should be considered.

Respondent has Time Constraints (2%): A portion of respondents say that they cannot switch modes due to their time-constricted obligations.

Safety Improvements (2%): A portion of respondents currently feel unsafe walking around the main parking lot or on Cristo Rey Drive due to the lack of pedestrian infrastructure coupled with parking habits of aggravated drivers.

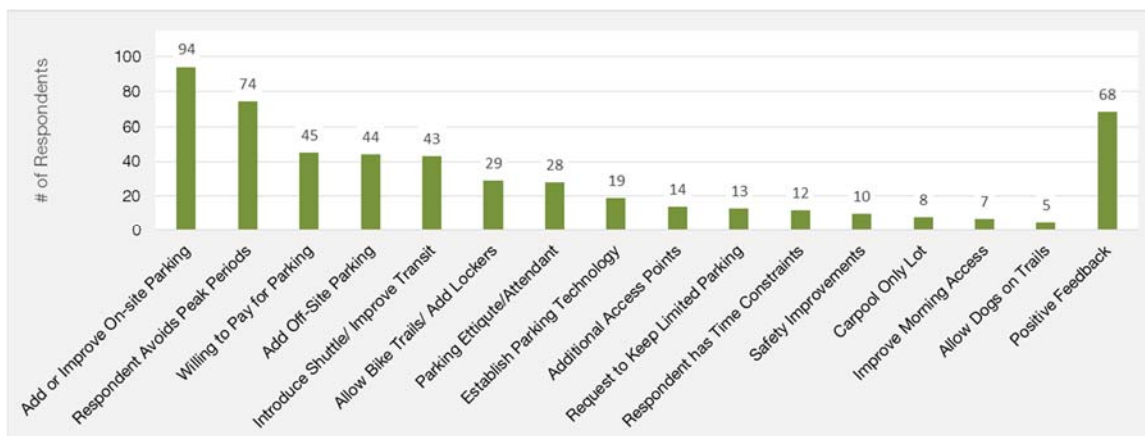
Carpool Only Lot (2%): A portion of respondents feel that converting an existing lot to a carpool only lot or creating a new carpool only lot would increase the number of visitors per vehicle ratio and lessen demand.

Improve Morning Access (1%): A portion of respondents are unhappy with waiting outside the gate before sunrise.

Allow Dogs on Trails (1%): A portion of respondents would like to bring their dogs on trails.

Positive Feedback (13%): A portion of respondents expressed positivity toward the survey, the Preserve, District staff, or do not see any parking issues.

Figure 9.13: Q12 – Please provide any additional comments on parking at or accessing the Rancho San Antonio Preserve?



9.13. Survey Trends

Rancho San Antonio visitors recognize the Preserve faces a parking dilemma, as evidenced by the high-level of engagement of survey respondents. Based on the sampling conducted in this survey for the four-month period (October 2019 to January 2020), most of these visitors get to the Preserve in a vehicle (87%), and more than one-third are unwilling to change that behavior (39%). However, if improvements are made to make it easier to access the Preserve, the majority of respondents in general have voiced that they are willing to consider a switch in travel modes. The top three modal shift barriers of distance, time, and convenience (50%) may be difficult to overcome, but that leaves a significant portion of Preserve visitors who have concerns that potentially can be overcome.

Stemming from data collected in Question 7 and Question 12, the most favorable access solution is to provide a free or low-cost shuttle service from an existing off-site location. Possible locations that survey respondents suggested include Monarch Christian School, Peet's Coffee, Montclair Elementary, and Lucky Supermarket for the District to further evaluate.

Improving bicycle access and multimodal safety on Cristo Rey Drive and allowing biking within the Preserve were equally popular solutions.

Other non-access solutions, such as providing bike lockers and storage lockers or converting an existing lot into a carpool only lot may help reduce parking demand as well.

For those who would not switch modes, providing parking at existing or additional Preserve access locations, or charging a fee for parking, may be beneficial to alleviate demand at the main entrance parking facilities. From feedback presented in the data, there is a variety of solutions that can be explored to reduce parking demand.

10. Parking Analysis Conclusions

The Rancho San Antonio parking analysis effort considered parking counts from three different days, average daily traffic (ADT) counts from six days, survey feedback from 1,000 respondents conducted during the four-month period (October 2019 to January 2020), and three years of vehicle and visitor data collection prior to this Multimodal Access Study. The parking analysis conducted through the Multimodal Access Study is a snapshot in time documenting Preserve visitation. The following are conclusions formed from these data sources, and these conclusions will be used to inform transportation demand management and multimodal access strategies discussed later in this report:

- May and July are the busiest months at the Preserve, potentially due to favorable weather among other factors. See Section 7 for more detail on the District's visitor data collection.
- IBI's parking and ADT counts took place in October, which did not register as one of the busier months of the year. Despite not being one of the busiest months, Saturday, October 19 showed parking demand at capacity (excluding accessible spaces), as well as a greater number of vehicles in the main entrance facility compared to the number of spaces available (including accessible spaces) from 8:30 AM to 11:30 AM. It can be extrapolated that for every Saturday and Sunday at the Preserve, for nearly the entire calendar year, visitor parking demand may exceed supply during this morning time frame. It can also be extrapolated that weekday visitor parking demand may at times exceed supply during the highest visitation months from March through July.
- In general, there are two peaks throughout the day when visitors arrive at the Preserve for any day of the week: in October, this occurred at mid-morning from 8:30 AM to 11:30 AM and afternoon from 2:30 PM to 4:30 PM. Visitor demand during the mid-morning peak period was consistently greater than the afternoon peak period. At no time during this study did afternoon parking demand exceed parking supply. District Ranger staff have observed that as the seasons change and the days shorten or lengthen, the visitation rates decrease and increase accordingly. On summer days, the Preserve will remain open longer, allowing more time for visitors to finish their workday and visit the Preserve longer into the evening. This results in increased visitation. During fall or winter days, the sun sets sooner, and the Preserve closes earlier. This results in decreased visitation.
- Holiday demand fluctuates differently than typical days of the week. The Thanksgiving holiday weekend, when counts were taken, show that parking demand could potentially exceed supply. Collecting data for summer holidays, such as the 4th of July, would be beneficial to determine holiday demand combined with high-demand summer months. As has been observed by District Ranger staff, weather can significantly affect visitation rates, driving them lower on inclement days and higher on pleasant days.
- According to prior data collection efforts and recent parking data, multimodal solutions should be administered to lessen demand on Saturdays, Sundays, and weekdays from March through July.
- Visitor occupancy counts have shown through yearly and daily trends that higher rates of carpooling correlates with peak days of the week and peak times of the day. Peak days of the week include weekends and holidays, and peak times of

the day include the mid-morning (8:30 AM to 11:30 AM) and the afternoon (2:30 AM to 4:30 PM). Conversely, a higher rate of single-occupancy vehicles correlates with the early morning and late afternoon periods.

- The person per vehicle data shows that not all groups access the Preserve by carpooling, which presents the opportunity to promote carpooling to the Preserve to lessen parking demand.
- Rancho San Antonio visitors were vocal about implementing potential access improvements to lessen parking demand. Some visitors have also voiced that they are unwilling to go to the Preserve at peak times altogether due to parking and Preserve overcrowding concerns.
- Although most visitors drive (solo or via carpool) to the Preserve, most are unwilling to switch to other modes of transportation citing distance, time, and convenience as logistical barriers. For those that are willing to switch to alternative modes of transportation, a majority of survey respondents cited that they would take a free or low-fare shuttle service from an off-site location to help lessen parking demand on-site.
- Park visitors discussed other solutions through the survey that could shift mode share without expanding shuttle and bus services. These include improving bicycle and pedestrian access and safety on Cristo Rey Drive and other access points and implementing on-site bike amenities such bicycle lockers and other storage facilities.

The District Board has strong interest in implementing transportation management strategies that will alleviate the impacts on the Preserve and visitors. Due to the geography and existing conditions of the Preserve and County Park area, a suite of transportation management strategies may be implemented in combination to effectively lessen parking demand. A suite of transportation management strategies are available that focus on access improvements, transit improvements, traffic operational improvements, visitor demand management solutions, and capacity improvements. Some strategies may be more viable for the District to pursue than others, and consideration and feasibility of these transportation demand management solutions will be discussed in the following sections.

Rancho San Antonio

Transportation Demand Management Strategies



11. TDM Strategies

This section identifies a suite of potential TDM strategies that can effectively reduce parking demand at the Preserve and alleviate congestion. In total, 26 TDM strategies are identified to reduce parking demand at peak times, tailored specifically for Rancho San Antonio. These strategies were developed from numerous sources, including general TDM best practices, Board input, public input via online and intercept surveys, previous consultant experience, and the National Park Service Congestion Management Toolkit.

The 26 identified strategies are grouped into five distinct TDM categories:

- Access Improvements
- Transit Improvements
- Traffic Operational Improvements
- Visitor Demand Management (Revenue Neutral)
- Capacity Improvements

A detailed description of each strategy is shown below in Sections 11.1 through 11.6, along with key high-level planning considerations, rough order of magnitude cost estimates, level of difficulty, and implementation timeline. The cost estimates, level of difficulty and implementation timeline are described by their comparative cost, difficulty, and term to the other strategies. For example, new and improved bike access has a high cost relative to use of micromobility options. Costs and difficulty are rated from Low to Average to High. Implementation timeline is rated from Short- to Medium- to Long-term.

For the strategies presented, rough order of magnitude costs relate to capital costs and will generally show below \$200,000 as low, between \$200,000 and \$500,000 as average, and above \$500,000 as high. Strategies with considerable long-term operations and maintenance costs may receive a higher designation. Rough order of magnitude costs relate to District costs only, though they may vary for other providers.

