

Midpeninsula Regional Open Space District

Equitable access to open space

Christopher Prendergast

December 2, 2022

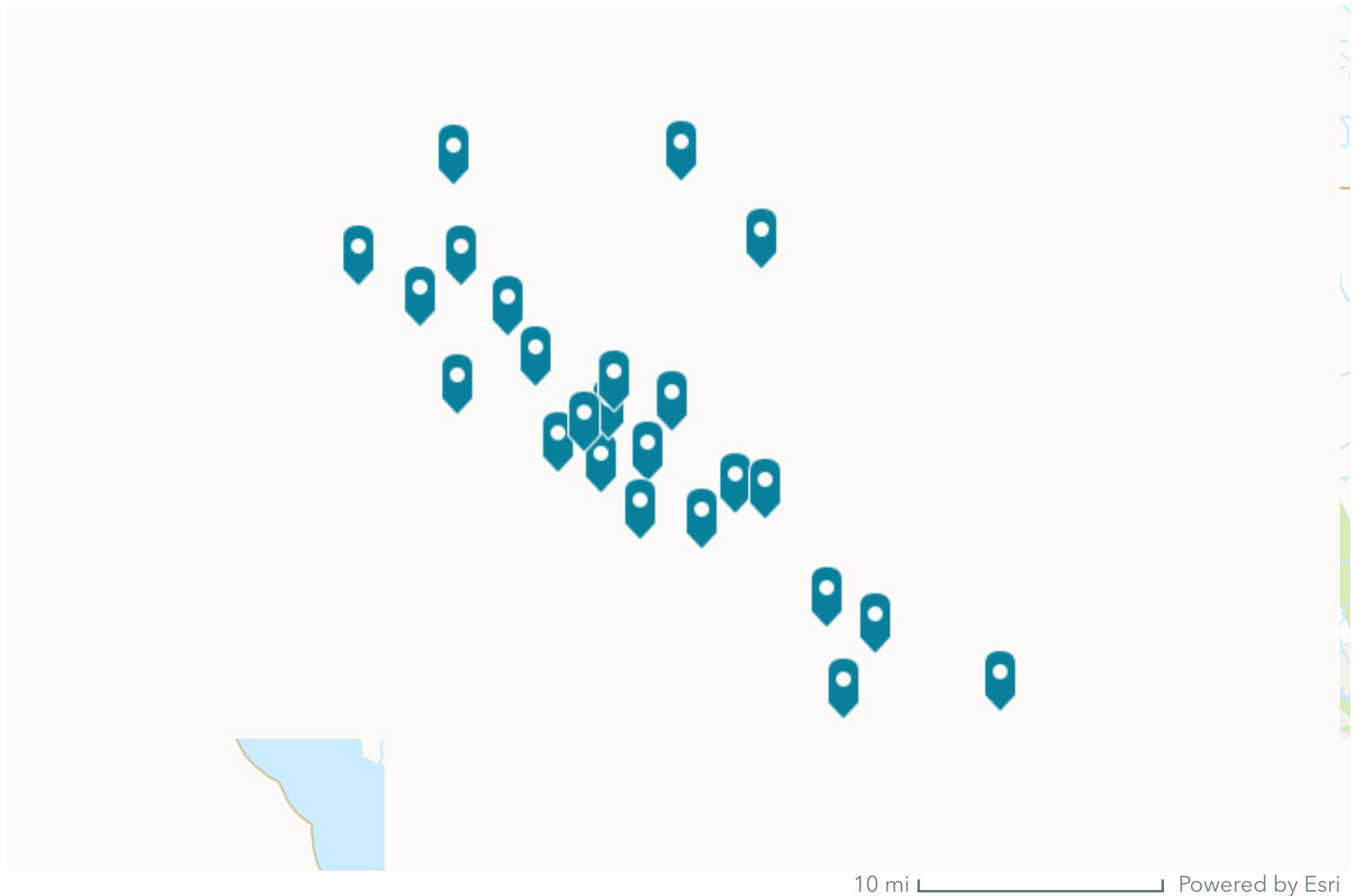
Introduction

Access to open space is vital to human health, fitness, and well-being. Open spaces also provide vital habitat for plants and animals. The Midpeninsula Regional Open Space District (MROSD) manages more than 70,000 acres of open space in the San Francisco Bay Area. The majority of these regional open spaces are located in the Santa Cruz mountains which lie to the west of the San Francisco Bay. Clearly, equitable access to these valuable resources is a significant issue. This study examines equitable access to MROSD's open spaces by looking for spatial relationships between three factors, the distance to closest open space preserve, income level, and population density. A series of maps illustrate the spatial distribution of these three factors.

