

PREPARED FOR



Purissima Creek Multimodal Access and Transportation Demand Management Study



October 2022

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GLOSSARY OF TERMS

ADA

Americans with Disabilities Act.

On-Demand Transit

This strategy involves travelers making real-time trip requests for services with flexible routes and schedules. This allows users to request a specific transit trip based on their individual trip origin/destination and desired departure or arrival time.

Micromobility

Micromobility includes ways of getting around that are fully or partially human-powered — such as bikes, e-bikes and e-scooters and mobility-assistance devices/wheelchairs. Most commonly, micromobility vehicles do not exceed 15 mph.

Microtransit

Microtransit solutions are small-scale, on-demand public transit services that that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling. Microtransit is technology-enabled and occupies the space between traditional, fixed-route transit and ride-hailing technology.

On-Demand Transit

This strategy involves travelers making real-time trip requests for services with flexible routes and schedules. This allows users to request a specific transit trip based on their individual trip origin/destination and desired departure or arrival time.

Parking Management

Parking management involves the dynamic management of parking facilities in a region to optimize performance and utilization of those facilities while influencing travel behavior at various stages along the trip making process: i.e., from origin to destination.

Parking Reservation

This strategy provides travelers with the ability to utilize technology to reserve a parking space at a destination facility on demand to ensure availability. Parking availability is continuously monitored and system users can reserve the parking space ahead of arriving at the parking location.

Real-Time Traveler Information/ Wayfinding

This is the practice of providing real-time parking-related information to travelers associated with space availability and location so as to optimize the use of parking facilities and minimize the time spent searching for available parking.

Ride-hailing

This strategy involves travelers using advanced technologies to hail a driver on-demand. Unlike ridesharing, ride-hailing rides are not shared: drivers do not pick up other passengers on the same route.

Ridesharing

This strategy involves travelers using advanced technologies, such as smart phones and social networks, to arrange a short-notice, one-time, shared ride. This facilitates real-time and dynamic carpooling to reduce the number of auto trips/vehicles trying to use already congested roadways.

Satellite Parking/ Intercept Lot

This is parking located at a distance from the destination usually connected by a shuttle, park and ride, park and bike, or connecting non-motorized trail.

Transportation Demand Management

Transportation demand management (TDM) refers to a set of strategies using information and technology to manage demand, which could include redistributing travel to less congested times of day or locations; or to reduce overall vehicle trips by influencing a mode choice. Physical supply improvements such as enhancing existing parking supply can supplement traditional TDM measures.

I. INTRODUCTION

The Purisima Creek Multimodal Access and Transportation Demand Management Study (Study) examines current access and parking conditions at the Purisima Creek Redwoods Open Space Preserve (Preserve) and uncovers visitor behavior and visitation patterns in order to identify strategies to reduce parking demand, manage parking resources, improve multimodal access and visitor circulation, enhance visitor safety and overall experience, and mitigate negative impacts of overflow parking and traffic at the Preserve and for adjacent and nearby residents.

The Purisima Creek Redwoods Preserve is located south of Highway 92 and the City of Half Moon Bay, on the western slopes of the Santa Cruz Mountains. The Preserve covers approximately 5,400 acres of land and extends from Highway 35 to Highway 1. It is owned and managed by the Midpeninsula Regional Open Space District (Midpen) and was established with a gift of \$2 million from the Save the Redwoods League.

The Preserve is a popular recreational destination among residents of San Mateo County, neighboring areas, and the broader San Francisco Bay Area region for hiking, biking, and equestrian riding. The Preserve's natural beauty, recreational amenities, and scenic views have drawn an increasing number of visitors, creating traffic congestion issues that detract from the neighbor and visitor experience and create unwanted traffic safety issues. Nearly 200,000 people visited the Preserve in 2020. During the summer months, the Preserve averaged between 225 to 525 vehicles and 500 to 1,225 pedestrians per day at the North Ridge parking lot based on vehicle and pedestrian counts taken from traffic monitoring stations.

The Parisi Transportation Consulting-Mead & Hunt team was hired by Midpen in August 2021 to help evaluate existing conditions at the Preserve and develop potential transportation demand management (TDM) strategies following an extensive study process. The study team was comprised of transportation planners and traffic engineers with prior experience developing innovative, proven traffic and parking management plans that minimize traffic congestion, reduce traffic and parking impacts on surrounding communities, identify and implement multimodal access options and enhance visitor experience.

The Study focuses on the Preserve's four trailhead entrances: (1) the main North Ridge parking lot; (2) the popular Purisima Creek Road/Higgins Canyon parking lot; (3) the Redwood trailhead entrance and (4) Grabtown Gulch trailhead entrance. The entire Preserve currently can accommodate approximately 60 parked vehicles across all designated off-street parking areas. This Study seeks to evaluate potential solutions to address vehicular parking deficits and congestion during peak times, as well as improve multimodal access to promote the use of alternative modes of transportation to and from the Preserve.

This report documents the existing transportation options, parking conditions, and visitor trends at the Preserve; analyzes parking demand; offers a menu of TDM measures; and recommends TDM strategies for implementation. TDM measures aim to maximize travelers' multimodal transportation choices to improve mobility, reduce congestion, and lower vehicle environmental impacts. The recommended TDM strategies were chosen as the result of a robust methodology to score, rank, and tier TDM strategies. A suite of multimodal access strategy recommendations is presented by prioritization tiers.

The project study area is shown in Figure 1.

Purisima Creek Multimodal Access and Transportation Demand Management Study

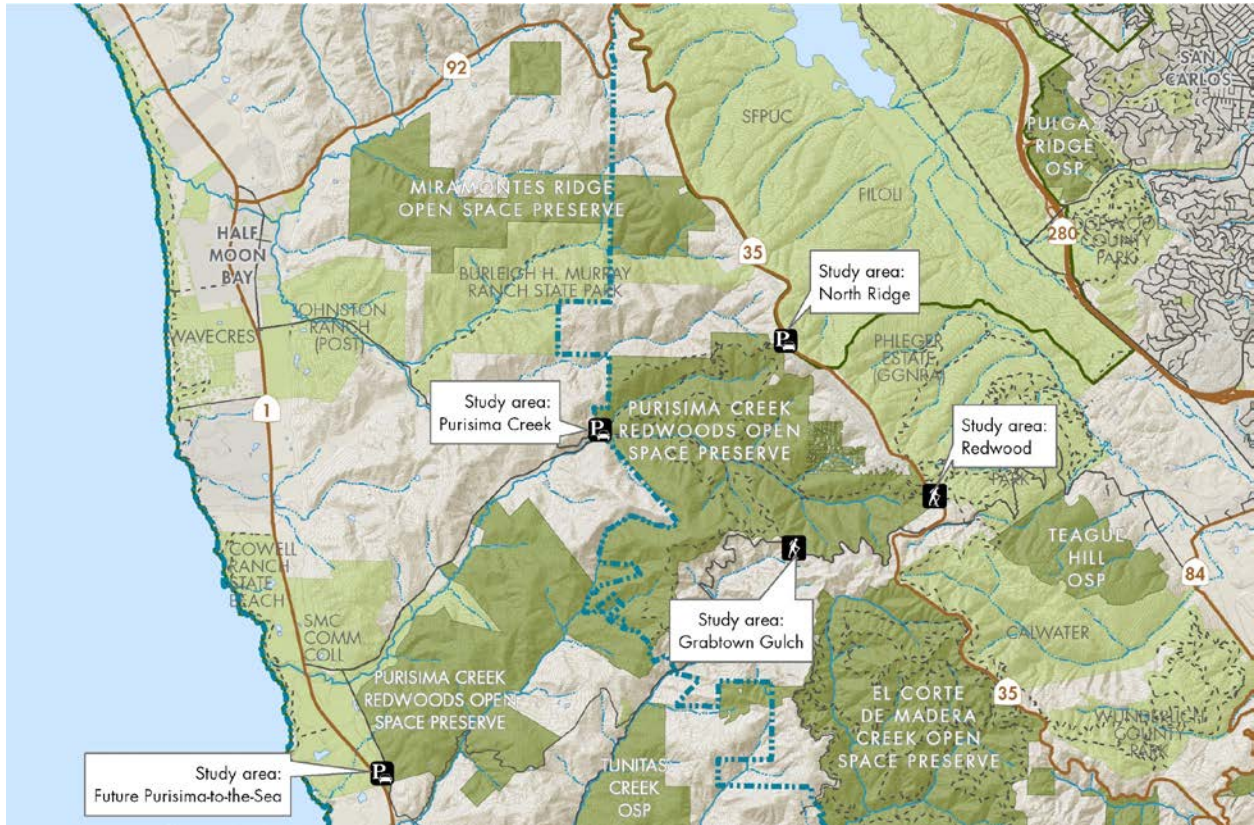


FIGURE 1. PROJECT STUDY AREA LOCATION

II. EXISTING CONDITIONS

The Preserve is located on the western slope of the Santa Cruz mountains in San Mateo County. At over 5,000 acres, the Preserve is a popular recreational destination among residents of San Mateo County, neighboring areas, and the broader San Francisco Bay Area region for hiking, biking, and equestrian riding. About 3,000 acres on the east side of the Preserve are open to the public, and public access planning for the remainder is under way. Please see Figure 2.

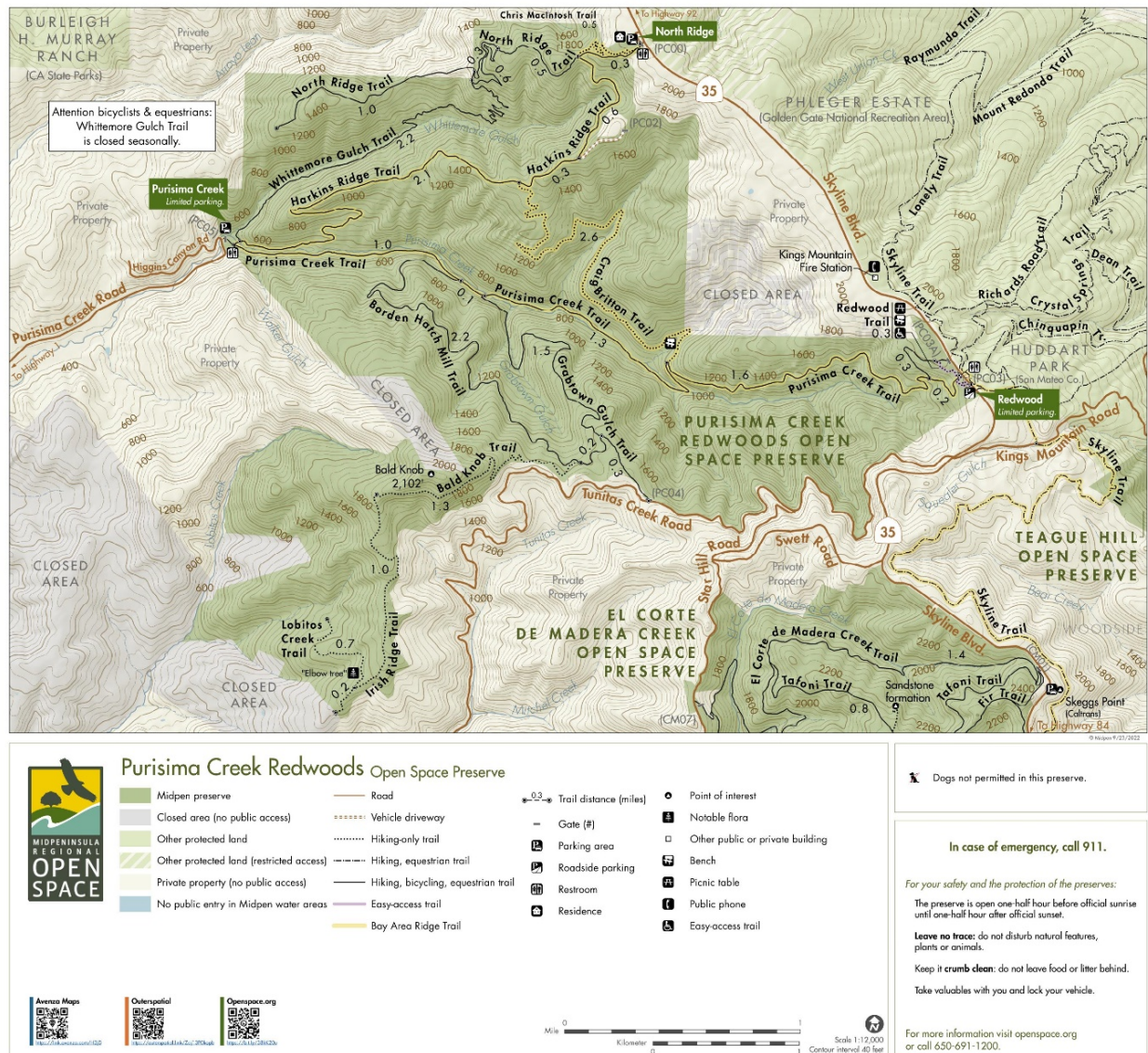


FIGURE 2. PURISIMA CREEK REDWOODS OPEN SPACE PRESERVE

Purisima Creek Multimodal Access and Transportation Demand Management Study

Access to the Preserve is provided by several roadways, including Skyline Blvd (Highway 35), Purisima Creek Road, Tunitas Creek Road, and Higgins Canyon Road. Nearly 200,000 people visited the Preserve in 2020. According to Midpen traffic monitoring station data, during the summer of months, the Preserve averaged between 225 to 525 vehicles and 500 to 1,225 pedestrians per day just at the North Ridge parking lot. The entire Preserve currently can accommodate approximately 70 parked vehicles across all designated parking areas and another approximately 90 spaces along roadside and informal parking areas.

PARKING FACILITIES

There are four designated access locations where visitors park their vehicles to access the Preserve. The designated areas are a combination of formal parking lots and informal roadside pull off areas. The locations are shown in Figure 3 and summarized in Table 1 below.

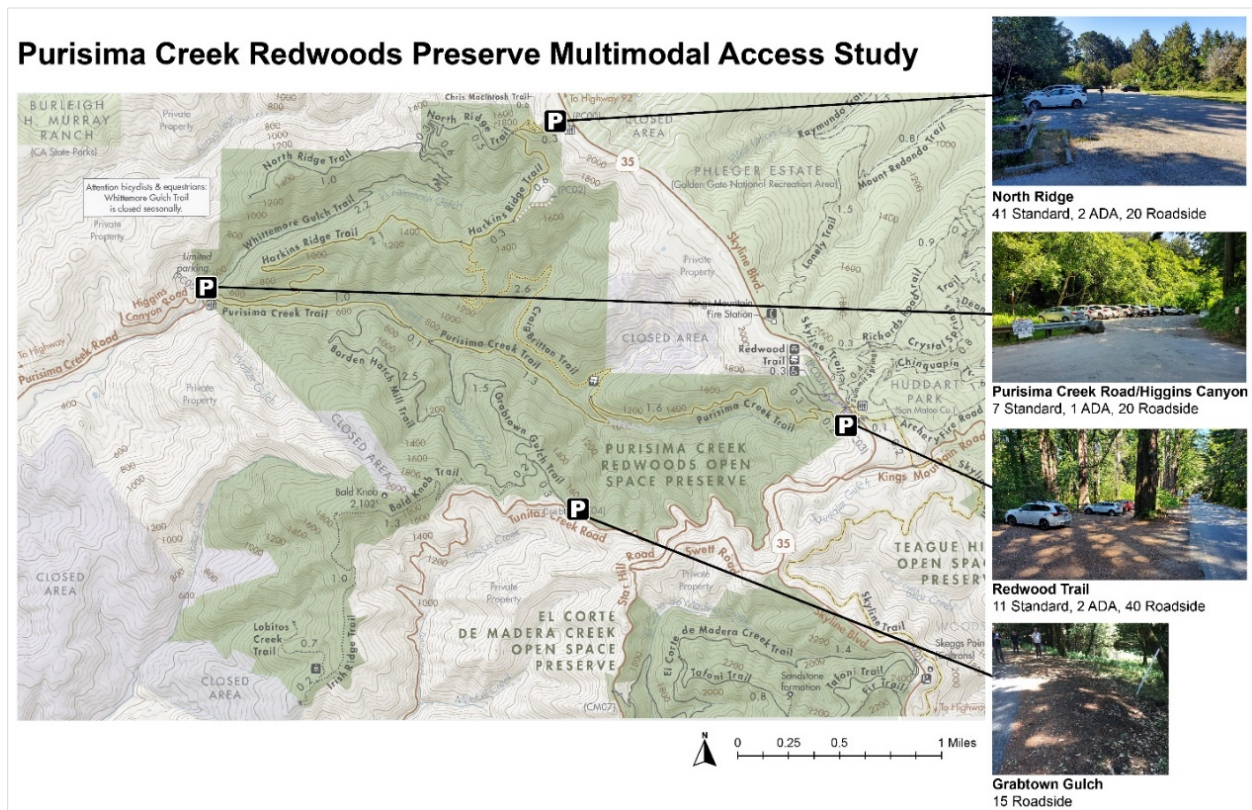


FIGURE 3. STUDY AREA MAP OF PRESERVE ACCESS AND PARKING FACILITIES

TABLE 1. EXISTING PARKING AREAS**

Area	Total Parking Lot Spaces*	Equestrian Trailer Parking Spaces	ADA Parking Spaces	Total Roadside Parking	Surface
North Ridge Parking Lot	41 (31)	0 (4)	2	20	Gravel
Redwood Trailhead	11	0	2	40	Dirt Shoulder
Purisima Creek Road / Higgins Canyon Road	7	0	1	20	Gravel
Grabtown Gulch Trailhead	0	0	0	15	Dirt Shoulder
Total	59 (49)	0 (4)	5	95	

Notes:

* Numbers in parenthesis note the total number of spaces if all equestrian spaces are occupied.

**The parking lot/roadside utilization may differ from the official capacity because the parking spaces are not marked.

North Ridge Parking Lot

The North Ridge parking lot is considered a primary entrance to the Preserve and has a gravel surface with no markings delineating parking stalls, but based on field observations, approximately 41 parked vehicles can be accommodated when standard cars use the informal equestrian spaces. Not included in the 41 standard car spaces and two ADA spaces, which are designated with signage. No space is formally designated for horse trailers, with parking available on a first-come first-served basis. The parking lot has one entrance and one exit, both of which are controlled by vehicle arm gates. There is about 10 feet of paved shoulder on the west side of Highway 35 right in front of the parking lot which allows vehicles exiting the parking lot adequate sight distance.

When the parking lot is full, additional vehicles park along the shoulder in front of the parking lot and then adjacent to Highway 35 to the south. This parking lot will also be used by future trail users who access the Bay Area Ridge Trail extension that the San Francisco Public Utilities Commission (SFPUC) is constructing on their watershed lands extending south from Highway 92 approximately 6 miles to the Phleger Estate boundary and east from Highway 35 a few hundred feet away. The North Ridge Parking lot is located in close proximity to the southern end of the SFPUC Bay Area Ridge Trail Extension where a future multi-use trail crossing is currently being evaluated to provide a safer crossing for trail users between the new Ridge Trail extension and the North Ridge Parking lot. In addition, Midpen is also evaluating the potential expansion of the North Ridge Parking lot to accommodate increased visitation at this trailhead.

Redwood Trailhead

The Redwood Trailhead parking lot is an unimproved area along the shoulder of Highway 35. It is classified as a California Department of Transportation (Caltrans) pullout, which limits the options for improving the site. The ground is uneven and large tree roots are sticking out of the ground. Drainage is poor, which further limits the use of the parking lot during wet weather. As shown in Figure 4, parking spaces are not delineated, but based on field observations, approximately 11 parked vehicles can be accommodated. There is also signage for two ADA parking spaces. The parking spaces have limited sight lines for motorists pulling in and out; additional signing is recommended along Highway 35 to alert drivers of trailhead activity.

When the parking lot is full, additional vehicles park along the narrow shoulder of Highway 35.



FIGURE 4. REDWOOD TRAILHEAD PARKING AREA

Purisima Creek Road/Higgins Canyon Road

The parking lot at the end of Purisima Creek Road and Higgins Canyon Road has a gravel surface with no markings delineating parking stalls, but based on field observations, seven parked vehicles can be accommodated. In addition, there is signage for one ADA parking space. The parking lot entrance/exit is located at the intersection of Purisima Creek Road and Higgins Canyon Road which enables adequate sight distance while exiting the parking lot.

Purisima Creek Multimodal Access and Transportation Demand Management Study

The parking lot fills quickly with additional vehicles parking along the shoulder of Purisima Creek Road. Neither roadway has a paved shoulder, so parked vehicles encroach into the travel lanes as shown in Figure 5. At the request of the District, San Mateo County recently implemented “No Parking” zones along both Higgins Canyon Road and Purisima Creek Road to keep the roads passable and address safety concerns. Only approximately 350 linear feet of shoulder parking is allowed on the west side of Purisima Creek: no parking zones are posted on all other shoulders for approximately 2,000 and 3,000 linear feet from trailhead entrance on Purisima Creek Road and Higgins Canyon Road, respectively. Enforcement is challenging due to the large area District ranger staff cover but is strict when District rangers can reach this area while on patrol. Violations of the “No Parking” zone have been observed by neighbors and ongoing education and enforcement will continue. Prior to the restriction, shoulder parking on both roadways was observed to extend for up to one half mile with up to 100 vehicles during peak Preserve use periods, particularly on summer weekends and holidays.



FIGURE 5. VEHICLES PARKED ALONG PURISIMA CREEK ROAD

Grabtown Gulch Trailhead

The trailhead for the Grabtown Gulch Trail begins at Tunitas Creek Road. There is no formally designated parking area at this location. However, based on field observations, between 10 to 20 vehicles can park in several unimproved and unsigned areas along the shoulder of the road near the trailhead.



FIGURE 6. UNMARKED PARKING AREA AT GRABTOWN GULCH TRAILHEAD

ROADWAY GEOMETRY AND CHARACTERISTICS

Highway 35 (Skyline Boulevard)

Highway 35, owned and maintained by Caltrans, begins in San Francisco and runs along the ridge of the Santa Cruz Mountains from Highway 1 just south of Daly City to Highway 92 in San Mateo County, continuing south to Highway 17 near Lexington Reservoir in Santa Clara County. It is a 2-lane roadway with the functional classification of a Major Collector. In the segment between Highway 92 and Kings Mountain Road, the speed limit is 50 mph. Where horizontal curves exist that limit sight distance, advisory reduced speed limits and warning signs (e.g., 25 mph) are posted at those locations. The road is about 23 feet wide with no formal shoulder and limited or no signage restricting or allowing roadside parking near Preserve trailheads.

Purisima Creek Road/Higgins Canyon Road

Purisima Creek Road and Higgins Canyon Road are owned and maintained by San Mateo County and run from Highway 1 to the western entrance to the Preserve. Both roadways are 2-lane unmarked roadways with a posted speed limit of 45 miles per hour near Highway 1, which drops to 35 miles per hour along Purisima Creek Road approximately 2 miles from the terminus with Higgins Canyon Road, and to 25 miles per hour along Higgins Canyon Road approximately 1.5 miles from the terminus with Purisima Creek Road. Both roadways are approximately 20 feet wide with no shoulders.

Tunitas Creek/Lobitos Creek Road

Tunitas Creek and Lobitos Creek Road are owned and maintained by San Mateo County and connect from Highway 35 to Highway 1. Both roadways are unmarked roadways, approximately 14 feet wide, and do not provide shoulders. The roadways experience sharp horizontal curvature and steep grades limiting speeds and sight distance. There are no public access points to the Preserve from Lobitos Creek Road.

Verde Road

Verde Road is a County-maintained two-lane unmarked roadway, approximately 18 feet wide, that runs parallel to Highway 1 and connects Purisima Creek and Lobitos Creek Roads. There are no public access points to the Preserve from Verde Road.

PEDESTRIAN INFRASTRUCTURE

There are no pedestrian facilities along any of the roads leading to the parking areas. There are no designated crossings or signage.

BICYCLE INFRASTRUCTURE

There are no marked or signed bicycle routes along any of the study area roadways. There are no existing off-road trails connecting to the Preserve from adjacent communities, although several proposed trail segments are currently being studied as shown in Figure 7 below.

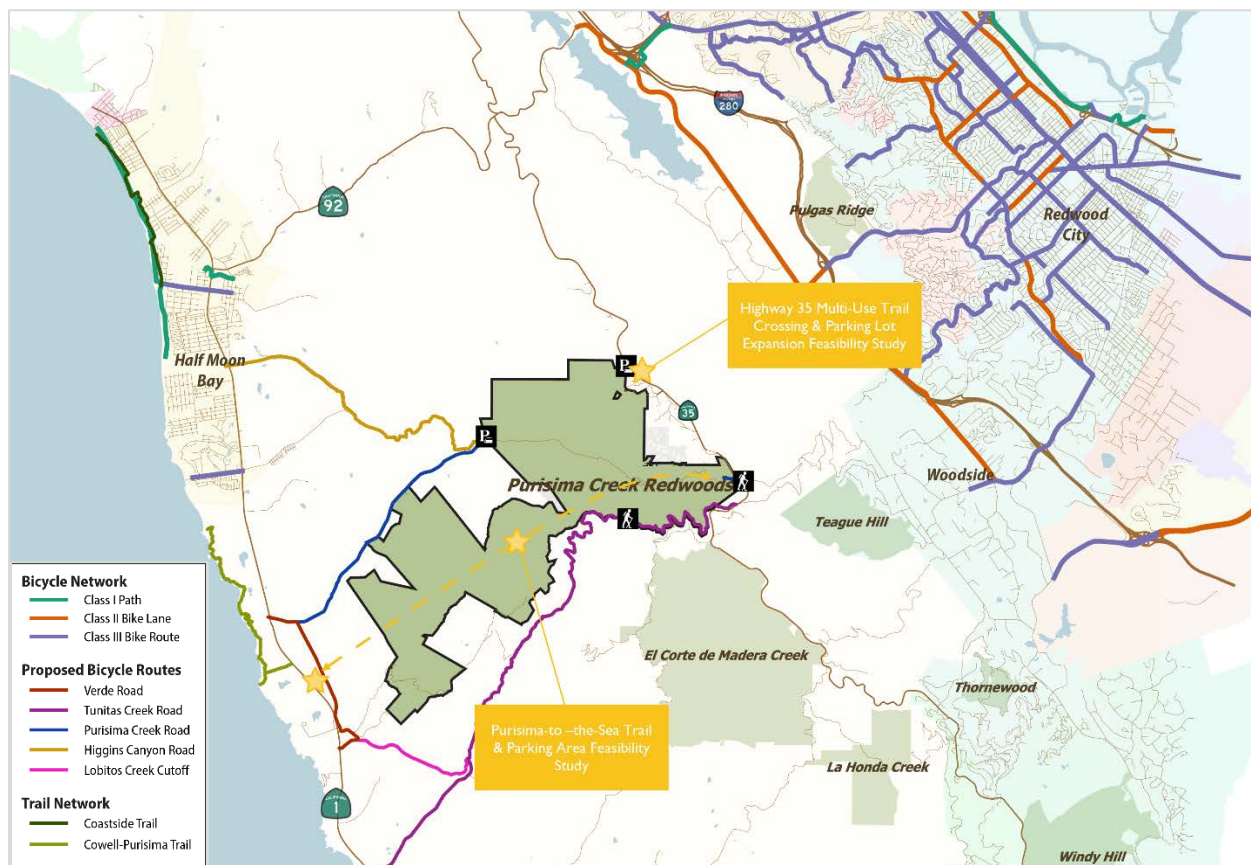


FIGURE 7. EXISTING & PROPOSED BICYCLE ROUTES/TRAILS

TRANSIT

The Preserve is not currently served directly by any existing transit routes or stops. The closest transit stop to the preserve entrances along Highway 35 is the SamTrans bus stop at the intersection of Highways 92 & 35. The stop is located 4.4 miles away from and almost 1,200 feet in elevation below the main preserve entrance at the North Ridge parking lot. The stop is served by SamTrans Route 294, which operates from approximately 5 AM to 10 PM at one-hour intervals on weekends and 5 AM to 9 PM on weekdays.

An existing SamTrans route map is shown in Figure 8.

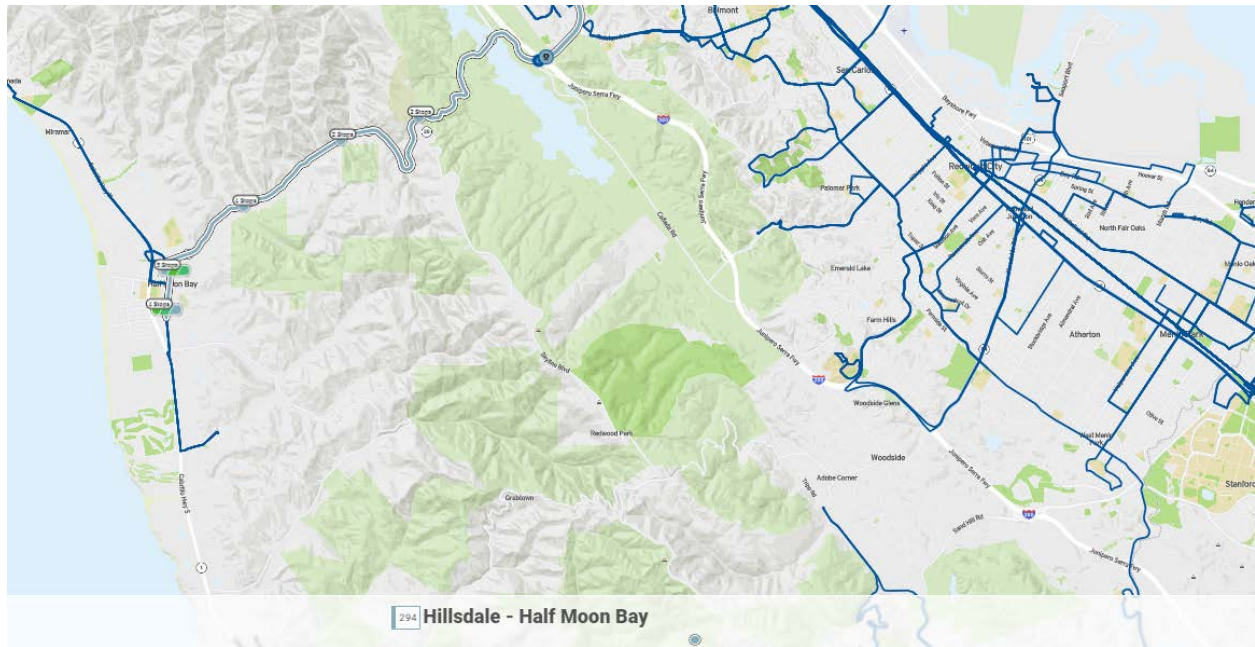


FIGURE 8. SAMTRANS ROUTE MAP

WAYFINDING

None of the existing parking areas have vehicle-oriented wayfinding such as parking lot identification, directional signage to other trailheads/ parking areas, or curbside parking designation signage. Since the inception of this study, however, some temporary wayfinding signage was tested during a recent pilot study and refinements to the signs and their locations will be further studied in the future to optimize their efficacy.

III. LOCAL & REGIONAL PLAN REVIEW

The following section provides an overview of relevant local and regional projects, plans and policies as they relate to the Preserve's access and circulation.

OTHER RELEVANT MIDPEN PROJECTS

Purisima-to-the-Sea Trail and Parking Area Project

The Purisima-to-the-Sea Trail and Parking Area project will lead to the creation of a trail linking the California Coastal Trail to the Bay Area Ridge Trail. Begun in early 2021, the project includes the following components:

- Approximately seven miles of new trail linking to the existing Purisima Creek Redwoods Open Space Preserve trail system and Bay Area Ridge Trail
- New parking area and trailhead at Verde Road
- Connector and roadway trails linking to the California Coastal Trail (Coastal Trail)

The trail will help facilitate the longer-term vision for a Bay to Sea Trail, which will consist of approximately 40 miles of continuous east-west regional trails connecting the San Francisco Bay Trail to the Coastal Trail.

Applicability to the Preserve

This project is being implemented in parallel with the Purisima Creek Redwoods Multimodal Access and Transportation Demand Management Study. The results of this study will help inform the Purisima-to-the-Sea Trail and Parking Area project, particularly regarding the proposed addition of vehicular parking at the western end of the Preserve and the potential incorporation of several TDM strategies.

Highway 35 Multi-Use Trail Crossing and Parking Project

This project is a partnership opportunity with the Bay Area Ridge Trail Council, the San Francisco Public Utilities Commission (SFPUC) and Peninsula Open Space Trust (POST) to evaluate the feasibility of a potential expansion of the North Ridge parking lot and a multi-use trail crossing of Highway 35 from SFPUC's Bay Area Ridge Trail Extension to the parking lot. The SFPUC is proposing to construct an approximately six-mile section of the Bay Area Ridge Trail on their watershed lands from south of Highway 92 to the Phleger Estate property, which is part of the Golden Gate National Recreation Area (GGNRA), roughly paralleling Highway 35. This trail would close a significant regional trail gap; assist in the creation of an approximately 100-mile continuous alignment of the Bay Area Ridge Trail; and result in the construction of two additional parking areas, with a 20-car lot south of Highway 92 and a 50-car lot north of Highway 92. The feasibility study is scheduled to run from 2021 through 2023.

Applicability to the Preserve

The Preserve is across and to the west of Highway 35 from the southernmost end of the proposed Bay Area Ridge Trail Extension. The trail extension connects to the North Ridge parking lot, prompting concerns that the Bay Area Ridge Trail Extension project would increase parking demand at the Preserve. A potential expansion of the parking lot provides an opportunity to consider the incorporation of appropriate TDM strategies.

Rancho San Antonio Multimodal Access Study

Conducted from 2019 through 2021, the Rancho San Antonio Multimodal Access Study project explored and evaluated non-motorized mobility, transit options, and parking alternatives for Midpen's Rancho San Antonio Open Space Preserve in Santa Clara County to encourage visitors to use greener modes of transportation and reduce parking demand and traffic, while maintaining equitable access for both local and regional visitors. The resulting report identified 26 potential TDM strategies that were scored and prioritized. The first priority TDM strategies are the following:

- Bike facilities
- New and improved bike access
- Subsidized ride-hail
- Free or low-cost shuttle service
- Carpool restricted lot
- Dynamic or variable signage

The study report also includes high-level next steps for the prioritized TDM strategies. Several first priority TDM strategies are currently being planned and implemented.

Applicability to the Preserve

The Rancho San Antonio Multimodal Access Study provides a framework through which strategies for the Purisima Creek Redwoods Preserve can be viewed and evaluated. Given that Rancho San Antonio is located in a more urban setting and in closer proximity to communities than the Preserve, not all recommended TDM strategies for Rancho San Antonio will be applicable for the current study.

Conclusions

- The three Midpen projects have either direct or indirect implications for the Preserve's access and circulation.
- The Purisima-to-the-Sea project may result in additional parking demand and increased parking capacity for Preserve visitors, while the Highway 35 study may identify solutions for increasing parking capacity and efficient use of the Preserve's existing North Ridge parking lot.

