

GOLDEN GATE NATIONAL RECREATION AREA

General Management Plan Phase 1 Transportation Analysis



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Table of Contents

	PAGE
EXECUTIVE SUMMARY.....	ES-1
Background.....	ES-1
Existing Transportation Setting.....	ES-1
Regional Planning Context	ES-2
Transportation Analysis	ES-3
GGNRA-Related Transportation Projects.....	ES-7
CHAPTER 1. INTRODUCTION	1-1
GMP Purpose and Scope.....	1-1
Transportation Analysis	1-2
Transportation Document Bibliography and Contact Database.....	1-2
Gaps in Park-Related Transportation Information	1-4
CHAPTER 2. EXISTING TRANSPORTATION SETTING	2-1
Marin County Park Sites	2-1
San Francisco County	2-7
San Mateo County.....	2-14
CHAPTER 3. REGIONAL PLANNING CONTEXT	3-1
How Projects Get Funded	3-1
Other Organizations.....	3-5
GGNRA's Participation in the Regional Transportation Funding Process	3-7
CHAPTER 4. TRANSPORTATION ANALYSIS.....	4-1
Park Transportation Planning Objectives	4-1
Transportation Planning Strategies	4-3
Key Questions for GMP Transportation Planning Consideration	4-22
 APPENDIX A. ISSUES, OPPORTUNITIES, AND THREATS	
 APPENDIX B. DOCUMENTS IN DATABASE	
 APPENDIX C. CONTACTS LIST	
 APPENDIX D. PRESENTATION TO GGNRA WORKSHOP 12/04/06	

Table of Figures

	PAGE
Figure 2-1 Golden Gate National Recreation Area: GMP Areas.....	2-25
Figure 2-2 GGNRA: Muir Woods, Stinson Beach.....	2-27
Figure 2-3 GGNRA: Marin Headlands	2-29
Figure 2-4 GGNRA: Fort Mason, Alcatraz.....	2-31
Figure 2-5 GGNRA: Baker Beach, Presidio, Crissy Field.....	2-33
Figure 2-6 GGNRA: Lands End, Sutro Heights	2-35
Figure 2-7 GGNRA: Ocean Beach, Fort Funston	2-37
Figure 2-8 GGNRA: Northern San Mateo County	2-39
Figure 2-9 GGNRA: Phleger Estate, SF Watershed	2-41
 Figure 4-1 Muir Woods, Stinson Beach Proposed	 4-27
Figure 4-2 Marin Headlands Proposed.....	4-29
Figure 4-3 Lands End, Sutro Heights Proposed.....	4-31
Figure 4-4 Fort Mason, Alcatraz Proposed	4-33
Figure 4-5 Presidio Proposed.....	4-35
Figure 4-6 Ocean Beach, Fort Funston Proposed.....	4-37
Figure 4-7 Northern San Mateo County Proposed	4-39
Figure 4-8 Phleger Estate, SF Watershed Proposed	4-41

Executive Summary

Background

The General Management plan for the GGNRA is in the process of being updated. This document, the *Phase I Transportation Analysis for the General Management Plan*, does the following:

- Examines current transportation conditions for all GGNRA park sites
- Explains the regional transportation planning process and recommends ways for the GGNRA to engage in that process
- Analyzes planning issues related to transportation
- Guided by the park transportation objectives and elements, identifies opportunities for the GGNRA to shape the future of transportation to the parks

The area covered by the General Management Plan spans from the southernmost site in the GGNRA, Phleger Estates, north to the Bolinas-Fairfax Road. It does not include sites which have recently been the subject of land use management plans: the Presidio, Fort Baker and the Fort Mason Center, Muir Woods, and the San Mateo County park lands added since 1980. Park lands north of the Bolinas-Fairfax Road are being addressed in the Point Reyes National Seashore General Management Plan Update. Maps are provided for each park area showing existing and proposed transportation features.

In addition to this report, the Analysis includes a database of approximately 100 transportation planning documents relevant to the GGNRA, summarizing the key findings, issues, opportunities and threats to park lands in each one. The database was delivered to the Park under separate cover and may be used to catalog future documents that support the GMP and other planning efforts.

Existing Transportation Setting

GGNRA park lands are spread across three Bay Area counties, each with their own transit systems, topographical qualities, uses, and limitations.

Transportation to Marin sites is primarily by private auto, causing considerable congestion on the winding 2-lane roads which are typical of the rural areas of this county. There is very little public transit to the sites during the times visitors are most likely to want to go to the parks; one exception is the Muir Woods Shuttle Pilot Project, which uses a satellite parking lot and clean bus shuttles to take visitors to Muir Woods.

San Francisco sites, uniquely situated within an urban environment, are well-connected to their surroundings by public transit, and provide customized shuttles - the PresidiGo "Around the Park" and "Downtown" shuttles - to get to and through sites. A complete network of trails, sidewalks, bike routes and pathways and more-than-adequate parking give

visitors easy access. These heavily-used sites provide an experience of nature within the city, and are well-connected to other San Francisco attractions.

San Mateo sites are the most recent addition to the GGNRA, have varied visitation levels among units, and are under-served by public transit. Park lands are adjacent to both suburban developments and state, regional and local parks. These sites are somewhat connected by both the Pacific Coast Trail and the Bay Area Ridge Trail, although there are gaps in both.

Regional Planning Context

To meet the objective of reducing auto usage in the parks, the GGNRA should understand and engage in the regional transportation planning process.

Transportation projects are first developed at the local level by cities and county transportation management agencies, like the County Congestion Management Agency, or short-range transit plans developed by the transit agency. If the plan requires regional, state, or federal funding, it is submitted to the Metropolitan Transportation Commission, where it is evaluated for priority and inclusion in its Regional Transportation Plan. Regional prioritization is the responsibility of the Bay Area Partnership, a collection of the various agencies in the nine-county Bay Area that compete for these funds. The GGNRA is currently a non-voting member of this partnership; because of its status, it is critical that GGNRA partner with local entities to ensure that its priorities move forward.

Plans requiring state funding are submitted by the MTC to the California Transportation Commission for inclusion in the State Transportation Improvement Program (STIP). Those needing Federal funding are submitted as part of the Transportation Improvement Program (TIP).

All three GGNRA counties are “self-help” counties, which tax themselves to provide funding for transportation projects. Expenditure of tax revenue is administered through a sales tax authority, which can partner with other organizations, like the Park Service, to fund and expedite projects which meet their plan parameters.

It is at this level that the GGNRA can be involved in and influence spending decisions on transportation projects which affect access to the sites. The key to maximizing effectiveness will be to 1) identify partners who have access to transportation funding through the processes outlined above, and to 2) bring into the partnership funding or other contributions, making the partnership attractive to the other party. The GGNRA can:

- Develop partnerships with neighboring jurisdictions and other local agencies
 - Meet regularly with local congestion management agencies (CMAs), sales tax authorities and transit agencies
 - Find and develop mutually beneficial projects
 - Participate on technical committees

- Work with “gateway” communities to find consensus on access projects
- Participate creatively as funding partners with surrounding communities
- Attend the Regional Partnership meetings facilitated by the MTC
- Stay abreast of funding opportunities at the federal, state and regional level

It is important for the Park to focus not only on the construction of projects such as parking lots, pathways and roads, but on strategic approaches that can coordinate and reach out to visitors and adjacent communities. This requires a comprehensive vision that combines projects with other strategies. For example, a strategy for shifting visitors from driving to the parks to taking alternative modes may require building convenient bus facilities at the expense of parking; but it may also require establishing new parking fees; disseminating information to potential visitors about the environmental impacts of driving, and working with partners to make sure that seamless service is provided from key regional connection points to the park. In general, this approach is more complex and more challenging than simply designing and building solutions to known problems. However, with Bay Area population and park visitation growing, it is only through these types of comprehensive approaches that a positive experience can be maintained for all visitors.

Transportation Analysis

Key transportation objectives for the GGNRA are to:

- **Improve site access and circulation**
- **Preserve and protect the environment**
- **Enhance the visitor experience**

Improve site access and circulation. The Bay Area population is predicted to increase by 1.3 million residents to 8.4 million by 2025¹, with a larger percentage in populations underrepresented among Park visitors. In order to accommodate more visitors, including those who may not have access to a car while preserving the natural resources of the site, a greater percentage of visitors will have to arrive by transit, walking, or biking. A large percentage will still arrive by auto; using Transportation Demand Management (TDM) strategies such as congestion pricing, satellite parking lots, and reservation systems, this impact can be minimized. An essential part of the transportation mix is increased public transit service to park lands. The GGNRA can work with local jurisdictions and transit providers to design and help fund extensions of existing transit or new transit routes to serve sites during times of heaviest recreational travel. Improved information and signage can also help manage visitor circulation.

¹ Association of Bay Area Governments, “ABAG Projections 2005”

Preserving the natural resources of the Park is a primary goal of park management. Transportation strategies can help preserve and protect the environment by limiting the impacts of auto travel to and within Park sites. Strategies include:

- Providing defined and delineated parking areas
- Managing parking demand
- Providing alternatives that encourage transit, pedestrian and bicycle access
- Channeling visitors away from sensitive areas

Transportation can play a role in enhancing the visitor experience by providing safe, reliable, convenient and affordable access to Park sites for everyone. The visitor experience can start at the transit station or stop, where information and amenities can be provided, and staff or docents on the vehicle can introduce visitors to the site en route. Transit to Park sites can provide:

- Opportunities to access and explore the sites
- A safe environment for enjoying the sites
- A unique and enjoyable extension of the site visit
- A way to avoid congestion and long searches for parking
- Wayfinding and directions to sites that might not be obvious

These transportation objectives are directly influenced by planning efforts centered around four key elements:

- **Public transit access**
- **Auto access and parking**
- **Bicycle, pedestrian and equestrian access**
- **Wayfinding, including ITS**

Public transit access to GGNRA sites is very limited, except for sites in San Francisco. Transit is usually oriented to serving commuters, whereas recreational travel occurs on weekends, mid-day, on holidays and during summer months. There are many opportunities to work with local jurisdictions to increase transit to park sites, such as:

- Extend and expand the Muir Woods Shuttle to terminate at the Sausalito Ferry
- Work with Marin County cities and the Marin County Transit District on local initiative partnership opportunities
- Muni's E-Line will provide enhanced streetcar service to Ft. Mason
- Work with Muni to extend and expand the 76 line to the Marin Headlands

- Ensure that transit is adequately provided for in the rebuilding of Doyle Drive through the Presidio
- Work with the WTA to provide water transit access to coastal sites
- Implement the transit and Transportation Demand Management recommendations in the Headlands/Ft. Baker Transportation Plan
- Provide safe and well-signed bus stops near trails and site entrances with interpretive information
- Work with San Mateo County and SamTrans to increase service from San Francisco and/or BART to stops near sites
- Coordinate with the West Marin Stage and the Sausalito Sally Shuttle to provide better access to park sites

Auto access and parking remain important factors. Even with expanded transit service and good pedestrian and bicycle connections, many visitors will continue to use autos to get to park sites, particularly in the more rural areas. Auto access should be managed to protect the natural resources of the park sites, including air quality, noise levels, natural vistas, and natural areas subject to encroachment through free-form parking. Some strategies to manage the number of autos in the sites include:

- Utilizing satellite parking otherwise used by commuters and providing shuttle connections
- Moving the “gateway” for the park site to the regional transit connection and providing information and shuttle service at that point
- Identify specific roads used to access the parks and work with Caltrans to schedule road improvements and safety enhancements
- Designating and limiting parking to safe and legal areas

Planned pedestrian, bicycle, and equestrian access is important in encouraging non-auto access to park sites. Accessibility by these modes, and ADA-accessibility, varies greatly among sites, with San Francisco having the best connections for pedestrians and bicyclists, and San Mateo sites providing equestrian access from other parks and on regional trails. There are some conflicts among these various users; comments from the public indicate that each group – bikers, horseback riders, and dog walkers – wants to preserve and increase their own opportunities in the parks, while restricting other groups.