The implementation of strategies follows the timeline of zero to two years as short-term, two to five years as medium-term, and beyond five years as long-term. Key partners involved in each strategy are also included in this discussion. Level of difficulty for a project is related to the ability of the strategy to be implemented, either due to level of coordination with key partners and probable level of challenges. Level of difficulty also factors in implementation term and costs.

For the most effective results for implementation, all strategies described below require the need for ongoing coordination with neighboring municipalities and for continuous visitor education with a recognizable campaign. Some strategies may require higher levels of visitor education than others. Visitor education allows visitors to maximize improved access provided to them.

The strategies presented all aim to reduce parking demand of the existing population of visitors. While the strategies may reduce parking demand, the strategies may also increase the total number of visitors due to enhanced visitor access. For example, the results of the survey indicated many visitors do not come to the Preserve at peak times as parking supply is limited. With strategies implemented, these visitors may begin to

access the Preserve at peak times if access is enhanced. In turn, improving access not only reduces parking demand of the existing visitor population, but may also increase the total number of visitors at the preserve. This study does not consider the carrying capacity of the Preserve. Analyzing the carrying capacity of the Preserve would be a separate effort and is not part of this Multimodal Access Study.

11.1. Access Improvements

Access improvements are TDM strategies that reduce parking demand by enhancing access, infrastructure and facilities for multiple modes of transportation. Due to the geography of the Preserve and the location of the main entrance parking area, improved multimodal access can result in a modal-shift from single occupant vehicles to high-occupancy vehicles or non-motorized transportation. Educational programs and promotion of new access opportunities is needed to raise awareness of the benefits of these modal-shifts.

11.1.1. More Neighborhood Access Points (Non-Vehicular)

This strategy includes expanding non-vehicular access, such as bicycling, and routes that are currently unavailable to residents in nearby neighborhoods, which could shift some demand from the main entrance area to other access points. Consider evaluating opportunities for expanding neighborhood access from the existing trailheads for the Chamise Trail at Laura Court/Stonebrook Drive and at Olive Tree Lane. This can include a consideration for bike-in access and allowing bicycle use on more trails in the existing trail system. Additional routes worth investigating include a planned pedestrian/bicycle route from Stevens Creek Boulevard that connects to the Hammond Snyder Trail and Stephen E. Abbors Trail, as recommended in the *Joint Cities Coordinated Stevens Creek Trail Feasibility Study (2015)*. This strategy would be most beneficial to residents and neighborhoods located directly adjacent to these secondary Preserve trailhead entrances.

Key Considerations: This strategy would expand walk-in and potentially also bike-in access to the Preserve from surrounding neighborhood entrances and trailheads, thereby reducing the need for residents to drive to the main entrance facility. This strategy would likely be most successful for residents and users who are within walking and biking distance from the Preserve (at any location), to avoid driving into the main entrance altogether. Conversations with neighborhood groups, cities and towns would be necessary to facilitate greater walk-in or bike-in access from predominately residential areas. All of these locations could potentially require the acquisition of additional property rights and would be dependent on willing sellers.

Cost: Average to High (High for Stevens Creek Boulevard access)

Level of Difficulty: Average to High (High for Stevens Creek Boulevard access)

Implementation Timeline: Medium-term (Long-Term for Stevens Creek Boulevard access)

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills, Santa Clara County Roads and Airports Department, Union Pacific Railroad

11.1.2. New and Improved Bike Access



This strategy includes improving bike access in numerous locations that lead to the Preserve, mainly focusing on improvements to: Cristo Rey Drive to the Rancho San Antonio Bike Path (Class II); St. Joseph Avenue leading to the Deer Meadow Trail (Class III); Mora Drive to the Mora Trailhead (Class III); and from Foothill College to the Rhus Ridge Trailhead via Moody Road (Class III) and Rhus Ridge Road (Class III). Expanded bike access improvements to the Preserve would connect to existing and new bike facilities.

The District is currently pursuing a one-year pilot project for allowing class 1 and class 2 e-bike use on the existing bike path and service roads in the Park and Preserve. The areas recommended for the pilot are either paved, graveled, rocked, or a wooden boardwalk and do not include any natural surface trails. E-bikes are an alternative method of transportation that is preferable to driving gas powered motor vehicles because they do not emit greenhouse gases and permitting e-bike use would encourage more visitors to arrive to the Park and Preserve with this mode of transportation. E-bikes can also allow visitors to come from farther away because they require less exertion and time.

Key Considerations: Stemming from visitor intercept input, expanding or improving bike access increases the likelihood a visitor would come to the Preserve by bicycle due to safer access and reduced level of traffic stress. Based on the e-bike pilot program outcomes, the District could expand e-bike access to include additional trails to facilitate bike access outside the Preserve. Conversations would need to take place with neighboring cities/town to amend their bicycle plans to incorporate additional bicycle routes or prioritize already planned routes.

Cost: High

Level of Difficulty: Average

Implementation Timeline: Medium-term

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills

11.1.3. New and Improved Walking Access

Improving walking access in various locations, especially on Cristo Rey Drive leading to the main parking facility, would address safety issues for the many joggers/walkers who enter from this road. In many instances on Cristo Rey Drive, the sidewalk ends, creating potential conflicts between pedestrians and vehicles. Sidewalks can also be explored on all roads leading to other trailheads, such as Mora Drive.



Key Considerations: A continuous network of sidewalks could increase the number of visitors accessing the Preserve on foot by adding a separation between pedestrians and motor vehicles and enhancing the feeling of safety so that more people could be encouraged to walk. Conversations would need to take place with neighboring cities/town to amend their pedestrian plans to incorporate new sidewalks or improve existing sidewalks.

Cost: High

Level of Difficulty: Average

Implementation Timeline: Medium-term

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills

11.1.4. Use of Micromobility Options



This strategy includes setting up bikeshare or scooter share, such as Zagster and Lime, at the main lot. Coordination would also need to take place to set up similar bikeshare stations at main transit locations or off-site lots to accommodate first/last mile travel to and from the Preserve. Examples include the bus stops on Foothill Boulevard at Cristo Rey Drive, the Foothill Crossing Shopping Center, Foothill College, or potential off-site parking lots.

Key Considerations: Micromobility reduces the geographic barrier between the Preserve entrance and major streets such as Foothill Boulevard, allowing enhanced access to transit or even a final destination. Conversations would be necessary with neighboring cities, towns, and County about how they address the relatively new mode on local streets and roadways. The Preserve would need to establish drop-off zones and create boundaries to ensure that there are a sufficient number of bikes or scooters at all times. The District would then need to engage with micromobility providers, as well as City and County Public Works or Transportation departments to determine if micromobility is suitable as a mode of access to the Preserve. The District would need to create an initial plan to determine whether dockless or docked micromobility options are preferable, as well as address drop-off strategies to prevent disorderly parking. This strategy would be effective only with the inclusion of increased bicycle and pedestrian access, as micromobility options utilize the same facilities. This strategy would also be complemented by enhanced transitional transit.

Cost: Low

Level of Difficulty: Low

Implementation Timeline: Short-term

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills; Santa Clara County Roads and Airports Department; Foothill College; Micromobility companies

11.1.5. Subsidized Ride Hail



Subsidized ride hail would make use of the existing loading/unloading zone at the main lot and operate with existing rideshare services, such as Uber or Lyft or other ride hail companies. To incentivize use of these services, users could get discount codes or credits for choosing the Preserve's loading/unloading zone as their destination or ride origin. Free passes can be considered for seniors and low-income residents.

Key Considerations: Visitors can currently access the Preserve by ride hail. More actively promoting and subsidizing ride hail, however, could make an appreciable shift in modes. The District would then need to engage transportation network companies to determine if ride hail subsidies are possible or suitable at the Preserve.

Cost: Average

Level of Difficulty: Low

Implementation Timeline: Short-term

Key Partners: Uber; Lyft or similar services

11.1.6. More Bike Trails (internal within the Preserve)



This is an indirect strategy that improves access within the Preserve by expanding bike use on new or existing trails. Currently Rancho San Antonio allows limited bicycle access on Hammond Snyder Trail, Permanente Creek Trail, Deer Hollow Trail, portions of Mora Trail and bike paths. By allowing more bike access within the Preserve, some visitors may potentially switch modes from 'driving, parking, and hiking' to 'biking to and biking within' the Preserve. The strategy originated from a portion of respondents from the Parking and Access Survey.

Key Considerations: Expanding bike trails within the Preserve would require site-specific evaluation of the additional trails and bicycle use in context to the potential impacts to the

Preserve's existing trails, trail uses, visitor experience, natural resources and other environmental factors. Any proposed trails and use changes would require review, amendment and consistency with or amendment of the County's Rancho San Antonio County Park Master Plan and the District's Use and Management Plan for Rancho San Antonio. Changes in trail use in the County Park would require an amendment of the County's Master Plan, and amendment to the District's Use and Management Plan for trails within the Preserve. The addition of new bike trails would be a Board policy decision which would have implications in balancing public access to wildlife and resource protection. Survey respondents and visitors felt the existing trails are too busy now, and may be busier with expanded access, especially with more bicycles on trails. While this strategy is intended to entice visitors to switch modes, this strategy may increase visitation, thereby increasing parking demand and exacerbating conditions. The District would need to carefully weigh expanding bike access opportunities in context to its mission and current mountain lion studies underway.

Cost: Medium

Level of Difficulty: Average to High

Implementation Timeline: Medium-term

Key Partners: Santa Clara County Parks

11.1.7. Bike Facilities



This strategy includes the installation of various bike equipment, including bike racks, bike lockers, bike public work (repair) stands, and bike pumps at multiple access locations. Drivers may consider switching their Preserve access mode to bike if they felt their bike was more secure while they were hiking on the trails. Fully contained bike lockers may be pay-for-use, while bike racks may be any variety from Inverted U, Post & Ring, or Wheelwell-secure.