- The new six-mile trail and parking lots constructed as part of SFPUC's Bay Area Ridge Trail Extension may have direct or indirect implications for the current study. The Bay Area Ridge Trail Extension project is expected to increase overall parking demand and its proposed lots may serve as alternatives to the Preserve parking areas, as staging areas for cyclists, or as potential shuttle stops.
- The Rancho San Antonio Multimodal Access Study's recommended TDM strategies and evaluation framework may serve as a model for strategies at the Preserve.

SHUTTLE/TRANSIT SERVICE

SamTrans – Proximate Transit Routes

Several SamTrans routes currently provide service in the vicinity of the Preserve and were recently updated following the Reimagine SamTrans planning process (see section below). However, given their distance from the Preserve or their limited schedule, none of the current routes would be viable for efficient access to the Preserve. They are acknowledged here as the transit system currently available in the area. The following is a brief description of their routes and their service.

Route 18

Route 18 is a school-oriented route that provides weekday service from Main Street and 7th Street in Montara to the Moonridge Apartments in Half Moon Bay. The bus route serves Half Moon Bay High School and Cunha Intermediate School and includes a stop at Higgins Canyon Road. While this stop may provide opportunities for visitors wishing to cycle to the Preserve or connect to future shuttles, the route is in operation only during school commute hours and so any opportunities would be limited.

Route 117

Route 117 provides service from the Linda Mar Park & Ride in Pacifica to Half Moon Bay. This includes a transit stop at the Strawflower Shopping Center in Half Moon Bay and another at Higgins Canyon Road. Future shuttle service to the Preserve could potentially use these stops and Highway 1 to access the Purisima Creek Road trailhead, avoiding heavy traffic on Highway 92. In addition, the stops could provide some cyclists with the opportunity to access the Preserve from this area. The route runs hourly during both weekdays and the weekend.

Route 294

Route 294 provides service from the Hillsdale Caltrain station in San Mateo to Main Street in Half Moon Bay via Highway 92. Service includes a stop at Highway 35, with a transit stop located on either side of Highway 92. The location of this transit stop could potentially provide access from Half Moon Bay to shuttle service serving the Preserve as well as other County parks.

Additionally, the terminus is proximate to Higgins Canyon Road, which could provide the opportunity for cyclists to access the Preserve from this area. Route 294 runs every hour during both weekdays and weekends.

Applicability to the Preserve

These routes may serve as opportunities to incorporate multimodal travel options to the Preserve using a combination of transit and other modes. However, it should be acknowledged that the length of travel to the Preserve would be challenging with the current bus routes and there remains a need for other modes to bridge the last few miles to the Preserve. There is also a partnership opportunity with SamTrans to explore other transit, e.g., microtransit, or shuttle possibilities together.

Reimagine SamTrans

Reimagine SamTrans, SamTrans's comprehensive operational analysis began in 2019 with its implementation phase starting in August 2022. The analysis combines data, innovative thinking, and input from the community to develop a new and more efficient bus network to better meet San Mateo County's transit and mobility needs. The goals of Reimagine SamTrans are to improve the experience for existing SamTrans customers; grow new and more frequent ridership on SamTrans; and build SamTrans's efficiency and effectiveness as a mobility provider.

The project proposes three different network alternatives to develop a more efficient transit network. The first alternative provides direct, high frequency service for high-demand routes but less service for lower-demand routes and routes to San Francisco. The second alternative improves and expands connections to rail stations and the region, including new routes to employment areas and college campuses. The third alternative retains geographic coverage and explore innovative transit, such as microtransit for hard-to-reach communities.

Midpen supports Alternative 3, particularly as it would provide the opportunity for transit opportunities for East Palo Alto and Half Moon Bay and open the possibility to discuss and promote transit access to Midpen's open space preserves, County parks, and beaches. In March 2022, the SamTrans Board of Directors approved the final recommended network, which incorporates elements from all three network alternatives and focuses on improving service frequency, reducing service duplication, offering later and weekend services, creating new connections, offering more direct routes and creating a new on-demand microtransit service in Half Moon Bay and East Palo Alto. SamTrans has started implementation of the Reimagine SamTrans routes.

Applicability to the Preserve

Microtransit as part of the final recommended network could provide equitable access to the Preserve, although cell phone reception issues and concerns around the creation of microtransit zones that are too large would need to be addressed. Midpen has connected with SamTrans

planning staff and will continue to monitor partner agency activities and seek partnering opportunities to expand transit to beaches, parks, and open space in the future.

San Mateo County Local Shuttles

The San Mateo County Transportation Authority funds several local shuttles to provide quick, convenient service to and from commuter and community destinations such as Caltrain, shopping, and employment centers. The shuttles receive funding from Measure A, the City/County Association of Governments, the Bay Area Air Quality Management District, San Mateo County cities and employers.

The Transportation Authority has also funded pilot programs to provide transit access to parks. Previously funded shuttles include the San Mateo County's County Parks Explorer and Coastside Beach Shuttle, both funded in FY 2017 through FY 2018. The County Parks Explorer transported residents in East Palo Alto, east Menlo Park, and the North Fair Oaks area in unincorporated San Mateo County to Edgewood County Park in Redwood City and Wunderlich County Park in Woodside. Shuttles ran from 9:00 AM to 5:00 PM on the weekends. When in operation, the shuttle destinations of Edgewood County Park and Wunderlich County Park were located approximately 12 and 7 miles from the pick-up locations. The Coastside Beach Shuttle ran from Poplar State Beach to Pillar Point with a connection on downtown Half Moon Bay's Main Street. This shuttle provided service on weekends only from 9:00 AM to 4:30 PM. Neither of these shuttles are currently in operation.

Applicability to the Preserve

These shuttles provide lessons learned for potential service to the Preserve and other local open spaces. Further study into their strengths and weaknesses could inform future planning efforts.

Cupertino Shuttle

The Via-Cupertino Shuttle is an app-based, on-demand service providing transportation throughout the City of Cupertino as well as some destinations just outside the City, such as the Sunnyvale Caltrain station, Kaiser Permanente's Santa Clara Medical Center, and Rancho San Antonio Open Space Preserve. The shuttle vans can accommodate six passengers, and users access the system via an app or by phone. Via-Cupertino is open to all. Two of the vans are wheelchair accessible, and there are discounted fares for seniors, students, individuals with lower incomes, and riders with disabilities. Additionally, children ages 13-17 can ride with parental consent. The Via-Cupertino shuttle is currently in operation, although the service area does not extend to Purisima.

Applicability to the Preserve

The Via-Cupertino Shuttle provides a model and lessons learned for potential service to or near the Preserve. Further study into its operation could inform future planning efforts.

Ritz-Carlton Hotel Shuttle Bus Service

While the service is not currently in operation, the Ritz-Carlton Hotel in Half Moon Bay began offering drop-off, guided hikes at the Preserve for hotel guests in 2017. Buses were initially used but were switched to smaller shuttle vans in 2018 following drop-off issues and subsequent complaints by neighbors regarding safety concerns associated with large buses turning around on the steep, narrow roadway. The shuttle buses accommodated 18-23 people and up to two buses at a time were used. They had staggered schedules since turning around at the drop-off point could be difficult. Shuttles were not allowed to park but drivers coordinated with hikers on for pick-up approximately two hours after drop-off.

The main issue the hotel experienced was turning shuttles around in the Purisima Creek Road parking lot. An expanded turnaround area would make this less challenging but may not be feasible due to the proximity to the creek, natural resource considerations, and permitting barriers. Smaller vehicles are therefore another solution to space constraints.

Applicability to the Preserve

The hotel's shuttle bus experiences provide evidence that a shuttle service can be successful despite a lack of cell reception at the Preserve. However, it also demonstrates that the current road and turnaround situation pose a challenge for shuttles entering and exiting the area. The potential future provision of a shuttle to and between Purisima parking areas may require access improvements and/or fleet vehicle size consideration.

Connect the Coastside (2021)

Connect the Coastside is San Mateo County's midcoast comprehensive transportation management plan, completed by the Department of Planning and Building in collaboration with other County offices and departments. The project area for the plan is proximate to the Preserve and includes some recommendations relevant to Highways 1 and 92.

Applicability to the Preserve

Connect the Coastside provides a number of transportation demand strategies that may be relevant for access to the Preserve. Foremost among these is a recommendation for two weekend recreational shuttles near the Preserve: the first would run from the Hillsdale Caltrain station to the Midcoast via Highway 92, continuing north to Gray Whale Cove, while the second would run from the Colma Bay Area Rapid Transit (BART) stations to the intersections of Highways 1 and 92.

Other recommendations include the use of emerging transportation technology, such as scooter sharing, in conjunction with high quality infrastructure. The plan also presents shared parking as a strategy and recommends lowering the speed limit on Highway 1. The plan also includes recommended improvements along Highway 92, including the addition of traffic signals and crossing improvements to facilitate connections for trail users and designation of the roadway as a Class III facility with shoulder widening.

Midpen staff met with County staff to discuss the County's next steps. The County is looking at weekday commuter traffic out of Half Moon Bay and Midpen mentioned that feedback received about the Purisima Creek Multimodal project included local area residents' concerns about weekend commute traffic into Half Moon Bay. The County and Midpen will continue to engage as the County's process continues.

Conclusions

- Existing transit services, while far from the Preserve, could be leveraged to provide multimodal access using a combination of transit and other modes.
- Microtransit poses a large opportunity for access to the Preserve. Some microtransit service, such as that proposed in Reimagine SamTrans, is still in early stages of development and could be shaped with the Preserve's needs in mind. Other past or existing services could be used to gain insight about opportunities, challenges, and operational requirements of such service.
- Other recommendations such as shared parking strategies and crossing improvements could be implemented to improve access at the Preserve.

BIKE AND PEDESTRIAN PLANS

C/CAG San Mateo County Comprehensive Bicycle and Pedestrian Plan (2021)

The Countywide Bicycle and Pedestrian Plan provides a framework to help the City/County Association of Governments of San Mateo County (C/CAG) improve walking and bicycling conditions in San Mateo County. The plan presents countywide priorities and provides project lists and program and design guidance which C/CAG and local jurisdictions can use to make roadways safer, reduce congestion, and encourage more people to walk and ride a bicycle.

The plan includes several recommendations that would improve bicycle and pedestrian access to the Preserve. It recommends improving the Countywide Bicycle Backbone Network, including new Class III and upgraded Class IV facilities on Highway 84 in the vicinity of the Preserve and a new Class I path on the envisioned Bay to Sea Trail from Purisima Creek Road to the Half Moon Bay Coastal Trail. It also recommends pedestrian improvements for the highway crossing at Highway 35 near the Purisima North Ridge parking lot.

Applicability to the Preserve

Midpen's response to the plan focuses on the provision of safe and accessible bicycle and pedestrian connections to Midpen open space preserves and nearby San Mateo County parks. Particularly, the response notes that the plan should prioritize bicycle and pedestrian connections and crossings of state highways – especially Highway 35 – to facilitate safer access to the preserves and parks. Midpen recommends including bicycle and pedestrian routes along Highway 35 between Highway 92 and just south of Highway 84 at Windy Hill Open Space Preserve as part of the plan's "backbone network."

Unincorporated San Mateo County Active Transportation Plan (2021)

The Unincorporated San Mateo County Active Transportation Plan provides a framework to improve active transportation conditions for people throughout unincorporated county communities. The plan presents a framework of implementable and visionary projects, programs, and policies to work towards making that vision a reality.

Applicability to the Preserve

The plan recommends the creation of a bicycle route along Purisima Creek Road, Higgins Canyon Road, Verde Road, Lobitos Creek Road, and Tunitas Creek Road to provide access for cyclists from Highway 1. It also recommends widening shoulders along Highway 35 to provide more space for cyclists.

Caltrans District 4 Pedestrian Plan (2021)

This Plan implements the vision statement and goals in the statewide bicycle and pedestrian plan and is part of a comprehensive planning process to identify locations with bicycle and pedestrian needs in each Caltrans district across California. The plan will be used by Caltrans staff, as well as regional and local agency partners, to address high priority needs along and across the State Transportation Network, which includes the State Highway System. During the plan's public engagement process, Midpen raised concerns that pedestrian improvements on more rural highways, e.g., Highway 35, would be considered lower priorities than those in more urban areas, e.g., Highway 82 (El Camino Real).

Applicability to the Preserve

The plan designates Highway 1 and Highway 92 as a Tier 2 priority for pedestrian improvements, while Highway 35 was designated as Tier 3. The plan identifies several location-based needs at crossings along Highway 92. Pedestrian improvements along highways near the Preserve could make accessing the Preserve by foot safer and a more appealing option.

Caltrans District 4 Bike Plan (2018)

The Caltrans District 4 Bike Plan identifies infrastructure improvements that can enhance bicycle safety and mobility throughout District 4 and remove some of the barriers to bicycling in the region. The Plan was developed in cooperation with local and regional partners to ensure that the improvements on the State Highway system complement proposals for local networks.

Applicability to the Preserve

The plan identifies a segment of Highway 1 north of Half Moon Bay for a mid-tier priority project to add bicycle facilities, as well as several low-tier intersection and ramp improvement projects, including one at the intersection with Highway 92. A top tier corridor project is also proposed for the westernmost segment of Highway 92 in Half Moon Bay. Better bicycle connections to Half Moon Bay could encourage and improve bike access to the Preserve.

City of Half Moon Bay Bicycle & Pedestrian Master Plan (2019)

The Half Moon Bay Bicycle and Pedestrian Master Plan guides the development of programs and facilities to enhance bicycling and walking as practical, efficient, and safe transportation choices for Half Moon Bay residents, workers, and visitors. The plan identifies needs and provides recommendations to improve safety, comfort, and connectivity of the bicycle and pedestrian networks in the City.

Pedestrian improvements include corridor, crossing access, and spot improvements throughout the Downtown area, which is designated as a Pedestrian Priority Zone. Bicycle recommendations would add additional facilities throughout the City as well as regional access points, including a recommended Class I path along Highway 92.

Applicability to the Preserve

Together with more regional efforts, these improvements could encourage multimodal access to the Preserve from Half Moon Bay.

San Jose Better Bike Plan 2025 (2020)

The Better Bike Plan was approved in 2020 and seeks to make bicycling safe and convenient for all ages and abilities in all parts of the City of San Jose. The plan focuses on three goals: safety, mode shift, and equity. It aims to do this by building new bikeways, enhancing existing bikeways, and implementing supportive programs and policies.

Applicability to the Preserve

While focused within the City of San Jose, a commitment to increase the bicycle network and shift mode share away from single-occupancy vehicles, especially in conjunction with other

regional efforts, could result in lessons learned to apply in the region surrounding the Preserve and could potentially even impact travel choices to the Preserve from San Jose.

Midcoast Multimodal Trail Project

The Midcoast Multi-Modal Trail is a bicycle and pedestrian commuter trail that will provide an alternative means of transportation for residents of the Midcoast to safely access neighboring communities, town centers, schools, and recreational destinations without having to travel on the highway. The Trail was conceptualized as part of the community-developed Highway 1 Safety and Mobility Improvement Study, Phase 1. It will span from Montara south to Miramar, where it will connect with the Naomi Patridge Trail in Half Moon Bay. The Trail will be separated from the highway and have minimal interaction with vehicular traffic, allowing it to serve residents of all ages and abilities.

Applicability to the Preserve

Once completed, the Trail would provide safe, uninterrupted access for pedestrians, and particularly cyclists, to access the environs of Half Moon Bay. This could encourage cycling to the Preserve or be paired with shuttle access from Half Moon Bay.

Conclusions

- The plans provide a number of recommended bicycle and pedestrian improvements to corridors adjacent to the Preserve.
- Creation of bicycle routes, widening shoulders, and improving crossings would facilitate access to the Preserve by bicycle and on foot.
- Plans focused on nearby cities and towns, such as Half Moon Bay, could encourage multimodal access in conjunction with improvements closer to the Preserve.

FEDERAL GOVERNMENT GRANT OPPORTUNITIES

Transit to Trails Act

The Transit to Trails Act would establish a grant program under the U.S. Department of Transportation to provide transportation systems to and from critically underserved communities and public lands. The bill would remove barriers and increase access to public lands for underserved urban and rural areas. It was inspired by a successful program in Los Angeles County that connects residents of Los Angeles with their local public lands. The Act calls for grants to fund the following projects:

- Projects that develop transportation connectors or routes in or serving, and related culturally and linguistically appropriate education materials for, critically underserved

communities to increase access and mobility to Federal or non-Federal public land, inland and coastal waters, parkland, or monuments; or

- Projects that facilitate transportation improvements to enhance access to Federal or non-Federal public land and recreational opportunities in critically underserved communities.

Applicability to the Preserve

This bill was introduced in the Senate in April 2021. If it becomes law, it could provide funding for transportation projects to connect at-need communities with the Preserve and other nearby public lands.

PARTNERSHIPS

Half Moon Bay Regional Parking Plan

The City of Half Moon Bay is pursuing a partnership with California State Parks on a complementary and universal parking policy and strategy on the coastside. This plan would standardize rates and provide information to improve the flow and even the distribution of vehicles among the region's many parking lots providing coastal access. Discussions with the state were anticipated to take place in 2021. While the plan's current status is unknown, this could become a regional partnership opportunity for Midpen.

Applicability to the Preserve

While initial details about the plan are focused on beach parking lots, some ideas may be pertinent to Preserve parking access. These involve using technology to manage supply and demand, such as the use of variable message signs to alert people to parking availability or full lots at key junctures. Midpen could also engage with both agencies should there be interest in exploring a regional shuttle.

Peninsula Open Space Trust (POST) and the Bay to Sea trail

POST is leading the planning effort for the Bay to Sea Trail in collaboration with other public agencies, municipalities and private nonprofit organizations that manage and protect open space in the Bay Area. The Bay to Sea Trail is envisioned as an approximately 40-mile multiuse trail that will connect people from across the region to open space and create a link between the San Francisco Bay Trail and the California Coastal Trail along the Pacific Ocean.

Although the Bay to Sea Trail is just in the conceptual phase, Midpen's Ravenswood Open Space Preserve is envisioned as a key access point on the Bay side. Midpen's Purisima-to-the-Sea Trail, also in the conceptual phase, will likely be a key portion of the coastal side.

Applicability to the Preserve

The Purisima-to-the-Sea Trail is intended to be one of the two western branches of the Bay to Sea Trail connecting to the California Coastal Trail. Once completed, the trail could provide walking and cycling access to the Preserve from East Palo Alto and Half Moon Bay.

Santa Cruz Mountains Stewardship Network

The Santa Cruz Mountains Stewardship Network is a region-wide and cross-sector collaboration of independent individuals and organizations who are committed to working together to help cultivate a resilient, vibrant region where human and natural systems thrive for generations to come. The Stewardship Network is comprised of 21 organizations including local, state, and federal agencies, nonprofits, academia, business, community, and tribal groups. The Network helps coordinate stewardship efforts at the landscape and local scales. Some of its specific priority areas include:

- Enhancing Water Quality and Watershed Health
- Managing Invasive Plant and Animal Species
- Maintaining Biodiversity and Endangered Species
- Climate Change Adaptation
- Monitoring, Research and Education
- Access to Public Lands
- Strong Human Communities and Citizen Engagement

Applicability to the Preserve

The Network could provide a framework and forum for forming cross-sector collaboration around the Preserve and other local parks to solve transportation, access, and other issues. Particularly, in summer 2021 the Network initiated discussions on a potential community shuttle concept for local regional parks, open space, and trails provided by its members. Midpen participated in these discussions, which focused on exploratory research and were informative as Midpen considers potential regional shuttle solutions and partnerships.

Conclusions

- The Half Moon Bay Regional Parking Plan includes recommendations that could help the Preserve manage its parking using technology.
- Collaboration with the Santa Cruz Mountains Stewardship Network could provide more information on operationalizing a regional shuttle service and provide opportunities to share ideas and lessons learned.

LESSONS LEARNED FROM FOOTHILLS NATURE PRESERVE (FORMERLY FOOTHILLS PARK)

Although paid parking is not currently Midpen policy and was a TDM strategy not supported by the Board of Directors during the Rancho San Antonio Multimodal Access Study project, Midpen staff had a unique opportunity to watch how the City of Palo Alto developed a paid parking system for its Foothills Nature Preserve. The goal was to learn what steps the City took, what concerns the community raised, and what key issues the City had to address and better understand the implications of a paid parking TDM strategy.

The City recently passed measures and instituted a paid parking system to manage the high number of visitors at Foothills Preserve Park, which opened broadly in 2020 to the general public after being only open to City employees and residents since 1969. A \$6 per vehicle entrance fee is required for all visitors, with the exception of seniors, active military, students (16-24 years of age), veterans, low-income visitors, and people with disabilities. The City also offers a variety of other discounted passes and free days.

In order to manage high visitation levels that were impacting preserve resources, the City set limits on the number of visitors. On May 2, 2022, the Palo Alto City Council passed an ordinance further refining park visitor limits. The City Manager is now authorized to adjust the visitor limit from 400 people to 600 people at any one time. When the visitor capacity is reached, the Foothills Nature Preserve entrance will close and reopen after 1-2 hours, depending on how many people exit the park.

Applicability to the Preserve

It has yet to be seen whether these measures will be effective. If enacted at Purisima, these measures would require staff to administer the program, sell/check permits, monitor visitors, and manage gates.

Conclusions

- Lessons learned from implementation of the Foothills Nature Preserve's entrance fee and capacity limit could be considered to manage access to Purisima.

IV. VISITATION LEVELS & BEST PRACTICES IN NATURE PRESERVE, RECREATIONAL, & NATIONAL PARK TRAFFIC MANAGEMENT

PRESERVE VISITATION LEVELS

Like many other preserves and parks around the country, the Preserve saw an increase in visitation during the COVID pandemic. Automated Midpen trail counters showed 304,902 persons between June 2020 – May 2021 across the four trailhead access points. Holiday weekends in May, July, and September 2021 were associated with higher visitation. As shown in Figure 9 below, overall visitation peaks in the summer with September – April seeing approximately half of the monthly visitation numbers compared to the summer peak.

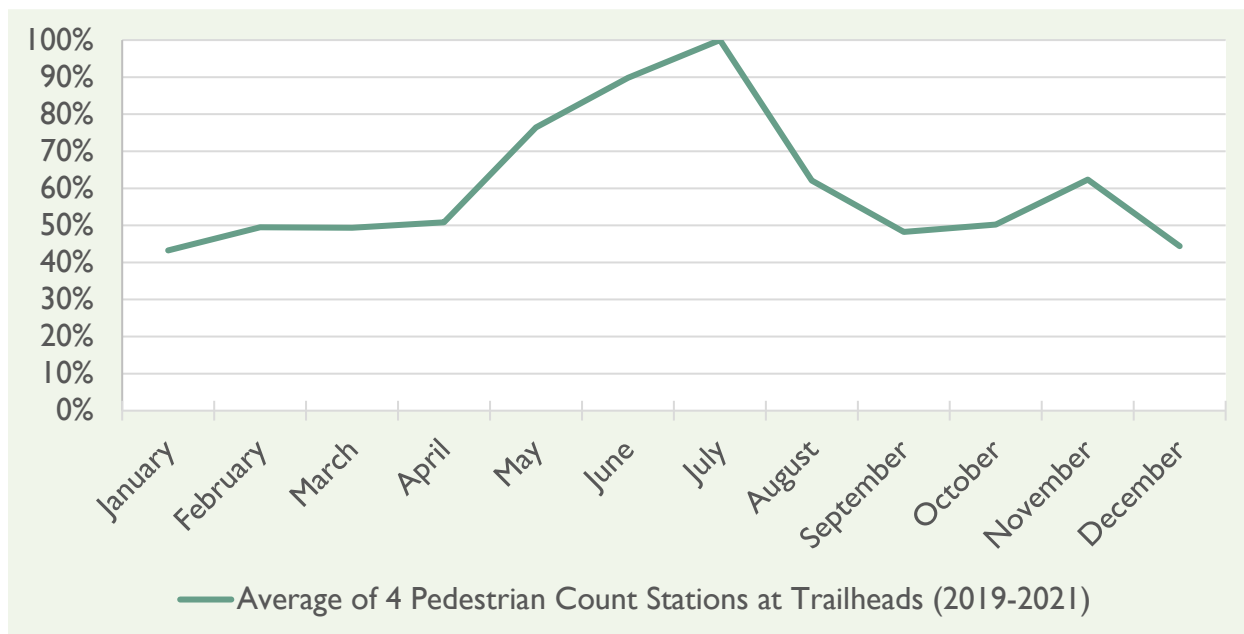


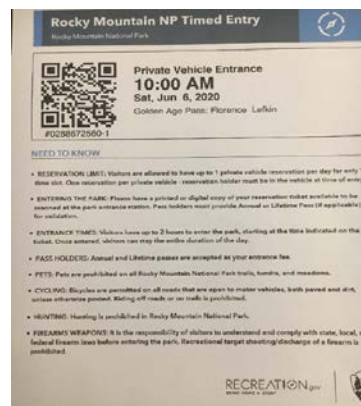
FIGURE 9. MAXIMUM MONTHLY AVERAGE VISITATION (2019-2021)

STATE OF THE PRACTICE SURVEY

Prior to developing TDM strategies for the Preserve, a state-of-the-practice survey, including select interviews, was conducted of similar state and national recreational parks/ nature preserves including Zion National Park and Muir Woods National Monument. Many of these peer facilities developed TDM programs through trial and error, and developed TDM combinations, including parking restrictions, reservations, shuttles, and traveler information. Traffic and parking management programs were initiated in response to congestion and safety concerns among rising visitation levels, and implementation typically required both capital projects such as satellite parking, as well as partnerships with local governments to operate shuttles, identify and

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construct satellite parking/ intercept lots, and manage traffic on local access roads. In many cases, the topographic and environmental constraints of physically accommodating more parking and vehicle access also led to the need to create TDM and alternative access improvements. Results have been generally positive from the public and local officials in many cases, particularly with strong outreach, education, and enforcement programs to accompany new parking and access policies. In several cases, shuttle ridership has steadily grown, with annual boardings as high as 7 million passengers at Zion National Park.



A summary of common traffic management strategies and visitation levels is presented in Table 2 below. Restricting demand by means of some sort of reservation system is becoming very popular and shuttle services and limiting vehicle access are also implemented for locations with smaller numbers of annual visitors.

TABLE 2. SURVEY OF STRATEGIES IMPLEMENTED AT OTHER PARKS & PRESERVES

Location	2021 Visitors (million)	Shuttles	Reservations	Restricted Vehicle Access
Zion National Park, UT	5.1	X	X	X
Grand Canyon National Park, AZ	4.5	X	X	
Rocky Mountain National Park, CO	4.4	X	X	
Yosemite National Park, CA	3.2		X	
Arches National Park, UT	1.8		X	
Big Basin Redwoods State Park, CA	1.0*	X	X	
Pikes Peak, CO	1.0		X	
Muir Woods National Monument, CA	0.7	X	X	
Eldorado, CO	0.5		X	
Fern Canyon/Gold Bluffs Beach, CA	0.4		X	

* 2020 Visitors

V. TRANSPORTATION & PARKING DATA COLLECTION AT THE PRESERVE

Transportation and parking data collection was performed at the Preserve on two typical days during the summer and spring seasons - Wednesday, August 11 and Saturday, August 28, 2021, Thursday, May 19 and Saturday, May 21, 2022 – during good weather conditions. The four designated access points and adjacent parking areas identified in Table 1 were observed.

Data collection occurred during all hours that the Preserve was open – sunrise to sunset. Data collected included vehicle occupancy, visitor counts by mode, parking lot utilization and duration, visitor origins, and walking/biking routes. The Parisi-Mead & Hunt team stationed staff around all the trailheads and adjacent parking areas to record and tabulate totals. The team utilized a high-tech data collection application on-site – a subscription-based app on hand-held smart devices that utilized license plate recognition (LPR). The app accurately recorded the license plate number, time, and latitude/ longitude instantly for all plates observed. Data was automatically geo-located, time-stamped and aggregated across multiple devices linked to the same account and exported to a geodatabase for processing.

In addition to field-collected data, several big data sources were used, including registered home zip codes of parked vehicles from the California Department of Motor Vehicles, and fitness app probe data such as Strava to determine preferred walking and biking routes to/ from and within the Preserve. All data collection was anonymous and no personal identifiable information was retained or shared.

Consistent with expectations, the parking data collection found that the capacity of each parking lot/entrance was exceeded during the weekend days. Additionally, the capacity of the Purisima Creek Road/Higgins Canyon Road parking lot was also exceeded on the weekdays. When parking lot capacity was exceeded, it was observed that visitors park their vehicles on the shoulders of adjacent roadways.



FIGURE 10. SHOULDER PARKING ALONG PURISIMA CREEK ROAD AT NOON ON SATURDAY MAY 21 SHOWING INTERACTIONS BETWEEN PEDESTRIANS AND VEHICLES

PARKING LOT UTILIZATION

North Ridge

The North Ridge parking lot has an official capacity of 41 parked vehicles when the 4 equestrian spaces are not utilized, and 2 additional ADA accessible spaces. Because the parking spaces are not signed or marked, the actual number of vehicles observed within the lot did exceed the official parking capacity at times. When the North Ridge parking lot was full, visitors parked along the shoulder of Highway 35. As shown in Figure 11, on the weekend, vehicles were consistently parked on the Highway 35 shoulder between 10:00 AM and 6:00 PM. During the weekday, parking demand did not exceed available parking capacity.

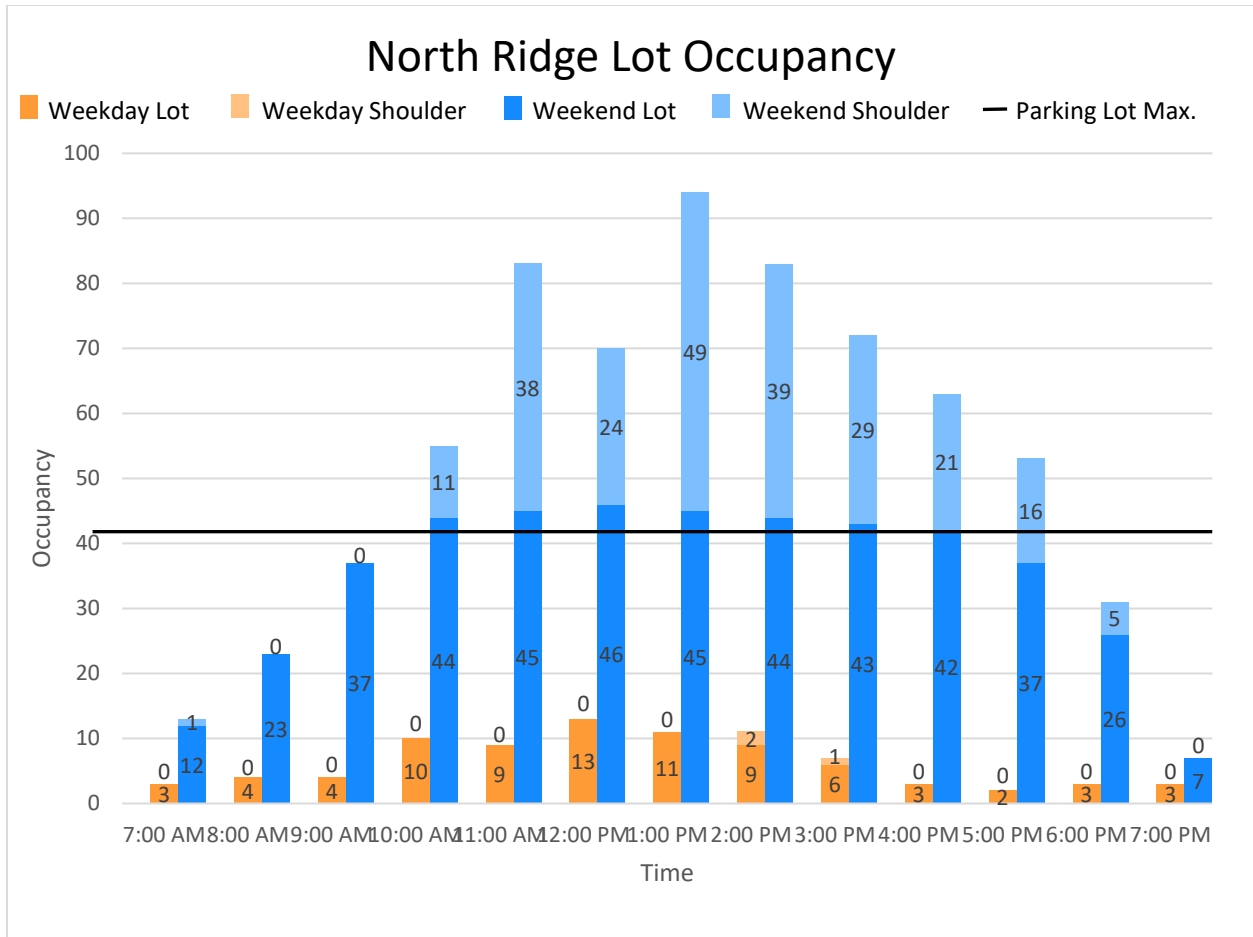


FIGURE 11. NORTH RIDGE PARKING LOT OCCUPANCY (MAY 19 & 21, 2022)

Redwood Trail Entrance

The Redwood Trail parking lot has an official capacity of 11 parked vehicles and two additional ADA accessible spaces. Like the North Ridge parking lot, the Redwood Trail parking lot does not have designated parking spaces. The unimproved nature of this location further reduces the efficient use of the available parking area and thus parking on the shoulder was observed to a greater degree even when the official capacity of the parking lot had not been fully utilized. As shown in Figure 12 on the weekend vehicles were consistently parked on the Highway 35 shoulder between 10:00 AM and 7:00 PM. During the weekday parking demand did not exceed parking capacity.