Some ways to enhance non-motorized access are to:

- Work with adjacent communities and local/county/state parks for continuous access trails, such as the Bay Trail and Ridge Trail
- Provide wayfinding and signage along trail routes
- Provide safety for all trail users

- Enhance accessibility for all users
- Consider the need for bike parking
- Focus on safe connections to transit

Transportation information and wayfinding signage can increase access to GGNRA sites for local residents, tourists, transit users, drivers, and the disabled. Information on road conditions, transit availability, bicycle routes and trail connections can be made available through the Web, radio, and printed materials.

Currently signage at sites varies, with highway-to-doorway signs at sites with a large number of visitors, to very little signage at less-visited sites. A plan for visual consistency and application would not only help brand the NPS and GGNRA, but would also prevent insensitive or prolific signage, which can impair the visitor's enjoyment of these natural settings.

Providing visitors with information using more dynamic media such as radio or changeable message signs on highways can help manage crowds by guiding visitors away from more crowded sites, or by informing them of full parking lots and transit opportunities.

Some opportunities for improving wayfinding and park site information include:

- Make signage consistent among sites from the highway, at transit stops, on local roads, at entrances, and when crossing in and out of park boundaries
- Use information to keep visitors safe – provide information about trail conditions, difficulty, etc.
- Use modern technology and intelligent systems where possible
- Consider highway advisory radio for giving park information to visitors already en route
- Use wayfinding tools such as highway signs and signs within the site to disperse crowds in the most heavily visited areas
- Balance the need for “self discovery” with the need to feel comfortable moving through the park
- Fill the gaps in web information for each site, including walking maps
- Provide a park information center at the closest transit hub

GGNRA-Related Transportation Projects

Following is a summary of transportation projects related to the GGNRA that have been proposed and/or approved for construction, and are shown on the “Proposed Projects” maps later in this document.

Marin County

- Dias Ridge and Coast View Trails Rehabilitation and Access Improvement
- State Route 1 Tennessee Valley Improvements
- Muir Woods Shuttle Pilot Program (funded for 3rd and final year in 2007)
- ITS Implementation Project
- Central Marin Ferry Connection
- Fort Baker Plan EIS & Shuttle
- GGNRA Water Shuttle Terminals
- Marin Headlands and Fort Baker Transportation Management Plan

San Francisco

- Lands End Coastal Trail Enhancements
- Point Lobos Avenue Improvements\
- Muni E-Line Extension
- Doyle Drive Rebuild
- Presidio Trails and Bikeways Master Plan (definite projects are Presidio Promenade, Bay Trail and Coastal Trail)

San Mateo County

- Mori Point Restoration and Trail Plan
- San Andreas / Sneath Lane Connection
- Pedro Point Coastal Trail Connection (City of Pacifica)
- Devil’s Slide Bypass
- Huddart and Wunderlich Parks Master Plan

Chapter 1. Introduction

GMP Purpose and Scope

The National Park Service recently initiated a General Management Planning process for the Golden Gate National Recreation Area. A general management plan serves as a foundation and framework for the management and use of the Park lands and articulates the desired conditions for natural and cultural resources and visitor experiences that best fulfill the Park's mission. The plan looks ahead 20 years and lays the groundwork for more detailed planning and the day-to-day decision-making that follows. Providing long-range guidance for NPS managers, the plan also represents an agreement with the American public about how the park lands will be managed in the future.

The General Management Plan considers the park as part of larger ecological, cultural, and socioeconomic systems. This comprehensive approach includes coordination with the park's neighbors, including other open space land managers and neighboring communities, to ensure that the decisions made through this process are widely supported and sustainable over time.

The previous General Management Plan was completed in 1980. Since that time, there have been numerous changes, both in the Park itself and the surrounding environs. The park itself has doubled in size and the population and urban footprint of the Bay Area have grown significantly.

The new General Management Plan will address only National Park Service-administered lands within the boundaries of Golden Gate National Recreation Area. However, for purposes of transportation analysis, a broader look at the Park is necessary, and will include Park lands spanning from Marin County in the north to San Mateo County in the south:

Marin County	San Francisco County	San Mateo County
Marin Headlands Muir Beach Muir Woods Stinson Beach Tennessee Valley and Beach	Alcatraz Baker Beach China Beach Cliff House Fort Funston Fort Mason Lands End Ocean Beach	Devil's Slide Milagra Ridge Mori Point Pedro Point Phleger Estate Rancho Corral de Tierra San Francisco Watershed Sweeney Ridge/Cattle Hill

The plan will focus on sites that do not have recent land use planning, including Muir Woods National Monument and the San Mateo County park lands that have been added

since 1980. The Presidio, Fort Baker, and Fort Mason Center will not be revisited in this new plan because those sites have recently updated land use management plans. Golden Gate lands north of the Bolinas-Fairfax Road are being addressed in the Point Reyes National Seashore General Management Plan Update.

Transportation Analysis

This initial Transportation Analysis study is designed to provide input into the General Management Plan in a number of key areas:

- Summarize existing transportation conditions at GGNRA sites
- Document regional transportation planning and park planning processes that may influence or provide information for the General Management Plan
- Develop a list and analysis of key transportation issues that could be considered in the General Management Plan
- Relate scoping comments received by the park to the issues identified for the General Management Plan

This Transportation Analysis is designed to identify issues, opportunities and threats that may influence the General Management Plan as it develops. The Transportation Analysis is not designed to provide solutions to potential issues or to describe how to take advantage of opportunities. More refined linkages between the park's plans and the regional plans will be developed in subsequent phases, if appropriate.

Transportation Document Bibliography and Contact Database

One of the key deliverables from this Transportation Analysis was the Transportation Document Bibliography and Contact Database. This database summarizes the results of almost 100 studies and other documents that help inform both this document and the transportation issues that will be analyzed as part of the General Management Plan.

Transportation-related studies, plans, and statistical reports relevant to GGNRA transportation planning were identified by GGNRA and augmented with independent searches and contacts with related agencies. Documents were included in this study if they addressed transportation-related information or plans affecting at least one GGNRA-managed site, or if they addressed a regional transportation issue that would affect access to a GGNRA-managed site.

These documents were collected from the following agencies:

Federal and State	Regional Agencies	Counties	Cities & Transit
Golden Gate National Recreation Area (GGNRA) National Park Service (Pacific West Region) Presidio Trust U.S. Department of Transportation CalTrans Coastal Conservancy California State Parks California Coastal Commission	Association of Bay Area Governments (ABAG) Metropolitan Transportation Commission Bay Area Ridge Trail Council Golden Gate Bridge, Highway and Transportation District Peninsula Open Space Trust Midpeninsula Regional Open Space District	County of Marin Transportation Authority of Marin (TAM) Marin County Public Works Marin County Community Development Agency Marin County Open Space District Marin Municipal Water District (MMWD) San Francisco County Transportation Authority (SFCTA) City/County Ass'n of Governments of San Mateo San Mateo County Transportation Authority San Mateo Parks and Recreation Division	Marin County Transit District City of Mill Valley City of Sausalito San Francisco Bay Area Water Transit Authority City & County of San Francisco Planning Department San Francisco Municipal Transportation Agency San Francisco Municipal Railway (Muni) San Mateo County Transit District (SamTrans)

In total, 95 documents collected were reviewed and entered into a Microsoft Access database for ease of data entry, report generation, and queries. The database provides basic information such as the originating agency, year of the study, status (draft or final), and a link to an online copy, if available.

The database also includes:

- Related and referenced documents
- Purpose

- Summary
- Key facts and findings as related to the GGNRA
- The geographic area covered (city, county, corridor, and by specific site)
- The Table of Contents
- Topics covered
- Types of data included
- Relationship to the GGNRA (within, adjacent to, or nearby / affecting the site)

Once the documents were collected, they were reviewed and analyzed to identify issues, opportunities and threats regarding access to and travel within the park sites. (This information is also in the database and can be isolated for each park site.) A table with identified issues, opportunities and threats can be found in Appendix A.

The information gathered from the bibliography, combined with knowledge of regional planning issues and analysis of scoping comments, was used to identify planning objectives and transportation elements to be considered in the General Management Plan, described in Chapter 4 of this report.

For a complete list of included documents, see Appendix B.

Another feature of the database is the Contacts “rolodex”, which provides agency contacts at virtually all of the outside transportation planning agencies that have a relationship to the park. These contacts will be very useful in generating buy-in and providing additional information for the GMP. A list of contacts is included as Appendix C.

On December 5, 2006, an overview of the transportation analysis was presented at the GGNRA Workshop. A copy of the presentation is included as Appendix D.

Gaps in Park-Related Transportation Information

Traditional transportation analysis and modeling focuses on peak-hour and peak day commuter travel patterns. Much less is known about recreational travel demand, which occurs on weekends, holidays, and during summer months. Currently there is no national or regional model for recreational travel preferences or methods of influencing trip mode.

To plan for increased and more varied modes of access to the park sites, it is important to know:

- Who is coming to the Park (age, income, abilities/disabilities)
- Where they begin their trip

- How they are getting to the Park
- How they decided on that mode of travel
- What they are bringing with them that may influence their transportation choice
- What would make taking an alternative mode to the park site attractive to them

Information on who comes to GGNRA park sites, how they get there, and what would induce them to get there by a means other than driving is scarce and inconsistent across parks. Muir Woods sets an example as a park that has comprehensive information available for transportation planning. As a component of the Muir Woods Shuttle Pilot Project, information was gathered from both shuttle riders and non-riders. Combined with visitation counts done by the Park, and ridership totals for each day's shuttle service collected by Golden Gate Transit, these documents combine to provide key insights about the travel behavior of visitors to that heavily-used park.