Key Considerations: The installation of bike parking such as racks and lockers may be one of the easiest strategies to implement to effectively promote bicycling to the Preserve.

Cost: Low

Level of Difficulty: Low

Implementation Timeline: Short-term

Key Partners: None

11.1.8. Improved Off-site Wayfinding



While off-site wayfinding currently exists for the Preserve main entrance, additional wayfinding may be helpful to direct users to other access points. Existing off-site wayfinding may also be strategically updated to ensure the highest capture of ridership. Wayfinding in this instance would most likely be static, meaning unable to change. Internal wayfinding could help direct drivers to potential carpool lots or lots that typically reach capacity last.

Key Considerations: Implementing signage would go through respective city Public Works Departments or the County Roads Department. Signage would need to comply with city and/or County standards. The location of signage would need to be considered, as clear and strategically placed signage can lead to reduced vehicular congestion by locating other access points or providing crucial information to reduce circling. Internal signage, promotion on website and educational programs may be helpful for first-time visitors.

Cost: Average

Level of Difficulty: Average

Implementation Timeline: Medium-term

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills; County of Santa Clara

11.2. Transit Improvements

Transit improvements are TDM strategies that reduce parking demand by implementing new transit services. These strategies have the ability to shift parking demand away from the main entrance area to select locations outside the Preserve as transit would allow for easy, cheap, and convenient access to the Preserve without parking. Educational programs and promotion of new transit opportunities would be needed to raise awareness of the benefits of these modal-shifts.

11.2.1. On-Demand Shuttle Service



An on-demand shuttle service would take visitors to and from the Preserve from pre-determined, off-site locations within the vicinity of the Preserve. The shuttle would operate only when called upon by the visitors, and will most likely charge a fee for its use. Pre-determined locations have yet to be identified, and the District could explore the following as possibilities:

Monarch Christian School, Foothill Crossing, Lucky Supermarket, and Foothill College. Other locations could include senior centers, community centers, and other schools. The District would need to initiate contact with potential partners and discuss the feasibility of using specific sites as pick up locations.

Key Considerations: The District would need to consider implementing their own on-demand shuttle service or partner with a city or private agency to provide on-demand shuttle service. The District can reference and monitor the progress of the City of Cupertino's Via-Cupertino Shuttle for guidance. Promotion on the District's and partner website and educational programs should be considered.

Cost: Average

Level of Difficulty: Average

Implementation Timeline: Short-term

Key Partners: City of Mountain View; City of Cupertino; City of Los Altos; other nearby schools, shopping centers, or supermarket parking lots to be determined.

11.2.2. Free or Low-Cost Shuttle Service



A free or low-cost shuttle service would take visitors to and from the Preserve from pre-determined, off-site locations within the vicinity of the Preserve. The shuttle would operate only at peak Preserve visitation times, such as Saturdays, Sundays, and holidays every 15 minutes from 8:30 am to 2:30 pm, while ending inbound pickups at 11:30 am. Pre-determined locations have yet to be identified, and the District could explore the following as possibilities: Monarch Christian School, Foothill Crossing, Lucky Supermarket, and Foothill College. Other locations could include senior centers,

community centers, and other schools. The District would need to initiate contact with potential partners and discuss the feasibility of using specific sites as pick up locations.

Key Considerations: The District would need to consider implementing their own subsidized shuttle service or partner with a city or private agency to provide shuttle service. The District can reference and monitor the progress of the City of Cupertino's Via-Cupertino Shuttle for guidance. Promotion on the District's and partner website and educational programs should be considered.

Cost: High

Level of Difficulty: Average

Implementation Timeline: Short-term

Key Partners: City of Mountain View; City of Cupertino; City of Los Altos; other nearby schools, shopping centers, or supermarket parking lots to be determined.

11.2.3. Improved Public Transit Options



evaluated.

This strategy includes coordinating with VTA in evaluating public transit expansion, namely the VTA bus service to implement a direct line to the Preserve entrance. This may include diverting existing VTA Local Route 51, which came into effect December 28, 2019, or the addition of a new route, which may best serve the Preserve and its largest catchment areas. Transit stops with nearby parking should also be

Key Considerations: VTA recently updated their routing. The District and VTA would need to evaluate how diverting a route or adding a route would be beneficial for VTA service. This strategy may be resolved with the use of micromobility options at a bus stop, as a visitor can easily transfer from transit to micromobility options to access the Preserve.

Cost: Low (for the District); unknown for VTA

Level of Difficulty: High

Implementation Timeline: Long-term

Key Partners: VTA; City of Cupertino

11.3. Traffic Operational Improvements

Traffic operational improvements are TDM strategies that reduce parking demand by enhancing site information and operations. These strategies would improve operations by informing users of critical information to allow for informed parking and access decisions, as well as improve operations of the site by expanding parking options for beneficial access modes while limiting benefits for single-occupant vehicles.

11.3.1. Dynamic or Variable Signage

This strategy includes the addition of dynamic or variable signage or wayfinding within or to the main parking area. Dynamic/ variable signage typically includes the use of a manually programmed portable sign (similar to those seen when entering a construction

zone) that can address parking lot status, alternatives ways to enter the Preserve, alternative hours of travel, or location of park and rides. Depending on the message, variable signage has the ability to reduce or divert traffic away from the main parking area. In addition, dynamic or variable signage could be used to inform visitors of times to avoid the Preserve during known periods of high demand, such as during the summer months.



Key Considerations: Dynamic or variable signage would be able to provide visitors crucial information that would help them make informed decisions when accessing the Preserve. Portable signage could be placed along Cristo Rey Drive or within the main parking area, with the intention of allowing visitors to make informed decisions about parking. The District would need to consider renting or purchasing portable signage, and would need to coordinate with the City of Cupertino and County of Santa Clara on appropriate signage locations when not within the Park or Preserve.

Cost: Low

Level of Difficulty: Low

Implementation Timeline: Short-term

Key Partners: City of Cupertino; County of Santa Clara

11.3.2. Geometric Parking Site Layout Modifications

This strategy includes the reconfiguration of existing lot, internal circulation and site design that would expand the number of parking spaces with relatively minimal to no disturbance to the open space of the Park. One example includes making the Rancho San Antonio Service Road a one-way street heading in the direction of Lots 4, 3, 2, and 1, while providing an additional one-lane road heading back to the park entrance, either at Meadow Trail or the adjacent to Lots 2, 3, and 4 along the Flying Field. There may be opportunities in Lots 1 and 5 to reorient the existing parking spaces to add additional parking spaces.

Key Considerations: There are a number of ways to alter the site to improve and/or expand parking. The District would need to evaluate the potential layout modifications for the minimum amount of disturbance and consult with County Parks. Additional wayfinding signage would be necessary.

Cost: High

Level of Difficulty: Average

Implementation Timeline: Medium-term

Key Partners: Santa Clara County Parks

11.3.3. Carpool Restricted Lot



The creation of a carpool restricted lot would provide reserved and enhanced parking access to Preserve visitors who arrive with two or more persons. The creation of a carpool restricted lot would incentivize visitors to shift from single-occupancy vehicles to high-occupancy vehicles. Lot 1 or Lot 5, for instance may be altered to become a carpool lot, which would only serve high-occupancy vehicles. Steps would need to be taken to ensure that carpool vehicles have enough spaces available to park at peak times, and the District could consider

first implementing a pilot program for the two larger lots.

Key Considerations: With the addition of a carpool lot, an attendant would be necessary to ensure compliance with the requirements. In addition, the carpool lot should be sized for about a quarter of the overall parking demand in order to accommodate all carpool vehicles at any given time. A carpool lot pilot program is a relatively easy-to-implement strategy to consider. Conversely, a carpool lot would reduce the number of spaces available for general parking, which may hinder the experience for general parking visitors. Although general parking visitors may need to wait longer to find a space, there are secondary benefits that include encouraging single-occupants to arrive at off-peak times or find a carpool. The District should consider whether to operate a full-time carpool lot or a peak-time or weekend-only carpool lot to minimize staffing/operation cost.

Cost: High (requires an attendant)

Level of Difficulty: Average

Implementation Timeline: Short-term

Key Partners: None

11.3.4. Additional Safety Improvements



This indirect strategy enhances pedestrian and bicycle safety within the Preserve main parking facility by adding sidewalks, accessibility enhancements, and traffic calming features such as speed bumps to Rancho San Antonio Service Road. This strategy, which stemmed from public input, may encourage visitors to access the Preserve by active modes, such as walking or bicycling. This strategy would also be beneficial to those who park off-site and walk to the Preserve.

Key Considerations: Improving safety by slowing cars may be seen as a win-win scenario. Some visitors felt that their experience would improve if circling vehicles drove more slowly when seeking parking.

Cost: Average

Level of Difficulty: Low

Implementation Timeline: Medium-term

Key Partners: Santa Clara County Parks, City of Mountain View, Deer Hollow Farm

11.3.5. Establish Parking Etiquette/ Queueing



This strategy includes the establishment of a parking etiquette or queuing system where vehicles that are attempting to park during times where the main parking facility is at capacity must queue and wait for the next available space to open. While this strategy may not reduce demand, it may enhance the visitor access experience. It may require a dedicated ranger/ field staff and/or striping to manage. For example, a field staff member can be placed near the ADA parking spaces of Lot 5:

Hammond-Snyder Lot. When Lot 5 is full, the field staff member may stop cars near the ADA parking spaces which may begin a queue back to the service road. When a visitor leaves Lot 5, the field member may send the vehicle first in line to the vacated space.