Explore the Open Space Preserves

Explore some of MROSD's open space preserves using the map below. Click on any marker to view a photograph and read

details of the corresponding open space preserve.



Bear Creek Redwoods Preserve

Located 3 miles south of Los Gatos, Bear Creek Redwoods Open Space Preserve has six miles of hiking and equestrian trails that meander along cool perennial creeks and...



Coal Creek Preserve

Coal Creek is an ideal place for a quick afternoon hike with one's dog. Several trails can be combined to create a pleasant 2- or 3-mile loop. Views of the San Francisco Bay Are...



El Corte de Madera Creek Preserve

More than 34 miles of multiuse trail are available for exploration at the 2,908-acre El



El Sereno Preserve

El Sereno Open Space Preserve is named for 2,500-foot Mount El Sereno, part of a prominent ridge in the Santa Cruz Mountains that is located south of the city of...



Foothills Preserve

This tiny 212-acre preserve's steep and forested ravines form part of the Adobe Creek watershed above Hidden Villa Ranch and are adjacent to Palo Alto's Foothills Park.



Fremont Older Preserve

Located on the urban fringe and extending towards Mt. Eden Road to the south and Stevens Creek County Park to the west, the 739-acre Preserve offers a variety of...



La Honda Creek Preserve

One of Midpen's largest and most diverse preserves, La Honda Creek offers immersion into a historic ranchland with grazing cattle, views of the San Mateo County Coast and...



Long Ridge Preserve

With options for short hikes, rides to scenic overlooks, and longer loop trips, Long Ridge Open Space Preserve provides something for everyone. Connecting to Skyline Ridge...



Los Trancos Preserve

Los Trancos Open Space Preserve is a 274-acre area located in the Santa Cruz Mountains above Palo Alto. This is an ideal spot to learn about earthquake geology. Th...



Monte Bello Preserve

Italian for "Beautiful Mountain," Monte Bello Open Space Preserve is a place of rolling grasslands, dense creekside forests and spectacular vistas. The preserve encompasses...

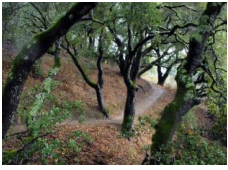


Picchetti Ranch Preserve

Forested canyons of madrone, coast live oak and California bay provide shade on a



warm day. On a clear day, the Sierra Azul range, crowned by Mount Umunhum, is



Pulgas Ridge Preserve

Pulgas Ridge Open Space Preserve is a 366-acre site near the City of San Carlos with trails for hiking and walking one's dog, including an off-leash area. The preserve's six...



Purisima Creek Redwoods Preserve

Purisima Creek Redwoods Open Space Preserve is located on the western slopes of the Santa Cruz Mountains overlooking Half Moon Bay. The centerpiece of this 5,412-acre...



Rancho San Antonio Preserve

Rancho San Antonio County Park & Open Space Preserve offers visitors a unique experience with a sampling of diverse environments, interesting cultural history and ...



Ravenswood Preserve

Located in the wetlands of the San Francisco Bay, the 376-acre Ravenswood Open Space Preserve is a great location for birdwatching and family adventures. A flat, easy-acces...



Russian Ridge Preserve

This 3,137-acre preserve known for its showy display of wildflowers in spring. In summer, the hills turn to gold with the late evening sunlight. Autumn, when the fog...



Saratoga Gap Preserve

Saratoga Gap Open Space Preserve is a 1,600-acre outdoor adventure located at the junction of Highway 35 and Highway 9 in the Santa Cruz Mountains. The Semperviren...



Sierra Azul Preserve

The largest of the open space lands that Midpen manages, Sierra Azul Preserve protects 19,300 acres of wilderness in the Santa Cruz Mountains. Overlooking the...



Skyline Ridge Preserve

Skyline Ridge Preserve offers 2,143-acres of remarkably varied landscape that includes



ridge vistas, expansive meadows, a pond for nature study, and a quiet lake frequented...



St. Joseph's Hill Preserve

Serving as a scenic backdrop to the town of Los Gatos, St. Joseph's Hill Open Space Preserve protects 273-acres of open space land on top of the 1,250-foot hill from which...



Stevens Creek Shoreline Nature Area

Stevens Creek Shoreline Nature Study Area is a birders paradise. At this 55-acre bayfront preserve, located adjacent to Mountain View's Shoreline Park, visitors c...



Teague Hill Preserve

Teague Hill Open Space Preserve is located in the Santa Cruz Mountains just above the town of Woodside. For those interested in visiting Teague Hill Preserve, the only...