Through this research it was determined that charging a fare on the shuttle would not lower ridership; indeed, after a \$2 round-trip fare was established, ridership continued to rise. This is an example of how greater information regarding park visitor travel preferences can help guide decisions about transportation investments.

Statistics on the number of visitors for each Park site is collected and reported regularly; additionally, more qualitative information on visitor satisfaction with their Park experience was collected in 2005 through the University of Idaho Park Studies. It may be possible to begin to gather transportation-related data through one of these ongoing efforts.

It is much harder to get information on who is *not* coming to the parks. Various demographic studies have given us some information: teens, those over 65, people of color, and those with less education, less income, limited access to cars, limited English, and mobility impairments do not visit parks as much as more affluent, educated families with children. Further, the percentage of the Bay Area population with these non-visitor characteristics is expected to increase. What is not known is the role transportation plays in discouraging these non-visitors from coming to the parks.

There may be opportunities to partner with other agencies to get trip information for non-park visitors. The Metropolitan Transportation Commission conducts a travel survey every ten years, gathering information on trips from a statistically significant number of residents from each of the nine Bay Area counties, with the next one scheduled for 2010. It may be possible to partner with MTC to include a small number of questions related to travel to GGNRA park sites in that survey.

Chapter 2. Existing Transportation Setting

This section describes the existing conditions of the transportation system providing access to and within the Golden Gate National Recreation Area (GGNRA).

This section reviews all park sites, grouped by County, from north to south - Marin, San Francisco, and San Mateo. At the end of this chapter are maps illustrating transportation conditions for all parks discussed in this section, as well as a map of proposed transportation projects for the Presidio to be built in the near future.

Marin County Park Sites

The setting for Park lands in Marin County varies, including sites located close to highly urbanized areas just north of the Golden Gate Bridge, and further north in rural areas along the coast, near communities committed to retaining their rural character. Planning documents for these rural areas stipulate that the winding 2-lane roads connecting these communities not be widened.

Local residents are heavy users of the park sites; for locals outside of walking distance and non-locals, personal automobile use is dominant. Recent transit service improvements, such as increased ferry service from San Francisco to Sausalito and the Muir Woods shuttle pilot program, have improved mobility to popular park sites and helped reduce congestion.

All GGNRA sites in Marin County share these characteristics:

- Little or very limited public transit
- Primary access is by private car
- Local roads experience congestion during peak visiting periods, i.e., summer and holiday weekends
- Signage is good, with large “arrowhead” signs at entrances, and signage throughout sites and on nearby roads
- There is a boat ramp at Fort Baker, and the marina and cove provide mooring for visiting sailboats, as does the Aquatic park cove. Other than these small facilities, there is no water access.
- Bicycle access is fair to good, providing challenging rides over steep topology
- Not well connected to surrounding communities by sidewalk
- Sites are potentially ADA-accessible

Stinson Beach

This highly visited site includes a long sandy beach, picnicking areas, a lifeguard station and snack bar (both in operation during the summer only), and two large parking lots with a total of 839 spaces. Primary access is via automobile, and State Route 1, the major access road, is congested at peak times, especially during the summer months. Secondary access is pedestrian via neighboring communities. On days with good weather, especially on summer weekends, visitors inundate the site and cause gridlock in the town of Stinson Beach and congestion along Route 1.

Primary use is by strollers, beach recreationists, surfers, and picnickers. Transit service is fair, with one Golden Gate Transit line serving the site on weekends and holidays with a 120-minute service frequency. The West Marin Stage service provides up to four buses per day to Stinson Beach from Marin City. Pedestrian and bicycle access is fair, with one unmarked pedestrian passage from the downtown into the beach parking lot, and marginal bicycle signage leading to the site. For pedestrians, the beach itself acts as a long wide trail, and the Dipsea Trail offers off-roadway access over Mount Tam from Mill Valley (although it is steep). Connectivity to area attractions by trail is excellent, including the Dipsea Trail, Mount Tamalpais State Park, and the small downtown which is frequented by tourists traveling along the State Route 1 corridor. Even with poor signage, committed local cyclists utilize the hilly Route 1 corridor, likely due to the spectacular views and athletic challenge.

Muir Woods

A landmark monument of the redwood forest, Muir Woods is one of the few fee sites of the GGNRA and a major tourist destination for the entire Bay Area with over 1.5 million annual visitors. Visitors are primarily tourists and local hikers. Primary access is via automobile; State Route 1, the major access road, is congested at peak times, especially during the summer months. Although the site has 179 formal parking spaces and 12-14 for buses, parking reaches capacity during peak visiting periods. In the summer months, visitors park along Muir Woods Road up to a mile from the site entrance.



The Muir Woods shuttle is a successful example of partnership between the Park and its neighbors. This highly successful service carried almost 15,000 riders on summer weekends in 2006, most of whom would otherwise have driven to the site.

Pedestrian and bicycle access to the site is poor, with narrow or no road shoulders, no sidewalks and scattered bicycle signage. A handful of dedicated cyclists do ride to the site,

including from the bicycle rental vendors in San Francisco. Bicycles and equestrians are not allowed inside the area (bike racks are available at the site entrance). The site's trails are very accessible with 1.5 miles of paved or boardwalk trails leading to an extensive trail network. Direct connectivity to other trails is excellent, and Stinson Beach, Muir Beach, and Mount. Tamalpais State Park are nearby.

A three-year shuttle pilot project, started in 2005, has proven very successful in providing an alternative mode to the site on summer weekends, offering connections to two park-and-ride locations and to Golden Gate Transit routes (from San Francisco, Sausalito, etc.). During the summer of 2006, the shuttle carried nearly 15,000 trips from Memorial Day through Labor Day, operating on weekends only. The pilot phase of this project will be completed in summer, 2007, with connections to the Sausalito ferry and increased service frequency. No long term funding source has been identified. Aside from this pilot project, transit access is poor, with no service at all during 9 months of the year.

Muir Beach and Overlook



A critical issue limiting opportunities for transit service to this popular site is the lack of an accessible bus stop which meets the requirements of the Americans With Disabilities Act (ADA).

This picturesque cove and beach is popular with hikers, picnickers, bikers, surfers, and beach recreationists. Primary access is via automobile. State Route 1, the major access road, is congested at peak times, especially during the summer months. The dirt parking lot has a maximum capacity of approximately 180 vehicles. Parking often reaches capacity during peak visiting periods; the parking lot will be improved as part of the Big Lagoon Restoration Project, but will retain the existing capacity.

Secondary access is pedestrian via neighboring communities and trails. Other than off-roadway trails, pedestrian and bicycle access is poor, with no sidewalks or bicycle lanes to the site.

Connectivity to area attractions is good with access to the Coastal Trail and others at the site, and Stinson Beach, Muir Woods, and Mount Tamalpais State Park are nearby. NPS and CA State Parks in cooperation with Marin County and Caltrans plan to connect the Coastal Trail to Redwood Creek and Dias Ridge Trails at Muir Beach, and to improve the connection between Muir Woods Road and Pacific Way. Horseback tours are offered by local stables on nearby equestrian-permitted trails. There is no transit service to the site. The Muir Woods shuttle passes the site but is unable to make a stop due to the lack of ADA-accessible bus stops and connection to adjacent park sites and the community.

Muir Beach Overlook gives a panoramic view of Muir Beach and the entire coastline, acting as a rest stop for those traveling along State Route 1. The site is immediately adjacent to the highway and therefore primary access is via automobile, with a 25-space parking lot. Secondary access is pedestrian via the Coastal Trail. Most visitors are tourists, with a few hikers. There is no transit access to the site. Pedestrian and bicycle access to the site is poor, with no sidewalks or bicycle lanes and steep terrain. The site has a very short extension of the coastal trail, but the primary use is to simply stop and enjoy the view.

Slide Ranch

The Slide Ranch non-profit organization leases and manages this site, providing educational programs promoting sustainable agriculture and resource awareness. Primary visitors are hikers and schoolchildren.

Primary access is via automobile; State Route 1, the major access road, is congested at peak times, especially during the summer months. The site has a small parking lot with 25 parking spaces, and there is no public transit to the site.

Secondary access is pedestrian via the Coastal Trail and the site's other social trails. Trails offer direct connectivity to the Mount Tamalpais State Park and the Muir Beach Overlook. Muir Beach, Stinson Beach, and Muir Woods are nearby. Marin County and the NPS plan to connect the Coastal Trail to Redwood Creek Trail and the Dias Ridge Trail south of Slide Ranch.

Tennessee Valley and Beach

Moderate trails lead to this site's popular small beach cove. Strollers, hikers, runners, bikers, horseback riders, and dog walkers use the site, which is interlaced with several trails connecting to the north and south, including the Coastal Trail. The site is heavily used by local residents because it is minutes away from suburban neighborhoods and thus lends itself to short spontaneous visits. Primary access is via automobile; State Route 1, the major access road, is congested at peak times, especially during the summer months. An unpaved parking lot provides 86 spaces. At peak times, parking continues along the roadside on Tennessee Valley Road, which creates a hazard for motorists and pedestrians.



Spillover parking on Tennessee Valley Road is a hazard to pedestrians and drivers in this area.

Secondary access is pedestrian by the off-roadway Rhubarb Trail, which Marin County and the NPS plan to enhance to improve pedestrian access to the site. Connectivity to area attractions is good, with access to the Marin Headlands via the Coastal Trail, and Stinson Beach, Muir Woods, and Mount Tamalpais State Park nearby. Horseback tours are offered by park stables on nearby equestrian-permitted trails.

Aside from the excellent off-roadway trails, pedestrian and bicycle access to the site is poor, with no sidewalks or bicycle lanes to the site. There is no transit to the site.