Key Considerations: This strategy would need enforcement at the lots to be effective. Enforcement may be proactive to facilitate parking, or passive to assist when necessary. Enforcement includes staffing and resources to manage compliance and education. Due to the size and location of the lots, one to two staff members should be adequate for the main entrance parking area. Additional information would be necessary to enforce this strategy such as signage, public education and awareness, and information at the Preserve, District website, and brochures. This strategy may not reduce parking demand but can improve visitor experience. During peak visitation the strategy may need to be abandoned as queuing cars can block traffic on Cristo Rey Drive.

Cost: High (requires staff)

Level of Difficulty: Average

Implementation Timeline: Short-term

Key Partners: None

11.3.6. Improve Morning Access

This strategy, which originated via public input, calls for opening the main vehicular gate to allow vehicles to enter and park in the facility before the park officially opens for the day. Currently, vehicles queue on Cristo Rey Drive before park opening, creating critical accessibility issues for westbound drivers every morning. While this strategy does not reduce parking demand, it may flatten the morning peak period demand curve as visitor access times would be dispersed.

Key Considerations: The District would need to evaluate the opportunities and constraints with extending Preserve hours to accommodate early visitors. The District used to offer early access to the Preserve at 5:00 AM prior to the current and regular Preserve opening at half an hour before sunrise. This practice was in place at the time the District began managing the County Park. However, since it is dark before that time, this practice was ended to improve general visitor safety and to prevent potential interactions with mountain lions who are active at that time. This solution may be helpful for vehicles currently idling in the driving lane of Cristo Rey Drive with no passing lane available. The District should work with the City of Cupertino and County of Santa Clara to determine infrastructure solutions if extending park hours is not a viable solution. Earlier morning access may shift and reduce peak hour usage as earlier visitors may leave before the morning peak period.

Cost: Low to High (if it relates to an infrastructure solution for Cristo Rey Drive)

Level of Difficulty: Average to High (infrastructure solution for Cristo Rey Drive)

Implementation Timeline: Short-term to Long-term (infrastructure solution for Cristo Rey Drive)

Key Partners: City of Cupertino; County of Santa Clara

11.3.7. Valet Parking



This strategy calls for valet parking at the Preserve. Valet parking maximizes the use of the parking areas by introducing tandem parking and other strategies. Valet parking would reduce visitor circling to a minimum. Cost is typically the minimum hourly wage for an attendant or slightly higher amounts for a contracted valet service.

Key Considerations: Valet parking would need the addition of multiple staff members and a dedicated area for this use. The District would need to decide what areas within each lot would be reserved for valet parking. Valet parking would improve

visitor experience, increase parking supply, and would also likely increase parking demand due to the convenience. The negative effects of dedicating a lot to valet parking, such as removing available spaces for general parking, would be negligible.

Cost: High (requires additional staff members or long-term contracted services)

Level of Difficulty: Low

Implementation Timeline: Short-term

Key Partners: Valet service company, such as All About Parking or Lanier Parking Solutions used by the County of Santa Clara

11.4. Visitor Demand Management (Revenue Neutral)

Visitor demand management (VDM) are TDM strategies that reduce parking demand by limiting the existing benefits granted to single-occupancy vehicles. This would be accomplished by promoting non-peak visitation by implementing fees at peak times or for special services, and establishing benefits for carpooling, reserving spaces, or shortening the duration of Preserve stay. Some VDM strategies rely on fees to reduce the number of single-occupancy vehicles. All revenues generated from fees collected from the District would go directly into improving access at the Preserve, making any implemented VDM strategies revenue neutral.

11.4.1. Vehicle Parking Fee



This strategy would introduce a vehicle parking fee. The fee, which would be collected at the main facility entrance, would be required for every vehicle that enters the Preserve (except non-parking vehicles such as ride hail and District vehicles). Alternatively, the fee may also be collected only at specific peak times, such as Saturday, Sunday, and Holidays from 8:30 am to 11:30 am (where the price is still fixed). Revenues collected from vehicle entrance fares may be reinvested to support other TDM strategies. The fare would incentivize

drivers to consider shifting their mode of travel in order to avoid peak times or avoid driving to the Preserve altogether. Survey data indicated that visitors were split between introducing a vehicle parking fare; approximately 8% were open to a fare while another 8% were against it entirely.

Key Considerations: This strategy may be the most polarizing. Some survey respondents suggested a fee to reduce parking demand, and others suggested that the Preserve being free as one of its biggest draws. There should be considerations for seniors and low-income households to receive reduced fees or fee waivers. A manned or unmanned payment kiosk would need to be constructed at the front entrance to collect fees from cars who enter or exit the Preserve. In order to ensure that ride hail vehicles are not charged, entering the Preserve may be free for the first 30 minutes. The District would need to consider where revenue is spent. Additionally, the District would need to evaluate the long-term management and operations of the County Park facility and the management agreement if fees are charged.

Cost: Low; High (if an attendant is required)

Level of Difficulty: Average

Implementation Timeline: Medium-term

Key Partners: Santa Clara County Parks

11.4.2. Congestion Pricing



his strategy, similar to a vehicle parking fee, would introduce a fee at all times. However, it would be dynamic, meaning the fee for entering with a vehicle at peak times would be greater than entering the Preserve at non-peak times. Dynamic congestion pricing would attempt to keep the Preserve at 80% to 90% capacity at all times and disperse the visitation over non-peak times by altering the entrance fee accordingly. At

times when the Preserve does not reach 80% to 90% capacity, the congestion price may be \$0.

Key Considerations: The infrastructure and technology necessary would include the use of magnets, cameras, or a sensing platform to determine the number of parked cars at any time. An automated payment kiosk would need to be constructed at the front entrance of the Preserve and would need to work in conjunction with a real-time data collection technology. Associated fee structures would need to be determined for the prices of varying levels of parking area demand. The District would need to consider

where revenue is spent. Additionally, the District would need to evaluate the long-term management and operations of the County Park facility and the management agreement if fees are charged.

Cost: High

Level of Difficulty: High

Implementation Timeline: Long-term

Key Partners: Santa Clara County Parks

11.4.3. Reservation App/ Carpooling App



This strategy would implement a Preserve parking space reservation or carpooling application (app) that can be used on a computer or mobile device. When planning a trip to the Preserve, users can reserve (and potentially pay) for access to a reservation-only parking lot, hours, days, or weeks beforehand. The reservation duration may last a predetermined amount of time, which would lead to the

reservation being canceled if the visitor does not arrive. A carpooling app may also be useful to identify other potential park visitors that may be on a visitor's route to the Preserve and could be picked up for carpooling (similar to Lyft's Lyft Line or Uber's UberPOOL feature). A carpooling app would be most effective and beneficial with the implementation of a carpool restricted lot.

Key Considerations: The reservation/carpool system would require the use of an application to process reservations or carpool rides. It would also require distinct signage to inform all users of reservation lots. A reservation app scenario would also require that an existing lot, such as Lot 5, become reservation only. In this case, a car would not be able to park in the reservation lot without a confirmation from the app. A reservation lot would reduce the number of spaces available for general parking, which may hinder the experience for general parking visitors. General parking visitors may need to wait longer to find a space, arrive at off-peak times or find another mode to access the Preserve. The District would need to work with parking reservation app companies to determine if reservation parking is possible or feasible. Enforcement may be necessary, which would include one person at the reservation lot only at peak times. The District should consider whether to take reservations or carpools at all times or at peak-times or weekend-only to minimize operation/staffing cost.

Cost: High

Level of Difficulty: High

Implementation Timeline: Medium-term

Key Partners: Existing reservation app companies such as SpotHero or Pavemint; Santa Clara County Parks

11.4.4. Install Parking Technology/ Metering

This strategy utilizes parking technology, such as metering, to allow Preserve visitors to park for only a predetermined amount of time. The time limit may be static, such as 3 hours, or may be dynamic based upon a pay-by-hour system. This strategy promotes a



higher turnover of parked vehicles. Advanced metering technology allows park users to add additional time while inside the Preserve, if needed and if they have a cell phone connection. Metering in this strategy does not include single stall meters, but rather a meter kiosk or meter signage for app-based metering systems.

Key Considerations: Metering may hinder visitor experience, and force visitors to stay shorter durations than anticipated. The District would need to research, survey and then select a parking technology app company. A metering kiosk or signage is necessary to designate what 'zone' a vehicle is parked in. Enforcement is also necessary.

Cost: High

Level of Difficulty: High

Implementation Timeline: Medium-term

Key Partners: Parking tech companies such as ParkMobile; Santa Clara County Parks

11.4.5. New App or Messaging with Real-time Data Collection/ Monitoring/ Evaluation



This strategy calls for the collection, monitoring, and evaluation of real-time parking data. This requires technological changes to provide real-time data collection and reporting (e.g. parking garages in malls, where electronic board shows how many spaces are filled or open). Where real-time data is collected, an application (app) can be introduced that informs subscribers of parking conditions at the Preserve at any time. This strategy would inform the District of the specific capacity, turnover, and demand of parking at the

Preserve at any time or timeframe. With this information, the District can quickly and accurately adjust or promote additional strategies to help mitigate peak period demand at the Preserve. Real-time data monitoring would enhance social media information dispersal as well. Users would take the information dispersed to make informed decisions on the best times to visit the Preserve.

Key Considerations: A app created and owned by the District would enhance visitor experience and assist visitors in finding the right time of day to access the Preserve. This strategy has high capital and operational costs, with perhaps additional staff to monitor, evaluate, and dissemination information via social media or the app. Data collection would need the installation of magnets, cameras, or a sensing platform to determine the number of parked cars at any time.