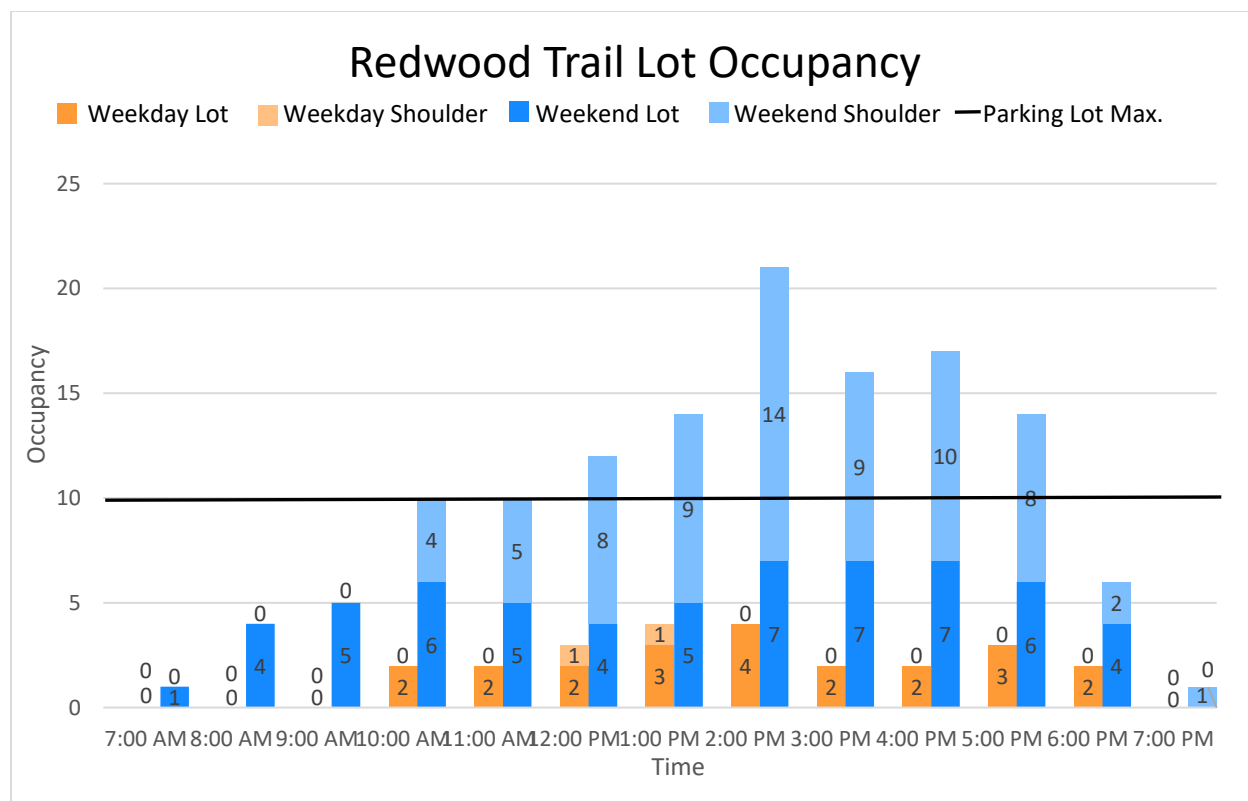


FIGURE 12. REDWOOD TRAIL PARKING LOT OCCUPANCY (MAY 19 & 21, 2022)

Purisima Creek Road/Higgins Canyon Road

The Purisima Creek Road/Higgins Canyon parking lot has an official capacity of seven parked vehicles and one ADA accessible space. While parking spaces are not identified at this lot either, the small size of the lot results in less variability in the maximum number of cars that can be accommodated. The popularity of this Preserve entrance combined with the small parking lot results in a significant amount of vehicles parking on the Purisima Creek Road shoulder. As shown in Figure 13, this occurred as early as 8:00 AM and between 9:00 AM and 4:00 PM, when the number of vehicles parked on the shoulder well exceeded those parked in the parking lot, with up to 20 vehicles observed during data collection for this study. It should be noted that No Parking signs were recently posted along both Higgins Canyon and Purisima Creek Roads for approximately one-half mile from the trailhead/ parking lot entrance. Prior to the “No Parking” restrictions being implemented along Purisima Creek Road and Higgins Canyon Road, over 100 vehicles were observed based on historical aerial imagery data and ranger observations. These observations were made both before and during the COVID pandemic. At this location, the parking demand exceeded the parking capacity during both the weekday and weekend. The spillover parking onto the shoulder or Purisima Creek Road increases traffic congestion and creates potential conflicts between pedestrians and vehicles.

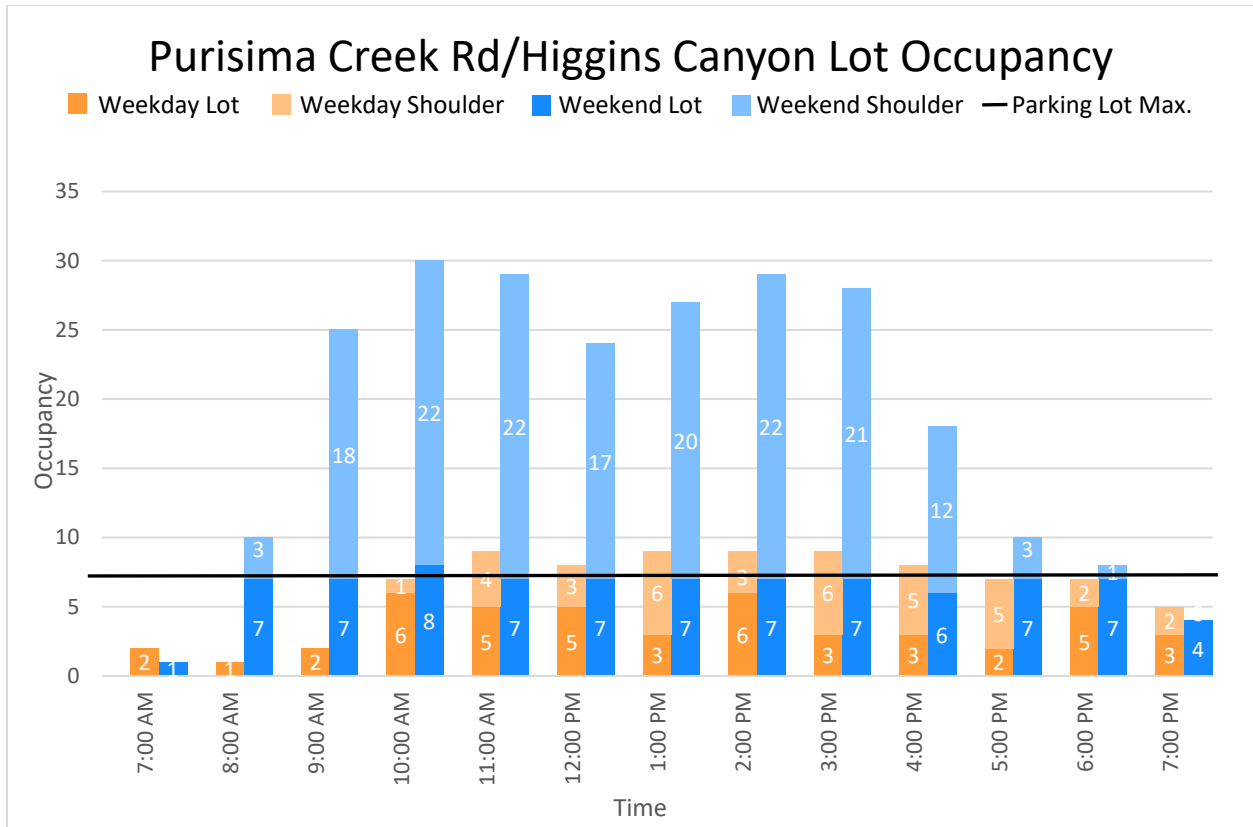


FIGURE 13. PURISIMA CREEK ROAD/HIGGINS CANYON PARKING LOT OCCUPANCY (MAY 19 & 21, 2022)



FIGURE 14. SHOULDER PARKING ALONG PURISIMA CREEK ROAD RESULTS IN NARROWER TRAVEL LANES

Grabtown Gulch Entrance

The Grabtown Gulch entrance does not have any official capacity or designated parking area and it was rarely used during the weekday. However, on weekends, visitors park in the unimproved shoulder of Tunitas Creek Road. As shown in Figure 15, on the weekend, vehicles primarily utilized the area between 10:00 AM and 3:00 PM.

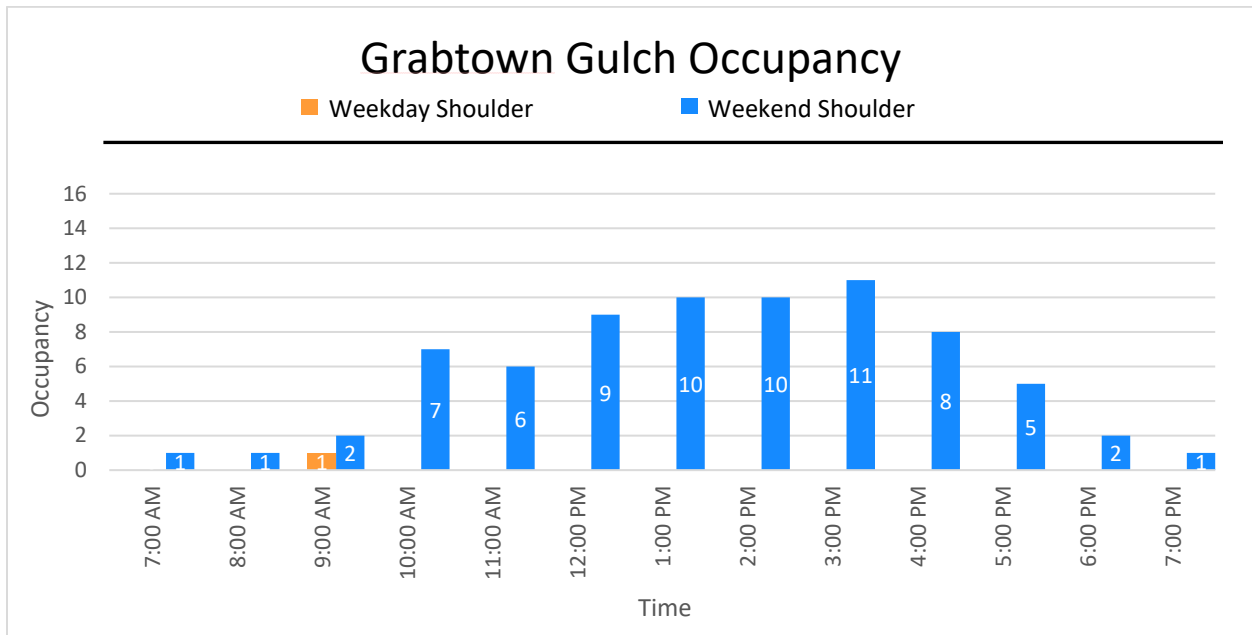


FIGURE 15. GRABTOWN GULCH OCCUPANCY (MAY 19 & 21, 2022)

PARKING DURATION

As shown in Figure 16 and Figure 17 below, parking turnover was observed to be relatively high. About 2/3 of visitors during the observations made in August 2021 stayed for two hours or less. During the weekend, visitor durations were slightly longer.

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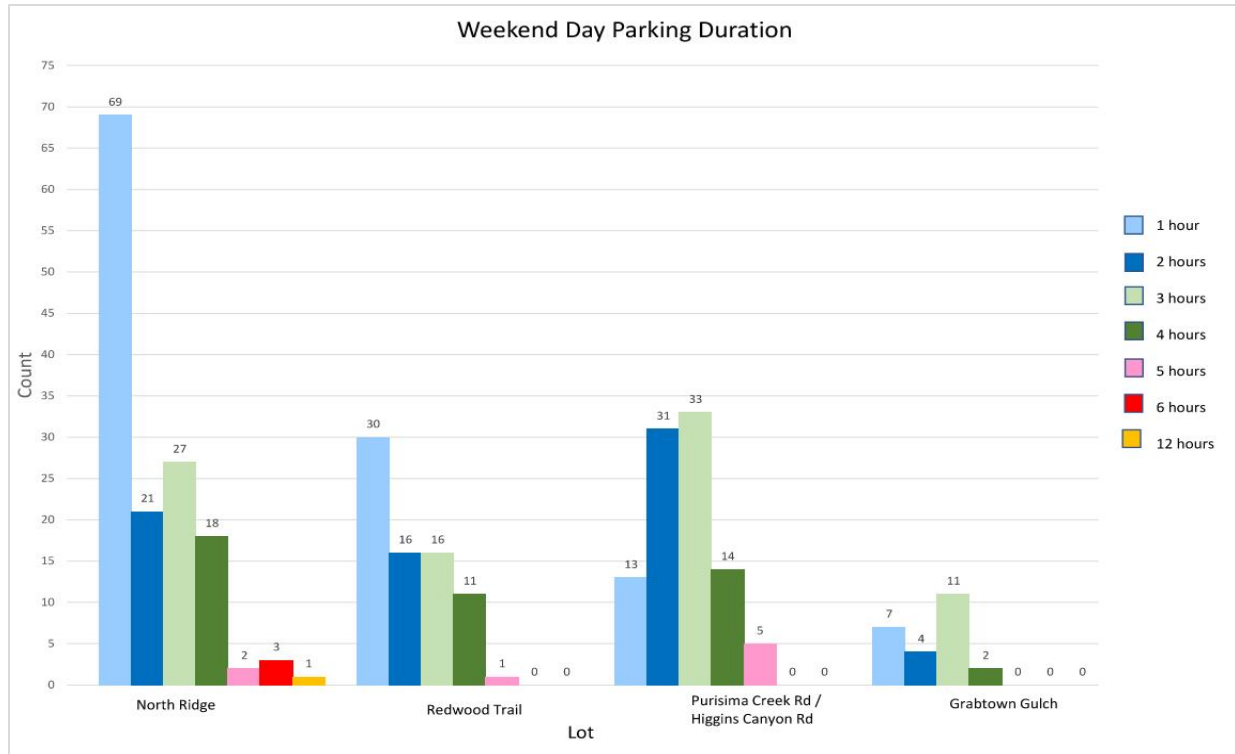


FIGURE 16. AVERAGE FIELD-MEASURED VEHICLE WEEKEND PARKING DURATION (ALL PARKING LOTS)

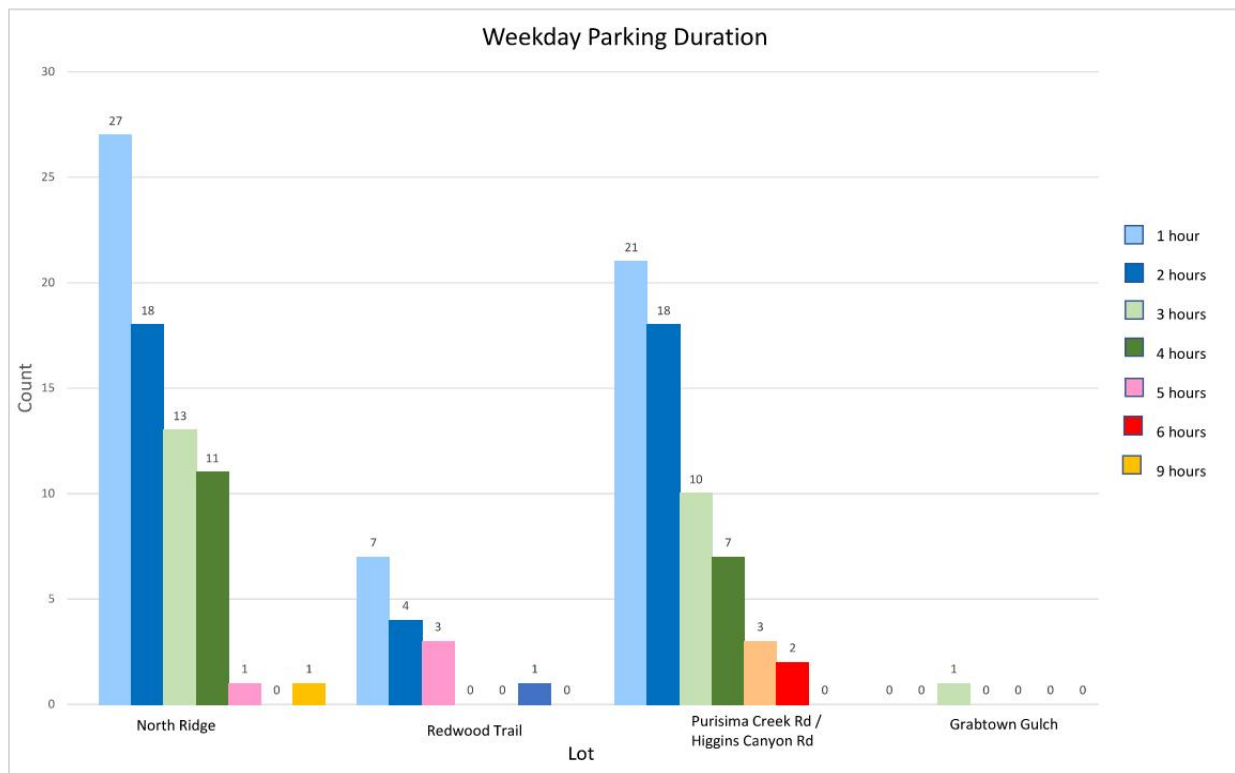


FIGURE 17. AVERAGE FIELD-MEASURED VEHICLE WEEKDAY PARKING DURATION (ALL PARKING LOTS)

VEHICLE OCCUPANCY AND MODE DISTRIBUTION

The number of passengers per vehicle and trail users by mode was also field collected during the on-site visits to determine the potential for carpool parking and the non-motorized breakdown between pedestrians, bicyclists, and equestrians. The results from the summer weekday and weekend day are shown in Figure 18 below. Approximately 25% of vehicles were single occupancy, while 38 percent of vehicles on weekdays and 55% of vehicles on weekends had two passengers. The remaining 21% of vehicles on weekends and 35% of vehicles on weekdays had three or more passengers.

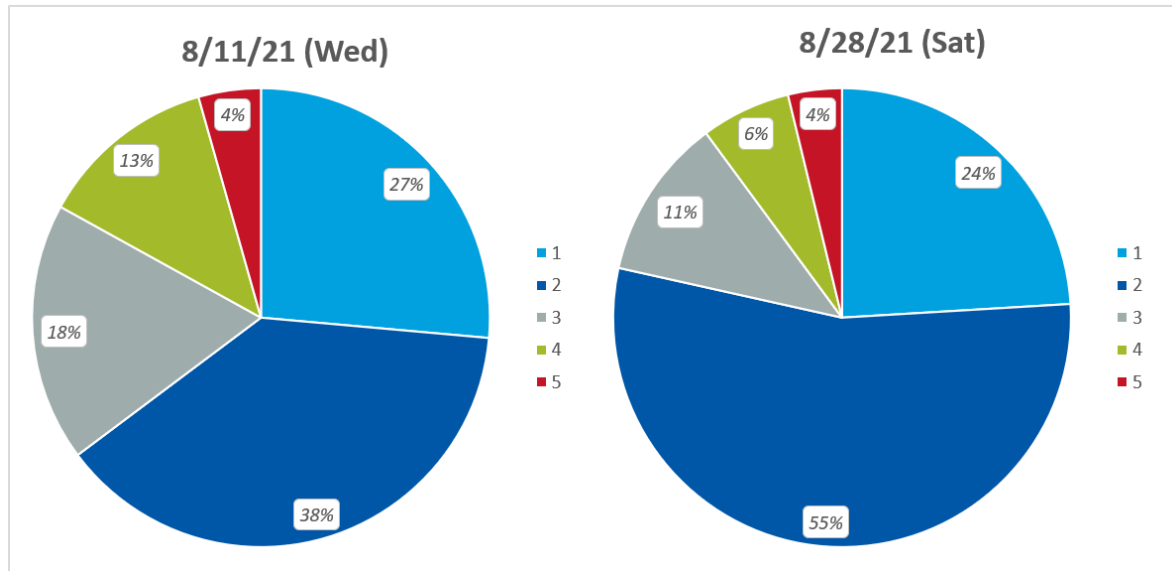


FIGURE 18. OBSERVED VEHICLE OCCUPANCY (ALL LOTS)

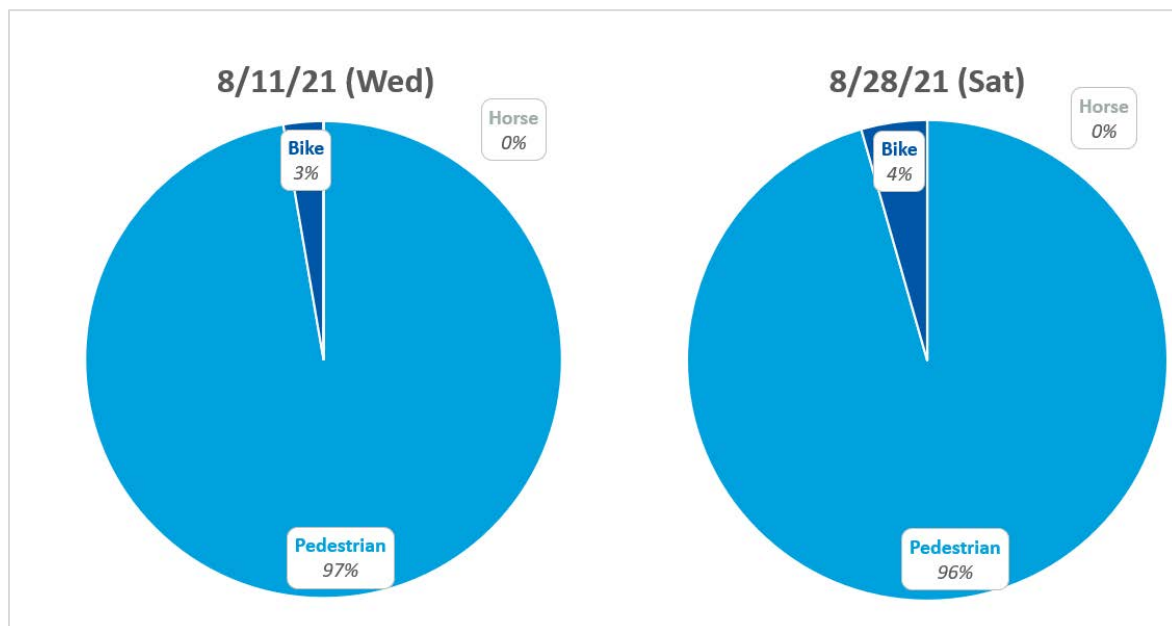


FIGURE 19. OBSERVED MODE DISTRIBUTION (ALL TRAILHEADS)

The vast majority of trail users were pedestrians. Approximately 3-4% of trail users were bicyclists. No equestrians were observed during the data collection periods.

PEDESTRIAN AND BICYCLE TRAVEL PATTERNS

In addition to field-collected data, some big-data sources were also used to analyze travel patterns in and around the Preserve. Figure 20 and Figure 21 show heatmaps of pedestrian and bicycle activity for the month of August 2021 as logged by the fitness app Strava. This data does not capture all trips made by each mode nor the direction of travel, but it does help paint a picture of the relative popularity of the different Preserve trails and surrounding roadways used by on-road cyclists and off-road mountain bikers. It is worth noting that not all bicycle trips shown are expected to be trips to/from the Preserve, as Kings Mountain Road and Tunitas Creek Road provide a link between the coast and the east side of the peninsula. The most utilized trails for walking originated at the North Ridge and Purisima Creek trailheads. The bicycle routes most heavily used by road cyclists near the Preserve were along Tunitas Creek Road. The Strava data indicates some mountain biking activity within the Preserve itself.

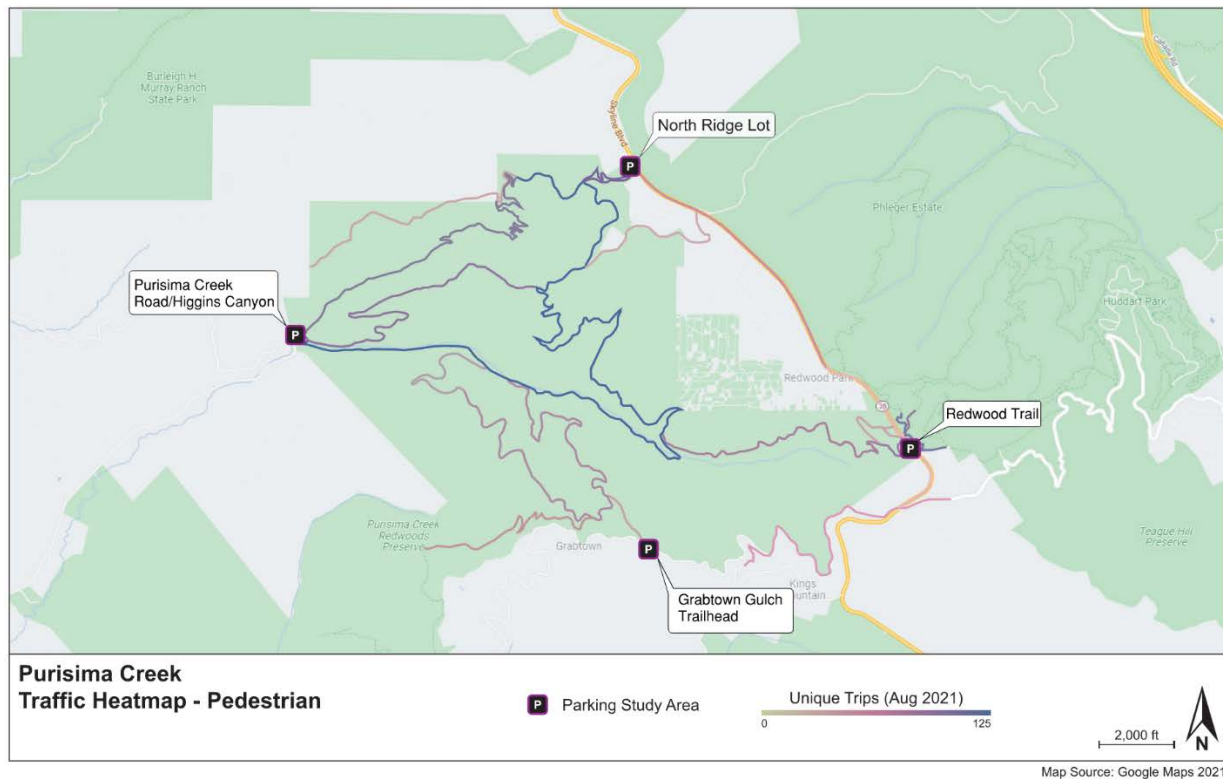


FIGURE 20. PEDESTRIAN ACTIVITY (AUGUST 2021)

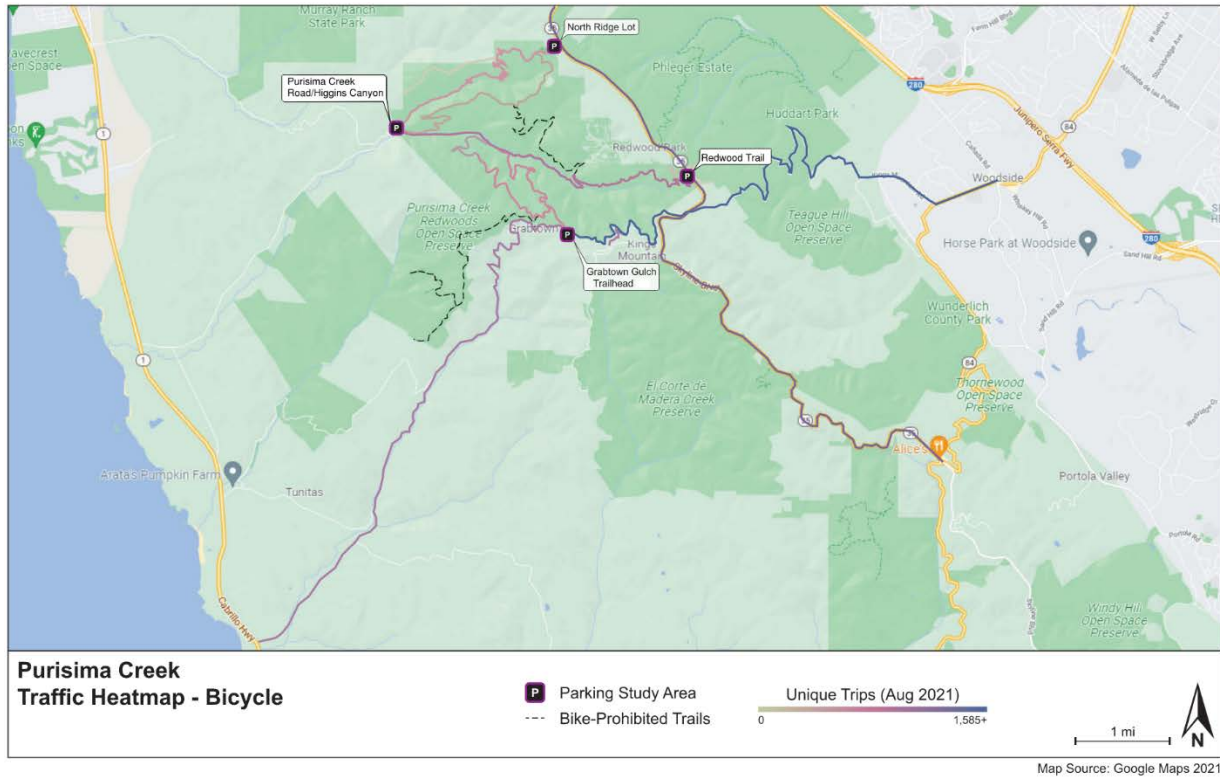


FIGURE 21. BICYCLIST ACTIVITY (AUGUST 2021)

VISITOR ORIGINS

In order to determine visitor origins, the license plates for all parked vehicles were sent to the California Department of Motor Vehicles, which provided the registered zip codes for each license plate. This information is depicted in Figure 22 through Figure 27. The data shows that the majority of visitors come from the Peninsula, coastside, and South Bay, but the Preserve also draws visitors from San Francisco, the East Bay, and beyond. There is also a noticeable difference in that the Purisima Creek Road/Higgins Canyon entrance attracts more visitors from the coast than any of the other entrance points.

Data from the May 2022 survey of visitor origins by Individual parking lot and all parking lots are shown in the figures below. It can be observed that the western lot draws more heavily from the coastal community while the eastern lots draw from the northern peninsula and west Bay areas.

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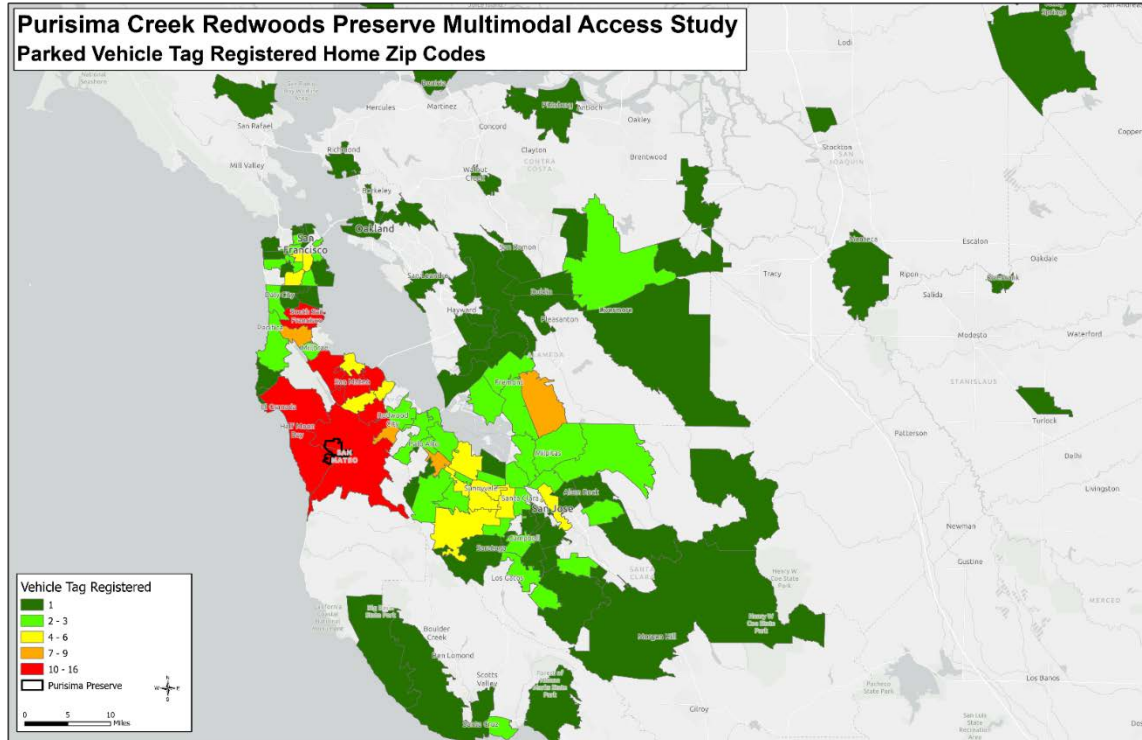


FIGURE 22. SUMMER 2021 PARKED VEHICLE ZIP CODES (ALL PARKING LOTS)

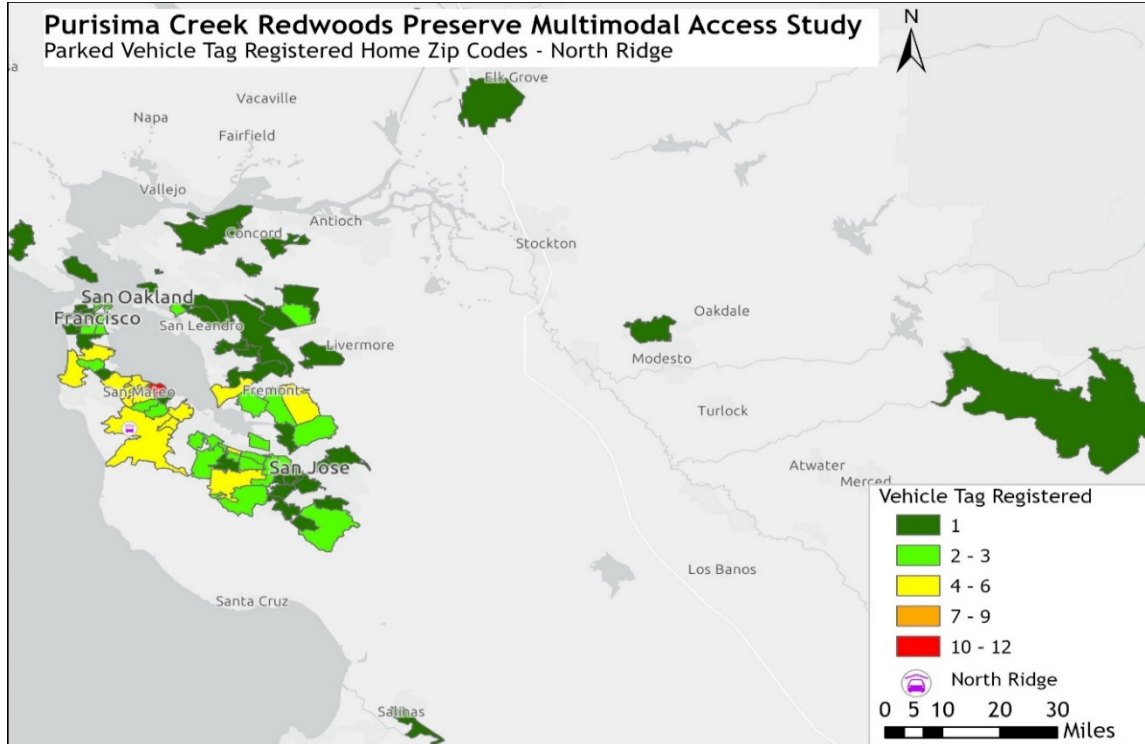


FIGURE 23. SPRING 2022 PARKED VEHICLE ZIP CODES - NORTH RIDGE LOT

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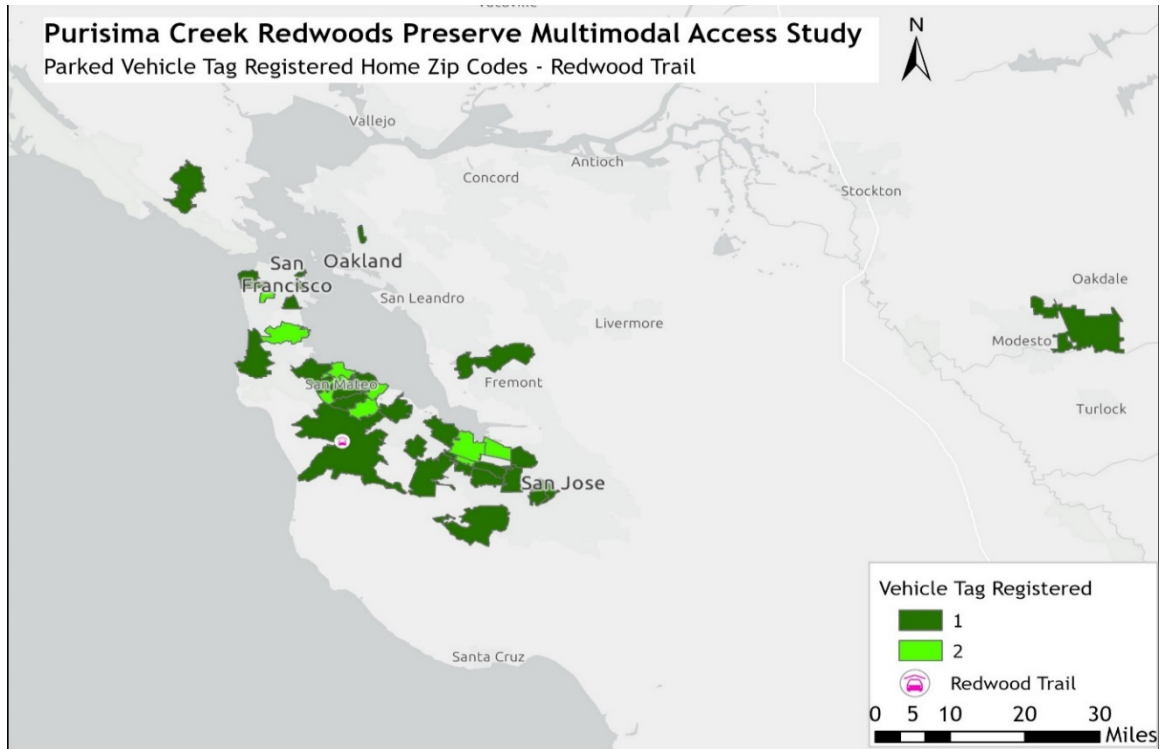