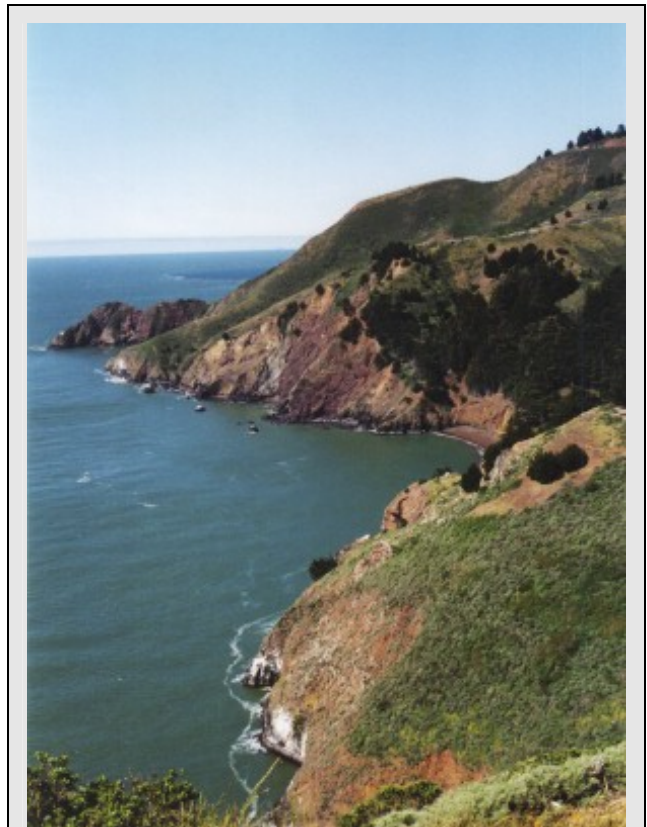
There are two projects planned for the Tennessee Valley area designed to improve access, reduce congestion, and improve safety and circulation. These are the subject of the Tamalpais Transportation Improvement's (TTI) Tennessee Valley Trail Alternatives Analysis, described briefly in Chapter 4 of this document.

Marin Headlands

The Marin Headlands is a large site at the north end of the Golden Gate Bridge (US Hwy 101). This park site has multiple uses and entities, including miles of trails, historic military fortifications, NPS and partner employee housing, NPS administrative offices, a youth hostel, the YMCA, the Marine Mammal Center, the Headlands Institute, an NPS Visitor Center, various non-profit offices, overlooks, campsites, an equestrian facility (not open to the public) and beach access. Tourists, dog walkers, cyclists, surfers, researchers, hikers, equestrians, kayakers, as well as employees of the various tenants and countless others utilize the site.

Primary access is via automobile. U.S. Highway 101, the major access road, is congested at peak times, especially during the summer months. Parking is abundant throughout the site, both on roadsides and in established parking lots.

Secondary access is by bicycle (on the roadways and trail system) and pedestrian (via off-roadway trails). Pedestrian access is fair overall: trails and established areas have good access, but lack a contiguous sidewalk. Marin County and the NPS plan to extend the



Marin Headlands is the only Marin County park served by transit directly from San Francisco. The Route 76 service operates hourly on Sundays and holidays only.

Coastal Trail along major portions of Conzelman Road. Bicycle access is fair with few on-road bike lanes, signage, and moderate grades on Bunker Road. The site offers direct connectivity to Muir Beach, Muir Woods, Fort Baker, the Coastal Trail and other trails, and the Golden Gate Bridge Vista Point (a major tourist destination) is nearby.

Minimal transit service is provided, with an hourly public transit service provided to the Headlands from San Francisco on Sundays and holidays only. A number of Golden Gate routes pass near the site on Highway 101, but there is no adjacent stop with safe pedestrian, bicycle or shuttle conditions to access the site. Enhanced transit service is desirable, given the youth hostel, NPS housing, and large number of commuting employees to the site. An informal carpooling system has been established (Green Wheels), but use is low.

The Marin Headlands-Fort Baker Transportation Management Plan proposes improvements to the roads, trails, parking lots and transit access. Review of the Plan and Draft Environmental Impact Statement is scheduled for 2007.

Fort Baker

This historic military installation includes a Coast Guard station, the Bay Area Discovery Museum, Travis Sailing Center, and bay access. Visitors include bikers, hikers, amateur sailors, museum-goers, picnickers, and tourists. The site connects directly to the Marin Headlands via the road system. The Golden Gate Bridge Vista Point Overlook (a major tourist destination) and downtown Sausalito are nearby. Primary access is via automobile, and parking is abundant.. U.S. Highway 101, the major access road, is congested at peak times, especially during the summer months.

Secondary access is by bicycle (on the roadways) and pedestrian access via the off-roadway Bay Trail and lower Conzelman Road, which connects to the Marin Headlands on a service-vehicle-only paved road under the north end of the Golden Gate Bridge. Pedestrian access is fair, there are no sidewalks leading to the site, but most of the site's established portions are paved, with sidewalks in the central core of the site. There are no defined bicycle lanes, but the area is popular with cyclists because of the low amount of traffic and the direct connectivity from the Golden Gate Bridge to Sausalito. GGNRA plans to extend the Bay Trail along East Road to Point Cavallo and along the waterfront and proposes a bicycle tunnel from Bunker Road into Fort Baker in the Marin Headlands/Fort Baker Transportation Plan DEIS.

There is no transit service to the site, but several Golden Gate Transit routes heading to Sausalito could provide service if demand warranted the time for deviation of existing routes. The City of Sausalito has run a seasonal shuttle to the Bay Discovery Museum, but this service has recently been discontinued due to lack of funding.

The National Park Service has recently entered into an agreement with a developer who will restore the historic roads and buildings at the site's core, operating a retreat and conference center with numerous public events and attractions. The development plan has been

analyzed in an Environmental Impact Statement (EIS), which describes future conditions on the site. The development is designed to emphasize a number of unique features, reducing dependence on the automobile and focusing on Transportation Demand Management. A shuttle will be operated to provide connections from the Fort Baker retreat and conference center to local transit hubs, such as downtown Sausalito and the Golden Gate Bridge toll plaza, for employees and guests. An operations plan will be developed for shuttle operations beginning in mid-2008.

San Francisco County

This region of the park is unique in providing visitors access to a National Park experience in the heart of a major city. These park lands serve as the primary gateway for local, regional, and international visitors. Visitor types vary the most, from an international visitor who is making a once-in-a-lifetime trip to Alcatraz, to a local resident who walks his or her dog on Crissy Field every day.

San Francisco park lands are clustered in two locations. At the north of the city are the Presidio, Crissy Field, Fort Mason and other sites directly adjacent to highly urbanized areas. On the west side, extending southward toward San Mateo County, are the coastal park lands such as Lands End, the Cliff House, and Ocean Beach and Fort Funston. This area of the city is less urbanized and less well-served by transit.



GGNRA park lands in San Francisco present a unique opportunity to experience natural open space in an urban context. Parking at most of the San Francisco park lands is not fully subscribed, due in part to the availability of good bicycle, pedestrian and transit service to the parks.

Alcatraz, a unique site with its own special set of access concerns, is on an island off the north shore of the city.

All GGNRA sites in San Francisco County share these characteristics:

- Very good to excellent public transportation for accessing sites. Traveling within Park sites is a little more difficult than accessing the site generally.
- Connectivity to other local attractions is excellent
- Signage is good, with large “arrowheads” at entrances, and signage throughout site; however, there is no Park site information signage at local transit stops
- Bicycle access is good to excellent, with Class I, II or III paths to and through sites
- Well-connected to the city with sidewalks
- Generous parking facilities at each site

- Most sites are fully ADA-accessible

Fort Funston

A historic military fortification, this site includes Battery Davis, a native plant nursery, environmental education facility and group camp, observation deck, and beach access. Primary visitors are hikers, dog walkers, picnickers, bikers, surfers, hang gliders, and beach recreationists. The site offers direct connectivity to Ocean Beach, and Lake Merced and the Olympic Club (a country club with golf course) are nearby. Primary access is by automobile, and the main access road is State Route 35 (Skyline Blvd.); there is a parking lot with approximately 135 spaces. Transit service is fair, with a single line servicing the site with good frequency of service. The nearest stop is approximately a quarter-mile from the site entrance. A short boardwalk offers pedestrian access, off-road trails offer beach access, and the roads leading to the site have bike lanes. ADA-accessibility is limited to a short boardwalk and paved trails.

Ocean Beach

Ocean Beach consists of three miles of open, sandy beach and dunes at the edge of San Francisco neighborhoods primarily made up of 1-2 story single-family dwellings and little retail. The site is very popular as an urban park, and hikers, dog walkers, picnickers, bikers, surfers, and beach recreationists utilize the site. Connectivity to area attractions is excellent, with direct connectivity to Fort Funston, the Cliff House, Sutro Baths, Golden Gate Park, the San Francisco Zoo, and countless attractions throughout the city of San Francisco.

Access via all modes is excellent, with sidewalks leading to the site, a pedestrian promenade, grade-separated bike paths, and multiple and frequent bus and streetcar lines. Primary access is via automobile; the major access roads - State Route 1 (19th Avenue) and the Great Highway - can be congested at peak times. Parking is abundant, with over 300 spaces on City property adjacent to the site, and many more on nearby neighborhood streets. Secondary access is pedestrian via adjacent neighborhoods and by bicycle.

Cliff House

A historic cliff-top building with a panoramic view of Ocean Beach, the Cliff House offers a fine dining restaurant, ocean overlooks, the Camera Obscura exhibit (also historic), and a gift shop. Primary visitors are diners and tourists. Primary access is via automobile from Point Lobos Avenue or the Great Highway. Parking is abundant with approximately 100 roadside spaces on city streets and two additional parking lots serving Lands End (approximately 150 spaces) and Sutro Heights Park (approximately 150 spaces).

Secondary access is pedestrian via adjacent neighborhoods and by bicycle. Pedestrian access is excellent with sidewalks and a beach promenade leading to the site, as well as off-road trails. The roads have striped bike lanes, and this route is popular with cyclists. Connectivity to area attractions is excellent, with direct connectivity to Sutro Baths and

Lands End, and the Palace of the Legion of Honor and Golden Gate Park are nearby. Transit access is good, with Route 18 providing service every 20 minutes to the site, and Route 38 stopping a little over a quarter-mile away.

Lands End & Sutro Park

The site includes trails, overlooks, beach access, picnic areas, and the ruins of the historic Sutro Baths. Local residents and tourists enjoy this site for its coastal views and hikes that offer a respite from the city. Primary visitors are hikers, dog walkers, picnickers, bikers, surfers and beach recreationists. Primary access is via automobile via many local streets. Traffic is low compared to nearby streets and thoroughfares. The site has abundant parking, with over 400 street-side and formal spaces; however, informal street-side parking infringes on would-be bike lanes on Point Lobos Avenue which could be alleviated with signage.

Secondary access is pedestrian via adjacent neighborhoods, and by bicycle. Pedestrian access is excellent, with sidewalks through neighboring urban neighborhoods and off-road trails throughout the site. Transit access is good, with one line serving the site with 20-minute service. Bicycle access is good, with varied levels of striping and signage, and the roads are popular with cyclists since they follow the Route 1 corridor.

Connectivity to area attractions is excellent, with direct connectivity to the Palace of the Legion of Honor, Lincoln Park Golf Course, USS San Francisco Memorial, West Fort Miley, Sutro Park, and the Cliff House. NPS plans to create a trail system around the ruins of the historic Sutro Baths, enhancing connectivity to the Coastal Trail at Lands End.