Cost: High

Level of Difficulty: High

Implementation Timeline: Long-term

Key Partners: Real-time parking companies; social media platforms

11.5. Capacity Improvements

Capacity improvements are TDM strategies that increase parking supply. This is done by either expanding access to existing spaces in the adjacent neighborhoods or constructing infrastructure for more parking spaces either on-site or off-site to the Preserve.

11.5.1. Coordinate with Local Jurisdictions on Neighborhood Parking



This strategy involves discussions and agreements with the neighboring Cities of Cupertino and Los Altos, and the Town of Los Altos Hills to allow on-street or off-street visitor parking on designated streets or in parking areas (e.g. school lots) in neighboring areas to increase off-site parking supply. This strategy may be difficult to implement due to the existing restrictions currently in place by local jurisdictions to mitigate this particular occurrence.

Key Considerations: The District would need to work with neighboring cities to determine if there are any viable neighborhood parking areas. Regulations would need to be considered if implemented, such as time of day restrictions or parking pass options. Newer apps, including Pavemint and Drivewayz, allow residents to open up their driveways as a parking space for rent.

Cost: Average

Level of Difficulty: High

Implementation Timeline: Long-term

Key Partners: City of Cupertino; City of Los Altos; Town of Los Altos Hills; Cupertino School District; adjacent neighbors

11.5.2. Off-site/ Other Trailhead Parking

This strategy involves increasing parking capacity strategically in specific areas outside the main entrance parking facility, such as at existing trailheads or potentially creating a new trailhead at the southern end of the Preserve adjacent to Stevens Creek Boulevard. As identified in *Joint Cities Coordinated Stevens Creek Trail Feasibility Study (2015)*, a trail connection and new parking area off Stevens Creek Boulevard could be located near the Hammond-Snyder historical house on lands owned by the County of Santa Clara, Roads and Airports Department, and Union Pacific Railroad. This strategy would provide a new parking area to meet existing parking demand. In addition, this strategy can include an expansion of existing on-site parking areas internal to the Preserve near existing trailheads such as Mora Trailhead and Rhus Ridge Trailhead, if feasible. Visitors and residents may access the Preserve closer to their place of origin, rather than driving to and parking at the main entrance facility, thereby reducing parking demand there. This strategy also offers a variety of trails for visitors to access from their place of origin.

Key Considerations: The District would need to evaluate the feasibility of expanding parking at trailhead locations such as Mora Drive and Rhus Ridge Road, and developing a new parking area from Stevens Creek Boulevard. If considering off-site parking options that are accessed by city or town roads, the District would need to coordinate with the

adjacent cities and town as well as the County about the viability of expanding parking at these locations. Careful consideration and evaluation is needed to assess the benefits and tradeoffs of a parking expansion and the alignment with District values. Agency coordination and consideration of community input from residents in the vicinity is important in the development of this strategy.

Cost: High

Level of Difficulty: Average to High

Implementation Timeline: Long-term

Key Partners: City of Los Altos; Town of Los Altos Hills; City of Cupertino; County of Santa Clara; Union Pacific Railroad

11.5.3. Add On-Site Parking



This strategy involves increasing parking capacity specifically at the Preserve main entrance parking facility. District staff conducted a desktop analysis and evaluated all the existing surface parking lots adjacent to the Rancho San Antonio Service Road and proposed a few reconfiguration and expansion options that provide additional parking spaces largely within the existing footprint that comply with ADA requirements. The following are potential options:

- Lot 1: Rancho Main Lot
 - North area of the main lot adjacent to the restroom building:
Restriping can add two (2) van-accessible parking spaces for ADA compliance as well as three (3) additional motorcycle parking spaces.
 - West area of the main lot close to the Permanente Creek:
Introducing compact parking spaces and slightly expanding the lot to the west can create a net increase of approximate 12 parking spaces.
 - South area of the main lot adjacent to the meadow:
Slightly expanding the lot to the meadow can create a net increase of approximate 22 regular parking spaces.
- Lot 3 – Central Overflow Lot:
Connecting the central overflow lot to the northern overflow lot (Lot 2) and consolidating all the ADA parking spaces would bring a net increase of approximate 11 regular parking spaces and three (3) ADA parking spaces.
- Lot 4 – South Overflow Lot:
Slightly expanding the south overflow lot to the south would create a net increase of approximate seven (7) regular parking spaces.

Any increase in parking supply would need to consider impacts to surrounding vegetation and sensitive habitats. Further field verification is needed for actual designs.

Key Considerations: The District would need to consider how much land and what location are available for parking construction on-site. Environmental review and permitting compliance would be required from the County for development on District lands. Expanding parking is an expensive solution and does not reduce parking demand. This strategy should be considered last, even though many visitors support the expansion of parking. Additional on-site parking could have negative impacts on the environment, and an increase in the number of visitors could detract from the overall visitor experience. Maximum Preserve capacity without recreational benefit and resource tradeoffs would need to be studied.

Cost: High

Level of Difficulty: Average

Implementation Timeline: Long-term

Key Partners: Santa Clara County Parks

Rancho San Antonio

Scoring, Prioritization, and Recommendations



12. TDM Strategy Methodology & Scoring

This section describes the proposed methodology, scoring factors and factor weighting structure for evaluating the TDM strategies identified in Section 11. District staff and IBI received feedback from the District Board of Directors via the Planning and Natural Resources Committee (Committee) and the public on the proposed scoring factors and factor weighting structure before applying them to the TDM strategies. IBI used this feedback to score the strategies, organize them in tiers based on their scores, and provide prioritized recommendations based upon the tiering of these strategies (as further described in Section 13).

12.1. Scoring Factors

Each TDM strategy will be scored based upon a variety of different factors that all play roles in establishing a strategy's effectiveness. Each factor is planned to have an assigned weight (factor weight) between one (1) and three (3) to determine the importance of each factor relative to each other, where a weight of three (3) would be of highest importance.

Table 12.1 shows the scoring factors and factor weights. The factors are further defined after Table 12.1.

Table 12.1: Scoring Factors

#	Scoring Factor	Factor Weight
1	Main Site Peak Hour Parking Demand Reduction	3
2	Promotion of Modal Shift/ Reduction in GHG Emissions	3
3	Visitor Access Experience	2
4	Implementation Term	1
5	Ease of Implementation	1
6	Capital Cost	2
7	Operations/ Maintenance Cost	3
8	Protecting and Enhancing Preserve Environmental Qualities	3
9	Promotion of Equitable Opportunities for All	3
10	Districtwide Community Input	3
11	Neighborhood Input	3
12	Stakeholder Input	3

Main Site Peak Hour Parking Demand Reduction: The effectiveness of a strategy in reducing parking demand during peak times, determined as mid-morning and mid-afternoon, especially during the summer, weekends, and holidays.

Promotion of Modal Shift/ Reduction in GHG Emissions: The effectiveness of a strategy in allowing visitors to switch modes from single-occupancy vehicles to carpooling, transit, bicycling, walking/jogging, or other means. The shift from single-occupancy vehicles alone contributes in a reduction in greenhouse gas emissions. However, some of the reduction in GHG emissions may be offset if the parking spaces freed up by modal shifts are taken by additional Preserve visitors who use their vehicles and would otherwise not have found parking.

Visitor Access Experience: The effectiveness of a strategy in enhancing visitor access experience.

Implementation Term: The length of time projected to implement a strategy considering all factors.

Ease of Implementation: The amount of effort necessary to implement a strategy considering factors such as the level of coordination required from partner agencies or strategy favorability with all relevant stakeholders.

Capital Cost: The amount of capital invested in implementing a strategy.

Operations/ Maintenance Cost: The amount of long-term funds invested in operating and maintaining a strategy after it has been implemented.

Protecting and Enhancing Preserve Environmental Qualities: The effectiveness of a strategy in protecting and/or enhancing the natural resource values and Preserve environment.

Promotion of Equitable Opportunities for All: The effectiveness of a strategy in promoting opportunities for all visitors, regardless of income, distance from the Preserve, or otherwise.

Districtwide Community Input: The level of support of a strategy by the Districtwide community, with an emphasis of visitors located beyond a reasonable walking or biking distance from the Preserve and not in neighborhoods adjacent to the Preserve.

Neighborhood Input: The level of support of a strategy by adjacent neighborhoods to the Preserve.

Stakeholder Input: The level of support of a strategy by key stakeholders with whom the District has engaged on this project through a series of stakeholder meetings. These stakeholders are public agencies or organizations with whom the District would need to collaborate and communicate with on many of the TDM strategies. For more information on stakeholder engagement, see Section 12.2.

12.2. Stakeholder Input

The District convened three stakeholder meetings on December 1 and 3, 2020 to obtain feedback on the TDM strategies identified in Section 11. The attendees included representatives from Santa Clara County Parks; the Cities of Cupertino, Los Altos, Los Altos Hills, and Mountain View; Santa Clara Valley Transportation Authority; Santa Clara Valley Water District; and Montclair Elementary School (Cupertino Unified School District). In addition to soliciting feedback during the meetings, the District also offered an alternate method for stakeholders to provide feedback through an online survey where they were able to score the TDMs on a scale of 1 to 5 and add other written feedback. The opinions varied widely among the stakeholders.