Thornwood Preserve

Conveniently located in the hills above the Town of Woodside and ideally situated for a quick morning or afternoon getaway, Thornewood is a 167-acre preserve offering nice...

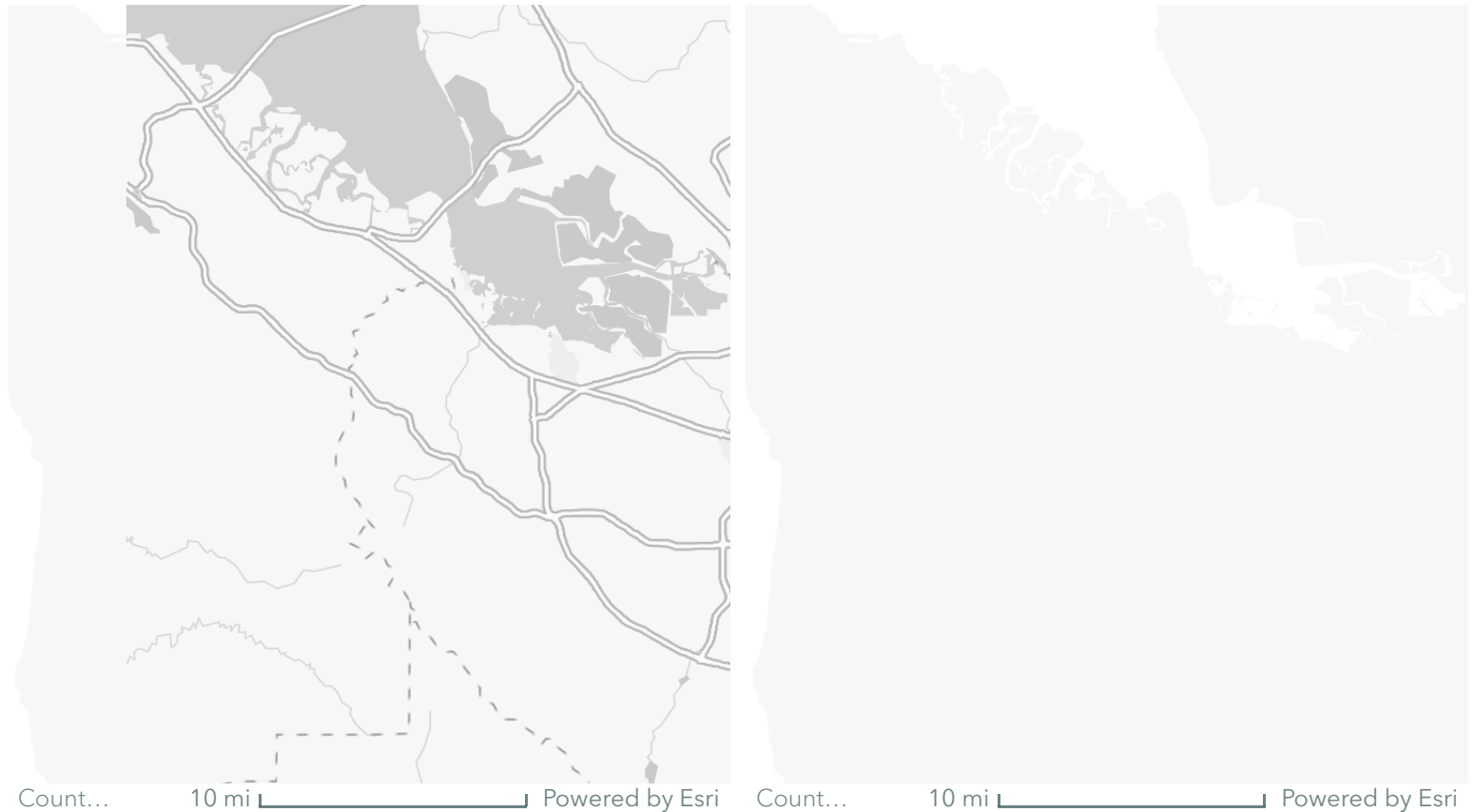


Windy Hill Preserve

Windy Hill is named for its distinctive, breezy grass-covered hilltop, which can be seen from many areas of the peninsula. The 1,414-acre preserve features open grassland...

Explore the Data

The maps presented below explore the spatial relationships between the three factors population density, income level, and distance to closest open space preserve.



Population and Population Density

The Bay Area is a densely populated area. However, the population is not evenly distributed across the region. The most densely populated areas are concentrated in the urban area which cluster around the shores of the San Francisco Bay. The Santa Cruz mountains to the west are less densely populated. The coastal areas west of the Santa Cruz mountains are much less densely populated.