China Beach

Named after the 19th century Chinese fishermen who anchored their boats here, this small beach attracts sunbathers, picnickers, surfers, and anglers. Primary access is via automobile from Seacliff Avenue, a small residential street; there are 35 parking spaces at the site.

Secondary access is pedestrian via adjacent neighborhoods. Pedestrian access is good, with the Coastal Trail, sidewalks through the adjacent neighborhood, and paved paths leading to the beach at the site. Bicycle access to the site is fair with very low traffic volume and some bike lanes through the adjacent Seacliff neighborhood. Transit service is frequent in the adjacent urban neighborhood, with the nearest stop a quarter-mile away.

Baker Beach

At the far western end of the Presidio, Baker Beach is a popular mid-sized beach with local trails, historic fortifications, and Battery Chamberlain (a rifled gun on a disappearing carriage). Primary users are sunbathers, tourists, dog walkers, hikers, bikers, picnickers, surfers, and anglers. Primary access is via automobile from Gibson Road, off Lincoln Boulevard. Parking is abundant with over 150 spaces. Connectivity to attractions is excellent, with direct connectivity to China Beach, Fort Point, various overlooks, and

countless attractions in the Presidio. Pedestrian access is fair; there are no sidewalks leading to the site, but the Coastal Trail offers off-road access. Bicycle access is good, with striped bike lanes leading to the site and throughout the Presidio. Transit service is good, with San Francisco Muni and the PresidiGo serving the site with frequent service. NPS plans to improve and add trails, enhancing Coastal Trail connectivity at Baker Beach.

Presidio

The Presidio is a large historic military installation with numerous uses and attractions, including trails, building clusters used as park administrative and commercial space (National Park Service, Presidio Trust, YMCA, Letterman Digital Arts Center, etc.), and tourist/recreational attractions (Visitor's Center/Officer's Club, bowling alley, etc.). Primary visitors are employees, tourists, hikers, bikers, picnickers, and special events attendees.

Primary access is via automobile. State Route 1 and US Highway 101 (Doyle Drive), the major access roads, are congested at peak times. Connectivity to attractions is excellent, with direct connectivity to Crissy Field, Fort Point, and the Toll Plaza Overlook of the Golden Gate Bridge (a major tourist destination). Pedestrian and bicycle access is excellent, with sidewalks, off-road trails, and bike lanes throughout the site. The NPS plans to enhance the Bay Area Ridge Trail and the Presidio Promenade throughout the site.



The new PresidiGo shuttle service operated by the park provides circulation within the large Presidio site. However, the connections between shuttle and regular transit services are neither intuitive nor seamless.

Transit service is excellent, with Muni and Golden Gate Transit serving major arterials with high frequency of service, and the PresidiGo serving smaller roads within the site. Parking is abundant, with over 1,000 parking spaces. Although the shuttle does provide enhanced circulation within the site, it is not as well-known as the public transit service.

Fort Point

Fort Point is a Civil War-era fortification at the foot of the southern end of the Golden Gate Bridge. The site offers bay access, a historic fort with exhibits, visitor's center, bookstore, and the last leg of the Golden Gate Promenade trail. Primary visitors are runners, strollers, anglers, bikers, and tourists. Primary access is pedestrian and bicycle. Secondary access is via automobile. US Highway 101 (Doyle Drive leading to the Golden Gate Bridge) is congested at peak times. The small steep winding roads leading from the Bridge to the Fort have narrow shoulders, no sidewalks and no bike lanes marked. There is a mid-sized parking lot at the site with over 100 spaces and a similar-sized lot at Battery East, along Lincoln Boulevard, with trail connections to the Fort.

Connectivity to attractions is excellent, with direct connectivity to Crissy Field, the Presidio, the Warming Hut, and the Toll Plaza Overlook of the Golden Gate Bridge (a major tourist destination). Pedestrian and bicycle access along the waterfront is excellent, with sidewalks, off-road trails, and bike lanes throughout the site. Transit service is poor, with the PresidiGo serving the site directly only on weekends; however, the daily PresidiGo stops about a half mile from Fort Point.

Crissy Field

Formerly a historic airplane landing strip, Crissy Field underwent a comprehensive rehabilitation during 1998-2000, which restored the natural systems to this 100-acre site. The site includes a restored marshland and beach, fields of grass, dirt paths, boardwalks, paved trails, the Warming Hut café/bookstore, and the Crissy Field Visitor's Center. Primary visitors are runners, hikers, bikers, strollers, dog walkers, kite flyers, schoolchildren, anglers, and picnickers. Primary access is pedestrian and bicycle. Secondary access is via automobile. State Route 1 and US Highway 101 (Doyle Drive), the major access roads, are congested at peak times. Connectivity to attractions is excellent, with direct connectivity to the Presidio, Fort Mason, Fort Point, and the neighboring yacht harbor. Pedestrian and bicycle access is excellent, with sidewalks, off-road trails, and bike lanes throughout the site. Transit service is good, with multiple MUNI lines, Golden Gate Transit, and the PresidiGo serving the site with good frequency of service. In addition, the recently-opened Presidio Transit Center, at Lincoln and Graham, is very close to Crissy Field. Parking is scattered throughout, with over 200 roadside and formal spaces.

While Doyle Drive is currently an elevated roadway that divides Crissy Field from the rest of the Presidio, there is a plan to create a parkway at grade as part of a Doyle Drive seismic retrofit project. This roadway project will transform access and visitor experience in the Presidio and will eliminate a visual barrier between Crissy Field and other park destinations.

In 2006, The Presidio Trust, GGNRA, the San Francisco Maritime National Historical Park, and the San Francisco Municipal Railway, released the *Muni E-Line Extension Feasibility Study*, which explores the feasibility of extending historic streetcar service beyond Fisherman's Wharf to Fort Mason and Crissy Field. This project is discussed briefly in Chapter 4, and is shown on the map of future projects for the Presidio.

Lower Fort Mason

Just below the park headquarters at Upper Fort Mason, this site includes piers, docks, and structures from the historic military installation. The long pier-side buildings are used as office space (retail and commercial), restaurants, and special events centers. Primary visitors are employees, tourists, hikers, bikers, picnickers, and special events attendees. Primary access is via transit and automobile. State Route 1 and US Highway 101, the major access roads, are congested at peak times. Secondary access is pedestrian and bicycle. Connectivity to attractions is excellent, with direct connectivity to Upper Fort Mason, Crissy Field, and the neighboring yacht harbor. Pedestrian and bicycle access is excellent, with

sidewalks and paved paths throughout the site. Transit service is excellent, with at least ten city bus lines and Golden Gate Transit service within a quarter-mile. Parking is abundant, with over 300 spaces. Parking charges have recently been implemented in the general public lots.

Upper Fort Mason



Fort Mason is a large site with many different user groups. While transit access to the periphery is excellent, it is often difficult for the visitor to know how to access many of the sites and services in the site.

This large historic military installation now acts as the GGNRA headquarters. The small and large buildings that encompass the site include a hostel, public garden, chapel, housing, pedestrian/bike path, and large grassy field (meadow). Primary visitors are employees, residents, dog walkers, tourists, hikers, bikers, picnickers, and special events attendees. Primary access is pedestrian and bicycle. Secondary access is via automobile. State Route 1 and US Highway 101, the major access roads, are congested at peak times. Connectivity to attractions is excellent, with direct connectivity to Lower Fort Mason and Aquatic Park. Pedestrian and bicycle access is excellent, with sidewalks

and paved paths throughout the site (nearby streets are less pedestrian and bicycle-friendly due to high-speed traffic). Parking is scattered throughout the site with over-200 spaces. Transit service is excellent, with Muni serving the site with a high frequency of service, a transit hub adjacent in Lower Fort Mason, and Golden Gate Transit stopping within a quarter-mile.

Aquatic Park

This bayside site includes Hyde St. Pier, the Maritime Museum, and Aquatic Park – a park for water enthusiasts. The area offers bay access, a promenade, paved paths, museums, and historic piers. Primary visitors are tourists, swimmers, kayakers, dog walkers, picnickers, strollers, and bikers. Primary access is pedestrian. Secondary access is via automobile. US Highway 101, the major access road, is congested at peak times. About 100 street-side parking spaces are available along Van Ness Avenue on the west side, and there are many metered spaces adjacent to the site.

Connectivity to area attractions is excellent, with direct connectivity to Fort Mason and Fisherman's Wharf. Pedestrian access is excellent, with sidewalks, paved paths, and a promenade throughout the site. Bicycle access is good, although the area is busy at times with tourists. Transit access is excellent, with a high frequency of service; Muni serves the

site with a cable car line and multiple buses, and Golden Gate Transit also has multiple lines which stop at the site.

Alcatraz

A landmark historic island prison and military fortification, Alcatraz is one of the few fee sites of GGNRA, offering a unique prison-as-museum visitor experience. Primary visitors are tourists. The site is only accessible via ferry, currently departing from Pier 33 and run by a park concessionaire. (Other vendors also offer Bay tours which incorporate Alcatraz interpretation while pausing in the water near the site without landing). Once on the island, paved walkways are very steep, and an electric tram is provided for persons with special needs.

Pier 33, the current embarkation point for Alcatraz, is easily accessible using any of a number of modes, including taxis, private vehicles, pedestrian, bicycle, and numerous transit lines including the popular F-Line historic streetcar. Connectivity to area attractions is excellent, with direct connectivity to Angel Island, Pier 39 and Fisherman's Wharf. Pedestrian access is good, with paved sidewalks leading to Pier 33. Bicycle access near Pier 33 is fair, given the exceptionally high tourist traffic; bicycles are not allowed onsite. There is no Alcatraz-specific parking. Visitors park at street-side meters, in paid parking structures, and in nearby neighborhoods. Transit service is excellent with both Muni buses and a streetcar serving the site with a high level of frequency.

While Alcatraz is the only site served by ferries, many others are potentially accessible by water. Two ferry planning projects are currently underway to improve access to GGNRA lands using a ferry system - one led by the National Park Service and another by the regional Water Transit Authority. In 2003, the Water Transit Authority released the *Water Transit Authority Strategy to Improve Public Transit with an Environmentally Friendly Ferry System, and a Ferry Implementation Plan*. These plans are discussed in Chapter 4.



Alcatraz has unique access issues, with access limited to ferry service provided by a park concessionaire.

San Mateo County



Park lands in San Mateo include the newest additions to the GGNRA. Access to sites and wayfinding to and within sites are less developed than park lands in San Francisco or Marin Counties.