Stakeholders expressed interest in and support for shuttle service strategies like the City of Cupertino's pilot on-demand Via Cupertino shuttle, the City of Mountain View's fixed route Google shuttle, or the City of Sunnyvale's Peery Park business park shuttle, and shared issues that would need to be considered. Stakeholders shared that shuttles often work best in urban settings, where pick up and drop off are most efficient, and costs for programs increase when service areas expand. Getting people to their final destination beyond the shuttle stop is a "last mile" issue that can potentially be solved by providing

bike racks on shuttles or pairing the shuttle service with micromobility options like scootershare or bikeshare services. Funding would be an ongoing challenge, potentially solvable through partnerships to pool resources. Low or no cost rides could address equity of access where the shuttle service would be available to all rather than only those who can afford to pay. Hubs such as bus stops or underused parking lots could serve as shuttle pick-up locations although shuttle service to other Preserve access points besides the main lot could be problematic due to lack of turnaround space for vans or other similar large vehicles or access on private roads. One suggestion was to implement a pilot, such as a weekend or holiday program from an underused large parking lot, to determine the effectiveness of a shuttle service.

Concerns with micromobility options involve safety where riders of scooters or bikes would have to share urban roads with heavy and fast-moving traffic or rural roads that are narrow, windy and hilly. Riders could also be potentially riding relatively long distances from parking areas or shuttle stops away from the Preserve. Some cities lack policies on scootershare and bikeshare services or funding for facilities to support those services, and residents near city parks have raised concerns about vehicular parking and scooters in their neighborhoods. Transit stakeholders would seek feedback from cities before providing space for scootershare or bikeshare stations.

Though the visitor survey revealed respondents' desire to expand existing transit to include a stop at the Preserve, stakeholders shared that transit routing decisions consider density of land uses in an area and complementary facilities such as sidewalks and other streetscape amenities. Transit service is often focused on urban areas and the Preserve's distance from main thoroughfares and urban cores presents a challenge in that bus lines work most efficiently when stops are arranged in a linear or "string of pearls" fashion along a roadway. Like with shuttle services, providing opportunities for people to bring their bikes on transit systems would help with the "last mile" issue when stops are some distance from the riders' final destinations. Also, like shuttle programs, funding for transit agencies is an ongoing challenge, lately exacerbated by the COVID-19 pandemic.

Some stakeholders suggested imposing a fee for Saturday and Sunday with carpools being free. Others thought that charging vehicle parking fees could result in visitors avoiding the fees by parking in neighborhoods and impacting residents. Stakeholders also brought up issues about equity of access where only those who can afford to pay are able to visit the Preserve when this resource should be available to all members of the public. A parking fee system requires staff resources for education and enforcement without which it would be ineffective as a way to deter visitors from using their cars and reducing peak parking demands. One caution was to avoid measures requiring additional staff or attendants due to long-term costs and budget unpredictability.

The City of Cupertino has identified priority bike and pedestrian infrastructure improvements on Cristo Rey Drive and Stevens Creek Boulevard that could improve access to the Preserve and is seeking grant opportunities to fund the projects. Other pathways around the Preserve are more focused on localized use rather than regional use and the lack of sidewalks raised safety concerns. One suggestion was to focus on bike improvements in order to reach a broader audience and another was to highlight the St. Joseph Avenue access which seemed ideal for its flat terrain and its proximity to a major thoroughfare. However, conflicts with safe routes to school and increased traffic in neighborhoods caused by highlighting bicycle or pedestrian access points was raised as an issue. Improving bike and pedestrian infrastructure along routes to school and limiting outreach about this neighborhood access point to the local neighborhoods may alleviate

some concerns. In addition, some stakeholders noted that allowing bike use on trails in the Preserve may also encourage visitors to shift modes but suitability of the trails for bike use would need to be considered.

There was interest in dynamic signage to let visitors know if the main parking lot was full before they arrive to the parking area. Pairing the signage with park-and-ride facilities was a suggestion. Also of interest was a parking availability application to allow visitors to see real-time data before deciding to visit the Preserve.

Stakeholders recognized that additional parking could potentially solve some of the current parking issues but raised concerns about impacts to residents from increased traffic and to Preserve habitat and wildlife that may suffer from increased visitation. Weekend parking in underused off-site lots was discussed but concerns revolved around unsafe and steep pedestrian connections to the Preserve and increased traffic in neighborhoods. Reconfiguring the existing lots to maximize spaces was considered a potential compromise and preferred over new parking lots which would be costly both financially and environmentally. One suggestion was to provide temporary overflow parking areas in the main parking area for peak time use. Pursuing additional parking was considered a lower priority strategy, as additional supply would not meet demand in the long-term.

Specific discussions with the City of Los Altos and Montclair Elementary School involved the St. Joseph's Avenue tunnel access to the Preserve and the parking and traffic impacts to the neighborhood and school. School stakeholders expressed concerns about any strategy that would increase traffic on St. Joseph's Avenue, which is identified as a Safe Route to School. This included highlighting the route and tunnel access through signage, adding a parking lot near the tunnel, or applying parking fees at the Preserve's main lot. St. Joseph's Avenue has intermittent sidewalks, and is already impacted during morning and afternoon school start and end times. The school shared that current bicycle and pedestrian infrastructure is insufficient for the existing volume of community and school traffic and added visitor traffic would worsen the situation. They support improving pedestrian and bike facilities along routes to school. The City's interest was in providing residents with access to the Preserve while maintaining safety and preserving the rural residential nature of the community. The City shared concerns about visitors from areas outside Los Altos impacting this neighborhood access point and had concerns about utilizing the school parking lot for weekend Preserve use. Los Altos City staff supported expanding parking facilities at the Preserve's main entrance off Cristo Rey Drive as well as dynamic signage to direct motorists to the Cristo Rey entrance. The City's Complete Streets Commission reviewed some suggested improvements including closing sidewalk gaps and installing "sharrows" and bike lanes and would like to know more about the details of future District plans and how the District would support the implementation of the improvements.

12.3. Scoring

IBI assigned initial factor weights in Table 12.1 based on industry best-practices, and previous case studies and collected data. The factor weights have been refined based upon input from the Committee and the public at the September 22, 2020 PNR meeting.

Each TDM strategy is scored for each of the factors listed in Table 12.1 on a scale of 1 to 5, with 5 being the best. Scores were assigned based upon IBI Group experience in similar parking and access projects and input obtained from the District, stakeholders and the public. In general, a score of 1 would mean that a strategy does not have an attributable benefit to a factor or a negative effect, depending on the factor. A score of 3 would mean that a strategy moderately contributes or has no impact, depending on the factor. A score of 5 would mean that the strategy positively emphasizes a factor or is favorable. A full breakdown scoring rubric of scoring descriptions for each individual factor can be found in the Scoring Legend in Appendix A.

In addition to scoring the 26 unique TDM strategies, a 'no change' scenario is scored as a baseline and to determine if any strategy fares better or worse than implementing a 'no change' scenario.

After a single TDM strategy is scored against a factor, the score is multiplied by its factor weight. This process is done for all twelve factors. The twelve new factor-weighted scores are summed together to create a 'Total Score'. To more easily understand the scores in relation to each other, the 'Total Score' is then normalized to a 1 through 5 scale to determine a strategy's 'Total Score (Adjusted)'. The score is adjusted for ease of understanding and consistency to keep all scales the same. To get 'Total Score (Adjusted)', divide the 'Total Score' by the sum of all twelve factor score weights (30). This process will normalize the 'Total Score' on a 1 to 5 scale. Every score for each individual strategy is placed in the TDM strategy matrix found in Appendix A.

Table 12.2 provides the 'Total Score (Adjusted)' of all TDM strategies against all 12 factors and factor weights.

Table 12.2: TDM Strategy Scores

Transportation Demand Management Strategy		Total Score (Adjusted)	Report Section Number
1	No change	2.70	-
ACCESS IMPROVEMENTS			11.1
2	More Neighborhood Access Points (Non-Vehicular)	2.83	11.1.1
3	New and Improved Bike Access	3.77	11.1.2
4	New and Improved Walking Access	3.57	11.1.3
5	Use of Micromobility Options	3.33	11.1.4
6	Subsidized Ride Hail	3.67	11.1.5
7	More Bike Trails (Internal within the Preserve)	2.93	11.1.6
8	Bike Facilities	4.10	11.1.7
9	Improved Off-site Wayfinding	2.33	11.1.8
TRANSIT IMPROVEMENTS			11.2
10	On-demand Shuttle Service	3.57	11.2.1
11	Free or Low-cost Shuttle Service	3.87	11.2.2
12	Improved Public Transit Options	3.40	11.2.3
TRAFFIC OPERATIONAL IMPROVEMENTS			11.3
13	Dynamic or Variable Signage	3.27	11.3.1
14	Geometric Parking Site Layout Modifications	2.57	11.3.2
15	Carpool Restricted Lot	3.30	11.3.3
16	Additional Safety Improvements	3.10	11.3.4
17	Establish Parking Etiquette/ Queuing	2.77	11.3.5
18	Improve Morning Access	3.03	11.3.6
19	Valet Parking	2.80	11.3.7
VISITOR DEMAND MANAGEMENT (Revenue Neutral)			11.4
20	Vehicle Parking Fee	2.83	11.4.1
21	Congestion Pricing	2.27	11.4.2
22	Reservation App/ Carpooling App	2.87	11.4.3
23	Install Parking Technology/ Metering	2.70	11.4.4
24	New App or Messaging with Real-time Data Collection/ Monitoring/ Evaluation	3.23	11.4.5
CAPACITY IMPROVEMENTS			11.5
25	Coordinate with Local Jurisdictions on Neighborhood Parking	2.60	11.5.1
26	Off-site/ Other Trailhead Parking	2.90	11.5.2
27	Add On-site Parking	2.83	11.5.3

13. TDM Strategy Tiering

This section ranks all of the TDM strategies and places them in tiers based upon their scores. The strategies are ordered from highest to lowest in order to rank them for implementation. The strategies are organized in four tiers in order to assess a tiering strategy. Tier 1 strategies are ranked the best and Tier 4 strategies are ranked the weakest. The four tiers are described as follows in Table 13.1.