FIGURE 24. SPRING 2022 PARKED VEHICLE ZIP CODES - REDWOOD TRAIL

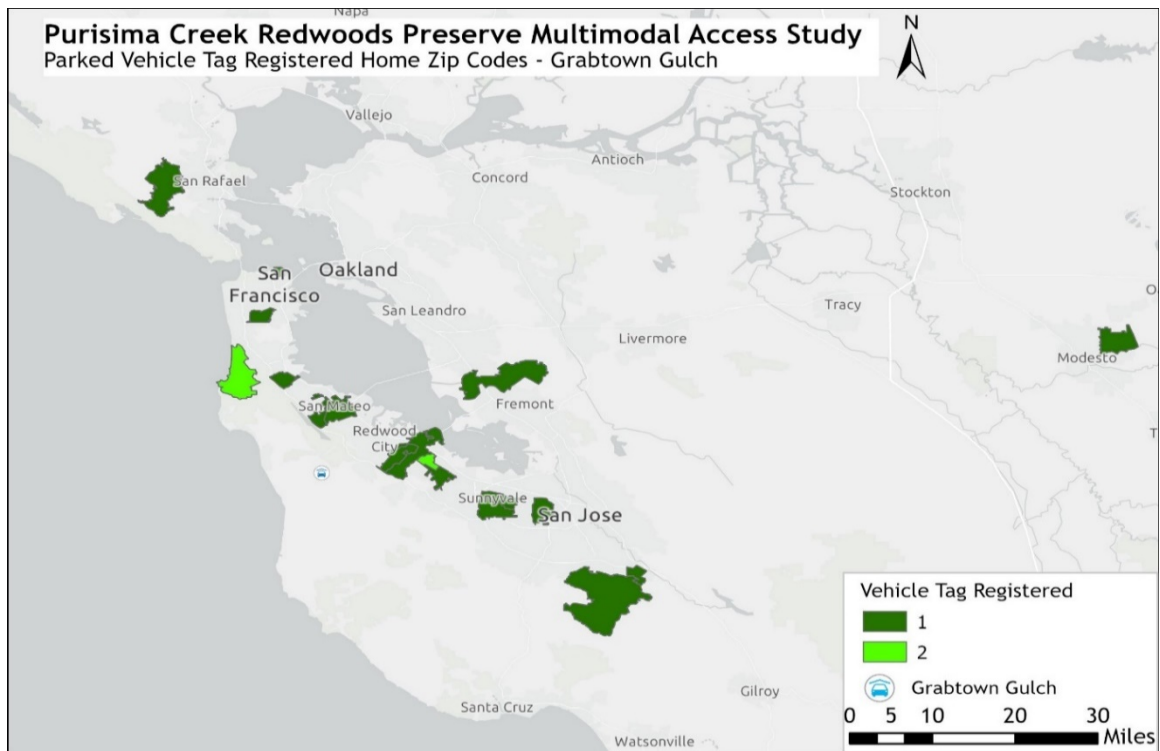


FIGURE 25. SPRING 2022 PARKED VEHICLE ZIP CODES - GRABTOWN GULCH TRAILHEAD

Purisima Creek Multimodal Access and Transportation Demand Management Study

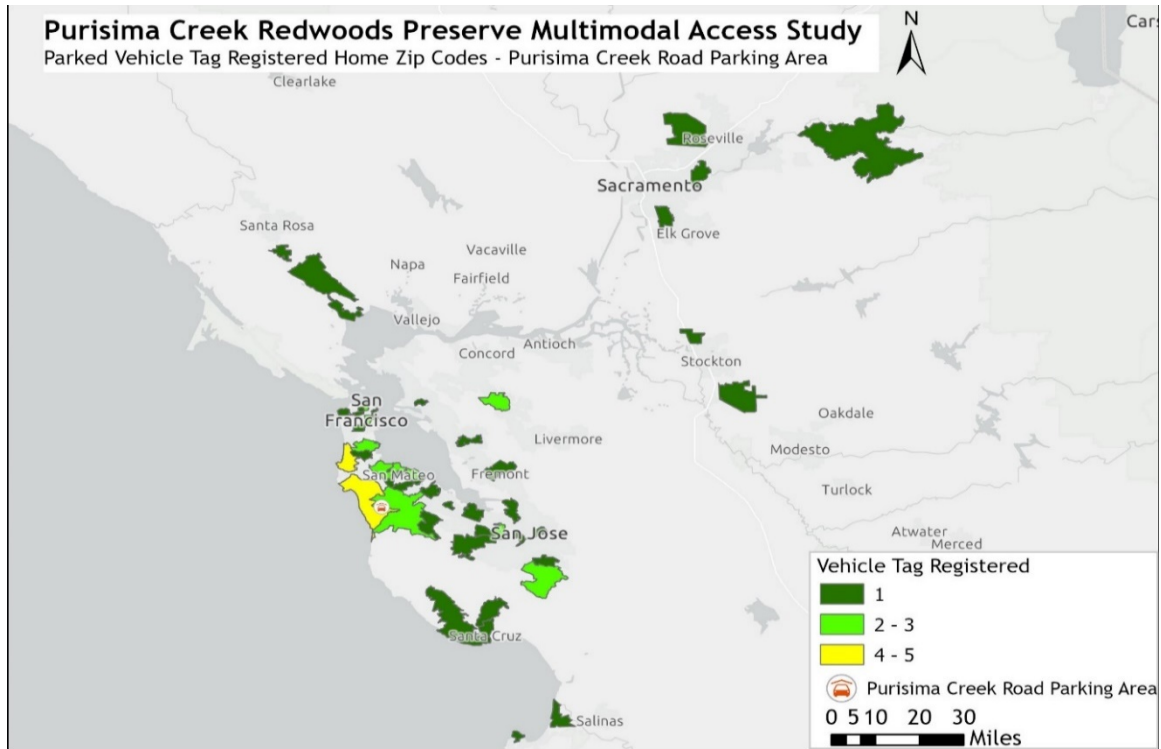


FIGURE 26. SPRING 2022 PARKED VEHICLE ZIP CODES - PURISIMA CREEK ROAD LOT

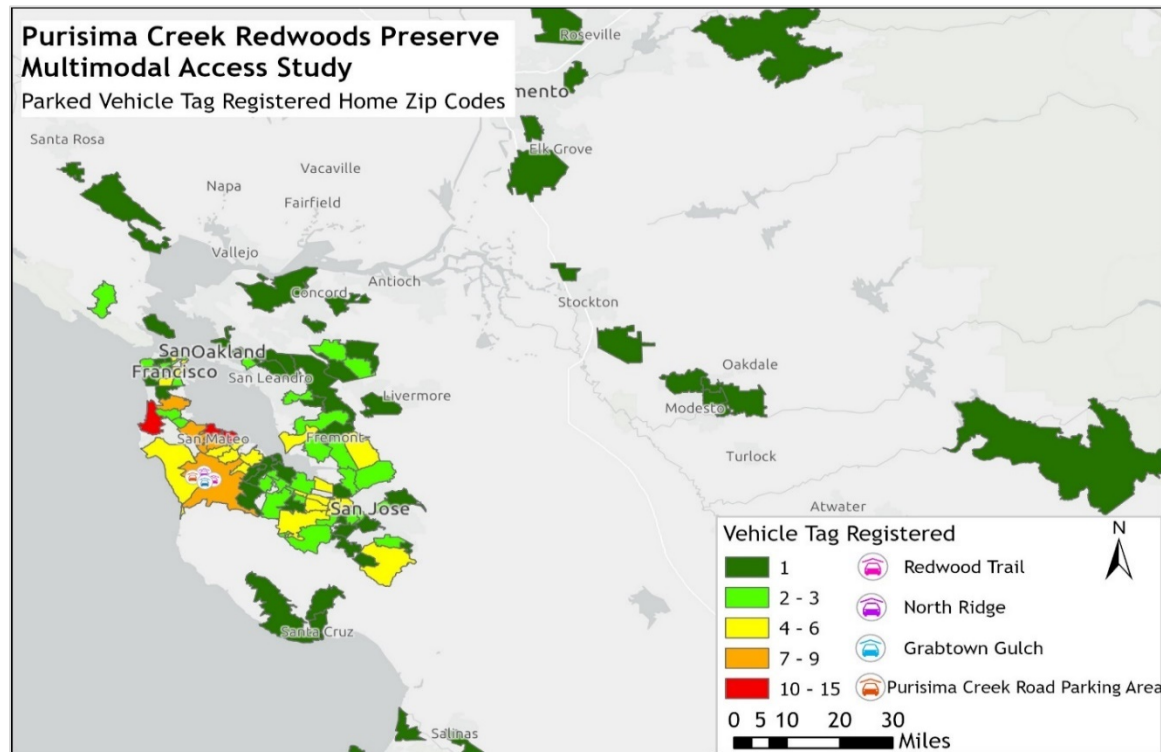
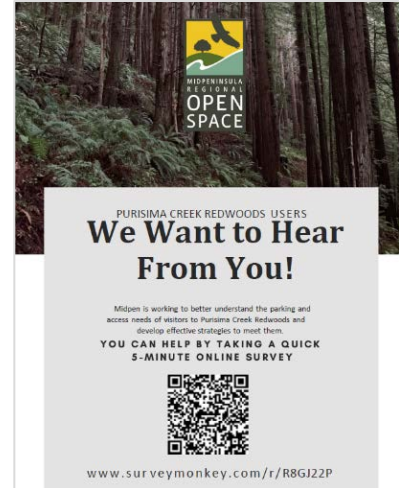


FIGURE 27. SPRING 2022 PARKED VEHICLE ZIP CODES - ALL PARKING LOTS

VISITOR SURVEY

Two separate rounds of visitor surveys were performed. The first survey was open from August 2021 to January 2022 and focused on collecting feedback on existing visitation and access conditions. This survey was posted online and also distributed in person during the data collection visits on August 11 & 28 in both English and Spanish. A total of 762 responses were received with most of them (730) coming from the on-line version. A second online survey was conducted from April 2022 to May 2022 and focused on soliciting feedback on potential TDM strategies. The survey also included questions related to the Purisima-to-the-Sea project and received 438 responses.



First Survey

The first survey included 20 questions that focused on how, when, and why visitors access the Preserve. It also asked them to rate their experience and provide suggestions that could enhance the experience of their next visit. The full survey is shown in **Figure 28** below. Results from some key questions are shown in **Figure 29** to **Figure 46** below. Not every respondent answered every question, so the total number of responses for each question varies.



Midpeninsula Regional
Open Space District

Purisima Creek Redwoods Preserve Visitor Survey

Take this survey on your phone!
Scan the QR code below with your
camera app to link to the online
survey.



Today's Date

Parking Lot/Trailhead Location

Please answer the following questions based on your trip to
the Preserve today or your most recent trip.

Unless otherwise noted, please choose only one response per question.

1. Who are you traveling with?

- Alone Family Organized Group (tour, running)
 Friends School Other (please specify)

2. How many people are typically in your group when visiting the Purisima Creek Redwoods Preserve?

- I am alone 2 3
 4 5 Other (please specify)

3. Did you have any problems with getting to the Preserve or finding parking today?

- No Yes (please specify which lot or road)

4. Have you had any problems getting to the Preserve or finding parking during any of your visits?

Check all that apply

- Difficult to find parking lot/entrance Public transportation was not available
 Had hard time finding a parking space in the lot Public transportation took too long
 Had to park a long distance away and walk Bicycle access was limited/dangerous
 Public transportation was very limited No secure location to park bicycle
 Other (please specify)

5. What mode of transportation did you take here? Check all that apply

- Vehicle (drive alone) Carpool Public Transit Vehicle & Horse Trailer
 Bike Walk Ride hail (e.g. Uber) Other (please specify)

If you did not drive a car here, skip to Question 8 below

6. If the parking lot is full, where do you try next?

- Another lot/entrance to the Preserve Another Midpen Preserve
 Another State/County Park Go home
 Schedule another visit on a future date

7. How many miles did you drive to get here?

- 0-5 miles 5-15 miles 15-25 miles 25-40 miles More than 40 miles

8. How long did it take you to get to the Preserve from your home?

- 0-15 minutes 15-30 minutes 30-60 minutes More than 60 minutes

9. Of all the entrances to the Purisima Creek Redwoods Preserve, why pick this one?

- Level of difficulty of particular trails at that access point (easy vs moderate vs strenuous) Recommendations from apps such as AllTrails/Strava, hiking websites, blogs, etc
 Recommendation by family/friends Familiarity with that particular access point
 It was the only entrance with available parking Enjoy the topography/scenery at this entrance
 Other (please specify)

Please continue on the opposite side.



Midpeninsula Regional Open Space District
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 E-mail: info@openspace.org
 Website: www.openspace.org



FIGURE 28. SURVEY FORM (CONTINUED ON NEXT PAGE)

Purisima Creek Redwoods Preserve Visitor Survey (continued)

10. If parking/access barriers were not a factor, what would be your preferred access to Purisima?

- North Ridge
- Grabtown Gulch
- Redwood Trail
- Purisima Creek Road/Higgins Canyon

11. How often do you come to the Purisima Creek Redwoods Preserve?

- This is my first time
- 2-5 times per month
- Once every few months
- More than 5 times per month
- 1-2 times per month
- Other (please specify)

12. On average, how long do you typically stay at the Preserve?

- Less than an hour
- More than 4 hours
- About 1 to 2 hours
- Other (please specify)
- About 2 to 4 hours

13. What days/times do you typically visit the Preserve?

- Weekdays (M-F) Mornings
- Weekdays (M-F) Midday
- Weekdays (M-F) Late Afternoon/Evening
- Holidays
- Weekends (Sat-Sun) Mornings
- Weekends (Sat-Sun) Midday
- Weekends (Sat-Sun) Late Afternoon/Evening
- Other (please specify)

14. What activity were you planning to do at the Preserve today?

- Hiking
- Relaxation
- Biking
- Family Activity
- Nature Watching
- Horseback Riding
- Fitness
- Other (please specify)

15. Please rate your experience at the Preserve today

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very dissatisfied

16. If you rated your experience *Dissatisfied* or *Very dissatisfied*, why? Check all that apply

- Too crowded
- Conflicts with hikers/runners
- Trail conditions
- Lack of enforcement
- Too few people
- Conflicts with bicyclists
- Weather: too hot/cold
- Unclean/lack of restrooms
- Not enough parking
- Unpleasant or loud visitors
- Lack of signage and maps
- Other (please specify)

17. What would improve your experience getting to and enjoying the Preserve? Check all that apply

- More parking for vehicles
- Creating delineated parking spaces
- Improved walking access to the site (new sidewalks, etc.)
- Bike facilities (bike racks, locker, etc.)
- Improved public transit (expanded routes, closer bus stops, etc.)
- Bike share program (e-scooters, dockless bike share, etc.)
- Paid or advanced parking reservations
- Improved equestrian facilities
- More parking for vehicles with equestrian trailers
- More real-time parking availability information
- Improved bike access to the site (new bike lanes, etc.)
- Free or low cost shuttle service
- Improved rideshare options (discounts, designated drop-off area, etc.)
- Improved access to park (more access points, closer to my residence, etc.)
- None, I wouldn't change anything
- Other (please specify)

18. If Midpen offered a shuttle, would you use it? Yes No

19. What is the ZIP code of your primary residence?

20. Please provide any additional comments on parking at or accessing Purisima.



Parking Lot/Trailhead Access

Respondents were asked 'At which parking lots/ trailheads **did you access the Preserve on this visit?** Among the 559 responses, 52% used Purisima Creek, 30% used North Ridge, 9% used Grabtown Gulch, and 9% used Redwood Trail.

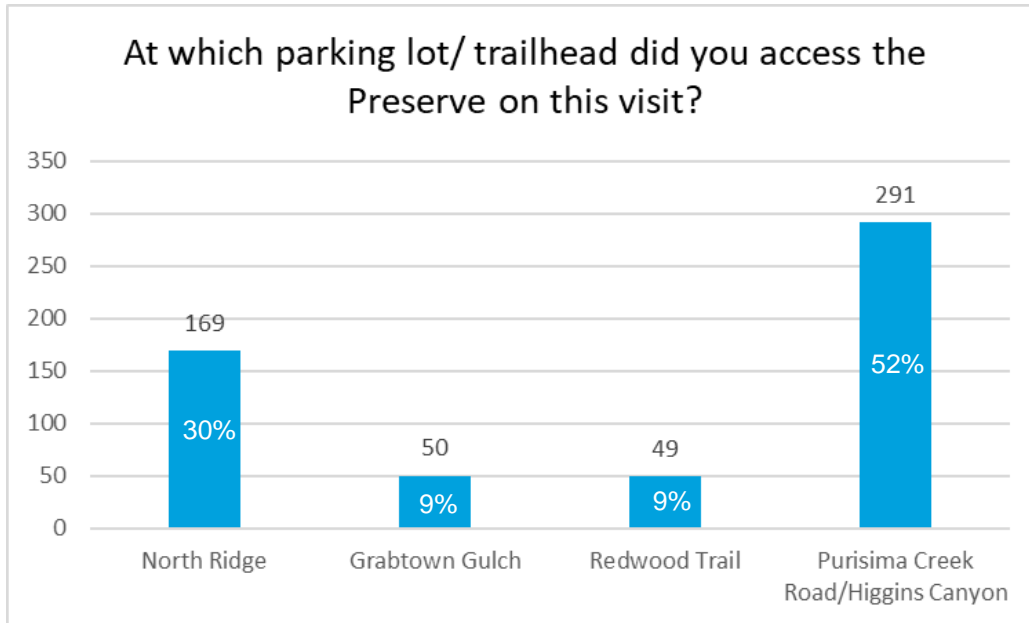


FIGURE 29. PARKING LOT / TRAILHEAD USE

Visitor Group Composition

Respondents were asked with whom they were **traveling on their visit to the Preserve.** Among the 559 responses, 34% traveled alone, 31% with friends, 30% with family, and 2% with an organized group.

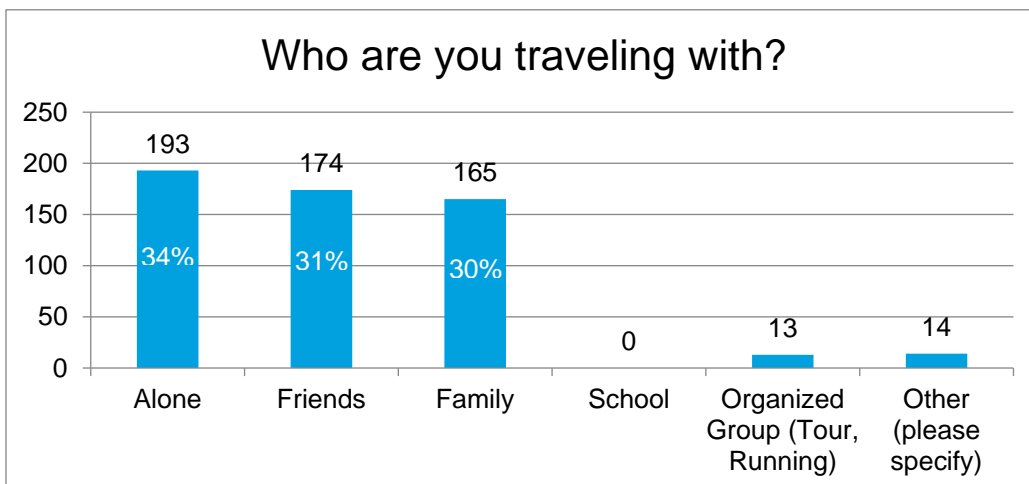


FIGURE 30. VISITOR GROUP COMPOSITION

Visitor group size

Respondents were asked how many people were in their group when visiting the Preserve. Among the 559 responses, 41% were in a party of 2, 27% were alone, 13% were in a party of 3, 9% were in part of 4, and 10% were in a party of 5 or more.

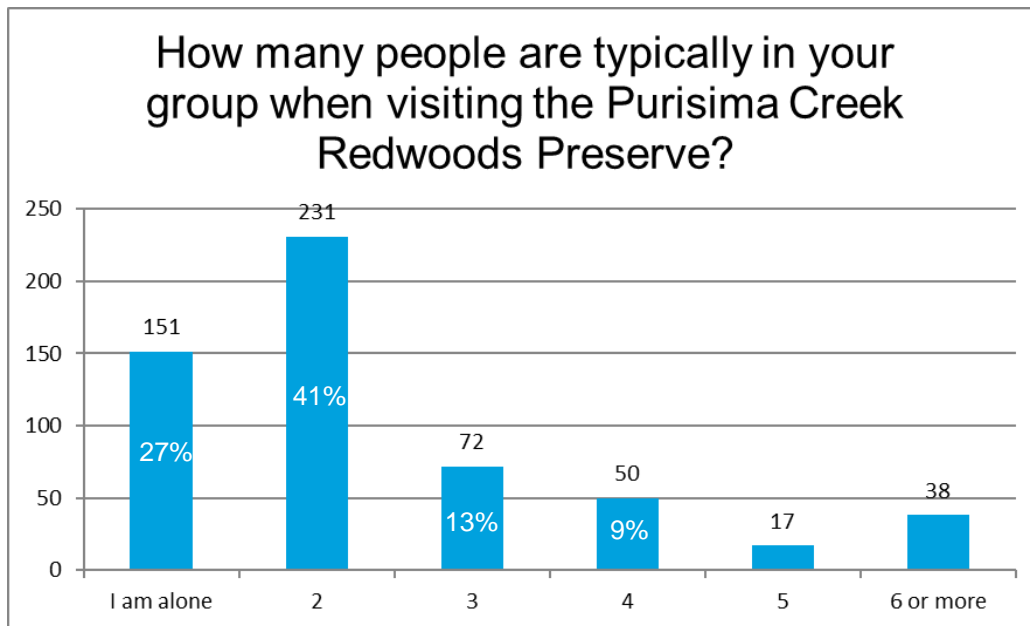


FIGURE 31. VISITOR GROUP SIZE

Parking Challenges on Most Recent Visit

Respondents were asked about any issues finding parking on their most recent visit. Of the 557 responses, 75% said no, while 25% said yes. Notable comments included lack of available parking in the Purisima Creek lot (25) and North Ridge lot (10), need for arriving at earlier times or parking along the road, and lack of equestrian spaces.

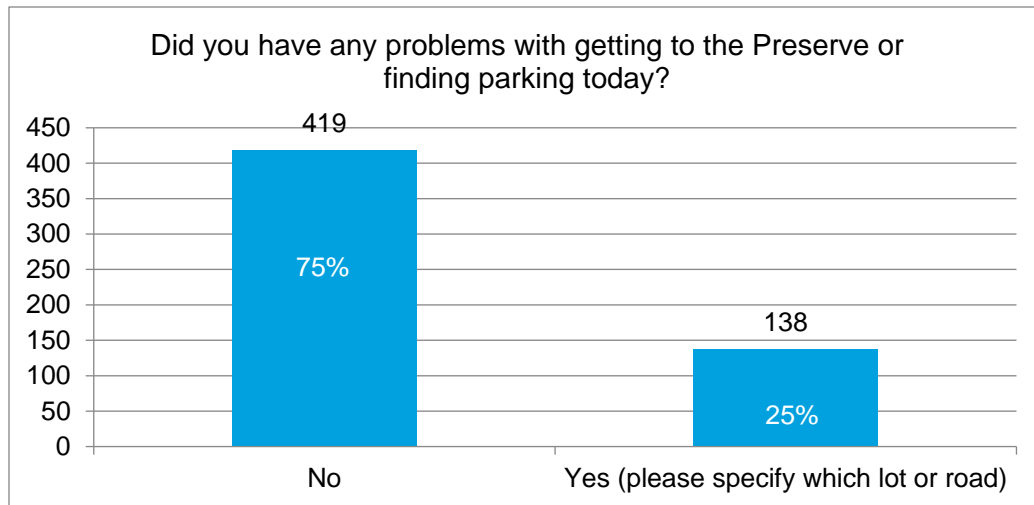


FIGURE 32. PARKING CHALLENGES

Access and Parking Challenges on Any Visit

Respondents were asked about access and parking challenges at the Preserve in general. Of the 136 responses, 79% had difficulty finding a parking space in a lot; 40% had to park a long distance from the trailhead; 31% said public transportation was not available, too limited or took too long; 20% said it was difficult to find parking and/or the lot entrance; 13% said bicycle access was limited or unsafe; and 9% said there was no secure bicycle parking.

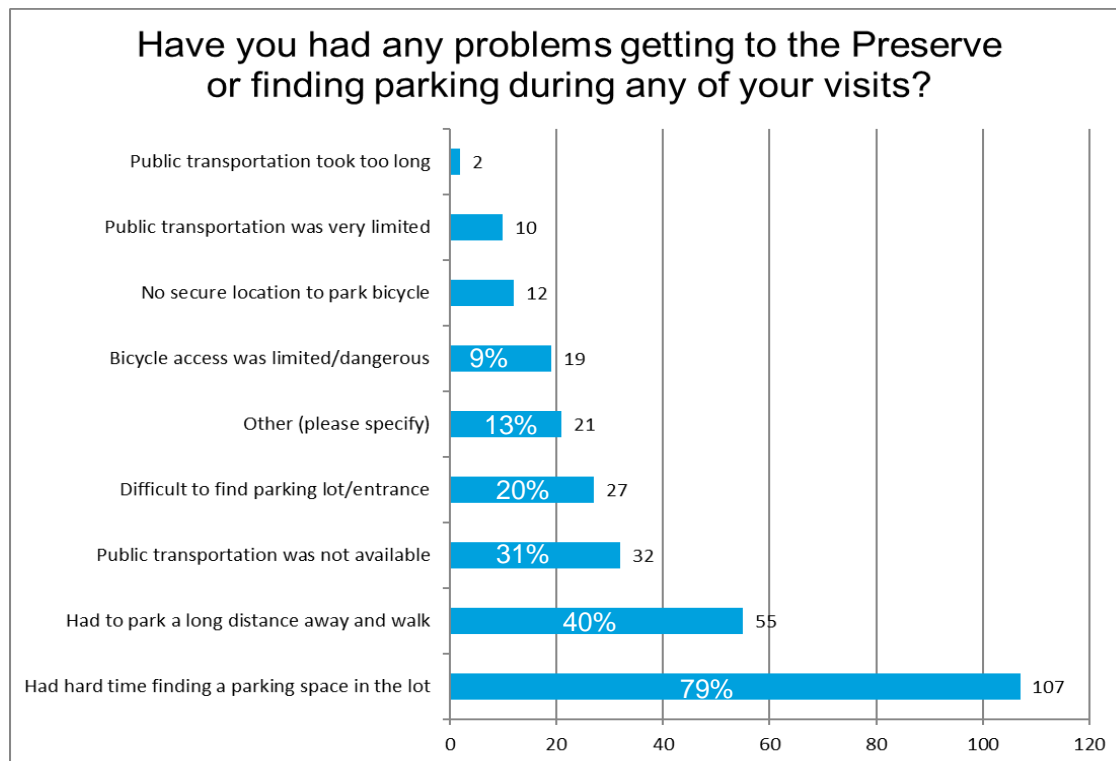


FIGURE 33. PARKING & ACCESS CHALLENGES

Mode of Access

Respondents were asked what mode of access they used on their most recent visit to the Preserve. Of the 553 responses, 61% drove alone, 32% carpooled, 9% bicycled, 3% walked, 1% used a vehicle and horse trailer, 0.5% used public transit and 0.2% used a ride-hailing service. Other modes included electric bicycles, hitch hiking and horses.

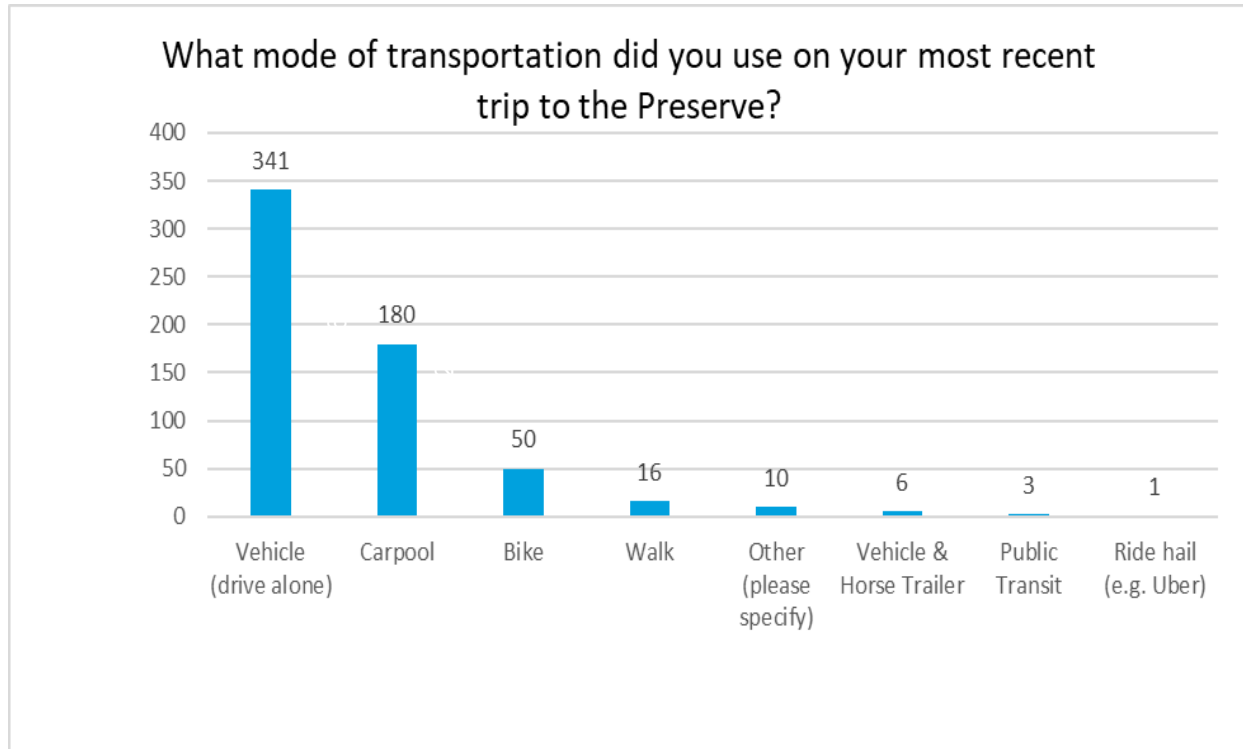


FIGURE 34. MODE OF ACCESS

Alternative Parking Locations: Respondents were asked what they did next after finding their desired parking lot was full. Of the 499 responses, 46% went to another lot/ entrance, 19% went to another State or County park, 16% went to another Midpen preserve, 13% went home and 6% tried again on another day.

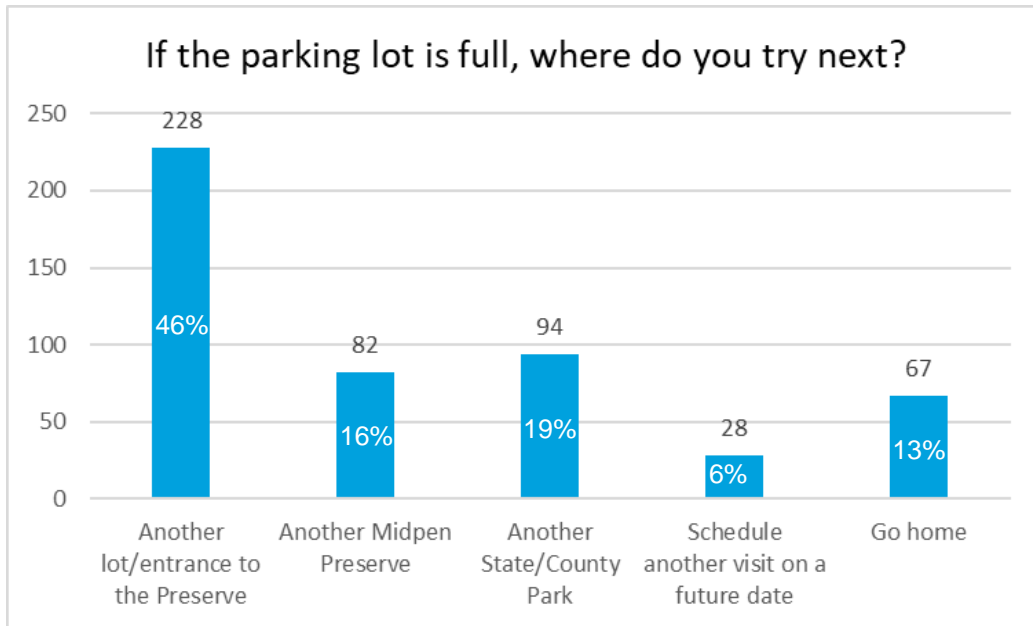


FIGURE 35. ALTERNATIVE PARKING LOCATIONS

Distance from Preserve

Respondents were asked about how many miles they traveled to get to the Preserve. Of the 499 responses, 36% traveled 5 to 15 miles, 27% traveled 15 to 25 miles, 23% traveled 25 to 40 miles, 8% traveled more than 40 miles and 6% traveled less than 5 miles.