Compared to San Francisco and Marin Counties, park sites in San Mateo County are more difficult for visitors to access and primarily serve local residents. Newer sites or those yet to officially become part of the GGNRA (such as Pedro Point, Devil's Slide, and Corral de Tierra) have underdeveloped access points, parking, and trail connectivity. Areas like Mori Point, where access is more established, have seen significant use and growth in visitation. Many of the sites offer exceptional access to natural resources and incredible panoramic views. As each location matures, GGNRA should expect to see a substantial increase in visitor use in the sites throughout San Mateo County.

All GGNRA sites in San Mateo County share these characteristics:

- Low to medium visitation levels
- Minimal public transportation focused primarily on weekday commuters, with reductions in service on weekends; some sites have no public transit
- Bicycle access is good; however, it is not allowed at some sites
- Poor pedestrian access; ADA-difficult
- No signage until the visitor is inside the site
- Parking facilities at each site
- Roadway connections are fair to good

Milagra Ridge

Milagra Ridge is a 240-acre parcel of open space overlooking the city of Pacifica, surrounded by development. Once part of the coastal fortification system, it is now part of the GGNRA and is home to various protected species of plants and wildlife.

The site is fairly isolated; primary access is via automobile, from College Drive off of



Milagra Ridge is a relatively isolated site with minimal parking and poor access from alternative modes.

Sharp Park Road; the 6-8 informal roadside parking spaces adjacent to the trailhead are insufficient, even with very low utilization of the site. The nearest major roadways are State Route 1 and State Route 35, within a few miles of the site. Both highways experience congestion during peak hours.

There are two well-maintained trails used by dog-walkers, hikers and bikers - one paved with moderate gradients and one dirt with steep gradients. While the dirt trail is ADA-inaccessible, the paved trail has potential to meet ADA requirements. Although Milagra Ridge does not have direct connectivity to other NPS sites, access to Sweeney Ridge at Skyline College is about one mile south, and Sharp Park State Beach is a few miles to the west.

Pedestrians may access the site from west-bound sidewalks on Sharp Park Road or northbound from College Drive; there are no sidewalks heading eastbound on Sharp Park Road. The Bay Ridge Trail connects to Milagra Ridge, after which there is a gap in the trail to the northwest. The Bay Ridge Trail is planned to close this gap. The completion of this trail was mentioned as an important issue to visitors.

Bicycle access is provided by a grade-separated Class II bike route on Sharp Park Road, and a paved loop through site. The San Mateo Bicycle Plan calls for recreational route improvements, including a spot and corridor improvements on major recreational bicycling routes including Canada, Mountain Home, Alpine, La Honda, and Skyline. Skyline runs very close to this site, so coordination with the County on their plans may bring opportunities for improvements at this site.

Additionally, the Bicycle Plan proposes three trails linking San Bruno Mountain to other trails, as called for in the County General Plan. One would be from San Bruno Mountain to the Ridge Trail in San Mateo County at Milagra Ridge.

Transit frequencies range from 30 minutes on weekdays and during commute hours, to 60 minutes on weekends. The nearest stop is over half a mile from the trailhead. There is a transit hub approximately one mile south at Skyline College with connections to BART and Muni. San Mateo County plans to connect San Bruno Mountain to the Ridge Trail at Milagra Ridge.

The four Park areas of Sweeney **Ridge, Cattle Hill, Mori Point, and Pedro Point** are clustered in a 1-mile area around the city of Pacifica.

Sweeney Ridge/Cattle Hill

This area rises above Pacifica to the west, and serves as a home to a broad range of wildlife while providing views of San Francisco Bay. It also contains historic sites, most notably the Portola Discovery Site, where the explorer Portola is said to have discovered the San Francisco Bay. Hikes along the ridge also pass the ruins of a former U.S. Army Nike missile control station. Cattle Hill is owned by the City of Pacifica, but is being transferred to the GGNRA.

This 1500-acre site has ridge-top trails adjacent to the 23,000-acre Peninsula Watershed – an expansive open space preserve. Primary use is by dog walkers, hikers, and bikers. Primary access to the site is via automobile, and secondary is pedestrian via adjacent suburban neighborhoods. The nearest major roadways are State Route 1 and State Route 35, which are within a few miles of the site; both experience congestion during peak hours.



Sweeney Ridge has the best transit and pedestrian access of any of the San Mateo County park lands.

The site has multiple “social” (i.e., unofficial) entrances and four semi-established entrances: Sneath Lane, Skyline College, Shelldance Nursery, and Fassler Avenue (through Cattle Hill). Although the site is very large with excellent connectivity to nearby trails (including Baquiano and Mori Ridge Trails), visitation is low. This might be due in part to underdeveloped entrances, lack of formal parking, and possibly the steepness of the mostly unpaved trails.

Transit service is good with 30-minute frequencies during commute hours, and 60-minute service on weekends. Transit stops are near entrances, and routes connect to BART and Muni via transfers. San Mateo County plans to connect the Valley View Trail to the Ridge Trail and extend the San Andreas Trail to the Sneath Lane trail at Sweeney Ridge.

The City of Pacifica is completing trail and site improvements, which will result in improved access to the trail at the top of Fassler Avenue, which connects to the Sweeney Ridge/Cattle Hill Trail System. This work is about 50% completed (as of November 1, 2006).

In addition, the San Mateo County 2001 Trails Plan proposes a new trail on San Bruno Mountain that may end at Sweeney Ridge in the GGNRA.

Mori Point



There is no formal parking area for this site. Parking occurs in the adjacent neighborhood or informally at nearby Moose Lodge.

Mori Point is a 105-acre promontory north of Pacifica overlooking the ocean. Formerly the site of a tavern and a rock quarry, it is a key link between the park lands of Sweeny Ridge and Milagra Ridge, and is home to several endangered species of plants and animals.

This site's paths offer beach access, views, and directly connect to the Sharp Park State Beach promenade. The moderate trails are popular with strollers, dog walkers, and surfers. Primary access is both by automobile and on foot from the adjacent suburban neighborhood. Access to Mori Point is within a quarter-mile of State Route 1, which experiences congestion during peak hours.

Connectivity is excellent to beaches to the south via a grade-separated bike path and to the north along the promenade into Sharp Park Beach and a golf course. The trail has potential ADA access, as it is a wide unpaved trail in good condition with a slight slope. Bicycle access is via Bradford Way as well as by a Class I bikeway along SR 1, both in excellent condition. An approved plan to rehabilitate habitats and trails will be implemented beginning in 2007, with improvements to the Coastal Trail segment through the site.

Parking is informal and limited, although visitors use abundant parking in neighborhood streets and at the adjacent Moose Lodge. With increased visitation, parking could become problematic. Two sheltered bus stops are within a half-mile of trailheads with 30- to 60-minute frequency (weekdays and weekends, respectively) and connections to BART. There is a small sign at the entry gate, but no other way-finding signage nearby or at transit stops.

Pedro Point

Pedro Point (sometimes called “Point Pedro” or “Pedro Point Headlands”) is a 256-acre area of open space along the Pacific Coast west of State Route 1 between Pacifica State Beach and Devil’s Slide. Currently owned by the City of Pacifica and some private owners, it is in the process of being transferred to the GGNRA. It is comprised of cliffs, forest, and coastal scrub grasslands.

The site has multiple “social” entryways, the most popular of which begins at a path behind Ace Hardware near the Ristorante Mare. Currently, local hikers and dog walkers use the site, and there is evidence of illegal motorcycle riding and inappropriate youth recreation. The site lacks a formal entry, established and maintained trails, and pedestrian/bicycle access.



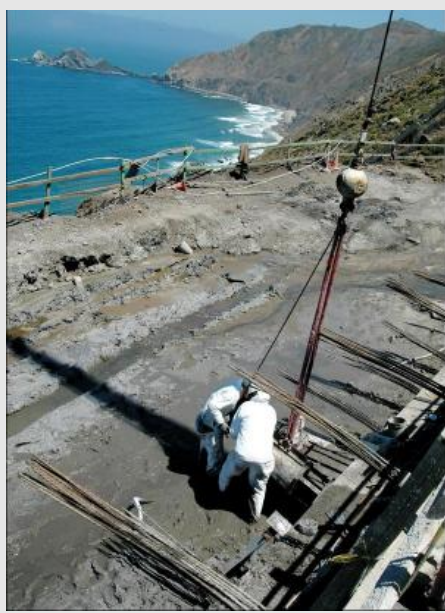
Access to Pedro Point will improve dramatically with the completion of the Devil’s Slide Project, which in addition to circumventing the unstable coast-side road will add a bus stop and parking.

Pedestrian access is poor, with poorly maintained sidewalks in the local neighborhood leading to the site. It is not ADA-accessible. There is a grade-separated Class I bike route northbound on SR 1 to Pacifica and Rockaway State Beaches. The trail currently has potential mountain biking access, however, it is steep and poorly maintained. Use by equestrians and dog-walkers is neither prohibited nor supported.

Currently, there is a transit hub about a half-mile from the site at the Pacific Manor Shopping Center with 60-to 90-minute service and connections to BART. The future development of Devil’s Slide will add approximately 24 formal parking spaces and a bus stop. State Route 1, the major access road, is congested at peak times. Pedro Point’s proximity to other area destinations suggest that it could become a prominent area attraction.

The site does not have direct access but is in close proximity to local beaches and McNee Ranch State Park. There is a plan to construct a multi-use trail connecting Pedro Point with Pacifica State Beach and the future Devil’s Slide recreation area; this would be funded as part of the Devil’s Slide Tunnel project and is anticipated to open this area to a larger visitor base.

The California Coastal Trail has a gap at this point; there are plans to design and construct the Coastal Trail segment through Pedro Point prior to its transfer to NPS, linking to the segment of Highway 1 to be abandoned in 2011 with the opening of the Devils Slide tunnel.



This future development will provide connectivity between park lands as well as providing new pedestrian access options to the San Mateo coastal park lands.

Devil's Slide

This future public access site includes the portion of State Route 1 to be converted to a multi-use trail once the tunnel is completed. Plans for the multi-use trail will nearly connect Pedro Point Headlands, McNee Ranch State Park, and Pacifica State Beach. Two future parking lots will add an estimated 24 parking spaces and a bus stop; however, there is currently no transit service.

The new development and improved connectivity will make this a prominent site, similar to the Sawyer Camp Trail. State Route 1, the major access road, is congested at peak times. In addition to the proposed development, San Mateo County plans to connect Highway 1 near the Pedro Point Headlands to McNee Ranch State Park (via the Gray Whale Cove Trail) and extend the Old San Pedro Trail from Highway 1 near the community of Vallemar in Pacifica to McNee Ranch State Park. The abandoned portion of Highway 1 will serve as a trail as long as it remains safe and passable and not closed by landslides, as the current highway occasionally is.