Swipe left to reveal a graduated symbol map of population counts. The population count is classified using natural breaks. **Swipe right** to uncover a graduated color map of the population density. The population density is also classified using natural breaks. The initial view shows the population

count and population density calculated for individual census tracts. **Zoom** in to display more detailed population count and population density for smaller areas calculated for individual census blocks. **Click** on any census tract or census block to see the detailed statistics for that area.

County of Santa Clara, California State Parks, Esri, TomTom, Garmin, Safe...

10 mi  Powered by Esri

Population and Open Space

Interact with this map to explore the spatial relationship between the location of the MROSD open space preserves and the distribution of population. Obviously, larger regional open spaces are located in less densely populated locations.

Click the buttons below to display the MROSD boundary and MROSD open space preserves, **Click** the Reset Display button to return to the initial view.

Reset Display

Display MROSD Boundary

Display MROSD Open Space Preserves

Income and Open Space

This map shows the median individual income by census tract for 2020. The majority of MROSD open space preserves are located in higher income areas. Ravenswood open space preserve, next to the San Francisco Bay, is a notable exception to this trend.

Click on any census tract to show the median individual income for that are.

Click the buttons below to display the MROSD boundary and MROSD open space preserves, **Click** the Reset Display button to return to the initial view.

Reset Display

Display MROSD Boundary

Display MROSD Open Space Preserves



Population Density and Income

This map illustrates the spatial relationship between population density and median household income. Population and income data from the US Census Bureau's American Community Survey (ACS) was reallocated to equal sized hexagonal cells in a regular grid pattern using Esri's ArcGIS GeoEnrichment service.

The color of each circular symbol corresponds to the median household income interpolated for the corresponding grid cell. The darker the color the higher the income. The size of each symbol corresponds to the total interpolated population for the corresponding grid cell. Because the grid cells are all

equal in area, the symbol size also indicates the population density for the cells. Note that the ACS records all incomes above \$200,000 as \$200,001.

Click on any circular symbol to display the corresponding income and population statistics for the corresponding grid cell.

Click the buttons below to display the MROSD boundary and MROSD open space preserves. **Click** the Reset Display button to return to the initial view.

Reset Display

Display MROSD Boundary

Display MROSD Open Space Preserves

10 mi  Powered by Esri

Population and Income

This map presents a multivariate view of the income and population density data. The darker colors indicate higher population densities. Red indicates higher median household income. Blue indicates lower median household income.

Click on any hexagonal cell to see the corresponding population and income data for that cell.

Click the buttons below to display the MROSD boundary and MROSD open space preserves. **Click** the Reset Display button

to return to the initial view.

Reset Display

Display MROSD Boundary

Display MROSD Open Space Preserves

10 mi  Powered by Esri

Distance to Open Space

This map show the distance to the closest MROSD open space preserve for points within the four-county study area. These

concentric ring buffers were used to aggregate the income data from the individual data points to generate the box plot presented below. In this study, the distance to the closest MROSD open space preserve is used as an imperfect proxy for the accessibility of open space.