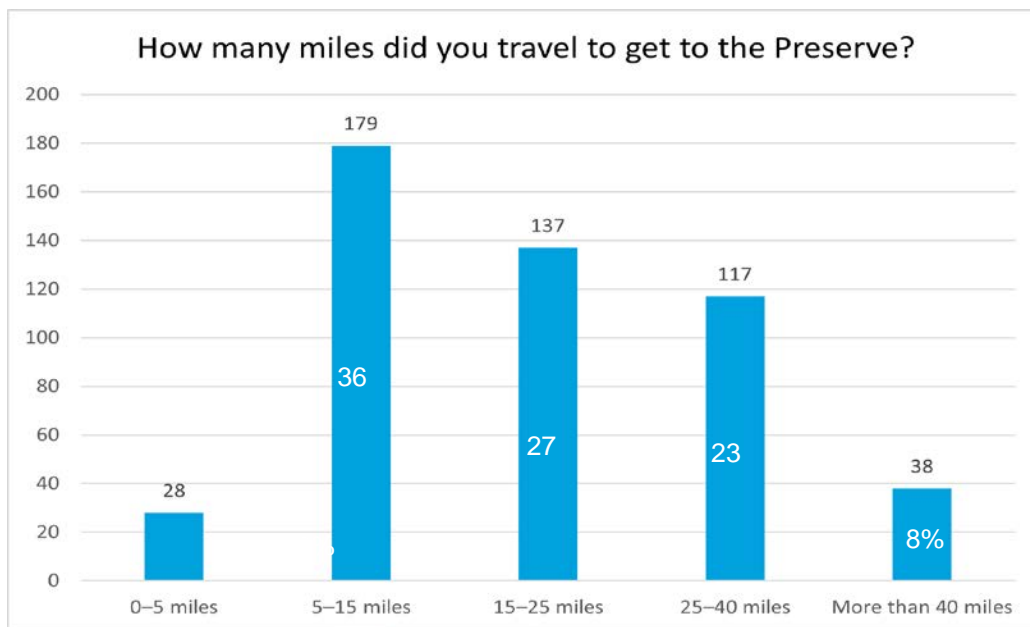


FIGURE 36. DISTANCE FROM PRESERVE

Travel Time to Preserve

Respondents were asked about how long their trip was from home to the Preserve. Of the 544 responses, 46% spent 30 to 60 minutes traveling, 35% spent 15 to 30 minutes traveling, 10% spent more than 60 minutes traveling, and 8% spent less than 15 minutes traveling.

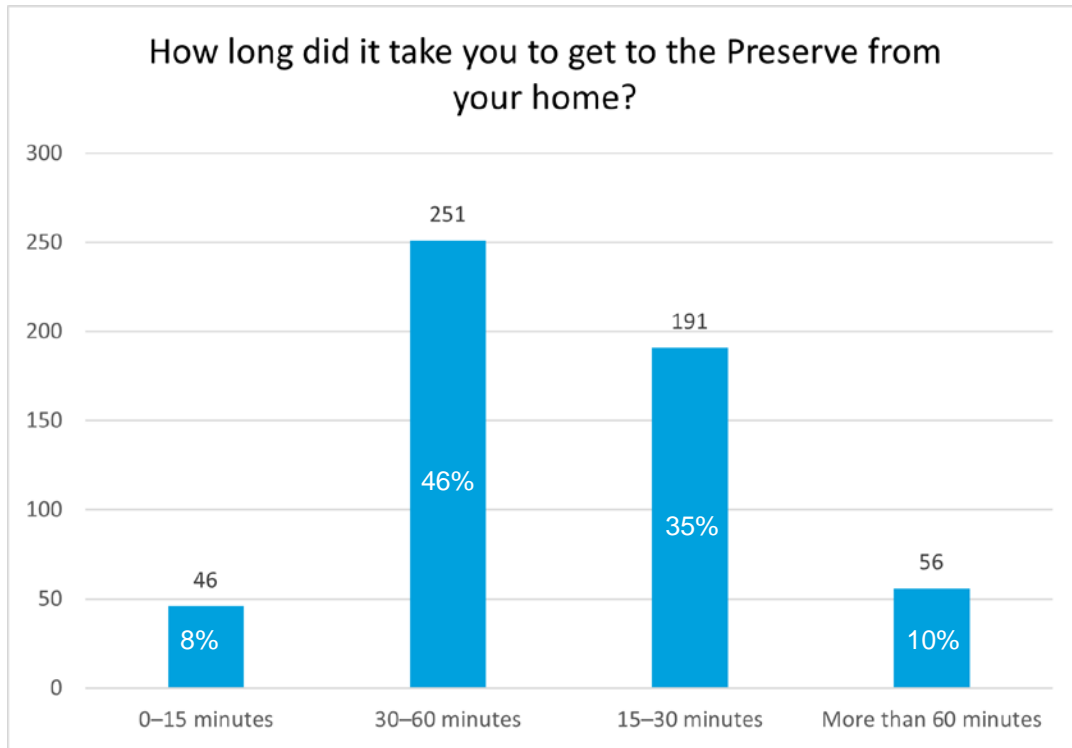


FIGURE 37. TRAVEL TIME TO PRESERVE

Choice of Parking Lot/Trailhead: Respondents were asked why they selected a particular parking lot/ trailhead to access the Preserve. Of the 526 responses, 25% said familiarity, 20% enjoyed the scenery, 15% sought the level of trail difficulty, 14% chose based on the proximity to their origin, 5% chose based on recommendations from apps or hiking websites, 3% chose based on recommendations from family or friends, 2% chose based on parking availability and 12% chose for other reasons.

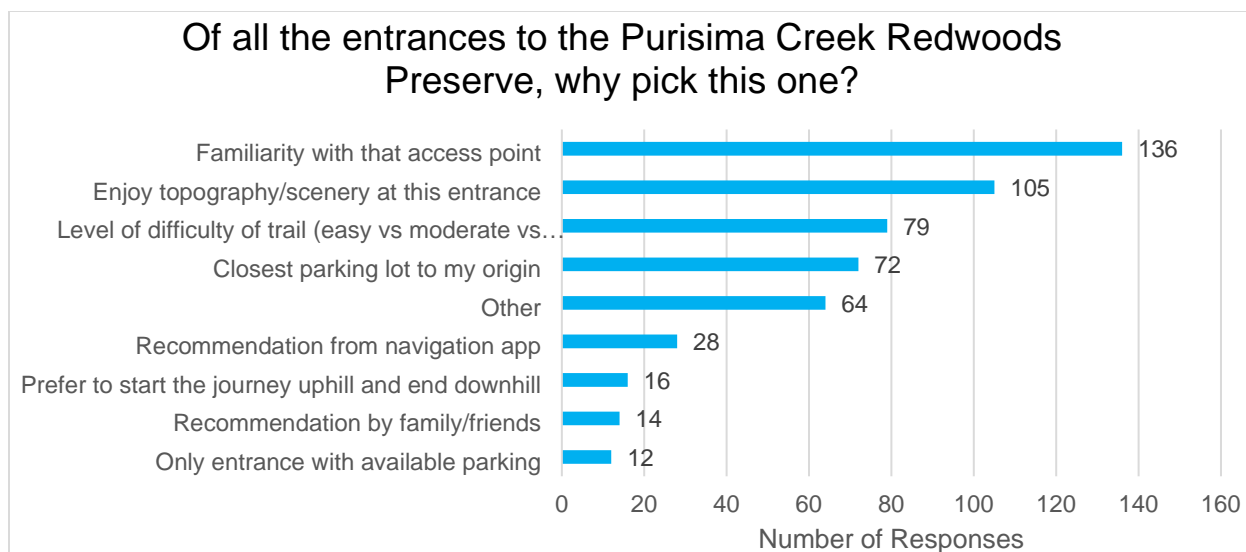


FIGURE 38. CHOICE OF PARKING LOT / TRAILHEAD

Preferred Parking Lot/Trailhead:

Respondents were asked which parking lot/ trailhead they preferred to access the Preserve if parking was not an issue. Of the 526 responses, 55% said Purisima Creek Road/ Higgins Canyon Road, 26% said North Ridge, 12% said Redwood Trail and 7% said Grabtown Gulch.

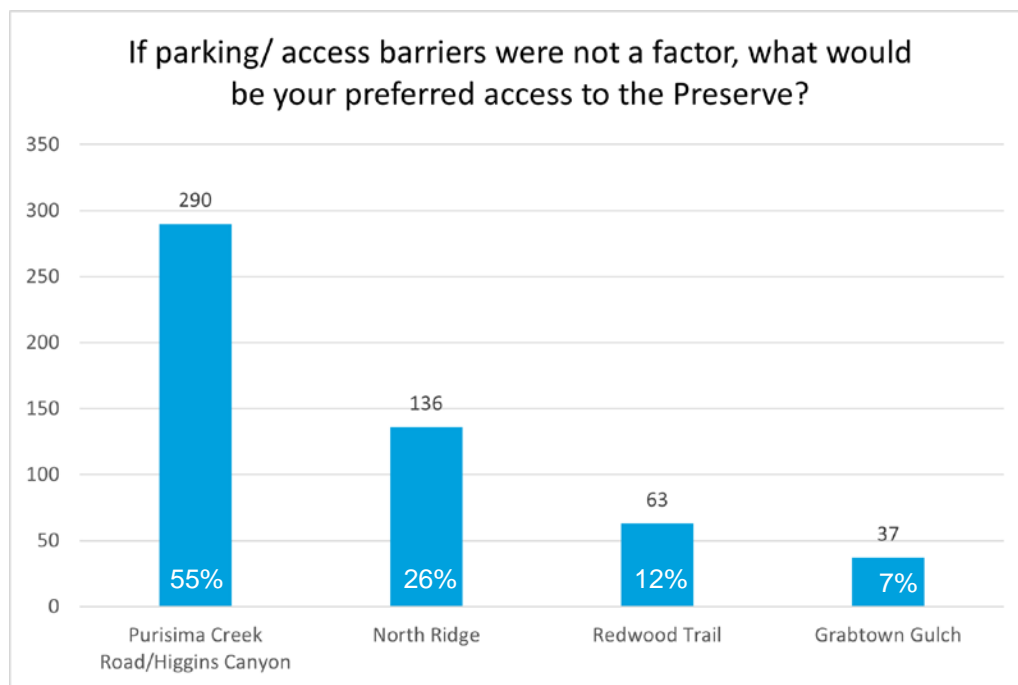


FIGURE 39. PREFERRED PRESERVE ACCESS POINT

Visitation Frequency

Respondents were asked how often they visited the Preserve. Of the 526 responses, 57% said once every few months, 14% said once or twice a month, 12% said two to five times per month, 6% said it was their first visit, 4% said more than 5 times per month and 7% said other.

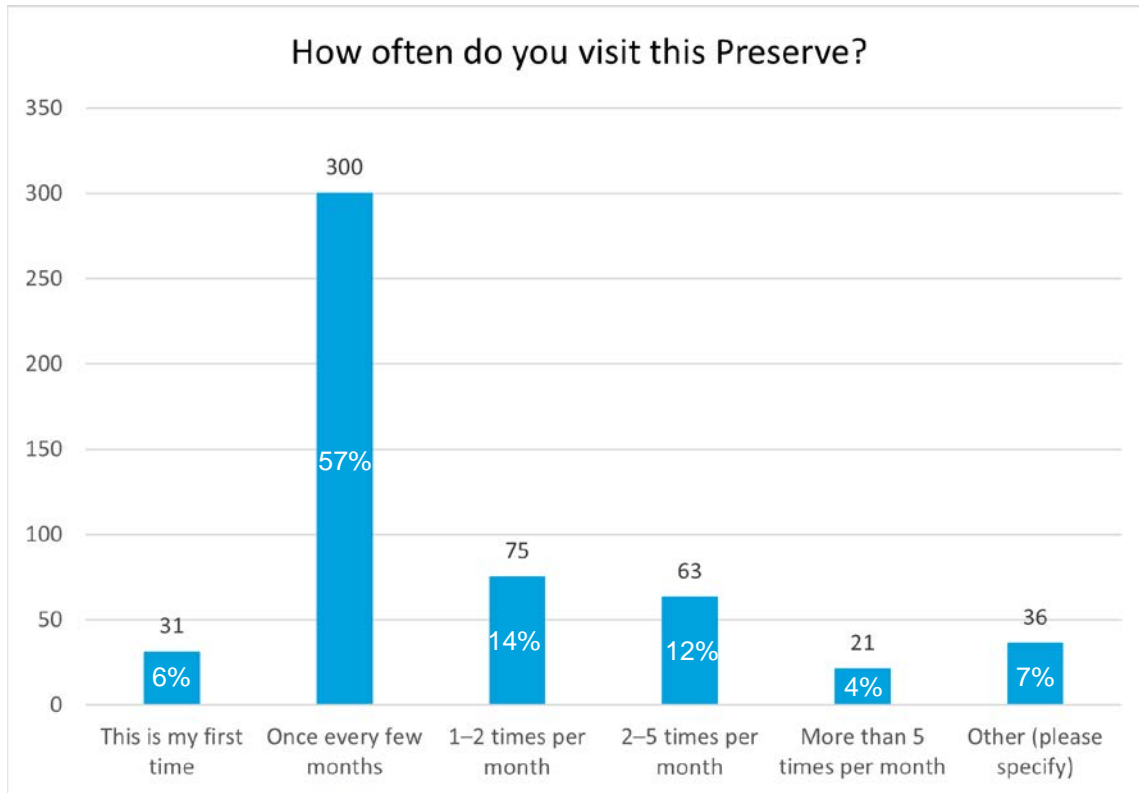


FIGURE 40. FREQUENCY OF VISITS

Days and Times of Visitation

Respondents were asked what days/ times they typically visit the Preserve. Of the 526 responses, 30% said weekday mornings, 30% said weekend mornings, 16% say weekday middays, 9% said weekend middays, 8% said weekday afternoons, 3% said weekend afternoons, less than 1% said holidays and 4% said other times.

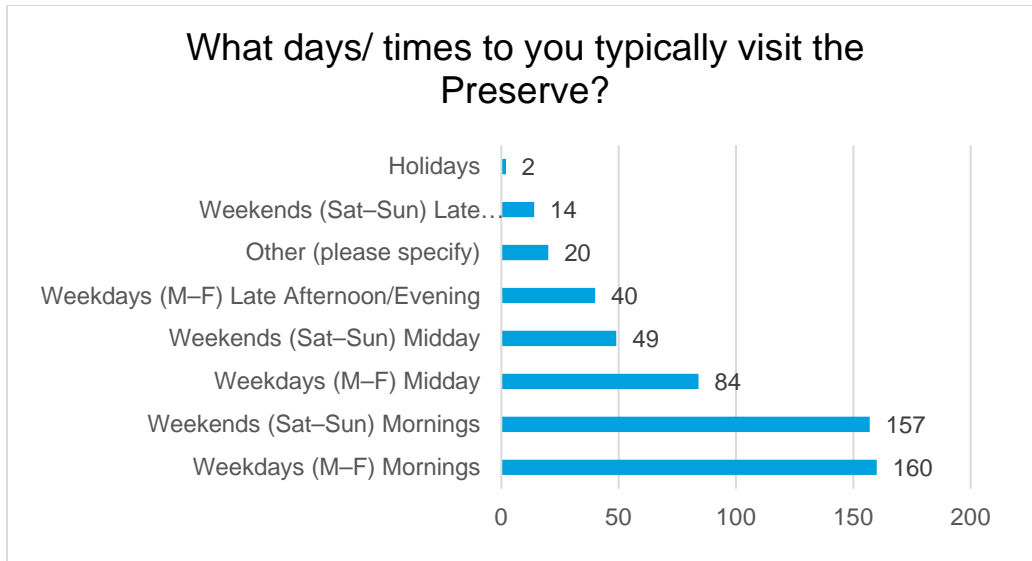


FIGURE 41. DAYS & TIMES OF VISITS

Duration of Visit

Respondents were asked how long they typically stay at the Preserve. Of the 526 responses, 64% said 2 to 4 hours, 21% said 1 to 2 hours, 14% said more than 4 hours and 1% said less than one hour.

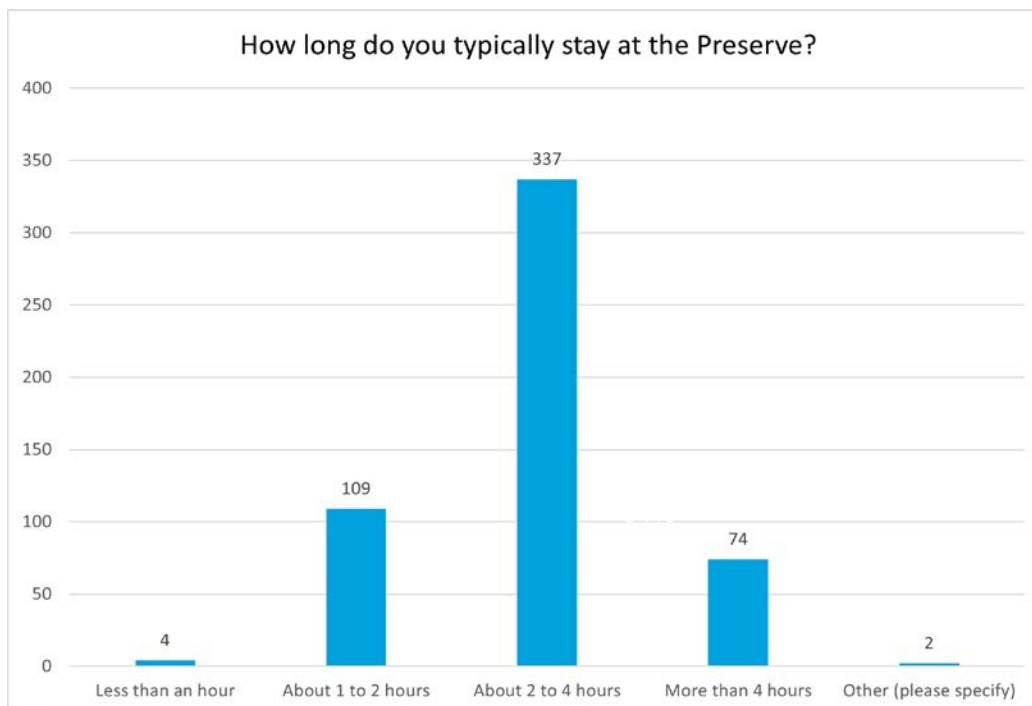


FIGURE 42. VISIT DURATION

Type of Activity

Respondents were asked what activity they planned to do on their visit to the Preserve. Of the 526 responses, 64% said hiking, 20% said biking, 2% said nature watching, 2% said horseback riding, 1% said family activity and 5% said other.

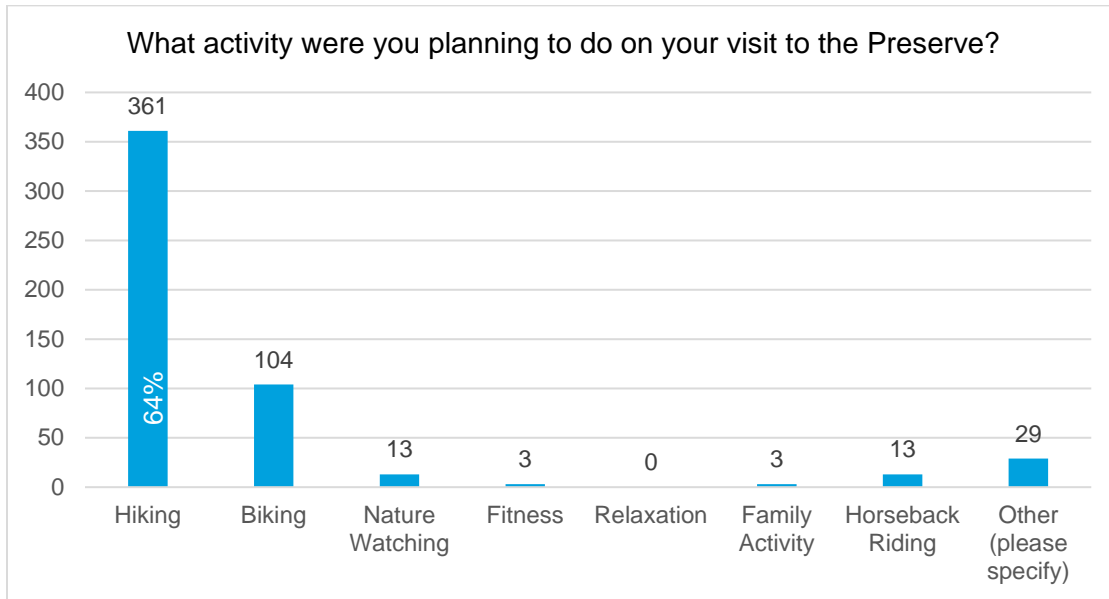


FIGURE 43. TYPE OF ACTIVITY

Visit Satisfaction

Respondents were asked about their overall experience visiting the Preserve. Of the 525 responses, 55% were very satisfied with their experience, 33% were satisfied, 9% were neutral about their experience 2% were dissatisfied and 1% were very dissatisfied.

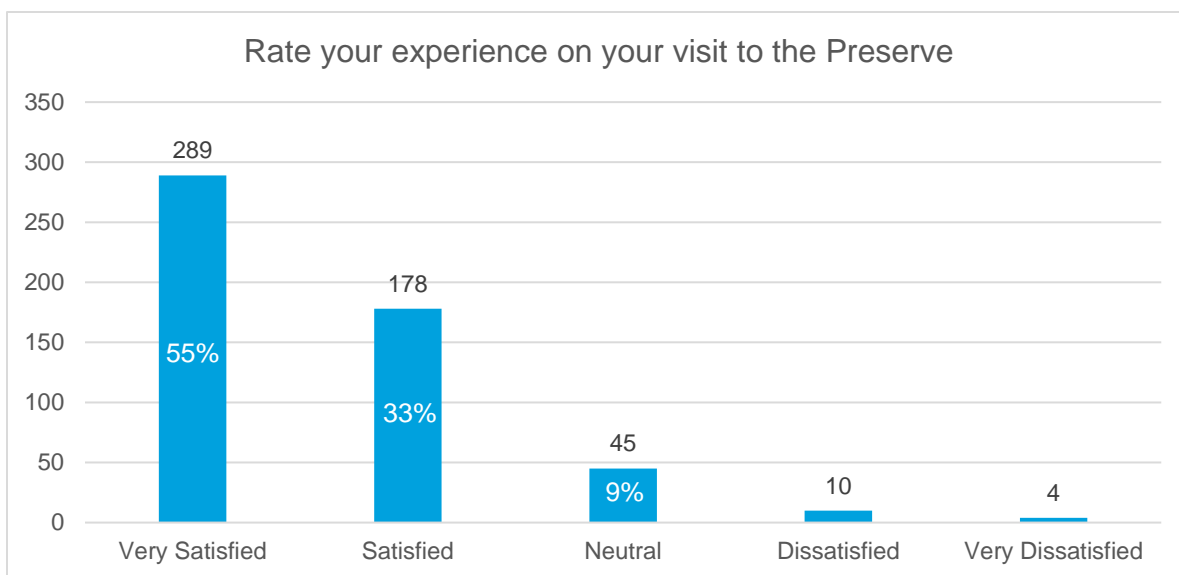


FIGURE 44. VISIT SATISFACTION

Reasons for Dissatisfied Experience

Respondents were asked to identify any reasons contributing to their dissatisfaction with their visit to the Preserve. Note that based on 525 responses as indicated above, only 3% of respondents (or 14 responses) were dissatisfied or very dissatisfied with their visit. Of the 14 responses, 71% said not enough parking, 21% said too crowded, 21% said unpleasant/ loud visitors, 7% said lack of enforcement, and 43% said other. Other reasons included prohibition of bicycling on trails, prohibitions of dogs on trails, and fire danger. The other remaining choices (public restrooms, signage, weather, trail conditions, and modal conflicts) were not identified by any respondents as reasons for dissatisfaction.

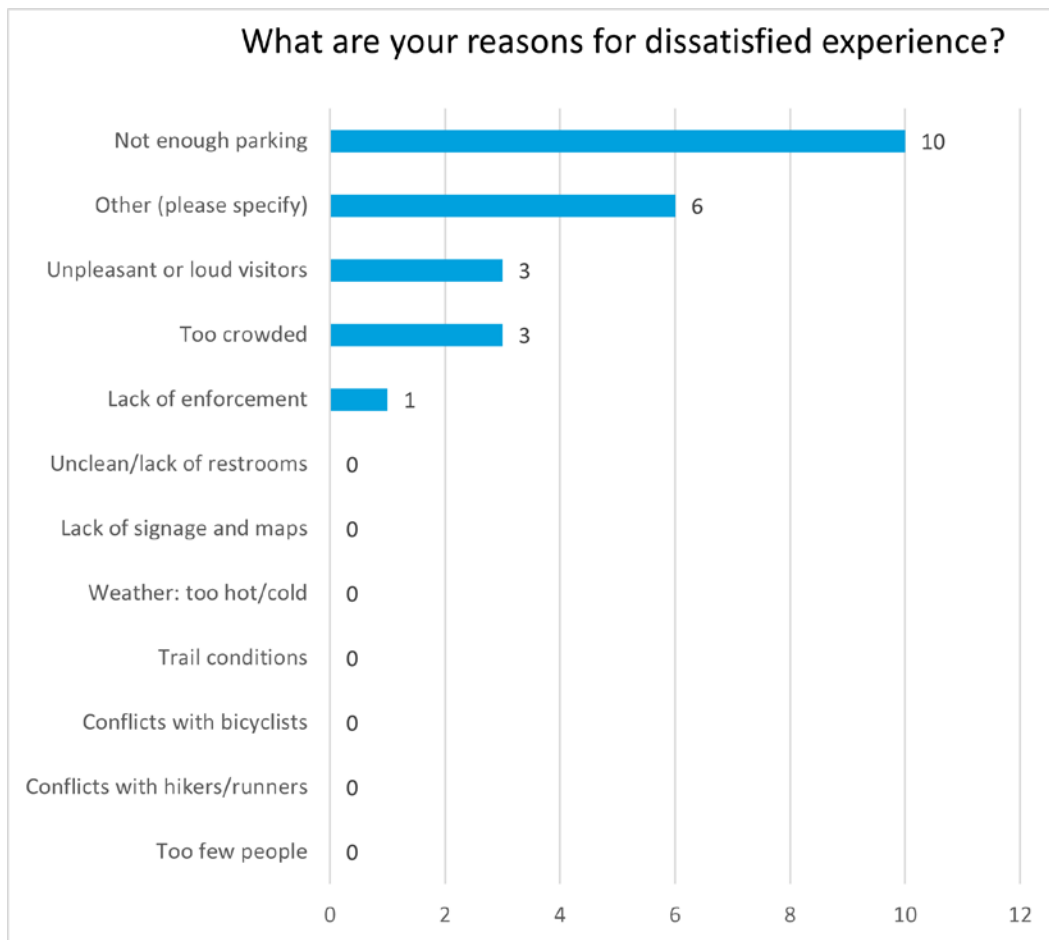


FIGURE 45. VISITOR ISSUES

Suggested Improvements

All respondents were asked what improvements would enhance their experience getting to and enjoying the Preserve. Of 519 responses, 55% said more parking, 24% said more real-time parking availability information, 16% said improved bike access, 16% said free or low cost shuttle service, 13% said no improvements were needed, 12% said creating designated parking spaces, 11%

said additional access points to the Preserve, 11% said paid or advanced parking reservations, 9% said improved public transit, 9% said bicycle parking/ lockers, 5% said improved pedestrian access, 3% said more equestrian trailer parking, 2% said improved rideshare options and 2% said improved micromobility options such as dockless bike sharing and scooters.

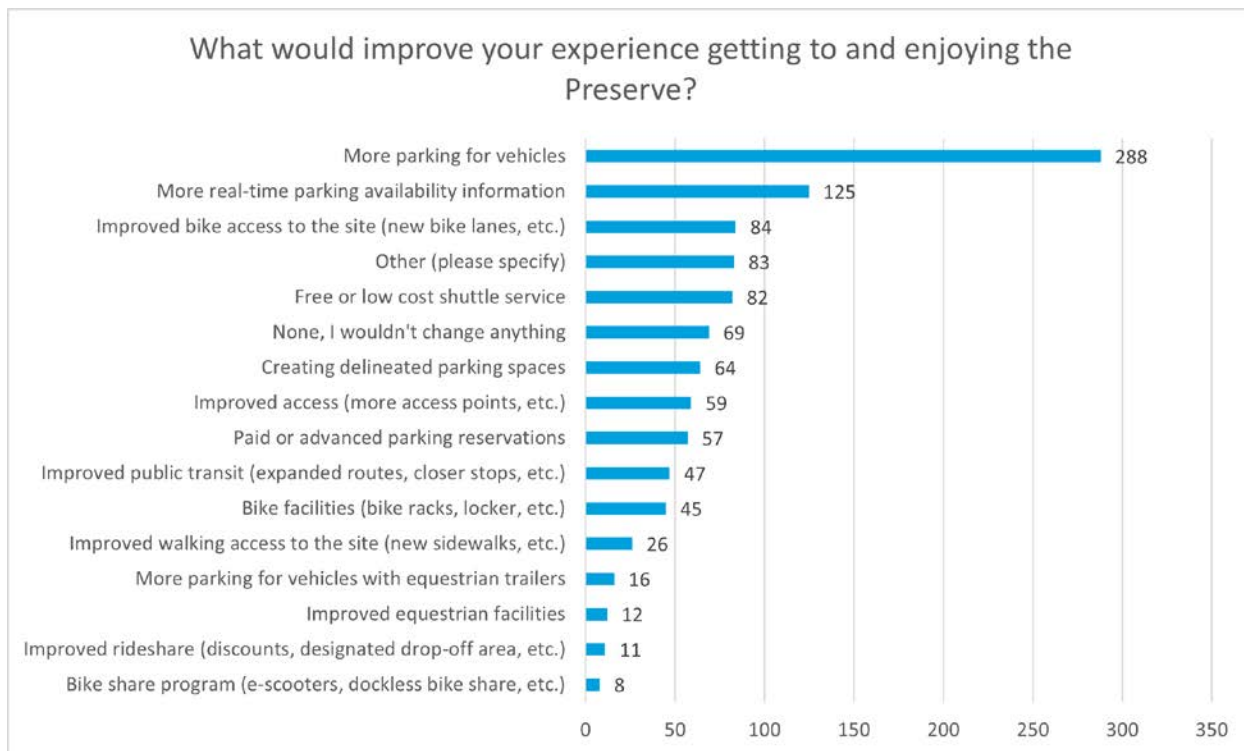


FIGURE 46. SUGGESTED ACCESS IMPROVEMENTS

Key takeaways from the first survey include:

- 87% of visitors arrive by car, approximately 8% arrive by bike
- The most preferred parking lot/ trailhead access is Purisima Creek Road/ Higgins Canyon Road, with more than half of all respondents indicating that they would ideally like to park at this location due to proximity, scenery, and hiking terrain
- Over 200 respondents cited challenges in finding parking, parking too far from a trailhead, and availability of alternative modes of access to the Preserve
- Over 300 respondents cited additional parking spaces and/ or more information on parking availability as a strategy to improve their experience at the Preserve
- Approximately half of respondents stated they would look for parking at another Preserve lot/ trailhead if their first choice was full

Respondent demographics included:

- 70% Caucasian, 9% Asian, 6% Hispanic and 10% no response
- 35% with incomes over \$150,000, 27% below \$125,000 and 30% no response

Additional open ended recurring comments included:

- Concern about overcrowding the trails with more parking capacity (10 comments)
- Desire for a shuttle / not to have to drive to the Preserve (6 comments)
- Complaints about crowded parking lots/ needing to shift time of Preserve visits to avoid crowds and find parking (10)

SECOND SURVEY

The goal of the second survey was to solicit feedback specifically on the proposed TDM strategies and the visitors' likelihood of using them, such as bicycling to the Preserve, taking a shuttle, using a reservation system, paying for parking, utilizing a carpool priority lot, etc. Results from some key questions are shown below.

Bicycle Access

Even though the Preserve is not currently served by existing bicycle routes, survey respondents expressed some interest in utilizing this transportation mode to access the Preserve. Of 425 responses, 49% indicated they would bicycle more to access the Preserve, 43% said they would not and 8% said they might.

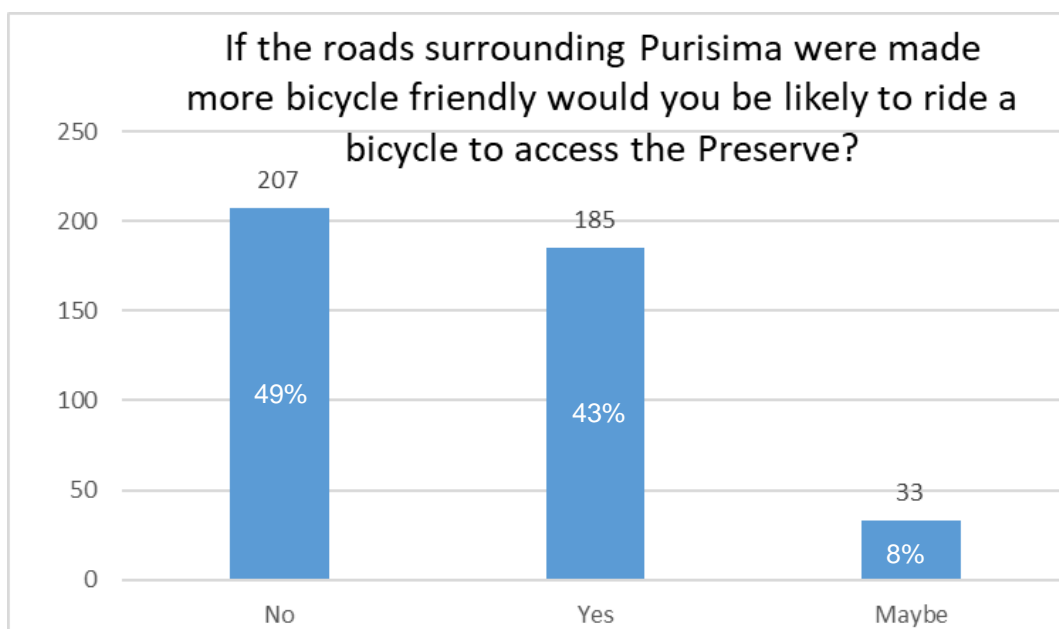


FIGURE 47. BICYCLE ACCESS PREFERENCES

Additional repeated comments regarding improved bicycle access mentioned lack of safe on-road bicycling infrastructure, use of e-bikes, the Preserve being too far to reach by bike and interest in combining bicycling access with transit use.