Phleger Estate

The Phleger Estate became a public open space area in 1995 when the National Park Service, partners, and private donors purchased it from the Phleger family. The recreation area is located immediately north of Huddart Park, south of the San Francisco watershed lands, and east of Skyline Boulevard. The plan most relevant to the Phleger Estate is the *Huddart and Wunderlich Parks Master Plan*.

The primary access to this site is through Huddart County Park, which is administered by the San Mateo County Parks and Recreation Department. Huddart County Park charges an entrance fee and has picnic areas, volleyball courts, lawns, child play structures, and hundreds of parking spaces. Adjacent to this developed site are a handful of excellent hiking and equestrian trails that make up the Phleger Estate. Trails are fairly steep, bicycles are prohibited, and use comes primarily from local equestrians and energetic hikers. None of the trails appear to have ADA-accessibility potential, as they are very steep. Although the trails are well-marked and



Access to the Phleger Estate is dependant on access through a County Park, primarily used by equestrians and hikers.

well-maintained, pedestrian and bicycle access to the site is poor because sidewalks, road shoulders, bicycle lanes and transit access are lacking. GGNRA presence does not become apparent until passing through Huddart County Park and reaching the trailhead. Once on the trail, signage is excellent.

Equestrian use is strongly supported by users of the site (approximately 50% of users of this site are horse riders). There are excellent, well-maintained horse trails in the site. Neither bicycles nor dogs are allowed on the trails, possibly because of the heavy equestrian use and the conflicts that might arise.

The site offers excellent immediate connectivity to about a dozen trails but is otherwise remote from area attractions due to its location 2.5 miles from the small town of Woodside. Primary access is by automobile. The nearest major roadway is Interstate 280, which is congested during peak times. Although parking is abundant in Huddart County Park, other trailheads lack formal parking. NPS, Bay Area Ridge Trail and San Mateo County Parks are participating in a jointly funded study of a BART multi-use alignment along Skyline connecting a proposed trailhead parking area on Kings Mountain Road, west along Huddart and Phleger.

A safe regional valley-to-Skyline connection for road bikes and mountain bikes is desired for those who wish to access the roads and mountain biking trails located west of Skyline. San Mateo County plans to create an alternate route for the Crystal Springs Trail South Trail from the intersection of State Routes 35 and 92 to the existing trail which leads to Huddart County Park, and to extend the Skyline Trail north from Huddart County Park to Purisma Creek Redwoods Open Space Preserve. Bicycle use is currently prohibited by county ordinance and would have to be changed by the county Board of Supervisors, and bicycle prohibition in the Phleger Estate would have to be changed by the National Park Service. There are also safety concerns regarding shared bicycle/equestrian use.

The Huddart Plan recommends that the County work with GGNRA and the Town of Woodside to identify a location from crossing of West Union Creek to allow users of the Town of Woodside's Flood Property trail to access the site. The Town and property owners support the concept of building a new bridge to cross the creek from the private property into the site.

The Huddart Plan also recommends trail entrances from the east, and suggests that the county work with the San Francisco PUC and GGNRA to develop a new trail entrance utilizing an existing service road, the existing Miramontes Trail, and a new short connector trail between the two. This new entrance would require at least three new bridges across West Union Creek.

Rancho Corral de Tierra

This site, currently owned and administered by Peninsula Open Space Trust (POST), is 4,262 acres of coastal terrace farm fields, chaparral foothills, and a dramatic skyline ridge behind Montara and Moss Beach. The park land is in two unconnected pieces, surrounding a piece of private land. In December of 2005, Congress approved the expansion of the GGNRA boundary to include this land, however, funding was not appropriated at that time. POST hopes to transfer this property to the GGNRA within the next few years.



Rancho Corral visitation is characterized by limited access and primarily local use.

Current entry points are not developed at the sites (the lands are not contiguous). The low number of visitors to the site using unestablished social trails, are dog walkers, hikers, bikers, and equestrians from the three equestrian facilities located on the site. There is also some illegal off-road vehicle use (motorcycles and 4-wheel-drive trucks).

Primary access is both by automobile and on foot from the adjacent suburban neighborhoods. Auto access is fair to good throughout, along Highway 1 adjacent to the airstrip, and via the suburban streets of Montara. The site's trails offer direct connectivity to McNee Ranch State Park. Parking is not formalized and is mostly based on local knowledge. The main sites are nearby neighborhood street parking, the Montara State Beach parking lot west of Highway 1, and various road pull offs.

Infrequent transit service on two routes is available within a half-mile of various trailheads, with 90-to 120-minute service weekdays and Saturdays, and 180-minute service Sundays and holidays. State Route 1, the major access road, is congested at peak times.

Public comment on this site focused on the benefits of having a coastal trail for equestrians, and requested equestrian-friendly trails linking the various sections of this site to one another and to other open spaces in the area, particularly the San Francisco Watershed.

San Francisco Watershed (SF Public Utilities Commission)

The 23,000-acre San Francisco Peninsula Watershed is owned by the Public Utilities Commission and is used for water collection and storage. As a result of its preservation for this purpose, it supports a large number of rare, threatened, and endangered species in a protected habitat just a few miles from the urban center of San Francisco. The GGNRA manages two easements encompassing the entire watershed, providing for preservation of the natural and open space values as well as recreational opportunities.



While the watershed lands are not owned by the National Parks Service, they are important park lands adjacent to the national park, heavily used for a variety of recreational purposes.

Peninsula Watershed – Sawyer Camp Trail

Visited by approximately 300,000 people a year, Sawyer Camp Trail is one of the most popular trails in San Mateo County. Located in the scenic Crystal Springs Watershed, the entire linear trail, including the proposed trail expansions, will be renamed the Crystal Springs Trail and is envisioned to provide an uninterrupted, non-motorized, multi-use route from the City of San Bruno to the Town of Woodside.

This very popular site's six miles of paved trail was built for high capacity with median striping, restrooms, and mile-markers. It is very heavily used by strollers, runners, and bikers, especially because of the views and lush canopy shading the trail. Parking is informal. Unpaved pullouts and street shoulder parking provide over 40 spaces at the main south entrance. The north entrance has roughly a dozen street-side spaces near and under the Interstate 280 overpass.

The only transit to the site is a single bus line with stops over a half-mile from the trailheads. Weekday transit service runs once an hour, connecting to BART and Caltrain; there is no weekend service. Primary access is by automobile, and the nearest major roadway is US Interstate 280, a wide scenic highway that is rarely congested. Secondary access is by bicycle due to the long stretch of well-paved trail and connectivity to Cañada and other bicycle-friendly roads. San Mateo County holds "Bicycle Sundays" when Cañada Road is closed to motor-vehicles from 9 a.m to 3p.m.

San Mateo County has several plans to enhance the site, including:

- extending the trail 3 miles north to San Bruno Avenue and potentially 2-3 miles south to Cañada Road

- offering an alternative route for equestrians and hikers parallel to the site, beginning from the northern trailhead and terminating at approximately Crystal Springs Road
- extending the southern trailhead along the San Mateo County Creek to the San Mateo County Line
- connecting Sawyer Camp Trail to the Crystal Springs Trail

San Andreas Trail

The San Andreas trail extends from San Bruno Avenue on the north to Hillcrest Boulevard on the south where it connects to the Sawyer Camp Trail. It runs through the San Francisco watershed, which is operated by the San Francisco Public Utilities Commission. This trail is probably the second most popular trail in mid-county because a portion of it is paved, and it is heavily used by bicyclists, joggers and hikers. It also has easy access to Skyline Boulevard. The southerly 0.6-mile is gravel-surfaced and not passable by bicycles, which detour to the frontage road east of 1-280 to get to Sawyer Camp Trail. The trail passes close to San Andreas Reservoir in its northerly section, and provides beautiful views. It is hoped that some day it will connect to the Sweeney Ridge Trail and the San Francisco Bay Discovery Site.

Peninsula Watershed (San Francisco Public Utilities Commission) – Fifiield-Cahill Ridge Trail

This site has 10 miles of trails managed by the San Francisco Public Utilities Commission. Access to the trail is by docent-led groups only, with a maximum of three trips per day on Wednesdays, Saturdays, and Sundays. The Commission's docents work on a volunteer basis and groups can be no larger than 17 persons. Although this trail is well-developed with restrooms every 2 miles, usage is very low, especially since reservations are required (no fee). Parking is available at Skyline Quarry and no transit service is available. State Route 92, the major access road, is congested at peak times.

San Mateo County plans to expand connectivity to the watershed lands. Plans include: linking McNee Ranch State Park to Scarper Peak; connecting Junipero Serra County Park to the easement lands; and expanding the East Ridge Boundary Trail to connect to the Crystal Springs Trail, Edgewood County Park, Pulgas Ridge Open Space Preserve, and the Ralston Trail.

Picardo Ranch

The Picardo Ranch is currently a privately held home with a horse corral, off Cape Breton Drive from Oddstad Blvd. This was at one time a potential future extension of the Sweeney Ridge Trails, but has not yet been acquired. There are no public comments on record regarding this property. There is no public access to the property at this time.

From the Bay Area Conservancy Program from the Bay Area Open Space Council, March 5, 2002:

“Picardo Ranch covers 166 acres and occupies a quiet valley just off the busy streets of Pacifica. It is the last large family farm left in Pacifica, a suburban city which 50 years ago was almost entirely in agriculture. This purchase would provide trail access to the Baquiano Trail and the San Francisco Discovery Site, as well as connect to the Bay Area Ridge Trail. This site could also serve as a future home for an environmental education center, where visitors could learn about organic farming, pollution prevention, composting, and habitat protection.”