Table 13.1: Tier Descriptions

Tiers	Tier Description
Tier 1	Strategies that should likely move forward with adoption
Tier 2	Strategies that should be considered to move forward with adoption that complement the effects of Tier 1 strategies
Tier 3	Strategies that should be considered after implementation of selected Tier 1 strategies and Tier 2 strategies is completed
Tier 4	Strategies that should be adopted only if parking demand at the Preserve deviates from existing or projected conditions

In general, Tier 1 strategies scored over 3.50 and may prove to be the most effective in reducing parking demand and promoting a multimodal shift. Tier 2 strategies scored below 3.50 and above 3.0 and begin to be more complex and potentially less effective than Tier 1 strategies. Tier 3 strategies scored below 3.0 and are more circuitous in achieving a parking demand reduction goal. Tier 4 strategies were grouped together as they all scored equal or lower than a 'no change' scenario. As shown in the tier descriptions, these tiers are not rigid, as they are not an absolute measure for which strategies should be implemented first. For instance, two strategies that have similar features and are both highly ranked may not be both chosen to move forward with implementation as only one may be sufficient. Table 13.2 shows the Total Scores (Adjusted) for each strategy.

Overall, the scoring matrix presented in Appendix A was effective in determining the best strategies for the Preserve. The first two factors presented, Main Site Peak Hour Parking Reduction and Promotion of Modal Shift/ Reduction in GHG Emissions, may be the most important factors when considering implementation and were both given the highest factor weight of three (3) for that reason. Strategies that scored well for these first two factors generally resulted in being Tier 1 strategies. These strategies overwhelmingly were Access and Transit Improvements, which directly aim to reduce on-site parking demand by offering feasible alternative access modes of transportation to the Preserve.

Bike facilities scored the highest because they are a relatively cost-effective option for improving visitor experience while attracting multimodal visits to the Preserve. In general, access improvements scored the best compared to the other TDM categories due to their effectiveness in promoting modal shift. All transit improvements ranked well. Two visitor demand management strategies shown to be effective include an app with enhanced messaging with real-time data collection as well as a reservation/ carpooling app. Traffic

operational improvements and capacity improvements in general fared worse as they are mainly indirect solutions to resolve peak parking demand.

A single TDM strategy would not be effective on its own in managing the Preserve's parking demand and traffic congestion. The final recommendations for the Preserve, described in Section 14, are thus grouped in prioritized combinations of various TDM strategies that offer a range of access choices and target diverse groups of visitors.

Table 13.2: Tiered TDM Strategies and Legend

Prioritization Tiers	TDM Strategies		TDM Category	Total Score (Adjusted)
Tier 1	8	Bike Facilities	ACC	4.10
	11	Free or Low-cost Shuttle Service	TRAN	3.87
	3	New and Improved Bike Access	ACC	3.77
	6	Subsidized Ride Hail	ACC	3.67
	4	New and Improved Walking Access	ACC	3.57
	10	On-demand Shuttle Service	TRAN	3.57
Tier 2	12	Improved Public Transit Options	TRAN	3.40
	5	Use of Micromobility Options	ACC	3.33
	15	Carpool Restricted Lot	TOI	3.30
	13	Dynamic or Variable Signage	TOI	3.27
	24	New App or Messaging with Real-time Data Collection/ Monitoring/ Evaluation	VDM	3.23
	16	Additional Safety Improvements	TOI	3.10
Tier 3	18	Improve Morning Access	TOI	3.03
	7	More Bike Trails (Internal within the Preserve)	ACC	2.93
	26	Off-site/ Other Trailhead Parking	CAP	2.90
	22	Reservation App/ Carpooling App	VDM	2.87
	27	Add On-site Parking	CAP	2.83
	2	More Neighborhood Access Points (Non-Vehicular)	ACC	2.83
	20	Vehicle Parking Fee	VDM	2.83
	19	Valet Parking	TOI	2.80
Tier 4	17	Establish Parking Etiquette/ Queuing	TOI	2.77
	1	No change	-	2.70
	23	Install Parking Technology/ Metering	VDM	2.70
	25	Coordinate with Local Jurisdictions on Neighborhood Parking	CAP	2.60
	14	Geometric Parking Site Layout Modifications	TOI	2.57
	9	Improved Off-site Wayfinding	ACC	2.33
	21	Congestion Pricing	VDM	2.27

ACCESS IMPROVEMENTS	ACC
TRANSIT IMPROVEMENTS	TRAN
TRAFFIC OPERATIONAL IMPROVEMENTS	TOI
VISITOR DEMAND MANAGEMENT	VDM
CAPACITY IMPROVEMENTS	CAP

14. TDM Strategy Recommendations

Of the 27 TDM strategies in Section 13, there are 16 strategies specifically recommended for the Preserve and have been prioritized as First, Second, and Third Priorities. The TDM strategies in each priority section are chosen and based upon their scores in Section 13. Each priority section is intended to recommend a diverse set of TDM strategies that will reduce parking demand using a variety of unique methods based upon the specific conditions and analysis of Rancho San Antonio, and are not explicitly tied to their tiers in Section 13.

Strategy tiers may not line up with the chosen priority section in an effort to implement diverse priority groups that feature an array of benefits. A diverse set of TDM strategies from multiple categories allows for a combination of improved access, transit, operations, demand management, and capacity solutions working together to achieve the District's goals. Each prioritization section was limited to five or six strategies to make their implementation more attainable. The cutoffs between categories were based upon a combination of strategy score and priority section diversity.

There are 11 TDM strategies not recommended for prioritization at this time. Some strategies did not receive prioritization as they do not effectively achieve the goals in reducing parking demand while improving access when considering all factors. Other strategies were not chosen to move forward either because they ranked low in their respective TDM category or were duplicative of another strategy. These strategies, listed below, may be reconsidered if conditions change at the Preserve:

- On-demand Shuttle Service
- More Neighborhood Access Points (Non-Vehicular)
- Vehicle Parking Fee
- Valet Parking
- Establish Parking Etiquette/ Queuing
- Install Parking Technology/ Metering
- Coordinate with Local Jurisdictions on Neighborhood Parking
- Geometric Parking Site Layout Modifications
- Improved Off-site Wayfinding
- Congestion Pricing
- No Change

The On-demand Shuttle Service strategy was not chosen for prioritization even though it scored as a Tier 1 strategy. The strategy was considered duplicative of the higher-scoring Free or Low-cost Shuttle Service strategy as well as the existing Via-Cupertino service which provides on-demand shuttle access to the Preserve (See Section 4.3.1. for more information on Via-Cupertino). Among all factors considered, the Free or Low-cost Shuttle Service scored better than the On-demand Shuttle Service in Operations/ Maintenance Cost, Districtwide Community Input, and Stakeholder Input. The On-demand Shuttle Service did not score better than the Free or Low-cost Shuttle Service for any factor.

Table 14.1 below shows the recommended first, second, and third priorities for strategy implementation at the Preserve. The strategies in each priority section are listed first by category and then by calculated score.

Table 14.1: TDM Strategy Prioritization

Prioritization Section	Transportation Demand Management Strategy	Tier	Total Score (Adjusted)	TDM Category
First Priority	Bike Facilities	1	4.10	Access
	New and Improved Bike Access	1	3.77	Access
	Subsidized Ride Hail	1	3.67	Access
	Free or Low-cost Shuttle Service	1	3.87	Transit
	Carpool Restricted Lot	2	3.30	Traffic Operational
Second Priority	New and Improved Walking Access	1	3.57	Access
	Use of Micromobility Options	2	3.33	Access
	Improved Public Transit Options	2	3.40	Transit
	Dynamic or Variable Signage	2	3.27	Traffic Operational
	New App or Messaging with Real-time Data Collection/ Monitoring/ Evaluation	2	3.23	Visitor Demand Management
Third Priority	More Bike Trails (Internal to the Preserve)	3	2.93	Access
	Additional Safety Improvements	2	3.10	Traffic Operational
	Improve Morning Access	2	3.03	Traffic Operational
	Reservation App/ Carpooling App	3	2.87	Visitor Demand Management
	Off-site/ Other Trailhead Parking	3	2.90	Capacity
	Add On-site Parking	3	2.83	Capacity

Each prioritization section of TDM strategies is projected to be implemented in unison or concurrently, if possible, to have the greatest impact to reduce parking demand, promote modal shift, and enhance visitor experience at the Preserve. The first prioritization section should be implemented first. If the prioritization section falls short in achieving parking reduction goals, the second prioritization section should be implemented in unison. The same methodology applies to the third prioritization section.

The first priority strategies are a mix of access, transit, and operational improvements, which are adept at reducing parking demand by promoting accessibility and mobility to other modes of transportation as well as information dispersal. The strategies of bike facilities, free or low-cost shuttle, subsidized ride hail, and carpool restricted lot are all non-infrastructure changes that can be implemented in the near- to mid-term. New and improved bike access improvements, however, would require significant infrastructure changes that would certainly open new modes for bicyclists and within five miles of the Preserve. Strategies coming from three different TDM categories offer a range of access choices that target diverse groups of visitors. VDM (Visitor Demand Management) and capacity improvements were not selected for the first priority section as these can drastically change the operation of the Preserve.

Similar to the first priority strategies, the second priority strategies are a mix of access, transit, and operational improvements with additional visitor demand management. The second priority strategies would collectively be effective if the first priority strategies were not substantially effective in reducing parking demand. The second priority group features a varied set of strategies, including one infrastructure and one non-infrastructure access improvement each, enhancement to an existing transit system, modifications on-site to

alter travel behavior, and online to divert demand to other times of the day or days of the week.