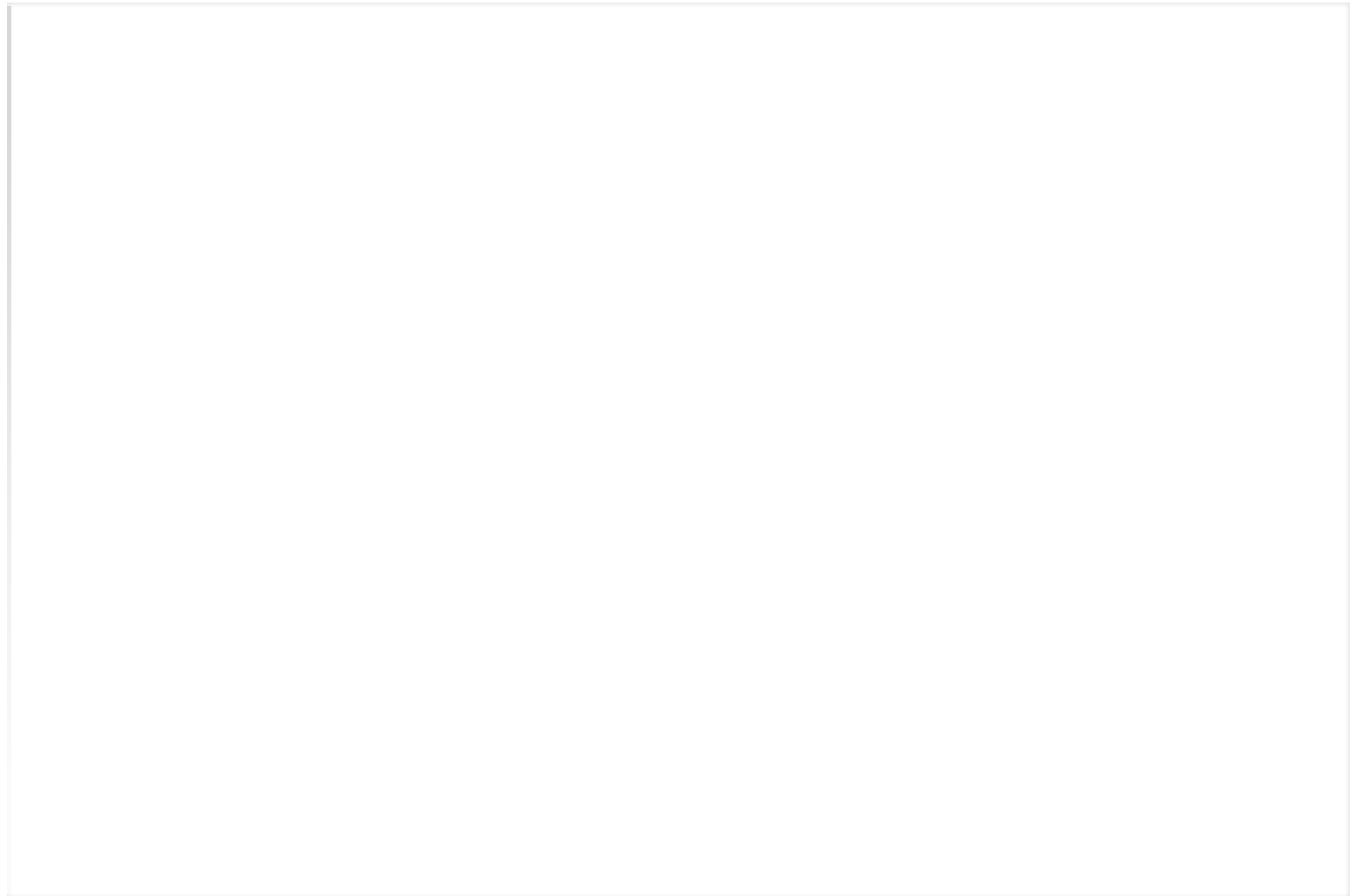
Click on any ring buffer to display the distance to the closest MROSD open space preserve.

Click the buttons below to display the MROSD boundary and data points. Data points with zero population are not displayed. **Click** the Reset Display button to return to the initial view.

Reset Display

Display MROSD Boundary

Display Data Points



Income and Distance Chart

The chart on the right illustrates the relationship between income level and distance to closest MROSD open space preserve. This box plot shows the distribution of median household income by distance from the closest MROSD open space preserve. The data was compiled from census block and tract data for the four counties within the study area: Alameda, Santa Clara, Santa Cruz, and San Mateo counties. Of course, MROSD is not the only open space district managing regional open space preserves within this large area. At the further distances from MROSD preserves it is likely that residents may have the option of visiting other closer open space preserves managed by various different agencies.

Conclusions

In general, larger regional open space preserves are located in less densely populated areas with higher income levels. For the Midpeninsula Regional Open Space District, this means that most of the open space preserves it manages are located in the Santa Cruz mountains and their foothills.

The communities of Los Gatos, Saratoga, Los Altos Hills, and Portola Valley are located on the western periphery of the urbanized Bay Area, between the densely populated urban areas which surround the San Francisco Bay and the Santa Cruz mountains. This location positions these communities as key access gateways to MROSD open space preserves for residents of more urban areas. In contrast to the urban areas, these gateway communities generally enjoy higher income levels and lower population densities. Consequently, most urban dwellers must take a car trip to access the majority of MROSD open space preserves.

Equitable access could be improved by providing safe walking, running, and cycling corridors that link the densely populated urban areas to the MROSD open space preserves. These corridors would naturally pass through the gateway communities. Creeks offer an obvious connection between the upland open space preserves and the urban community around the San Francisco Bay. Additional trails running along these creeks could provide enhanced access to the MROSD open space preserves. Public transit routes or regular shuttle service between urban areas and key access points to the MROSD open space preserves would also help to provide more equitable access to MROSD open space preserves for all.

Data Sources and Credits

Preserve descriptions & photos	MROSD
Open space GIS data	MROSD
County and urban boundaries	Alameda, Santa Clara, Santa Cruz, & San Mateo Counties
Population and income data	US Census Bureau / American Community Survey
ArcGIS GeoEnrichment Service	Esri