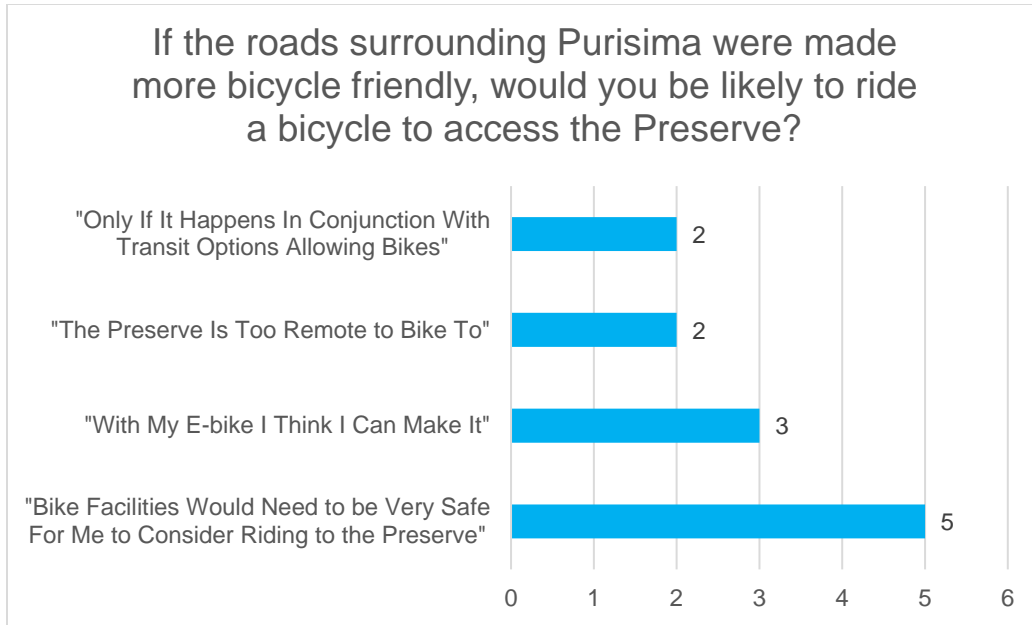


FIGURE 48. BICYCLE ACCESS COMMENTS

Shuttle Use

Respondents were asked if they would use a free shuttle service if their preferred parking lot were full to access another parking lot or trailhead at Purisima. Of the 416 responses, 50% said yes, 27% said no and 23% said maybe.

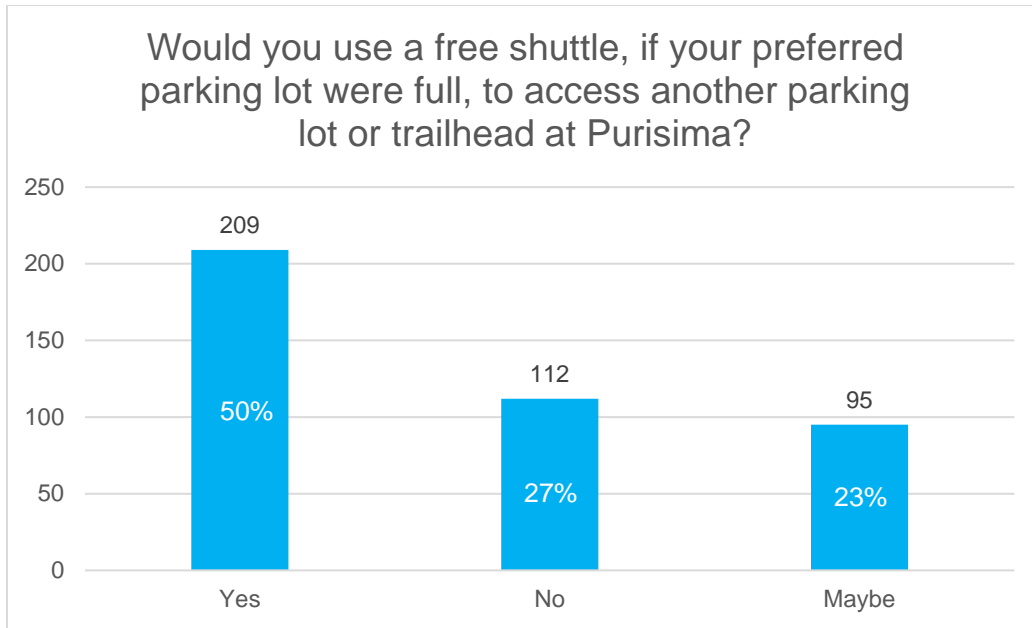


FIGURE 49. SHUTTLE USE PREFERENCES

Additional repeated comments regarding shuttle use emphasized frequent and reliable service, bicycle compatibility, crowds, equestrian and ADA access.

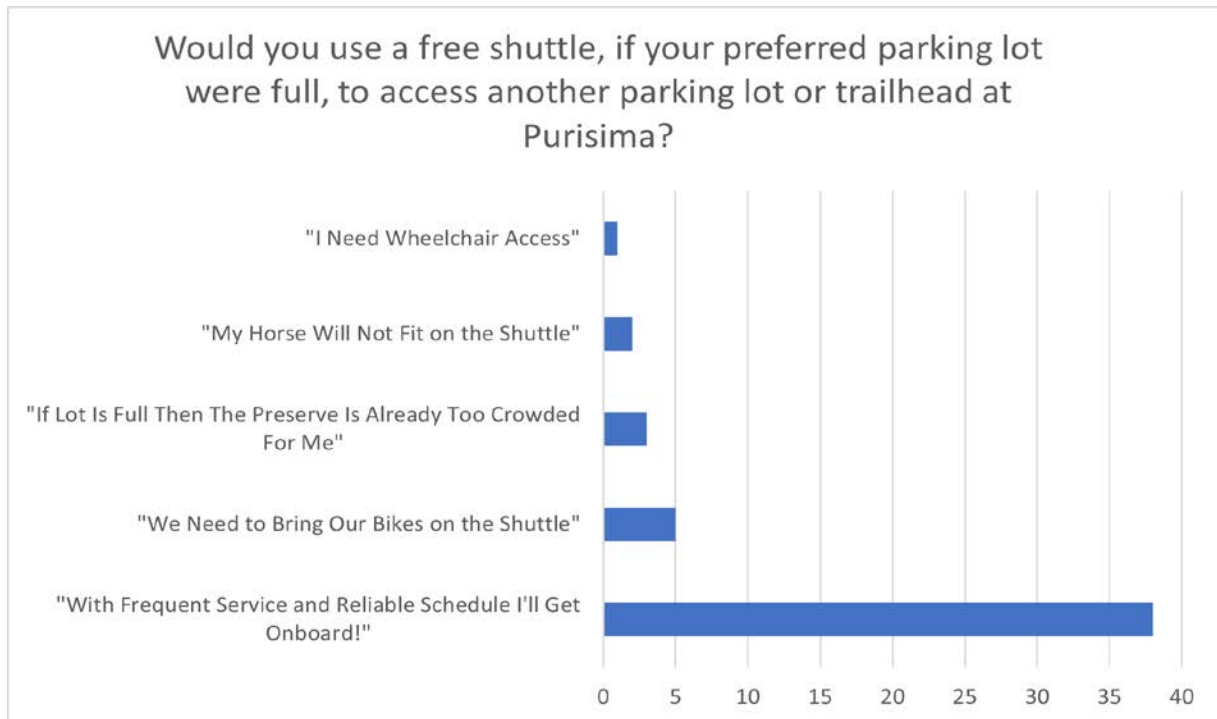


FIGURE 50. SHUTTLE ACCESS COMMENTS

As a follow up question, respondents were asked how long they would wait for a shuttle. Of 423 responses, 23% said up to 10 minutes, 43% said up to 20 minutes, 9% said 30 to 40 minutes, and 25% said they would not take a shuttle.

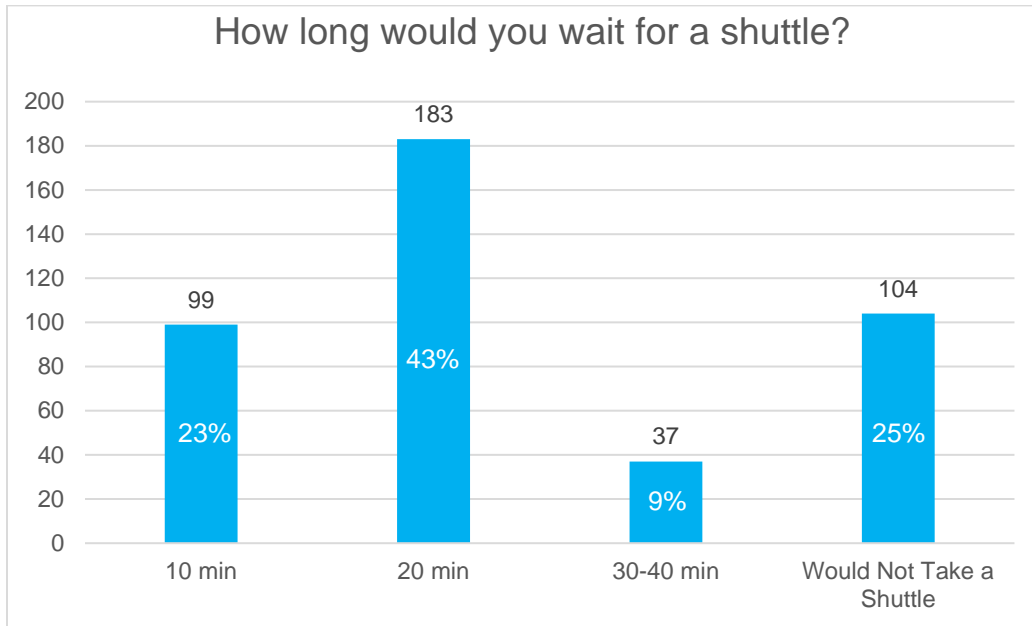


FIGURE 51. SHUTTLE ACCESS FREQUENCY

Lastly, respondents were asked how long of a shuttle ride they would take. Of 423 responses, 24% said up to 10 minutes, 35% said up to 20 minutes, 16% said 30 to 40 minutes, and 25% said they would not take a shuttle.

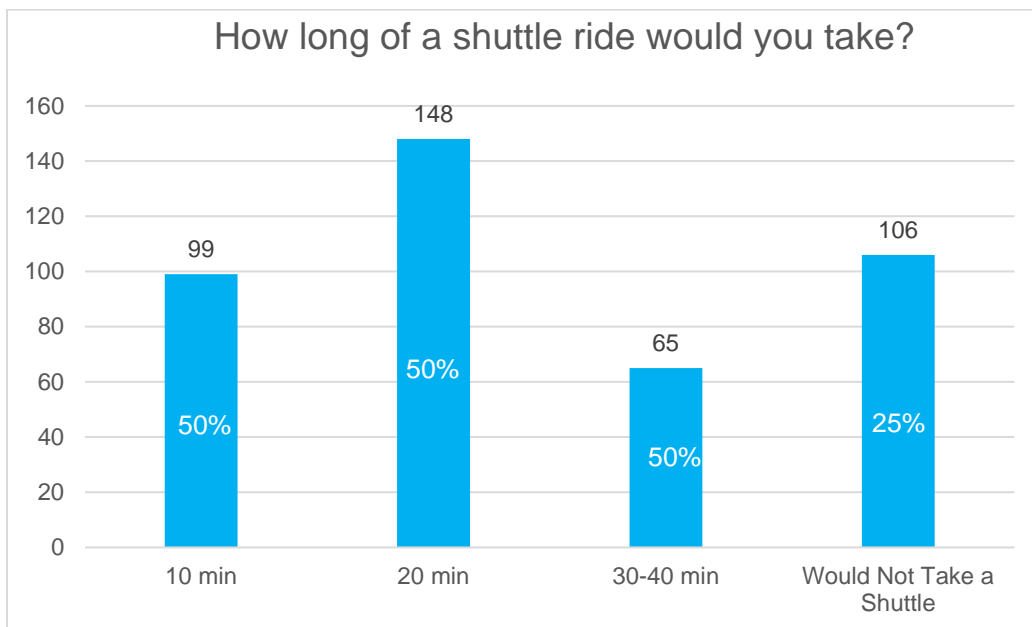


FIGURE 52. SHUTTLE ACCESS DURATION

Paid Parking:

As shown in Figure 53 and Figure 54 below, the possibility of charging a fee for parking at the Preserve parking lots was relatively well-received by survey respondents. Of 423 responses, 55% said yes, 30% said no and 15% said maybe.



FIGURE 53. PAID PARKING

The comments on this question also revealed this acceptance is diminished if the parking fees exceed a nominal amount such as \$5. Respondents also prefer to buy a pass compared to individual payments for each use of the parking lot. Many respondents did not identify the parking fee as a strategy to control parking demand but instead associated it with an effort from Midpen to raise capital.

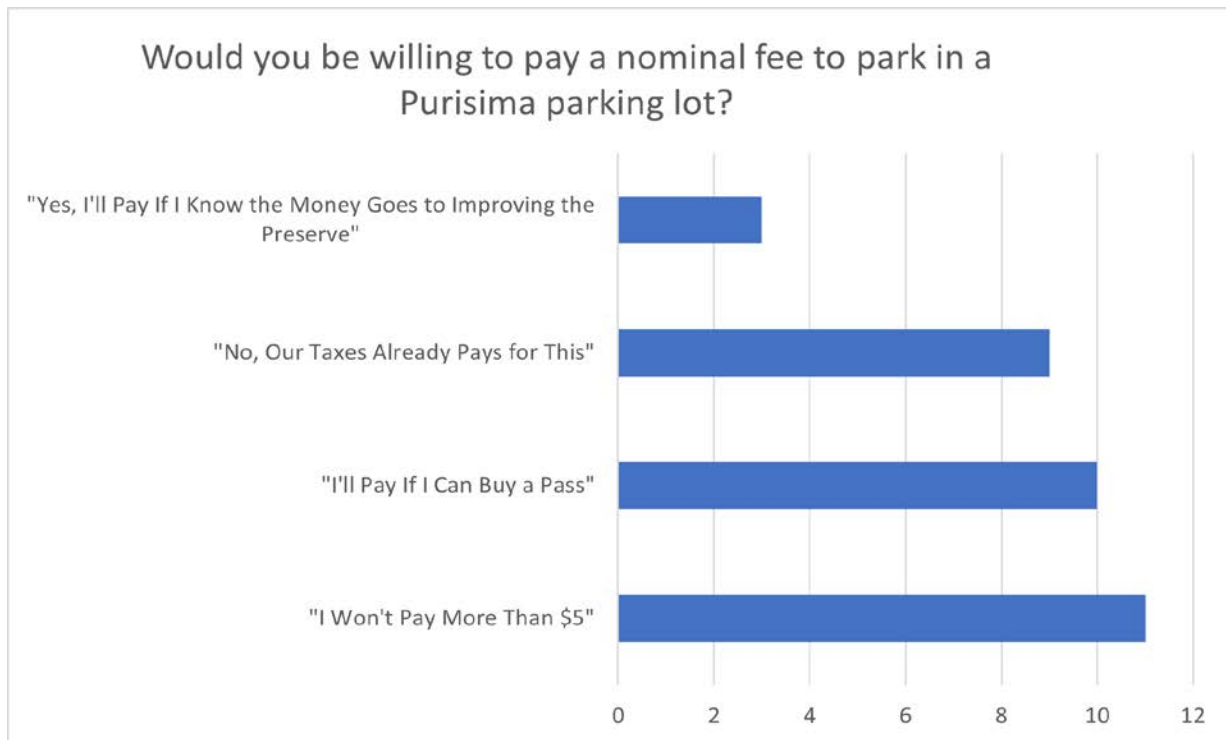


FIGURE 54. PAID PARKING COMMENTS

Parking Reservations

Respondents were asked if they would be willing to use an online parking reservation system to secure a parking space. Of 424 responses, 49% said yes, 35% said no and 16% said maybe.

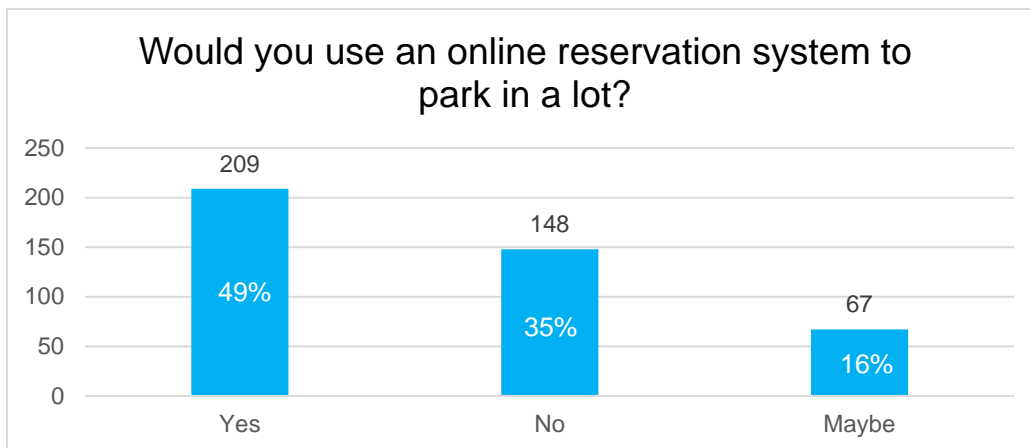


FIGURE 55. PARKING RESERVATIONS

Ride-Hailing and Valet Service

Two TDM strategies that received especially negative responses were the options of a ride-hail service and valet parking. Of 423 responses, 75% said no to ride-hailing and 72% said no to valet service. Only 13% said yes to ride-hailing and 16% said yes to valet service, while 12% said maybe to each of the two ride-hailing strategies, The results are shown in Figure 56 and Figure 57 below. One possible reason why the ride-hail service strategy might be viewed negatively is that survey respondents might be familiar with the lack of cell phone reception that exists in large parts of the Preserve and particularly at the popular Purisima Creek Road parking lot.

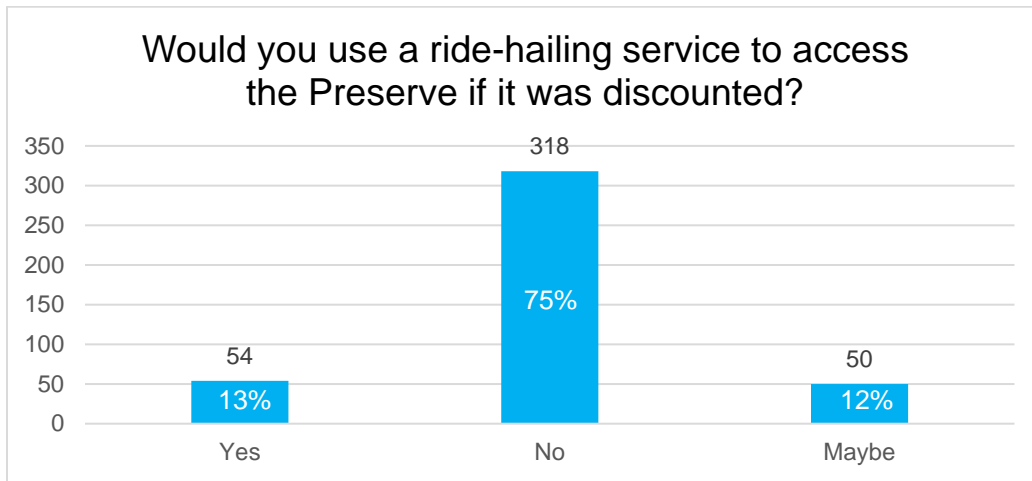


FIGURE 56. RIDE-HAILING SERVICE

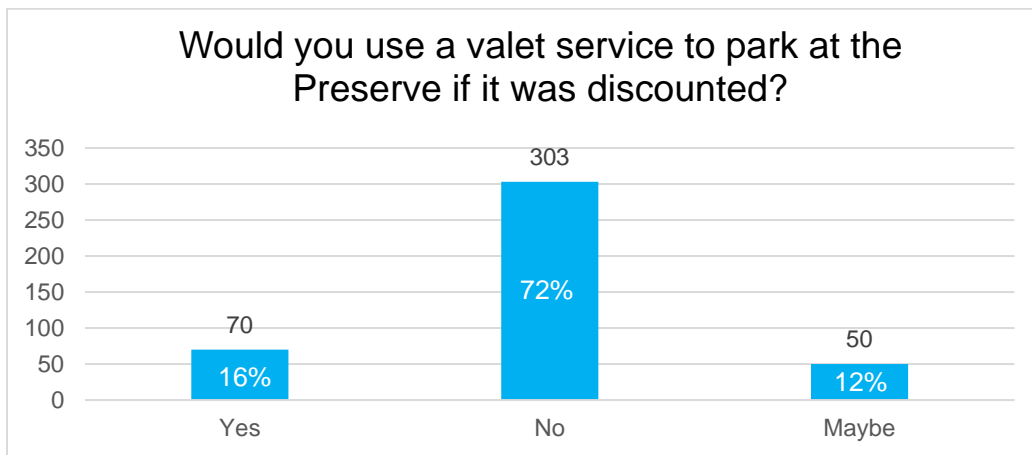


FIGURE 57. VALET PARKING

Key takeaways from the responses to the second survey include the following:

- Better access at the Purisima Creek Road/Higgins Canyon Road entrance is very important to visitors. This is combined with significant concerns about parking and traffic impacts.
- General support for providing additional parking and shuttle service if impact to nature is considered.
- Parking management strategies such as priority parking for carpools and reservation systems are well received if equitable access to the Preserve is maintained. Paid parking received some support but also raised concerns.
- Overflow parking on roadway shoulders is a concern for pedestrians due to potential conflicts with vehicles
- Wayfinding should be provided in both English and Spanish.

VI. STAKEHOLDER ENGAGEMENT

In addition to visitor surveys, public engagement has consisted of 36 stakeholder meetings, one-on-one conversations, and community pop-up events; many were held with staff from the Purisima-to-the-Sea Trail and Parking Area and Highway 35 Multi-use Trail Crossing and Parking Project teams. The table below notes the various stakeholder engagement meetings and events as well as the participants' roles.

TABLE 3. STAKEHOLDER ENGAGEMENT EVENTS

#	Date	Group	Role
1	February 16, 2021	City of Half Moon Bay staff	Agency Partner
2	March 30, 2021	Ritz Carlton Group Hikes & Shuttle volunteer	Agency Partner
3	May 6, 2021	SamTrans – <i>ReImagine SamTrans</i>	Agency Partner
4-13	June 2021 – June 2022	Santa Cruz Mountains Stewardship Network Shuttle Exploration Team – recurring meetings (6/29/21, 8/3/21, 10/6/21, 11/3/21, 12/1/21, 1/4/22, 1/20/22, 2/2/22, 2/16/22, 3/2/22, 4/6/22, 5/4/22, 6/1/22)	Agency Partner
14	July 13, 2021*	Purisima-to-the-Sea Neighbor Meeting	Neighborhood
15	October 20, 2021	Peninsula Trails Team (Bay Area Ridge Trail, Santa Cruz Mountains Stewardship Network, National Park Service, San Francisco Public Utilities Commission, County of San Mateo)	Agency Partner
16	November 3, 2021*	Sustainable Pescadero	Districtwide Community
17	November 4, 2021**	Make It Main Street (Half Moon Bay community event)	Districtwide Community
18	November 9, 2021*	Pescadero Municipal Advisory Council	Districtwide Community
19	November 20, 2021*	Tabling at Coastside Farmers Market (Half Moon Bay)	Districtwide Community
20	December 1, 2021*	Purisima-to-the-Sea Public Open House and Special Meeting	Districtwide Community
21	December 18, 2021*	Tabling at Coastside Farmers Market (Half Moon Bay)	Districtwide Community
22	January 18 & 25, 2022	City of Half Moon Bay staff	Agency Partner
23	February 23, 2022*	Midcoast Community Council	Agency Partner
24	March 15, 2022*	Planning and Natural Resources Committee	Districtwide Community
25	March 15, 2022*	Kings Mountain Association Speaker Series	Neighborhood
26	April 20, 2022	Peninsula Trails Team	Agency Partner
27	May 14, 2022**	College of San Mateo Farmer's Market	Districtwide Community
28	May 15, 2022**	Group hike with Spanish-speaking hiking group (included representatives from Puente and ALAS (Ayudando Latinos A Soñar))	Districtwide Community
29	May 4, 2022*	Sustainable Pescadero	Districtwide Community
30	June 8, 2022*	Midcoast Community Council	Agency Partner
31	June 14, 2022*	Pescadero Municipal Advisory Council	Agency Partner
32	June 29, 2022**	Purisima projects open house (in-person)	Districtwide Community
33	July 11, 2022	San Mateo County Planning & Sustainability staff	Agency Partner
34	July 12, 2022**	Purisima projects open houses (virtual)	Districtwide Community
35	July 20, 2022	San Mateo County Parks staff	Agency Partner
36	August 2, 2022*	Planning and Natural Resources Committee	Districtwide Community

*Public meeting

**Public event

Purisima Creek Multimodal Access and Transportation Demand Management Study

Stakeholder feedback confirmed that parking is challenging at all Preserve trailheads, entrances, and surrounding roads, particularly at the Purisima Creek Road parking lot, which remains the most desirable trailhead for visitors. Stakeholders further observed that weekend parking and traffic continue to be issues for coastal communities and recreation areas. Various stakeholders noted that insufficient parking supply near the Purisima Creek Road parking lot has resulted in roadside parking, congestion, impacts on the quality of the visitor experience, and safety impacts. Parking restrictions for roadside parking have recently gone into effect, but some felt that enforcement efforts needed to be increased for these to be successful. Some visitors have decried the removal of parking along Purisima Creek Road while residents support this.

Cyclists wanted more opportunities to travel to and from the Preserve safely and wanted more support for bicycle access both to and within the Preserve. Stakeholders who cycle were interested in bicycle connections to the Preserve, including regional trails, from Half Moon Bay and the proposed Verde Road parking lot, which is being studied as part of the Purisima-to-the-Sea project. While there was interest by some in permitting bicycles on additional Purisima trails, concerns were expressed by others about conflicts on the trails between hikers, equestrians, and cyclists.



Equestrians were also concerned about limited access and trailer parking at the parking areas. Community members who ride at the Preserve mentioned that existing equestrian spaces at the North Ridge parking area are typically used by standard vehicles and therefore are rarely available for equestrians. Equestrian stakeholders desired more equestrian parking as well as amenities such as hitching posts and mounting blocks.

Safety was a major concern regardless of transportation mode used to access the Preserve. Residents and other community members expressed safety concerns about vehicles parking on road shoulders, particularly at the Purisima Creek Road trailhead. Additionally, stakeholders voiced concerns about safely crossing the street to get to and from trails. These concerns were raised regarding the Highway 35 Multi-use Trail Crossing and Parking project, specifically about pedestrians safely crossing Highway 35 to access a future Bay Area Ridge Trail segment under construction by SFPUC across from the North Ridge parking lot; as well as about crossing Highway 1 to travel between the proposed Purisima-to-the-Sea trail and the Coastal Trail. Cyclists, meanwhile, are concerned about vehicle traffic and speeding vehicles. Residents and

other community members also had fire safety concerns stemming from increased visitation and wanted projects to consider emergency vehicle and water access.

There were various opinions about increasing parking to address demands. While some visitors to the Preserve supported increased parking supply, they were also wary of the impacts that increased parking supply could have on the environment or for those living in the area. There was general support for multimodal elements to be included with any new or expanded parking lots. Additionally, stakeholders supported parking capacity enhancements, such as striping to delineate each parking space and avoid the need for much more parking development or encroachment into surrounding open spaces and habitats. They voiced support for priority or designated parking for specific uses, such as carpools or bus parking for school or nonprofit groups. However, they noted that enforcement could be an issue.

Stakeholders had mixed feelings about paying a nominal fee to park in a lot at the Preserve. While some were willing to pay, especially if a pass were available, others were disinclined to pay fees and saw this strategy as a means of generating revenue rather than managing vehicle demand. Stakeholders emphasized that any payment schemes should include free or reduced rates to ensure equitable access to the Preserve. The City of Half Moon Bay reported no issues from increasing its parking rates to match state beach fees. Visitors to Half Moon Bay can pay for parking using an app.

A parking reservation system was seen as a potentially effective measure in managing parking demand, although any reservation system would be complex to execute and administer, which could also have staffing implications, and must be implemented in conjunction with a strong communications effort and a way to manage the system online. The system would also need to be accessible for people without internet access or who are not tech-savvy. A lack of cell phone service at the Preserve would add further complexity, potentially requiring that drivers reserve spots from home or from their phone in urban areas.

A shuttle bus system received a high amount of interest from various stakeholders. Community members expressed varying interest in shuttle service based on wait time, with a preference for shorter trips and wait times of 20 minutes or less. Stakeholders were interested in regional shuttles that could serve multiple high demand locations and were also interested in using shuttles to support longer, one-way hiking or biking trail experiences. They noted that regional shuttles could promote equity by increasing Preserve access for senior citizens and people who don't own vehicles. Conversations with agency partners revealed that implementing a successful shuttle system would require significant staff and monetary resources and partnerships as well as strong communications, education, and marketing efforts. Based on past regional shuttles, including prior San Mateo County shuttle programs to parks, community support for shuttle service does not always translate to ridership. Marketing is important for a successful shuttle: people must be given incentives to use a shuttle or disincentives to drive to ensure ridership, e.g., limiting vehicular access at a trailhead parking lot. A persistent lack of bus drivers that is currently plaguing transit agencies may also affect shuttle program feasibility.

Stakeholders also spoke in support of additional communications, traveler information, and wayfinding to improve access to the Preserve. Providing trip planning information would be especially helpful for people coming from farther away. There was interest in more information on the Preserve's website, including information on parking alternatives and real-time parking data. At the Preserve, stakeholders were interested in signage that could direct visitors to other

lots or preserves, or help visitors better understand where to park. Digital solutions, such as QR codes at trailheads to allow visitors to download maps, were also mentioned. Stakeholders emphasized the need for communications materials to be made available in both English and Spanish.

In addition to improving access, stakeholders noted additional visitor-serving infrastructure improvements that could be made. Restrooms and garbage bins were desired both at shuttle drop-off points and mid-trail. Stakeholders also expressed interest in charging stations for electric vehicles. Additionally, lack of reliable cell reception makes it difficult for visitors to make alternate plans if they arrive at a full lot.

Public agency partners asserted that other agencies are also struggling with parking and traffic issues and high visitation rates. Accordingly, the Preserve's solutions may require partnerships and ideas to disperse users and balance visitor demand at a more regional level. Potential partnership opportunities for TDM planning with the County of San Mateo, the City of Half Moon Bay, San Francisco Public Utilities Commission, and other agencies or communities may exist.

Any strategies to improve access to the Preserve must be done with equity in mind. Diversity, equity, and inclusion emerged as concerns when considering a number of TDM strategies. For example, options that require payments or technology use could present a barrier for under-resourced populations. In addition, shuttles from satellite lots or the proposed Verde Road lot as part of the Purisima-to-the-Sea trailhead project could also present barriers for people who don't own personal vehicles and cannot drive to the parking lot to catch the shuttle. In this case, regional shuttles picking people up from more urban/town centers such as Half Moon Bay, Pescadero, or the Skyline area (such as Alice's Restaurant) could address this access equity issue. Stakeholders also mentioned that technology-based strategies that are required for access to the Preserve, such as a reservation system, may have a negative effect on equitable access.

PLANNING AND NATURAL RESOURCES (PNR) COMMITTEE FEEDBACK

The PNR provided feedback on two separate occasions. During a meeting held on March 15, 2022, the Committee expressed support for a shuttle as possibly being the only way to overcome the limited opportunity and space to expand parking at the Purisima Creek Road/Higgins Canyon Road parking lot. The Committee members also raised as considerations (1) the Preserve's carrying capacity should the number of visitors increase with the implementation of TDM strategies and (2) the projected size of the proposed Verde Road lot being studied as part of the Purisima-to-the-Sea Trail and Parking Area project. In addition, the Committee provided feedback on TDM strategy evaluation scoring criteria and weighting. As a result, the Ease of Implementation criteria was changed to Ease of Approval Process to specifically mean the approval process rather than what is physically required to implement the TDM. The Committee recommended adjusting the weights of several scoring criteria to more accurately capture the importance of the weights in the evaluation process.

The Committee also expressed reservations about the paid parking TDM strategy and discussed removing it from the list of TDMs, given that fees are not consistent with current Board policy and raise potential access equity concerns. Ultimately, the Committee chose to leave the strategy in the list to have a broader discussion with the full Board of Directors, as this strategy can be

effective in encouraging carpooling or other travel modes, reducing traffic, and lowering demand.

In the second PNR meeting, held on August 2, 2022, the Committee reiterated its interest in shuttles. Interest was particularly high for a shuttle to the Purisima Creek Road/Higgins Canyon Road lot to relieve congestion and parking issues. A suggestion was made to use lessons learned from the planned Rancho San Antonio Open Space Preserve shuttle to inform any pilots undertaken at the Preserve. The Committee once again considered the Preserve's carrying capacity and noted the need to build flexibility into any TDM strategies to accommodate visitor growth. The need to right-size any implemented strategies to fit the needs and character of the Preserve was stressed.

VII. TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

This section identifies a suite of TDM strategies that can effectively reduce parking demand at the Preserve, alleviate congestion, and improve the visitor experience. In total, 25 strategies were identified specifically for Purisima to meet the project goals (a 26th strategy related to e-bikes was removed following the Board’s decision on e-bikes on June 29, 2022). These strategies were developed from numerous sources, including general TDM best practices, partner agency input, public input via online and intercept surveys, and consultant experience.

The TDM strategies are grouped into the following seven categories and further described below. A full list of TDM strategies is presented in 5.