The third priority strategies are a collection of indirect, technology-based, and capacity strategies in an effort to reduce demand at the main site. More bike trails internal to the Preserve could influence visitors to bike to the Preserve. However, District experience has also shown that areas allowing bike access tend to receive higher use levels than those that do not, and thus introducing more bike access to the trail system could potentially drive more vehicle traffic to the main lot from visitors who are interested in riding their bikes but live beyond walking or biking distance to the Preserve. Additional safety improvements and improving morning access, which are both traffic operational improvements, would allow the main site to become more pedestrian oriented while mitigating peak morning visitation. The third priority strategies also includes the use of a reservation or carpool app to manage visitation and inform visitors of the best times to come to the Preserve. Increasing capacity at the main site, at other trailheads, or off-site is also recommended in the third priority. While increasing supply may not reduce parking demand, it may substantially reduce the time when the Preserve is at capacity.

In total, there are 16 strategies suggested to move forward, prioritized into three prioritization sections. If first priority strategies are effective in reducing demand, then second and third priority strategies may be put on hold until conditions at the Preserve warrant additional measures.

14.1. Measuring the Effectiveness of TDM Strategies

In selecting TDM strategies to address key project objectives, measuring the effectiveness of each implemented strategy becomes important when evaluating strategies. Quantifying effectiveness may be difficult when compared across all strategies, as performance metrics and methods of evaluation vary from one measure to the next. In addition, quantifying effectiveness may also be difficult when there is little to no existing data in which to base comparisons. In order to accurately measure each strategy's effectiveness, before and after studies would be required, such as:

- **Bike Facilities and New or Improved Bike Access:** Bike counts at designated intervals to determine if volumes increase as a results of new bike facilities and amenities
- **Subsidized Ride Hail:** Gather data from subsidized transportation network companies (ride hail) on overall usage and frequency to and from the Preserve
- **Free or Low-cost Shuttle Service:** Shuttle operator data and on-board surveys
- **Carpool Restricted Lot:** Carpool space occupancy counts coinciding with peak period visitation times

Absent before and after studies, the approach to evaluating the effectiveness of the various TDM strategies recommended for the Rancho San Antonio Open Space Preserve should focus on known impacts of TDM strategies from two sources: key findings from previous work efforts and best-practices. For example, the Florida Department of Transportation has developed industry-accepted standards for evaluating multimodal levels of service based on transit travel time reliability/frequency, real-time traveler information, and dynamic messaging systems. The Federal Highway Administration also

has resources on 1.) known effectiveness of TDM strategies and 2.) tools and techniques for evaluation of TDM. Other best practices and previous work efforts can be found at:






- Best Practices in Multimodal Congestion and Mobility Performance Measures, Cambridge Systematics, prepared for Utah DOT, Technical Memo dated June 17, 2009.
- TDM: An Analysis of the Effectiveness of TDM Plans in Reducing Traffic and Parking in the Minneapolis/St. Paul Metropolitan Area, Spack Consulting, January 2010.
- TDM Strategies: Traveler Response to Transportation System Changes, TCRP, Report 95 – Chapter 19, 2010.

The District may also consider applying a qualitative assessment survey for implemented strategies. The survey can focus generally on if visitors feel it is easier to access the Preserve, and if implemented strategies are being used, are helpful, or if respondents are aware that the implemented strategies exist. The survey provides additional education to visitors, and the feedback would be helpful in determining if any changes or minor improvements can be made to continually enhance access at the Preserve.

Rancho San Antonio is a popular Preserve which features parking capacity constraints during peak times of the year, peak times of the week, and peak times of the day. The prioritized recommendations offer a host of transportation demand management strategies to promote modal shift, enhance the visitor experience, and lessen parking demand at the Preserve's main parking area during peak times. These strategies are founded with District, public, and stakeholder input to not only reduce parking demand, but to maintain the nature and character of the Rancho San Antonio Open Space Preserve.

Appendix A

Scoring Legend

Transportation Demand Management Strategy		Main Site Peak Hour Parking Reduction	Promotion of Modal Shift/ Reduction of GHG Emissions	Visitor Access Experience	Implementation Term	Ease of Implementation	Capital Cost	Operations/ Maintenance Cost	Protecting and Enhancing Preserve Environmental Qualities	Promotion of Equitable Opportunities for All	Districtwide Community Input	Neighborhood Input	Stakeholder Input
Score of 5		A strategy that emphasizes a reduction in peak hour parking demand	A strategy that emphasizes modal shift	A strategy that emphasizes visitor access experience	A short-term implementation timeline	A relatively easy strategy to implement with little to no partners	A low-cost strategy to implement	A low-cost strategy to operate and maintain	A strategy that emphasizes enhancing Preserve environmental qualities	A strategy that emphasizes equitable opportunities for all	A strategy with strong support by the Districtwide community	A strategy with strong support by the adjacent neighborhoods	A strategy with strong support by key stakeholders
Score of 4		A strategy that significantly assists in a reduction in peak hour parking demand	A strategy that significantly assists in modal shift	A strategy that significantly improves visitor access experience	A short- to mid-term implementation timeline	A somewhat easy strategy to implement with little to no partners	A low-to medium-cost strategy to implement	A low- to medium-cost strategy to operate and maintain	A strategy that significantly assists enhancing Preserve environmental qualities	A strategy that significantly assists in equitable opportunities	A strategy with moderate support by the Districtwide community	A strategy with moderate support by the adjacent neighborhoods	A strategy with moderate support by key stakeholders
Score of 3		A strategy that contributes to a reduction in peak hour parking demand	A strategy that contributes to modal shift	A strategy that positively contributes to visitor access experience	A mid-term implementation timeline	A moderate strategy to implement with a couple/ few partners	A medium-cost strategy to implement	A medium-cost strategy to operate and maintain	A strategy that contributes to enhancing Preserve environmental qualities	A strategy that contributes to equitable opportunities	A strategy indifferent to the Districtwide community	A strategy indifferent to the adjacent neighborhoods	A strategy indifferent to key stakeholders
Score of 2		A strategy that minimally reduces peak hour parking demand	A strategy that minimally effects modal shift	A strategy that minimally contributes to visitor access experience	A mid- to long-term implementation timeline	A somewhat difficult strategy to implement with multiple partners	A medium- to high-cost strategy to implement	A medium to high-cost strategy to operate and maintain	A strategy that minimally enhances Preserve environmental qualities	A strategy that minimally contributes to equitable opportunities	A strategy with moderate opposition by the Districtwide community	A strategy with moderate opposition by the adjacent neighborhoods	A strategy with moderate opposition by key stakeholders
Score of 1		A strategy that does not reduce peak hour parking demand	A strategy that does not lead to modal shift	A strategy that does not benefit visitor access experience	A long-term implementation timeline	A relatively difficult strategy to implement with multiple partners	A high-cost strategy to implement	A high-cost strategy to operate and maintain	A strategy that does not enhance Preserve environmental qualities	A strategy that does not promote equitable opportunities	A strategy with strong opposition by the Districtwide community	A strategy with strong opposition by the adjacent neighborhoods	A strategy with strong opposition by key stakeholders

Appendix A

Transportation Demand Management Strategy		Priority Section	Main Site Peak Hour Parking Reduction	Promotion of Modal Shift/ Reduction of GHG Emissions	Visitor Access Experience	Implementation Term	Ease of Implementation	Capital Cost	Operations/ Maintenance Cost	Protecting and Enhancing Environmental Qualities of RSA	Promotion of Equitable Opportunities for All	Districtwide Community Input	Neighborhood Input	Stakeholder Input	Total Score	Total Score (Adjusted)
Factor Weight			3	3	2	1	1	2	3	3	3	3	3	3	Weight Total = 30	
1	No change	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	81	2.70
ACCESS IMPROVEMENTS																
2	More Neighborhood Access Points (Non-Vehicular)	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	85	2.83
3	New and Improved Bike Access	1st	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	113	3.77
4	New and Improved Walking Access	2nd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	107	3.57
5	Use of Micromobility Options	2nd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	100	3.33
6	Subsidized Ride Hail	1st	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	110	3.67
7	More Bike Trails (Internal within the Preserve)	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	88	2.93
8	Bike Facilities	1st	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	123	4.10
9	Improved Off-site Wayfinding	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	70	2.33
TRANSIT IMPROVEMENTS																
10	On-demand Shuttle Service	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	107	3.57
11	Free or Low-cost Shuttle Service	1st	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	116	3.87
12	Improved Public Transit Options	2nd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	102	3.40
TRAFFIC OPERATIONAL IMPROVEMENTS																
13	Dynamic or Variable Signage	2nd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	98	3.27
14	Geometric Parking Site Layout Modifications	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	77	2.57
15	Carpool Restricted Lot	1st	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	99	3.30
16	Additional Safety Improvements	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	93	3.10
17	Establish Parking Etiquette/ Queuing	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	83	2.77
18	Improve Morning Access	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	91	3.03
19	Valet Parking	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	84	2.80
VISITOR DEMAND MANAGEMENT (Revenue Neutral)																
20	Vehicle Parking Fee	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	85	2.83
21	Congestion Pricing	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	68	2.27
22	Reservation App/ Carpooling App	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	86	2.87
23	Install Parking Technology/ Metering	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	81	2.70
24	New App or Messaging with Real-time Data Collection/ Monitoring/ Evaluation	2nd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	97	3.23
CAPACITY IMPROVEMENTS																
25	Coordinate with Local Jurisdictions on Neighborhood Parking	-	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	78	2.60
26	Off-site/ Other Trailhead Parking	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	87	2.90
27	Add On-site Parking	3rd	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	85	2.83

= Score of 1 = Score of 2 = Score of 3 = Score of 4 = Score of 5

Total Score (Adjusted) = Total Score / Weight Total (30)