- Bicycling
- Parking Capacity Enhancements
- Parking Management
- Transit
- Visitor Demand Management
- Education & Outreach
- Traveler Information & Wayfinding

TABLE 4. TDM STRATEGIES

Category	Strategy
Bicycling	Enhanced bicycling facilities to/from Purisima
	New trail connections
	Off-site park and bicycle lot
	Bicycle parking at trailheads
Parking Capacity Enhancements	Provide additional parking supply
	Reconfigure existing parking areas to maximize parking supply. Measure may include delineation of parking stalls where they are currently not marked.
	Delineate on-street parking spaces where they currently are not marked
	Temporarily redesignate parking to meet peak parking demands
	Clearly identify/delineate the locations of permitted on-street/ shoulder parking
Parking Management	Priority parking
	Valet parking service
	Increased fines/ enforcement for parking violations
	On-demand microtransit/ride-hail/ carpool app
Transit	Purisima/Half Moon Bay/Pescadero shuttle
	Regional recreational shuttles (starting/ending at major regional hubs such as Caltrain and/or BART stations)
	Shuttles from satellite parking lots (e.g., County or State parks)
	Shuttle to/from proposed Verde lot to other Preserve parking areas or trailheads
Visitor Demand Management	Paid parking during peak periods
	Parking reservations during peak periods
Education/ Outreach	Social media and/or other marketing education and outreach
Traveler Information/ Wayfinding	Preserve website updates
	Real-time parking lot occupancy
	Updates to navigation apps
	Vehicle wayfinding signs
	Updated kiosk sign maps/information

BICYCLING

Bicycling strategies aim to make it more convenient, more appealing, and safer for visitors to access the Preserve by bicycle. Strategies focus on new bicycle facilities and improved access both off-site and on-site.

Enhanced Bicycling Facilities to/from Purisima

Work with neighboring jurisdictions to promote new bicycling facilities on adjacent roadways and improve safety for bicyclists on area roadways. Bicycle access could also be facilitated through increased bicycle access on adjacent trails. Enhanced Bicycle facilities may encourage some to cycle to the Preserve and may encourage safer and slower driving on roadways. Implementation of this strategy would require significant effort and coordination with external partners, such as the County of San Mateo and Caltrans.

New Trail Connections

Provide additional opportunities for bicyclists to travel through the Preserve on existing and proposed trails. This strategy would improve visitor experience for bicyclists but would not result in any notable modal shift: rather, it could lead to an increase in visitors with bicycles transported to the Preserve on personal vehicles. Moreover, this strategy raises concerns regarding increased environmental impacts to sensitive resources and the potential for user conflicts on trails where bicycles are currently not allowed or planned to accommodate regional trail connections.

Off-Site Park & Bicycle Lot

During peak times such as summer weekends, work with local bike organizations to establish a 'bike and ride' parking lot in Half Moon Bay, Pescadero, and/or other convenient off-site areas to encourage group rides to the Preserve. This is similar in concept to Caltrans' Park and Ride parking lots along State Highways. The 'safety in numbers' environment that a bike and ride facility would provide may encourage some people to travel to the Preserve via bicycle while promoting community building and providing education about bicycles and vehicles sharing roadways.

Bicycle Parking at Trailheads

Provide bicycle parking and other equipment such as bicycle pumps and repair stands at the North Ridge parking lot, Purisima Creek Road lot, and/or the proposed Verde Road lot. Bicycle lockers may be considered for the Verde Road parking lot where a greater number of people arriving by bicycle might be expected.

PARKING CAPACITY ENHANCEMENTS

Parking capacity enhancements increase on-site and/or off-site parking supply. Any new parking areas or expansion of existing lots would be shared with the Board for review and approval.

Reconfigure Existing Parking areas to Maximize Parking Supply

This TDM refers to improving existing parking lots with pavement, lane markings/stripping, signage or split rail fencing to reconfigure and formalize parking space sizes, locations, drive aisles, and access points at all parking areas to maximize vehicle capacity within the existing footprints of the parking areas.



Delineate On-Street Parking Spaces Where They Currently Are Not Marked

Use paving or stripping to delineate the location/ limits of roadside parking and number of parking spaces to enhance traffic safety and maximize parking capacity. This would require coordination with external jurisdictions for expansion of parking areas on roadway shoulders, stripping improvements, and other necessary strategy components.

Temporarily Redesignate Parking to Meet Peak Parking Demands

Using signage, change parking space designations at select parking areas to be more responsive to peak parking demands. For example, temporarily redesignate equestrian trailer spaces as vehicular or carpool spaces during peak periods.

Clearly Identify the Locations of Permitted On-Street/ Shoulder Parking

This TDM refers to better defining roadside parking outside formal lots using signage to more clearly designate where shoulder parking spaces are permitted on roadways adjacent to Purisima trailheads, particularly along Highway 35, Tunitas Creek Road, Purisima Creek Road, and Higgins Canyon Road. This strategy would require coordination with Caltrans and/or San Mateo County for the placement of signs and other necessary strategy components.



PARKING MANAGEMENT

Parking management strategies result in more efficient use of existing parking resources. Many require additional Midpen staff resources to implement and enforce and should also be executed in combination with other TDM efforts to ease parking demand and enhance parking supply.

Priority Parking

Designate priority parking spaces for carpools/ vanpools and/or electric vehicles at the North Ridge parking lot and the proposed Verde Road lot as part of the Purisima-to-the-Sea trailhead project. This strategy would require dedicated staff resources, a determination of vehicle occupancy levels, designation of priority spaces, and enforcement to ensure compliance.

Valet Parking Service

Valet parking would allow visitors to drop their cars off curbside/ trailside without the need to find a parking space and thereby reduce circulation traffic. The use of valet service would also help to maximize the use of existing footprints of the parking areas by allowing cars to be parked more densely than usual. This strategy would require dedicated staff/vendor resources, availability of technology for a mobile phone app and removal of general public parking spaces to implement. Cell service gaps could be a barrier.

Increased Fines/Enforcement for Parking Violations

Increase enforcement of 'no parking' zones and increase fines for visitors who park in violation of these prohibitions along Highway 35, Purisima Creek Road, and Higgins Canyon Road. Enforcement largely falls on Midpen patrol staff who cover a broad region, and additional staff would be needed to increase frequency and coverage of the area that is currently patrolled. The presence of uniformed staff such as Seasonal Ranger Aides on site could also help manage parking issues.

On-Demand Microtransit/Ride-Hail/Carpool App

Implement a mobile phone app that allows visitors to share Preserve mobility, parking, and transportation information in real-time. This strategy would require coordination with shared mobility providers such as SamTrans, transportation network companies (TNCs), and customized app developers. The strategy may be challenging to successfully implement without incentives to encourage car sharing. Cell service gaps could be a further barrier to successful implementation.

TRANSIT

Transit improvements focus on introducing new convenient, low-cost transit options to help manage parking demand. Measures include free or low-cost shuttles to serve the Preserve during seasonal or peak periods from a number of local and/or regional points of departure. These may be on-demand or have fixed routes, and may have point-to-point or looped routes. Communications, marketing, and incentives would need to be considered to ensure adequate ridership levels. Requires long-term allocations of funding and staff and vendor resources to operate and maintain.

Purisima/Half Moon Bay/Pescadero Shuttle

Offer free or low-fare seasonal or peak hour fixed route or variable on-demand shuttle service from the City of Half Moon Bay and/or Pescadero. Requires coordination with partner agency for off-site parking sites (e.g., Johnston Ranch) and/or shuttle stops. Shuttle routes could connect to the proposed Verde Road parking lot and/or the Purisima Creek Road lot. Key partners could include SamTrans, local businesses, California State Parks, the County of San Mateo, and individual municipalities.



Regional Recreational Shuttles

Offer free or low-fare seasonal or peak hour on-demand/advanced reservation point-to-point east-west shuttles from major regional hubs such as Caltrain and/or Bay Area Rapid Transit (BART) stations to the Preserve. This strategy would require coordination with partner agencies such as SamTrans, Caltrain, and BART.

Shuttles from Satellite Parking Lots

Offer free or low-fare seasonal or peak hour fixed route or variable on-demand north-south shuttle service along the Highway 1 corridor from satellite parking lots such as county or state parks. This service could be provided as part of the proposed San Mateo County "Connect the Coastside" service. If successful, this service could be further evaluated for a route along Highway 35 to service various parks and open spaces on that corridor, including proposed parking lots at Highway 35 and 92 for the SFPUC Bay Area Ridge Trail. This strategy requires coordination with several partner agencies, e.g., SamTrans, California State Parks, the County of San Mateo, SFPUC and municipalities.

Shuttle to/from Proposed Verde Lot to Other Preserve Parking Areas or Trailheads

Close the Purisima Creek Road lot on weekends and use the proposed Verde Road at the Purisima-to-the-Sea trailhead lot as an intercept lot to shuttle visitors to the Purisima Creek Road lot and trailhead. Considerations would need to be made for retaining any parking spaces (e.g.,

ADA spaces) at the Purisima Creek Road lot and whether it is feasible to expand shuttle service to Purisima's other trailheads on Highway 35.

VISITOR DEMAND MANAGEMENT

Visitor demand management looks at ways to reduce parking demand by influencing the choices visitors make about how, when, where, and which way they travel to the Preserve. This strategy considers measures that encourage non-peak use, shifts people from single-occupancy vehicular travel to carpool vehicular travel, and/or limits the number of vehicles that can access the Preserve during peak hours.

Paid Parking During Peak Periods

Require visitors to pay for parking at all parking areas during peak visitation periods. Consideration would be needed to ensure equitable access for low-income or disadvantaged visitors. If implemented by itself, this strategy may discourage visits to the Preserve for some and/or may encourage visits to other Midpen preserves with free parking. Additional considerations for implementation would include additional staff resources, payment infrastructure, increased enforcement, and unintended impacts on roadside parking stemming from visitors seeking free parking alternatives. This strategy would also require a change in Board policy, as Midpen currently does not charge for general use of its publicly accessible open space preserves, but the strategy is included to compare with other TDM strategies.



Parking Reservations During Peak Periods

Require visitors to reserve free or paid parking in advance for all or designated parking areas during peak visitation periods. Consideration would be needed to preserve access for visitors with limited internet access or those who are not tech-savvy. This strategy may result in reduced experience for some visitors if they are turned away for not having a reservation. Additional considerations for implementation include additional staff resources, reservation system creation, maintenance, and enforcement.

EDUCATION/OUTREACH

Education and outreach strategies aim to provide visitors with information before they leave their homes to help them formulate travel plans that are more likely to result in a better prepared visit and positive visitor experience.

Social Media and/or Other Marketing Education and Outreach

Conduct outreach using social media and other platforms such as face-to-face communications at pop-up events to assist visitors in formulating travel plans to the Preserve that avoid the most congested access points and parking areas.

Broadly share parking conditions information, allowing visitors to be aware of and to avoid the most congested access points and parking areas during peak times, while also educating and encouraging people to visit other less-frequented preserves. The use of social media may supplement more static information on Midpen's website to provide visitors with up-to-date information about parking supply before they leave home. It may eventually also be used to promote the use of different modes of transit to access the Preserve. Consideration would be needed for additional staff resources to administer and update the various platforms and language translation.

TRAVELER INFORMATION/WAYFINDING

Traveler information and wayfinding strategies provide people with travel information both before they leave their homes and once they arrive at their destination to encourage alternate modes of transportation and encourage use of less congested parking areas.

Preserve Website Updates

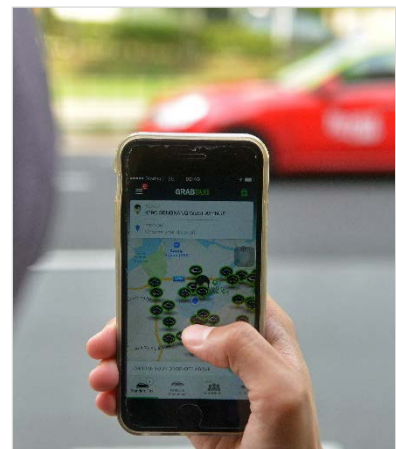
Make available information to prospective visitors that can guide decisions on when and where to visit Midpen preserves, such as directions, time, and distance to parking areas; parking supply at each parking location; peak visitation times; and alternate modes of transit to preserves. Short-term improvements can help to address visitor experience through the provision of more information and could potentially help to distribute parking demand more evenly. As multimodal improvements and changes on the surrounding roadway network are implemented, the website could also provide that information to encourage Preserve access by multiple modes. Consideration would be needed for staff time to update the website.

Real-Time Parking Lot Occupancy

Track real-time information, e.g., using parking sensors, to inform visitors of available spaces and direct them to parking areas with capacity. Information could be shared on Midpen's website and/or at the Preserve.

Updates to Navigation Apps

Coordinate with navigation apps such as Google Maps, Waze, and Avenza to improve driving directions to specific parking areas. Directions may be tied to real-time parking occupancy and enhanced bicycle routes as proposed improvements are implemented. This short-term improvement could help to



address visitor experience through the provision of more information regarding the locations of the various parking areas, potentially distributing parking demand more evenly.

Vehicle Wayfinding Signs

Add signs at each parking lot directing visitors to other lots or preserves if the lot is full. Engagement efforts revealed that some visitors may not be aware of other preserves that are a short drive away.

Updated Kiosk Sign Maps/Information

Replace existing trailhead kiosk or sign board maps with maps that clearly identify other parking areas and include the estimated number of parking spaces.

VIII. TDM STRATEGY SCORING

This section describes the proposed methodology, scoring criteria, and criteria weighting structure for evaluating the TDM strategies identified in the previous section. The project team received feedback from the Planning and Natural Resources Committee and the public on the proposed scoring criteria and weighting structure before applying them to the TDM strategies. Strategies were then scored, ranked, and organized into recommendation tiers based on their scoring and other relevant factors.

SCORING CRITERIA

Each TDM strategy was scored based upon a variety of different criteria that play roles in establishing a strategy’s effectiveness towards achieving the project goals, namely, to reduce parking demand, improve multimodal access, and improve visitor circulation/access reliability, thereby improving visitor safety and overall experience accessing the Preserve as well as reducing visitation impacts to nearby residents, the environment and overflow parking issues on surrounding public roadways. Each criterion was given an assigned weight between one (1) and three (3) to determine the importance of each criterion relative to each other, where a weight of three (3) would be of highest importance. Table 5 shows the scoring criteria and the assigned weights. Below the table is a description of each scoring criterion.

TABLE 5. SCORING CRITERIA & WEIGHTS

Scoring Criteria	Weight
Peak Hour Parking Demand Reduction	3
Promotion of Modal Shift	3
Traffic Safety Impact	3
Visitor Access Reliability	2
Implementation Term	2
Ease of Approval Process	2
Capital Cost	1
Operations/ Maintenance Cost	2
Protection & Enhancement of Environmental Qualities	3
Promotion of Equitable Opportunities for All	3
Districtwide Community Input	2
Neighborhood Input	3
Stakeholder Input	2

DESCRIPTION OF SCORING CRITERION

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: The effectiveness of a strategy in providing visitors with viable transportation options other than single-occupancy vehicles to travel to/from the Preserve, including carpooling, transit, bicycling, walking/jogging, or other means.

Traffic Safety Impact: The effectiveness of a strategy in improving traffic safety conditions for visitors driving, walking, cycling, or using other modes to access the Preserve.

Visitor Access Reliability: The effectiveness of a strategy in improving the reliability and consistency of the visitors' access experience to Purisima, no matter how they choose to travel.

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

Ease of Approval Process: The amount of effort necessary to implement a strategy considering three factors: 1) level of coordination required from partner agencies, 2) the need for significant Midpen staff resources, and 3) the level of strategy favorability among relevant stakeholders.

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

Operations/Maintenance Cost: The amount of annual funds invested in operating and maintaining a strategy after it has been implemented. Operations/maintenance costs may include an increase in Midpen personnel, staff time and allocation, vendor resources, and/or dedicated funding streams.

Protection & Enhancement of Preserve Environmental Quality: 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 Midpen's overarching values of diversity, equity and inclusion, and that results in the ability of all existing and potential users to access the Preserve.

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 partner agencies or organizations with whom Midpen has engaged on this project through a series of stakeholder meetings. These stakeholders are public agencies or organizations with whom Midpen would need to collaborate and communicate on many of the TDM strategies.

SCORING

Each TDM strategy was given a score for each of the criteria listed in Table 6 using a scale of 1 to 5, with 5 being the best. Scores were assigned based on the project team’s professional experience as well as input obtained from Midpen, stakeholders, and the public. In general, a score of 1 would mean that a strategy does not have a significant impact on a criterion, has a negative impact, or has an attribute that would hinder successful implementation or outcomes (e.g., very high cost or low levels of support). A score of 3 would mean that a strategy moderately contributes or is moderately favorable, depending on the criterion. 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 criterion can be found in Appendix 1.

After a single TDM strategy was scored against a criterion, the score was multiplied by that criterion’s weight. The weighted scores for each criterion were then summed to result in a Total Weighted Score for each strategy. For ease of comparison, these total scores were normalized on a scale of 1 to 5, called the Adjusted Score. The Adjusted Score was calculated by dividing the Total Weighted Score by the sum of all 13 criteria weights.

Table 7 shows Adjusted Score for all 25 strategies, ranked from highest to lowest by TDM category.

TABLE 6. TDM STRATEGY SCORES

#	TDM Category	Transportation Demand Management Strategy	Score
1	Bicycling	Off-site park and bicycle lot	4.0
2	Bicycling	Bicycle parking at trailheads	3.9
3	Bicycling	Enhanced bicycling facilities to/from Purisima	3.5
4	Bicycling	New trail connections	3.2
5	Visitor Demand Management	Parking reservations during peak periods	4.1
6	Visitor Demand Management	Paid parking during peak periods	3.8
7	Education/ Outreach	Social media and/or other marketing education and outreach	3.9
8	Parking Capacity Enhancements	Reconfigure existing parking areas to maximize parking supply. Measure may include delineation of parking stalls where they are currently not marked.	3.3
9	Parking Capacity Enhancements	Temporarily redesignate parking to meet peak parking demands	2.9
10	Parking Capacity Enhancements	Clearly identify/delineate the locations of permitted on-street/shoulder parking	2.8
11	Parking Capacity Enhancements	Provide additional parking supply	2.7
12	Parking Capacity Enhancements	Delineate on-street parking spaces where they currently are not marked	2.7

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#	TDM Category	Transportation Demand Management Strategy	Score
13	Parking Management	Increased fines/ enforcement for parking violations, both for on-street parking and in Preserve parking areas	3.5
14	Parking Management	Priority parking	3.4
15	Parking Management	On-demand microtransit/ ride-hail/ carpool app	3.0
16	Parking Management	Valet parking service	2.4
17	Transit	Purisima/Half Moon Bay/Pescadero shuttle	3.7
18	Transit	Shuttles from satellite parking lots (e.g., County or State parks)	3.7
19	Transit	Shuttle to/from proposed Verde lot to other Preserve parking areas or trailheads	3.7
20	Transit	Regional recreational shuttles (starting/ending at major regional hubs such as Caltrain and/or BART stations)	3.5
21	Traveler Information/ Wayfinding	Preserve website updates	3.8
22	Traveler Information/ Wayfinding	Vehicle wayfinding signs	3.6
23	Traveler Information/ Wayfinding	Updated kiosk sign maps/information	3.6
24	Traveler Information/ Wayfinding	Updates to navigation apps	3.2
25	Traveler Information/ Wayfinding	Real-time parking lot occupancy	3.2

IX. RECOMMENDATIONS

As was found during the Rancho San Antonio Multimodal Access Study completed in 2021 and demonstrated in a survey of national parks and nature preserves, no single TDM strategy would be sufficient on its own to address visitor demand, parking congestion and mode shifts. Several individual TDM strategies are more effective when combined with others. In addition, combinations of TDM strategies from different categories offer a range of access opportunities, target diverse groups of visitors, and increase the chance of a mode shift. Finally, even when TDM strategies are ranked highly, the Preserve's unique geographic and visitation characteristics influence which TDM strategies may ultimately be effective.

TIERED TDM STRATEGY PRIORITIES

This study's recommendation includes a tiered combination of TDM strategies anticipated to be implemented either together or in close conjunction with one another for greatest efficacy. The High Priority TDM category (Table 8) groups strategies that are expected to have the greatest chance at efficacy given the unique geographic and visitation characteristics of this Preserve. Most of the strategies in this category require a significant investment of staff resources, and except for one, are associated with one or both parking lot projects mentioned in this report.

The secondary TDM strategies (Table 9) are lower priority, already in progress, or contingent on the success of High Priority TDM (Table 8) strategies. The Secondary TDM Strategy category identifies TDM strategies that are lower priority due to their less impactful effect on the project goals, are less resource intensive and/or are already underway, and will either continue or be refined, or rely on the success of one of the High Priority TDM strategies.

The final list (Table 10) includes TDM strategies not currently being recommended because they are not considered effective in advancing the Multimodal Access Study's goals, would be unpopular or unused based on public feedback, depend on external factors not currently within Midpen's control and that need extensive resources to implement, are not currently feasible, or are highly dependent on other TDM strategies' demonstrated success.

The three categories above group TDM strategies in terms of their efficacy in achieving the project goals given the level of staff resources involved, and do not necessarily reflect the order or priority of implementation. For example, pending staff availability, some strategies in the High and Secondary TDM categories could be achieved more expeditiously while TDM strategies associated with the parking lot projects are implemented under separate, longer-term schedules. Strategies that would be folded specifically into the design of the Purissima-to-the-Sea and Highway 35 parking lot projects are footnoted; all others apply Preserve-wide.

TABLE 7. HIGH PRIORITY TDM STRATEGIES

TDM Category	Transportation Demand Management Strategy	Score
Visitor Demand Management	Parking reservations during peak periods* <i>Include reserved parking areas in the Purisima-to-the-Sea and Highway 35 Feasibility Study projects. May be implemented in conjunction with the Priority Parking TDM strategy.</i>	4.1
Bicycling	Bicycle parking at trailheads* <i>Include bicycle parking in the Purisima-to-the-Sea and Highway 35 Feasibility Study parking lots. Add bicycle parking to other trailheads.</i>	3.9
Education/ Outreach	Social media outreach <i>Would follow and complement the implementation of TDM strategies by promoting and educating the public as strategies are implemented.</i>	3.9
Transit	Shuttle to/from proposed Verde lot to other Preserve parking areas or trailheads* <i>Consider accommodating parking for shuttle service at the Purisima-to-the-Sea Verde Road parking lot. Implement a phased weekend shuttle program initially from Purisima-to-the-Sea parking lot to lower Purisima Creek Road lot in conjunction with closing the lower Purisima Creek Road lot on weekends or consider weekend permit parking instead of general public parking. Pending the shuttle program's success and financial viability, possibly extend shuttle service to (1) other Purisima trailheads (2) coastal beach lots and (3) ultimately regional Half Moon Bay/ Pescadero/ Skyline area routes pending.</i>	3.7
Transit	Shuttles from satellite parking lots (e.g., within Preserve, County or State parks)* <i>Same as above TDM.</i>	3.7
Parking Management	Priority parking* <i>Include priority parking (carpool, reserved parking) as part of the Purisima-to-the-Sea and Highway 35 projects.</i>	3.4
Parking Capacity Enhancements	Reconfigure existing parking areas to maximize parking supply. May include delineation of parking stalls where they are currently not marked.* <i>Complete the Highway 35 project and assess opportunities to expand capacity and accommodate high priority TDM strategies as appropriate.</i>	3.3
Traveler Information/ Wayfinding	Real-time parking lot occupancy* <i>Include real-time parking lot occupancy capability in the Purisima-to-the-Sea and Highway 35 projects.</i>	3.2
Parking Capacity Enhancements	Provide additional parking supply* <i>Implement the Purisima-to-the-Sea project to expand parking capacity with the addition of TDM strategies. Although a new parking lot does not achieve the goal of encouraging a mode shift, parking is generally a required element for new trailheads.</i>	2.7

* TDM that relates to and may influence parking lot designs

TABLE 8. SECONDARY TDM STRATEGIES (LOWER PRIORITY, ALREADY IN PROGRESS, OR CONTINGENT ON SUCCESS OF HIGH PRIORITY TDM STRATEGIES)

TDM Category	Transportation Demand Management Strategy	Score
Traveler Information/ Wayfinding	Preserve website updates <i>Already being done. Will be continued and ongoing.</i>	3.8
Visitor Demand Management	Paid parking during peak periods* <i>Could be effective in encouraging mode shift but would require a change in Board policy. Raises equity concerns for access. Would be logistically challenging due to lack of cell service for credit card payments on site and require financial oversight of cash management and reconciliation, ranger enforcement, and ongoing maintenance. Would be linked to and dependent on success of the Reserved Parking TDM. Not supported by PNR due to current Board policy and equity concerns.</i>	3.8
Transit	Purisima/Half Moon Bay/Pescadero shuttle* <i>Pending success of Satellite Shuttle Program TDM.</i>	3.7
Transit	Regional recreational shuttles (starting/ending at major regional hubs such as Caltrain and/or BART stations)* <i>Pending success of Satellite Shuttle Program TDM.</i>	3.5
Parking Management	Increased fines/ enforcement for parking violations, both for on-street parking and in preserve parking areas <i>Enforcement is ongoing and dependent on available staff resources.</i>	3.5
Traveler Information/ Wayfinding	Vehicle wayfinding signs* <i>Can be done independently from other TDM strategies. Temporary wayfinding signs were installed in 2021 in conjunction with the first visitor survey to assess their efficacy from visitors' perspectives. The conclusion is that revisions to the sign format, approach and placement are needed to be more effective.</i>	3.6
Traveler Information/ Wayfinding	Updated kiosk sign maps/information <i>Already being done. Updates will continue as needed.</i>	3.6
Traveler Information/ Wayfinding	Updates to navigation apps <i>Requests to update Google Maps, Waze and Avenza navigation functionality has had limited success over the years. District website revised to offer improved instructions on how to access Preserve. Midpen staff can monitor for opportunities if need arises.</i>	3.2
Parking Capacity Enhancements	Temporarily redesignate parking to meet peak parking demands* <i>Pending implementation of Purisima-to-the-Sea and Highway 35 projects and associated TDM strategies.</i>	2.9
Parking Capacity Enhancements	Clearly identify/delineate the locations of permitted on-street/ shoulder parking <i>Work with the County of San Mateo and/or Caltrans to clearly sign roadways for permitted on-street/shoulder parking.</i>	2.8

* TDM that relates to and may influence parking lot designs

TABLE 9. TDM STRATEGIES NOT CURRENTLY RECOMMENDED (NOT FEASIBLE, LOW SUPPORT/EFFICACY, OR HIGHLY DEPENDENT ON EXTERNAL FACTORS)

TDM Category	Transportation Demand Management Strategy	Score
Bicycling	Off-site park and bicycle lot <i>Opportunity-driven. Based on partners. Midpen staff will continue to seek opportunities to implement this TDM with municipal and county representatives.</i>	4.0
Bicycling	Enhanced bicycling facilities to/from Purisima <i>Limited width on roads. Opportunity-driven. Dependent on partners. Midpen staff will continue to seek opportunities to implement this TDM with municipal and county representatives.</i>	3.5
Bicycling	New trail connections <i>Not effective at shifting modes for average visitor given remoteness of Preserve. Raises significant concerns regarding environmental impacts to sensitive natural resources and increased preserve user conflicts where bicycles are currently not allowed and/or planned as part of regional trail corridors.</i>	3.2
Parking Management	On-demand microtransit/ ride-hail/ carpool app <i>Currently not feasible due to cell coverage limitations.</i>	3.0
Parking Capacity Enhancements	Delineate on-street parking spaces where they currently are not marked <i>On-street parking occurs on unpaved shoulders of the surrounding roads, which make this infeasible.</i>	2.7
Parking Management	Valet parking service* <i>Little public support for this TDM, which would also require Midpen staff or vendor resources, cell coverage and cost to implement and operate.</i>	2.4

* TDM that relates to and may influence parking lot designs

X. IMPLEMENTATION FRAMEWORK

In summary, a multi-pronged and multi-phased toolbox of strategies is recommended to reduce parking demand, manage parking resources and mitigate negative impacts of overflow parking at the Preserve and for nearby residents and surrounding public roadways. Table 11 identifies an implementation framework, including the lead agency, approximate cost, staffing needs, funding sources and suggested timeline for action. Several of the strategies can be advanced in parallel; similarly, economies of scale may be achieved through implementing multiple strategies by a consolidated staff group. The development of an implementation framework recognizes and considers several factors:

- **Carrying Capacity:**

Carrying capacity is conventionally defined as the number of visitors an area can sustain without degrading natural resources and visitor experiences. The carrying capacity of the Preserve has yet to be studied and quantified and in general, carrying capacities can be challenging to evaluate quantitatively. Parking capacity limitations can be an effective visitor demand management TDM strategy and keep visitation below the Preserve's ultimately defined carrying capacity. Conversely, the implementation of satellite parking and a shuttle service could result in more visitors and an increased effect on the Preserve's carrying capacity.

Note that currently, the number of available parking spaces is very low for the 5,412-acre preserve. Once visitors enter the trail system, visitors tend to quickly disperse. The congestion at parking areas is not itself an indication of the Preserve reaching or exceeding the carrying capacity, but rather an indication that parking is insufficient for the existing use levels. Carrying capacity studies focus on evaluating the level of use within the interior of the Preserve that can be sustained without creating significant resource impacts or detracting from the visitor experience.

- **TDM Strategy Combinations for the Purisima Creek Road Lot:**

The overflow parking at the Purisima Creek Road/Higgins Canyon parking lot is challenging to overcome due to the inability to expand the parking lot and the high popularity and demand for this particular trailhead entrance. However, its relative proximity to the proposed Purisima-to-the-Sea (Verde Road) parking lot presents a unique opportunity and potential necessity to combine TDM strategies with other safety and traffic control measures.

These measures may include lot closures, curbside parking restrictions and satellite parking for a shuttle service on peak weekends and holidays to enhance roadway and visitor safety and ensure effective use and success of a shuttle service during the highest peak visitation times. There may also be an attractive opportunity to offer longer loop or one-way trail experiences (e.g., North Ridge lot to Purisima Creek lot by hiking and returning to North Ridge by shuttle) that relies on a combination of satellite parking and shuttle service.

The use of real-time parking conditions through web, mobile app and in-route dynamic message signs would be key to alerting visitors of when the lower lot and roadside parking are closed.

- **Right-Sizing TDM Strategies to Midpen’s Staffing and Financial Resources**

Midpen has numerous properties to manage, including 25 other open space preserves, and limited financial capabilities and staff. It is important to identify and scale TDM strategies that fit within the current and future resources of Midpen. Several of the TDM strategies such as reservations, carpool parking and shuttles would need additional staff or contracted resources to enforce, manage and operate. Implementing these TDM strategies may therefore need to occur in phases or be limited initially to specific locations such as the North Ridge lot while other parking lot(s) are in development. Costs and staffing levels per location/ lot and by TDM strategy are noted in the discussions below. Note that new staff may be hired to implement multiple TDM strategies and could potentially work across multiple preserves, achieving an economy of scale.

- **Seeking Partnerships in TDM Strategy Implementation**

Partnerships will be key to implementing certain TDM strategies. For example, there exists the potential opportunity to partner with regional stakeholders, such as the City of Half Moon Bay, Town of Pescadero, San Mateo County Parks and SamTrans on shuttle solutions, including intercept parking lots or shuttle stops, connections, interlined or shared service, cross-marketing, and promotions (e.g., discounts at local businesses for riding the shuttle). One potential shuttle stop location could be Half Moon Bay’s Johnston House property on Higgins Canyon Road.

HIGH PRIORITY STRATEGIES

A summary of the high priority TDM strategies with associated lead parties, capital/operating costs, funding sources, timelines, and key considerations are shown in Table 11 below. Additional details for each strategy follow the table.

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TABLE 10: PURISIMA CREEK TDM STRATEGY IMPLEMENTATION FRAMEWORK HIGH PRIORITY EFFORTS

Strategy	Lead Party	Capital Cost/ Operating Costs	Funding Source	Timeline / Resources	Key Considerations
Parking Reservations	Midpen or outside vendor	\$15,000 web / app configuration, 1-2 new staff persons to enforce and manage the web / app	General	6 months to 1 year for initial implementation; on-going staff resources for enforcement and management; 1 staff per lot	Suggest initially 50% of spaces in North Ridge and Verde Road parking lots as reservation only on weekends. Would require ability to check in upon arrival using QR code, as well as enforcement. Implement in conjunction with priority parking spaces TDM.
Provide bicycle parking at trailheads	Midpen	\$5,000 per rack	General	6 months	
Social media outreach of TDM and access options	Midpen	Staff time (existing staff)	General	On-going	
Satellite Parking Shuttles	Midpen, local public agencies and/ or outside contractor	\$50,000 to \$100,000 per year, 1-2 new staff persons to manage and administer	Transit to the Parks grant	1-2 years, memoranda of understanding (MOUs) with City of Half Moon Bay and/or other agencies. Formal transit planning effort needed for service beyond Purisima-to-the-Sea lot, on-going staff resources for management and administration	Should be implemented only in conjunction with/ during times of closure of Purisima Creek Road lot and roadside parking. Pending the shuttle program's success and financial viability, possibly extend shuttle service to (1) other Purisima trailheads (2) coastal beach lots and (3) ultimately regional Half Moon Bay/ Pescadero / Skyline area routes.
Create priority parking spaces	Midpen	\$250 per space, 1 new staff person to manage and enforce	General	6 months for initial implementation; on-going staff resources for management and enforcement	Based on existing vehicle occupancy levels and mode shift goals; staff resources needed could be combined with parking reservations TDM.
Parking lot reconfiguration	Midpen	\$500 per space unpaved, \$25,000 per space paved	General	1 year. 1-2 existing staff time for initial redesign and implementation	Applies to North Ridge parking lot. Research best options for space delineation and reconfiguration (e.g., curb stops, markers, signage)
Provide additional parking capacity	Midpen	\$25,000 per space (paved)	General	5+ years	New parking to include ADA, bike, electric vehicle, carpool, equestrian, tour bus parking and shuttle bus stop in addition to other typical trailhead amenities.
Provide real-time parking lot occupancy information	Midpen	\$20,000 to \$30,000 per parking lot, and \$1,000 per year maintenance per lot, 0.25 new staff person time to manage and administer	General	1 year for initial implementation; on-going staff resources for management and administration	Service to connect data to web will need to be provided.

Parking Reservation System

High Priority Effort	Midpen Resources
Cost - 1 to 2 FTE per year, \$15,000 (web platform / software app), and \$30,000 for signage and physical barriers)	Resources of 1 to 2 full-time employees (new FTEs) to enforce compliance for both Preserve parking lots during peak times and manage backend web/software needs

As discussed in the state-of-the-practice survey earlier in this report, reservations systems have become commonplace at popular nature preserves and recreational parks. Reservation systems can enhance the visitor experience by allowing visitors to book parking in advance of their trip and remove uncertainty about finding a parking space. The creation of a parking reservation system could include designating portions of the existing North Ridge parking lot in the interim and of the proposed new or expanded parking lots (Highway 35 and Purisima-to-the-Sea) for reservations during peak periods of demand such as weekends and holidays. At least 50% of the total parking spaces are recommended to be available for reservations.

Converting the entire parking lot to a reservations system program during peak demand periods is also an option that may be more efficiently enforced or administered. The downside of making the entire lot reservation only is that visitors without reservations will use marginal on-street parking prior to the parking lot filling up. The reservation system would be a free and open system available to anyone through a mobile app or the Midpen website. The reservation system would be on a first come, first served basis, typically up to 7 days in advance or longer to be consistent with peer reservation systems, and users would be required to enter their vehicle license plate, time of arrival, and email address; print their reservation; display on the vehicle dashboard; and check-in upon arrival in-person or using the app or QR code to be determined based on lot location and cell coverage. Reservations could be limited to 2-hour timeframes or longer periods.

The details of this program would need to be further analyzed, refined, and developed within Midpen’s existing operations and staffing capacity. Several commercial off-the-shelf reservations systems are available that can be further explored for functionality, including reviewing peer agencies’ reservations systems. Midpen would need to provide additional new staff, e.g., seasonal ranger aides or rangers, to enforce the use of the reservation system during hours of operations. Additional administrative staff may also be needed to manage the back-end system. Additional static signage, website signage and social media outreach would be required to launch the system and inform visitors of the reservation system and how and when to use it. Ultimately the reservation system could be linked to future shuttle service reservations and combined with priority parking.

Bicycle Parking Facilities

High Priority Effort	Midpen Resources
Cost - \$5,000 per corral	

It is recommended to install designated bicycle parking (e.g., 10-space bicycle corrals) at all existing trailhead locations. For the Highway 35 expanded lot and proposed Purisima-to-the-Sea parking lot, it is also recommended to install bicycle parking and other facilities such as repair stations. An implementation plan should be prepared to identify exact locations where new bike parking facilities and related amenities should be placed, considering existing and proposed demand and bike infrastructure. The plan would identify what type of bicycle racks should be used, as well as if bicycle lockers or other amenities should be implemented. A conceptual-level cost estimate should be provided for all planned improvements.

Social Media Outreach

High Priority Effort	Midpen Resources
Cost - existing Midpen staff time and resources	

This educational strategy would create and push content through Midpen’s social media channels (e.g., Facebook, Twitter, Instagram, YouTube, LinkedIn) to inform and remind visitors about the best ways to access the Preserve. Messages may include best times to visit, locations of additional trailheads, driving directions, and other important information. This strategy should be combined with all other high priority efforts to promote and create awareness of new parking locations, new reservation systems, shuttle options, bicycle parking, and real-time parking information. It is suggested to create a branded marketing campaign in potentially multiple languages to promote changes and improvements to access the Preserve.

Satellite Parking Shuttle Service

High Priority Effort	Midpen Resources
Cost - 1 FTE per year, \$50,000 per bus (capital), and \$100,000 to \$150,000 per year (operating) It is anticipated that costs for vehicles will be realized even if the acquisition of them was outsourced to the operator.	Resources of 1 staff (new FTE) to manage and administer or evaluate concessionaire options and concessionaire to provide equipment and staff for operational needs.

This TDM strategy should be implemented in conjunction with existing recreational parking lots along Highway 1, the future SFPUC’s new 20-car parking lot south of Hwy 92/Hwy 35 intersection, and the proposed Purisima-to-the-Sea parking lot parking reservation system and closure of the Purisima Creek Road/ Higgins Canyon parking lot on weekends or other peak times. The implementation of a free shuttle service from a new satellite parking lot will help reduce demand

for parking at existing trailheads, particularly at the Purisima Creek Road/ Higgins Canyon lot. A satellite parking shuttle is recommended to include a fleet of three small shuttle vans. The shuttles should run during peak season weekends and holidays on a fixed schedule (e.g., every 20 minutes). The shuttle should be equipped with bicycle racks and ADA accessible bus stops should be constructed at the Purisima-to-the-Sea parking lot and Purisima Creek Road/ Higgins Canyon Road lot. Once the satellite parking shuttle is underway and steady, expansion options could be explored with partner stakeholders to other nearby recreational and municipal destinations.

Priority Parking Spaces

High Priority Effort	Midpen Resources
Cost - 0.5 FTE per year and \$250/ space	Resources of half the time of one full-time staff (new FTE) to manage and enforce at each applicable lot during peak times (totaling 1 new FTE to cover both Verde Road and North Ridge parking lots)

Based on field observations, approximately 20% to 35% of weekend visitors arrived in vehicles with three or more persons. Designated carpool / vanpool parking spaces at or slightly above that percentage would encourage more carpooling and reduce parking demand at all trailheads and parking facilities. Priority parking is suggested to be implemented prior to the reservation system TDM for 33% of all existing parking spaces in the North Ridge parking lot. New signage should be placed in front of each parking space, or a designated portion of the lot reserved for carpools/ vanpools and should note the restriction time. Midpen would need to provide additional new staff to manage and enforce priority parking during hours of operations, including monitoring cars to ensure compliance with the carpool lot occupancy requirements. Managing parking and additional social media outreach would be required to inform visitors of the priority parking spaces and how and when to use them.

Parking Lot Reconfiguration

High Priority Effort	Midpen Resources
Cost - \$500/ space unpaved (staff implemented) and \$5,000 to 25,000/ space paved (contracted complete reconstruction)	1 to 2 existing staff to design and procure consultant for design and contractor for installation

Reconfiguration of parking lots would create a more efficient layout (such as angled parking, one-way drive aisles) as well as more clearly delineated parking spaces through curb stops, markers, raised domes, or paved asphalt with pavement markings. It is suggested that Midpen develop several concept drawings for the North Ridge parking lot to reconfigure the parking lot to gain up to 25% more spaces. In addition, Midpen should research the most environmentally friendly materials for parking space delineation within the existing gravel lots if the current surface material is retained.



New Parking Capacity

High Priority Effort	Midpen Resources
Cost - \$15,000 to \$25,000 per parking space (contracted)	Consultant fees to design and existing staff time to manage and procure consultant and contractor services to design and install

The construction of new parking capacity will not change mode of access goals but is necessary to open access to the new trailhead being developed as part of the Purisima-to-the-Sea project, as well as to meet existing and future visitor demand even with successful implementation of all other TDM strategies. Completing the on-going Highway 35 and Purisima-to-the-Sea projects will determine the feasibility of where, when, and how much new parking should be provided. Based on the results of this study, an additional 150 to 250 parking spaces are recommended to be constructed over the next 10 years. The new parking lots may be built in phases, and should include flex space for priority parking, reserved parking, ADA parking, bicycle parking, electric vehicle parking/ charging, equestrian parking, school/tour bus parking, overflow parking and shuttle bus stops/ shelters as summarized in Table 12 below for the Purisima-to-the-Sea proposed Verde Road lot and Highway 35 expanded lot. Any new or expanded lots and their associated TDM strategy-related elements would be presented to the Board for review and approval prior to implementation.

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TABLE 11. TDM STRATEGIES OR INFRASTRUCTURE RELATED TO THE PURISIMA-TO-THE-SEA PROPOSED VERDE ROAD TRAILHEAD PARKING LOT AND HIGHWAY 35 EXPANDED NORTH RIDGE PARKING LOT

Design Element	Design Parameter	Notes
General Vehicle Parking	Up to 150 spaces (Verde Road) Up to 100 spaces (Highway 35) 9 feet X 16 feet stalls 20-foot two-way drive aisles	Based on # of observed and removed shoulder parking spaces on Highway 35 and Purisima Creek / Higgins Canyon and new demand parking for new Purisima-to-the-Sea trail
EV / E-Bike Charging	4	
Priority carpool or vanpool parking	20%	Would require enforcement for maximum effectiveness
School Bus Parking	4	Could be flexed with general parking by time of day/ day of week
Shuttle Bus Bays/ Passenger Loading Area/ Shelter	3	Based on 3 potential separate shuttle routes identified in TDM strategies. Consider location on Verde Road for pullout/ stop/ shelter.
Bike Parking	25	Situated in a convenient and visible location near entry to parking lot and trailheads
Equestrian Parking with hitches	4	Could be flexed with general parking by time of day/ day of week
Traffic monitoring	2	In and out traffic counters to monitor parking space usage
Kiosk	1-2	Dependent on implementation of TDM strategy
Wayfinding signage		Interpretive signage as well as static
Pay Phone/ Emergency call box	1	

Real-Time Parking Lot Occupancy Information

High Priority Effort	Midpen Resources
Cost - 0.25 FTE per year, \$20,000 to \$30,000 per parking lot, and \$1,000 per year maintenance per lot	Resources of one quarter the time of one staff (new FTE) to manage and administer backend web/software needs

To obtain real-time parking usage, an access control traffic monitoring system using sensors can be installed to determine parking occupancy through identifying the number of vehicles entering and exiting the lot. Alternatively, but more costly, detectors could also be installed within each parking space. Similar to other Midpen trailhead and vehicle lot entrance sensors, this equipment can be composed of radar or magnetic detection loops. The access control traffic monitoring system would be linked to software to communicate the lot occupancy to various portals, including Midpen websites, mobile apps, or electronic roadside message signs, to show visitors the current number of available parking spaces, or if the lot is full. The provision of real-time information can reduce parking demand, reduce traffic congestion on roadways surrounding the Preserve, better distribute parking demand to existing supply, and enhance the visitor experience by making trailhead parking and arrival time decisions easier.

Typical system architecture includes wireless technology, either through radio frequency or cellular communications. Parking sensors (radar or magnetic loops) are easy to install, can withstand all weather conditions, and require little to no maintenance, except for battery replacement every 3-5 years. Numerous commercial vendors for parking management systems include: Federal APD (www.federalapd.com), Skidata (www.skidata.com), Schied & Bachman (scheidt-bachman.de), Amano & McGann (www.amanomcgann.com) and TCS International (www.tcsintl.com). These companies all provide integrated parking management hardware and software. This TDM should also be explored with the County of San Mateo and the City of Half Moon Bay to expand to other coastal recreational parking lots, and to be connected to a parking and shuttle reservation system. A parking sensor system at Midpen’s Rancho San Antonio Open Space Preserve has been recently installed and results will inform future efforts at Purisima.



SECONDARY PRIORITY STRATEGIES

Secondary priority efforts are summarized in Table 13 below.

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TABLE 12: PURISIMA CREEK TDM IMPLEMENTATION FRAMEWORK SECONDARY PRIORITY EFFORTS

Strategy	Lead Party	Capital Cost/ Operating Costs	Funding Source	Timeline / Resources	Key Considerations
Website update of TDM and access options	Midpen	Existing staff time	General	On-going	
Paid parking	Midpen or outside vendor	\$25,000 revenue and access control system per lot, 1-2 new staff persons to enforce and manage	General	6 months to 1 year for initial implementation; on-going staff resources for enforcement and management 1 staff per lot	Only consider after sufficient trial of reservation and priority parking system and Board approval
Regional Shuttle Service	Midpen, local public agencies and/ or outside contractor	\$250,000 to \$500,000 / year, 1-2 new staff persons to manage and administer	Transit to the Parks grant	1-2 years, MOUs with City of Half Moon Bay and/or other agencies. Formal transit planning effort needed, on-going staff resources for management and administration	Should be implemented pending the initial parking shuttle program's success and financial viability, possibly extend shuttle service to (1) other Purisima trailheads (2) coastal beach lots and (3) ultimately regional Half Moon Bay/ Pescadero / Skyline area routes and BART/ Caltrans stations.
Increased fines/enforcement for parking violations	Midpen local public agencies	1 new staff person seasonally to manage and enforce	General	6 months for initial outreach/warnings; on-going staff resources for management and enforcement	Could be combined with other TDM enforcement efforts
Vehicle Wayfinding Signage	Midpen	\$1,500 to \$2,500 per sign, 1-2 exiting staff to design and install	General	6 months for design, approval, and implementation	Signage along County or State roadways would also require additional permitting and coordination.
Information Kiosk Map Updates	Midpen	\$500 per map/ kiosk, exiting staff to design and install	General	6 months for design, approval, and implementation	
Update to Navigation Apps	Midpen, big tech companies	Existing staff time to report and coordinate	General	Ongoing	Encourage citizens and partner agencies to report missing/ inaccurate parking and driving directions
Temporary Lot Reconfiguration	Midpen	\$1,000 to \$5,000 per lot, existing staff time to design and implement	General	6 months design time, seasonal implementation	Use standard temporary traffic control devices and signage to reassign parking space use and location
Identify/Delineate roadside parking spaces	Midpen and County/ Caltrans	\$5,000 to \$10,000 per road and existing staff time to coordinate	General	3 to 6 months for design and implementation	May require formal traffic study by County and/ or Caltrans

Preserve Website Updates

Secondary Priority Effort	Midpen Resources
Cost - existing staff time	Existing staff time

Updates to the Preserve website for improved visitor traveler information, including driving directions and parking options, have been completed and will continue to be updated.

Paid Parking During Peak Periods

Secondary Priority Effort	Midpen Resources
Cost - 1.5 FTE per year, \$25,000 per lot for parking access, and revenue control system	Resources of 1.5 staff (new FTEs) for on-going maintenance, enforcement and fiscal management or cost of parking concessionaire staff time also to manage and administer backend web/software needs and evaluate concessionaire options

Requiring paid parking for use of the Preserve parking facilities had mixed support in the visitor surveys although it could be an effective TDM strategy to encourage mode shift. Parking revenue collection would require change in Board policy to address fiscal management and access equity. This TDM has considerations that need to be further evaluated, including payment mediums potentially being limited due to lack of cell service for credit card payments on site and staff resource needs for financial oversight of cash management and reconciliation, ranger enforcement, and ongoing maintenance. As an option, Midpen could contract with a parking concessionaire under a design, build, operate and maintain agreement for a flat fee. Another option would be to establish a voluntary parking or donation fee. Such an honor system is used by the USFS at [Fish Creek Falls](#) in Colorado.

This TDM strategy may be considered after a sufficient trial of a reservation system and priority parking TDM strategies to manage parking demand proves to have inadequate results and the Midpen Board wishes to pursue another alternative.

Shuttle Expansion to Half Moon Bay/Pescadero shuttle

Secondary Priority Effort	Midpen Resources
Regional recreational shuttles (starting/ending at major regional hubs such as Caltrain and/or BART stations) Cost - 1 FTE per year, \$250,000 to \$500,000 per year operating costs, and \$50,000 to \$100,000 per vehicle	Resources of 1 staff (new FTE) to manage and administer (could be potentially incorporated within same new staffing levels with High Priority Satellite Parking Shuttle Service TDM above or off sourced to a concessionaire operator)

Expanding the satellite parking shuttle to other regional recreational and municipal destinations along the coast can be further explored, pending success of satellite shuttle program TDM strategy described above. The exploration would require a formal transit planning study, including the following scope elements:

- Travel market analysis (tourists, recreational, commuters)
- Service concept development (routes and stops)
- Operations Assessment - determination of level of service (hours, frequency, span of service, fixed-route vs. on-demand, etc.)
- Vehicle/ fleet requirements
- Initial ridership projections
- Financial plan (operating & capital costs, fare policy)
- Service delivery model - evaluation of alternatives & recommendation (including determination of in-house vs. contract)
- Funding (Identification of potential funding opportunities)
- Branding/ marketing
- Technology

Completion of a formal transit planning study can be done in cooperation and consultation with SamTrans, County of San Mateo, SFPUC and local municipalities (e.g., Half Moon Bay, Pescadero and Skyline area) with an understanding of the key service elements, including routing, vehicle types, operations, and costs for providing service.

Increased Fines/ Enforcement for Parking Violations (On and Off-Street)

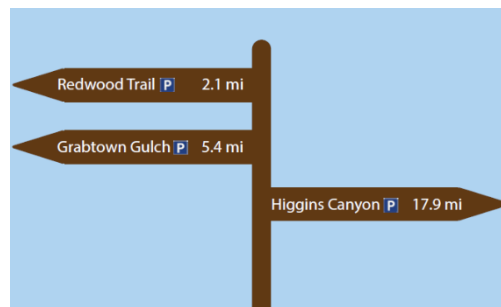
Secondary Priority Effort	Midpen Resources
Cost - 1 FTE per year	Resources of 1 staff (new FTE) for on-going seasonal and peak time enforcement at the Preserve to support compliance with other TDMs listed above

Enforcement of parking violations on Midpen and County/ State roadways is ongoing and is dependent on available staff resources. Pending the implementation of TDM strategies such as reservations and priority parking, additional enforcement resources and measures may be required. It is suggested to develop a graduated enforcement program, including warnings and initial nominal fines, to educate visitors about the new regulations prior to more serious monetary penalties and/ or towing.

Vehicle Wayfinding Signs

Secondary Priority Effort	Midpen Resources
Cost - \$1,500 to \$2,500 per sign	1-2 existing staff to design and install

Enhanced wayfinding to direct visitors to other Preserve trailheads/ parking lots both at existing lots and along adjacent roads, showing mileage / distances would be beneficial to address parking demands and/or distribute visitation. A pilot was completed in the Fall of 2021, but a more permanent installation will require additional planning and sign design to identify sign layouts, locations, messages, material, and supports, as well as to meet Midpen branding and graphic design standards. Signage along County or State roadways would also require additional permitting and coordination.



Updated Kiosk Sign Maps/Information

Secondary Priority Effort	Midpen Resources
Cost - \$500 per maps/ kiosk	Existing staff time to design and install

A pilot to update the maps within each kiosk or trailhead sign board to better illustrate parking locations and number of spaces is completed, and an update to the Preserve map is required to formally incorporate this information for the next reprint.

Updates To Navigation Apps

Secondary Priority Effort	Midpen Resources
Cost - existing staff time	Existing staff time

The use of navigation apps to direct visitors to destinations has increased in recent years. At the outset of the project, navigation app directions including Google, Waze and Avenza were reviewed for the Preserve and found to provide limited or incorrect information such as directing all visitors to the Purisima Creek Road/Higgins Canyon lot. The project team reached out to Caltrans to engage the tech companies on behalf of local agencies to update driving directions and destination labeling, but Caltrans does not have any formal dialogue established with the tech companies. Though Midpen has attempted to engage and has had limited success, it is still recommended that Midpen continue to monitor and self-report any navigation errors to each tech company and continue to update its own website for improved driving, parking and alternative means of access visit the Preserve.

Temporarily Redesignate Parking Spaces to Meet Peak Parking Demands

Secondary Priority Effort	Midpen Resources
Cost - \$1000 to \$5,000 per lot	Existing staff time to manage and administer

The designation of flex parking spaces such as school/ tour bus / equestrian parking during the weekday and general parking during the weekend through static signing, dynamic signing or temporary traffic control could optimize the utilization and capacity of existing and proposed parking lots. It is suggested that Midpen develop several alternative parking configuration concepts for flex spaces with required signage and traffic controls to have ready to implement, pending completion of the Purisima-to-the-Sea and Highway 35 parking lots and associated TDM strategies.

Clearly Identify / Delineate the Locations of Permitted On-Street/ Shoulder Parking

Secondary Priority Effort	Midpen Resources
Cost - \$5,000 for signage	Existing staff time to coordinate

Spillover parking along public roadways adjacent to the Preserve has become an increasingly frequent occurrence. Recent efforts to restrict shoulder parking have stemmed some traffic safety and emergency response concerns, but survey results show that some confusion still exists over where it is legal and illegal to park on the shoulder. It is suggested that Midpen continue to work with the County of San Mateo and/or Caltrans as needed to clearly sign locations of permitted on-street/shoulder parking at all access points with roadside parking.

STRATEGIES NOT RECOMMENDED

The following TDM strategies are ***not recommended*** for further consideration.

Off-Site Park and Bicycle Lot

Not Recommended

This TDM strategy would encourage visitors to park at satellite parking areas and ride a bicycle to the Preserve. However, this strategy did not score well and was not popular in visitor surveys due to the lack of high quality/ safe bicycle facilities along public roads in the area. During peak times such as summer weekends, work with local bike organizations and partner agencies to establish a 'bike and ride' parking lot in Half Moon Bay, Pescadero, and/or other convenient areas to encourage group rides to the Preserve. Midpen should continue to monitor this opportunity and potential partnerships with municipal and county representatives to implement this TDM strategy by improving on and off-road bicycle connections and exploring off-site parking opportunities.

Enhanced On-Road Bicycle Infrastructure to/ from Purisima

Not Recommended

This TDM strategy would encourage visitors to use existing or new on-road bicycle routes to access the Preserve by bicycle. Many roadways lack sufficient right-of-way to be retrofitted for bicycle infrastructure and are posted for high-speed vehicle flows with sharp curves, steep grades and limited sight lines. While a select group of visitors will cycle on these roadways individually or as a group tour, many visitors do not feel comfortable bicycling on these roadways. As Midpen does not own or maintain adjacent roadways, it should continue to review existing bicycle plans adopted by adjacent jurisdictions and partner with municipal and county representatives to identify preferred access routes for long-term implementation.

Enhanced Trail Connections to / from Purisima

Not Recommended

This TDM strategy would construct new off-road trails to access the Preserve via bicycle. However, these would be associated with long term planning efforts such as the Bay to Sea Trail that would one day connect bayside communities to the coast. Due to the remoteness of the Preserve and long distances for bicycling, additional trail connections would likely be ineffective at shifting modes for visitors intending to also hike in the Preserve. Additionally, the long timeline typical of regional trail planning, cost of construction, and right-of-way acquisition or access rights would be prohibitive, long-term challenges to overcome, and it is therefore not recommended to implement this TDM strategy. Midpen should continue to monitor and participate in regional trail and active transportation efforts to connect to the Preserve and review existing bicycle plans adopted by adjacent jurisdictions and partner with municipal and county representatives to identify potential new trail segments for long-term implementation.

On-Demand MicroTransit/ Ride-Hail/ Carpool App

Not Recommended

Similar to a reservation app, a customized carpool, microtransit or ride-hail app would serve to connect visitors to alternative modes such as sharing a ride, using an on-demand transit shuttle or van, or a subsidized transportation network company such as Uber or Lyft to book a trip to the Preserve. Due to the lack of cell coverage in several of the existing trailheads/ parking lots this TDM strategy is currently not feasible. However, Midpen should continue to monitor / discuss coverage with network providers should cell service become available in the future and to continue discussions with transit partners such as SamTrans for future opportunities to enhance access to the Preserve.

Delineate On-Street Parking Spaces Where They Currently Are Not Marked

Not Recommended

This TDM strategy would use signage, paving or striping to clearly delineate the location/ limits of roadside parking stalls, and the number of spaces to maximize parking capacity in roadside areas. This would require permitting and coordination with external agencies for expansion of parking areas on roadway shoulders, striping improvements, and other necessary strategy components. However, this TDM strategy is not recommended since the existing on-street parking spaces are on unpaved shoulders of the surrounding roads.

Valet Parking Service

Not Recommended

Valet parking would allow visitors to drop their cars off curbside/ trailside without the need to find a parking space. The use of valet service would help to maximize the use of existing footprints of the parking areas by parking cars more tightly. The results of the visitor survey indicated little public support for this TDM strategy, which would also require staff or vendor resources, availability of cell service for mobile phone apps and removal of general public parking spaces and cost to implement and operate.

XI. BENCHMARKING

In order to benchmark the success of the TDM strategies, it is suggested that Midpen utilize the data in this report as a baseline and monitor on a recurring basis (quarterly or semi-annually) several key metrics on a periodic basis to evaluate the effectiveness of each strategy. Indicator data that should be collected include:

1. Overall visitation levels – trailhead counts at Purisima Creek, North Ridge, Redwood and Grabtown Gulch
2. Vehicle Parking lot utilization and origins – number of vehicles parked hourly throughout a typical weekday and weekend day and registered zip codes at each lot
3. Bicycle parking counts – number of bicycles parked hourly at each lot on a typical weekday and weekend day
4. Overflow parking conditions – number of vehicles parked along the roadside on a weekday and weekend day.
5. Use of the reservation and / or priority parking system, and the need to expand the number of spaces available for reservation
6. Shuttle ridership – daily and monthly boardings and alightings, and annual operating cost per mile
7. Visitor satisfaction surveys – to collect visitor behavior on mode of access, group size, days/ times of visit, parking availability, duration of stay.

The monitoring and comparison of quantitative and qualitative before and after data will allow Midpen to assess the effectiveness of each TDM strategy and the overall visitor experience. Specific questions/ metrics to be addressed may include:

1. Does parking supply exceed demand?
2. Does mode of access shift to alternative modes?
3. Do illegal parking levels drop?
4. Do overall visitation levels increase?
5. Do the analytics for traveler information and education reach a sizeable audience (e.g., number of clicks)?
6. Do visitor and neighbor satisfaction levels, particularly regarding parking and access difficulties, improve?

XII. CONCLUSIONS

Purisima Creek Redwoods Open Space Preserve has become an increasingly popular destination but its size, remote location, and limited parking capacity during peak times of the year and week create negative impacts on the Preserve and surrounding community. This report presents a summary of existing conditions, identification of appropriate TDM strategies and an implementation framework for high priority and secondary TDM strategies. The report documents visitor behavior, visitation patterns and parking lot / shoulder utilization to identify strategies for reducing parking demand, improving multimodal access, and managing parking resources to improve the visitor experience and mitigate negative impacts of overflow parking and traffic at the Preserve, for adjacent and nearby residents.

A toolbox of high priority TDM categories and specific strategies were identified and customized to promote modal shift, reduce parking demand and enhance the visitor experience for the Purisima Creek Redwoods Open Space Preserve. The categories include Bicycling, Parking Capacity Enhancements, Parking Management, Transit, Visitor Demand Management, Education/Outreach and Traveler Information/ Wayfinding. Based on a robust stakeholder and public outreach effort, and screening and prioritization, a final list of individual and combined TDM strategies was selected that addresses the access and parking challenges while maintaining the nature and character of the Preserve. The final toolbox carefully considers Preserve carrying capacity, combinations, and synergy with other parallel capital projects by Midpen related to the Preserve, Midpen staff and resources, and partnerships. The implementation and management of TDM strategies and programs may ultimately exceed existing staff capacity and require additional full time Midpen staff exclusively for Purisima or to support TDM programs at several Preserves,

In response to increasing demand for nature preserve access across the region and nationally, as well as challenges with a land stewardship agency implementing parking and transportation improvements, it is critical to be flexible, adaptive, iterative if needed and develop strong partnerships with local transportation agencies, parks agencies, municipalities, and communities.

APPENDIX 1: TDM STRATEGY MATRIX (INCLUDES ALL TDMS STUDIED)

Category	Strategy	Description	Location(s)	Scoring Criteria													Total Weighted Score	Adjusted Score
				Peak Hour Parking Demand Reduction	Promotion of Modal Shift	Traffic Safety Impact	Visitor Access Reliability	Implementation Term	Ease of Approval Process	Capital Cost	Operations/ Maintenance Cost	Protection & Enhancement of Preserve Environmental Qualities	Promotion of Equitable Opportunities for All	Districtwide Community Input	Neighborhood Input	Stakeholder Input		
Bicycling	Off-site park and bicycle parking lot	During peak times such as summer weekends, work with local bike organizations to establish a 'park and bicycle' parking lot in Half Moon Bay, Pescadero and/or other convenient areas to encourage group rides to the Preserve.	Offsite – within local towns	3	4	3	4	5	3	5	5	5	2	5	5	5	125	4.0
Bicycling	Bicycle parking at trailheads*	Provide bike parking and other equipment such as bike pumps and repair stands. Bike lockers may be considered for the proposed Purisima-to-the-Sea parking lot where a greater number of people arriving on bikes might be expected.	Proposed Purisima-to-the-Sea lot, North Ridge lot, Purisima Creek Road lot	2	3	2	4	5	5	4	4	5	3	5	5	5	120	3.9
Bicycling	Enhanced bicycling facilities to/from Purisima	Work with neighboring jurisdictions to promote new bicycling facilities on adjacent roadways and improve safety for bicyclists on area roadways.	Offsite – County roads and highways	2	3	1	4	1	1	5	5	5	4	5	5	5	107	3.5
Bicycling	New trail connections	Provide additional opportunities for bicyclists to enjoy the Preserve and travel through the Preserve on existing and proposed trails.	Trails	1	2	3	2	3	3	5	4	3	3	5	5	5	100	3.2
Demand Management	Parking reservations during peak period	Require visitors to reserve free or paid parking in advance for all parking areas during peak visitation periods.	All parking areas	5	4	4	5	3	3	4	4	5	3	5	3	5	126	4.1
Demand Management	Paid parking during peak periods*	Require visitors to pay for parking at all parking areas during peak visitation periods.	All parking areas	5	3	4	5	3	1	4	3	5	1	5	5	5	117	3.8
Education/ Outreach	Social media and/or other marketing education and outreach	Conduct outreach using social media and other platforms such as the Preserve webpage and face-to-face communications at pop-up events to assist visitors in formulating travel plans to the Preserve that avoid the most congested access points and parking areas. Educate and encourage people to visit other preserves.	Social media, webpage, pop-up events	4	3	4	3	5	5	5	5	3	3	4	4	4	120	3.9
Parking Capacity Enhancements	Reconfigure and/or delineate/stripe existing parking areas to maximize parking supply	Use pavement, lane markings and signage to reconfigure and formalize parking space sizes, locations, drive aisles, and access points to maximize vehicle capacity within the existing footprints of the parking areas.	All parking areas	3	1	5	3	5	4	3	5	2	1	4	4	4	101	3.3
Parking Capacity Enhancements	Temporarily redesignate parking to meet peak parking demands	Using signage, change parking space designations to be more responsive to peak parking demands (e.g., temporarily redesignate equestrian trailer spaces as vehicular or carpool spaces during peak periods).	Select parking areas	3	2	5	3	3	3	5	5	1	1	3	3	3	90	2.9
Parking Capacity Enhancements	Clearly identify the locations of permitted on-street/ shoulder parking	Install signage to more clearly designate where shoulder parking spaces are permitted on roadways adjacent to Purisima trailheads.	Highway 35, Tunitas Creek Road, Purisima Creek Road/ Higgins Canyon Road	3	1	3	3	4	3	4	5	1	1	3	5	3	88	2.8
Parking Capacity Enhancements	Provide additional parking supply*	Add new or expanded paved or unpaved parking areas.	North Ridge lot, proposed Purisima-to-the-Sea lot	4	2	2	4	1	3	1	3	1	2	4	4	4	84	2.7
Parking Capacity Enhancements	Delineate on-street parking spaces where they currently are not marked	Use paving, signage or striping to delineate individual parking stalls to maximize parking capacity	On-street parking	3	1	3	3	4	3	3	5	1	1	5	1	5	83	2.7
Parking Management	Increased fines/enforcement for parking violations, both for on-street parking and in Preserve parking areas	Increase enforcement of 'no parking' zones and increase fines for visitors who park in violation of these prohibitions.	Highway 35 and Purisima Creek Road/ Higgins Canyon Road	2	2	5	2	5	4	5	4	2	2	5	5	5	109	3.5

Purisima Creek Multimodal Access and Transportation Demand Management Study

Category	Strategy	Description	Location(s)	Scoring Criteria													Total Weighted Score	Adjusted Score
				Peak Hour Parking Demand Reduction	Promotion of Modal Shift	Traffic Safety Impact	Visitor Access Reliability	Implementation Term	Ease of Approval Process	Capital Cost	Operations/ Maintenance Cost	Protection & Enhancement of Preserve Environmental Qualities	Promotion of Equitable Opportunities for All	Districtwide Community Input	Neighborhood Input	Stakeholder Input		
Parking Management	Priority parking*	Designate priority parking spaces for carpools/ vanpools and/or electric vehicles.	Proposed Purisima-to-the-Sea lot, North Ridge lot	3	3	5	2	5	4	5	5	3	2	3	3	3	106	3.4
Parking Management	On-demand microtransit/ride-hail/carpool app	Implement mobile phone app that allows visitors to share Preserve mobility/parking/transportation information in real-time	Proposed Purisima-to-the-Sea lot, North Ridge lot, Purisima Creek Road lot, Redwood lot	2	4	5	3	3	3	4	4	3	2	2	2	2	92	3.0
Parking Management	Valet parking service*	Allow visitors to drop car off curbside/trailside to a parking attendant who can maximize the use of existing parking area footprints.	Proposed Purisima-to-the-Sea lot, North Ridge lot	3	1	5	4	3	3	3	3	2	2	1	1	1	75	2.4
Transit	Purisima/Half Moon Bay/Pescadero shuttle*	Offer free or low fare seasonal or peak hour fixed route or variable on-demand shuttle service from the City of Half Moon Bay and/or Pescadero. Requires coordination with partner agency.	Proposed Purisima-to-the-Sea lot and Purisima Creek Road lot; <u>offsite parking lots (Half Moon Bay, etc.)</u>	4	5	4	4	1	1	1	1	4	5	5	5	5	116	3.7
Transit	Shuttles from satellite parking lots (e.g., County or State parks)*	Offer free or low fare seasonal or peak hour fixed route or variable on-demand shuttle service along the Highway 1 corridor. Could be provided as part of the proposed San Mateo County "Connect the Coastside" service. Requires coordination with partner agency.	Purisima Creek Road lot, North Ridge lot, offsite parking lots (County or State)	4	5	4	4	1	1	1	1	4	5	5	5	5	116	3.7
Transit	Shuttle to/from proposed Purisima-to-the-Sea lot to other Preserve parking areas or trailheads	Close the Purisima Creek Road lot on weekends and use the proposed Purisima-to-the-Sea lot as an intercept lot to shuttle visitors to the Purisima Creek Road lot and trailhead.	Proposed Purisima-to-the-Sea lot, Purisima Creek Road lot, North Ridge lot, Redwood lot	4	5	4	4	1	1	1	1	4	5	5	5	5	116	3.7
Transit	Regional recreational shuttles (starting/ending at major regional hubs such as Caltrain and/or BART stations)*	Offer free or low fare seasonal or peak hour on-demand/advanced reservation point-to-point shuttles from transit nodes to the Preserve. Requires coordination with partner agency.	Proposed Purisima-to-the-Sea lot, North Ridge lot and Purisima Creek Road lot; <u>offsite parking lots (Caltrain, BART)</u>	4	5	4	4	1	1	1	1	4	5	4	4	4	109	3.5
Traveler Information/ Wayfinding	Preserve website updates	Make available information to prospective visitors that can guide decisions on when and where to visit Midpen lands, such as: directions, time, and distance to parking areas; parking supply at each parking location; alternate modes of transit to preserves.	Website	2	2	5	3	5	5	5	5	3	2	5	5	5	118	3.8
Traveler Information/ Wayfinding	Vehicle wayfinding signs*	Signs at each parking lot directing visitors to other lots or preserves.	All parking areas	2	1	5	2	5	5	5	5	3	2	5	5	5	113	3.6
Traveler Information/ Wayfinding	Updated kiosk sign maps/information	Replace existing kiosk maps with a map that clearly identifies other parking areas with the (estimated) number of parking spaces.	Trailheads	2	1	5	2	5	5	5	5	3	2	5	5	5	113	3.6
Traveler Information/ Wayfinding	Updates to navigation apps	Navigation apps such as Google Maps and Waze to provide driving directions to specific parking areas based on the origin location. Directions may be tied to real-time parking occupancy and enhanced bicycle routes as future improvements.	All parking areas	1	1	5	3	5	5	5	5	3	2	3	3	3	98	3.2
Traveler Information/ Wayfinding	Real-time parking lot occupancy*	Track real-time information, e.g., using parking sensors, to inform visitors of available spaces and direct them to parking areas with capacity.	All parking areas	3	1	5	5	2	3	2	4	3	1	3	3	3	90	2.9