Figure 2-1: Golden Gate National Recreation Area: GMP Areas

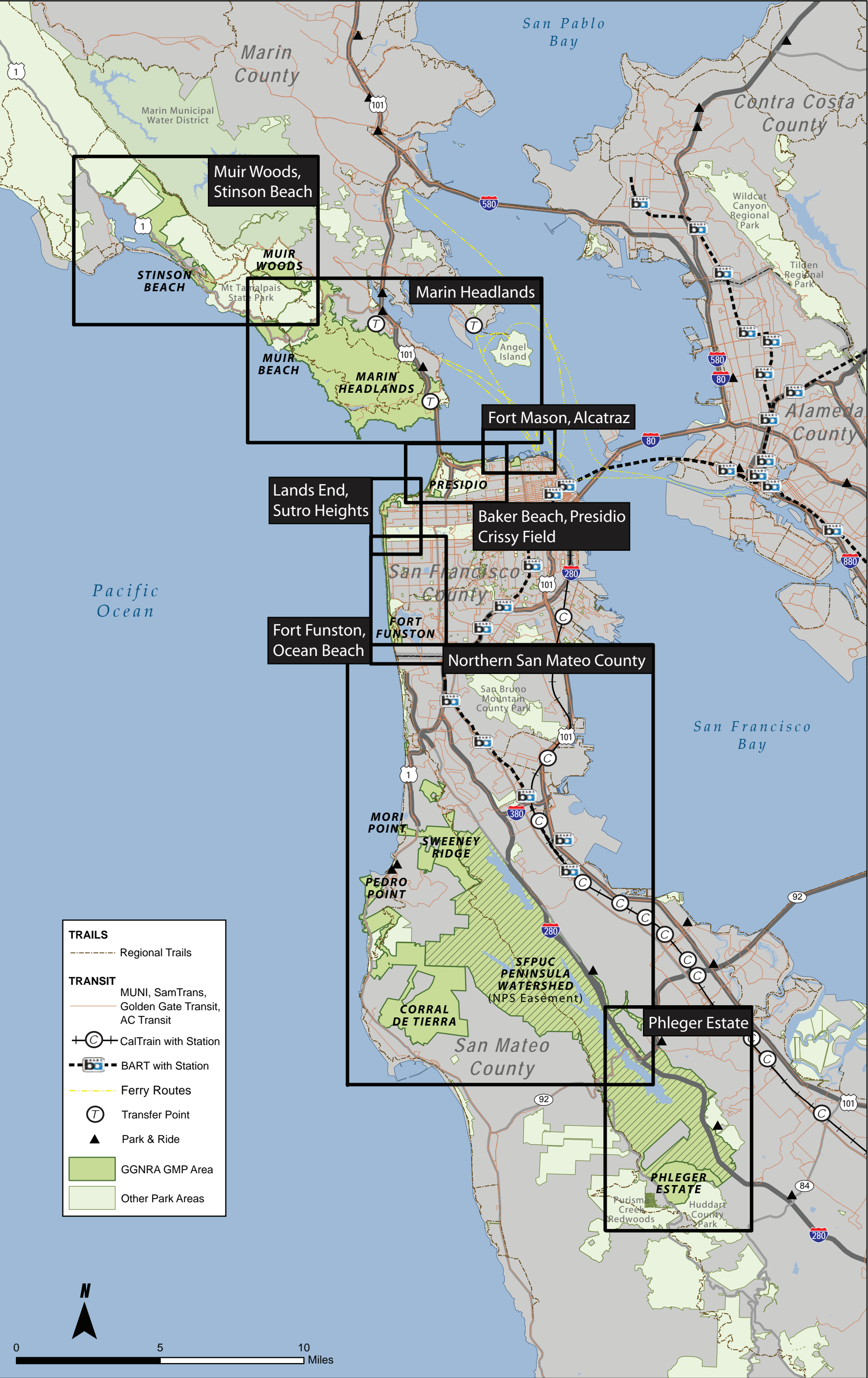


Figure 2-2: Muir Woods, Stinson Beach

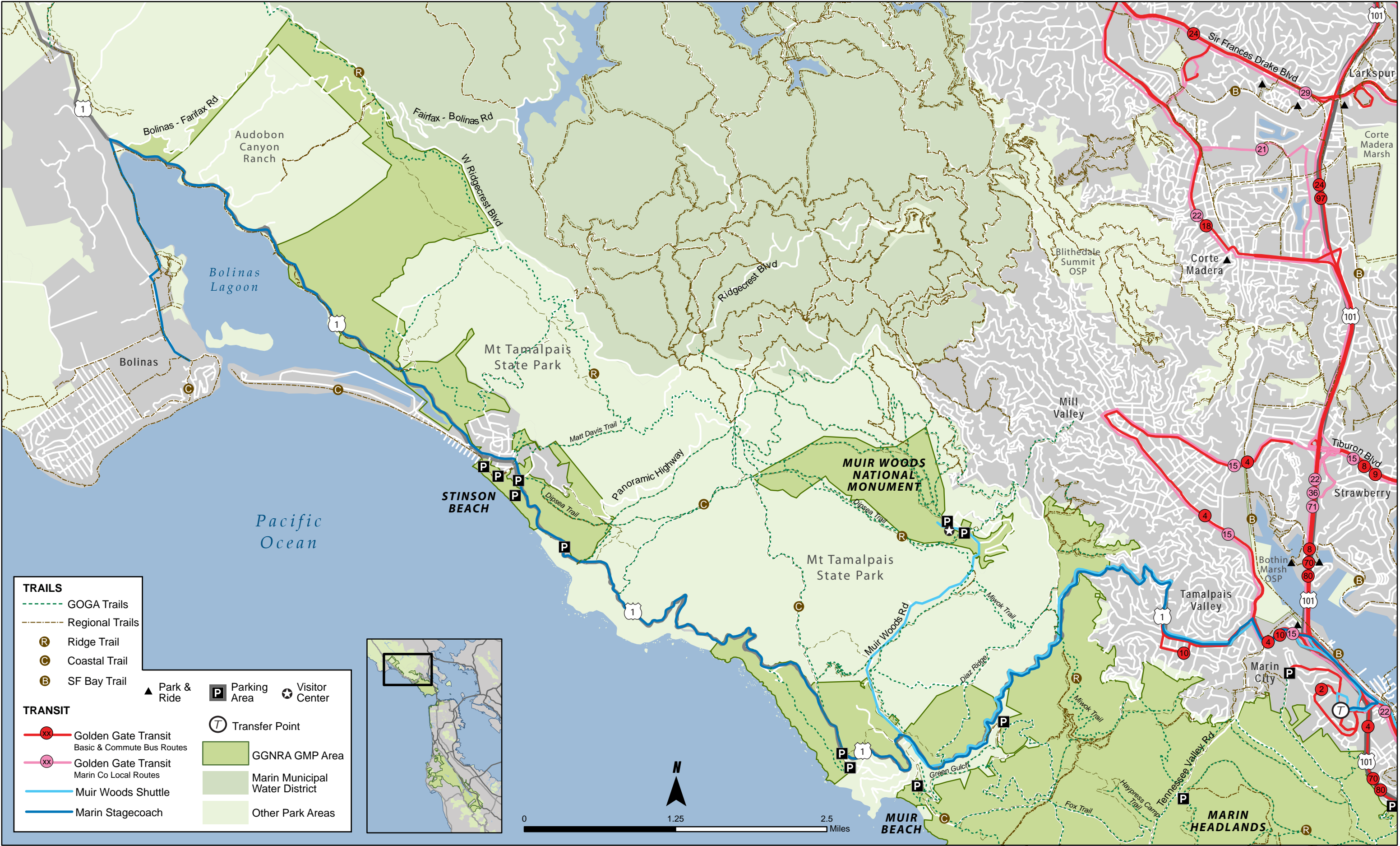


Figure 2-3: Marin Headlands



Figure 2-4: Fort Mason, Alcatraz



Figure 2-5: Baker Beach, Presidio, Crissy Field



Figure 2-6: Lands End, Sutro Heights



Figure 2-7: Ocean Beach, Fort Funston

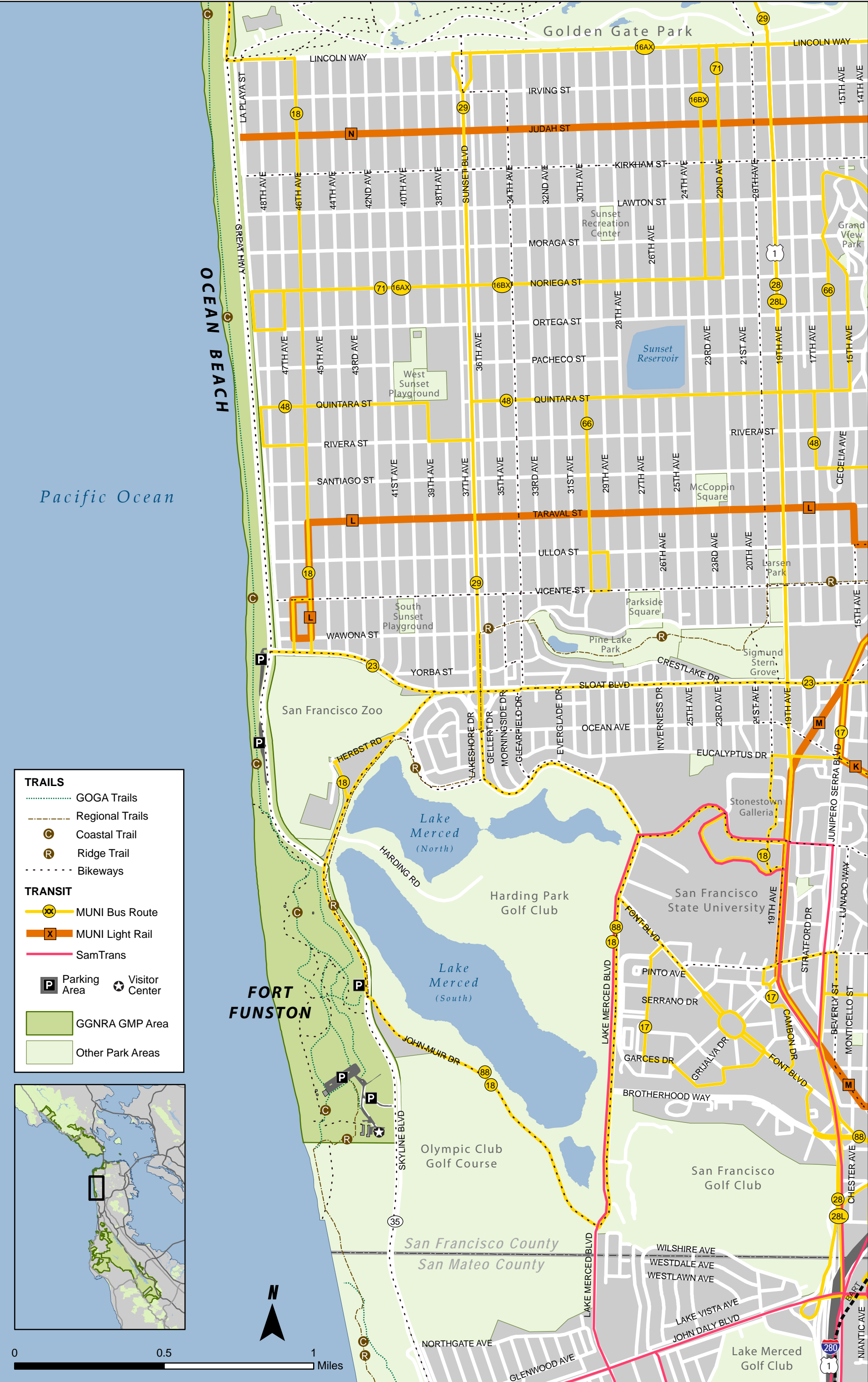


Figure 2-8: Northern San Mateo County

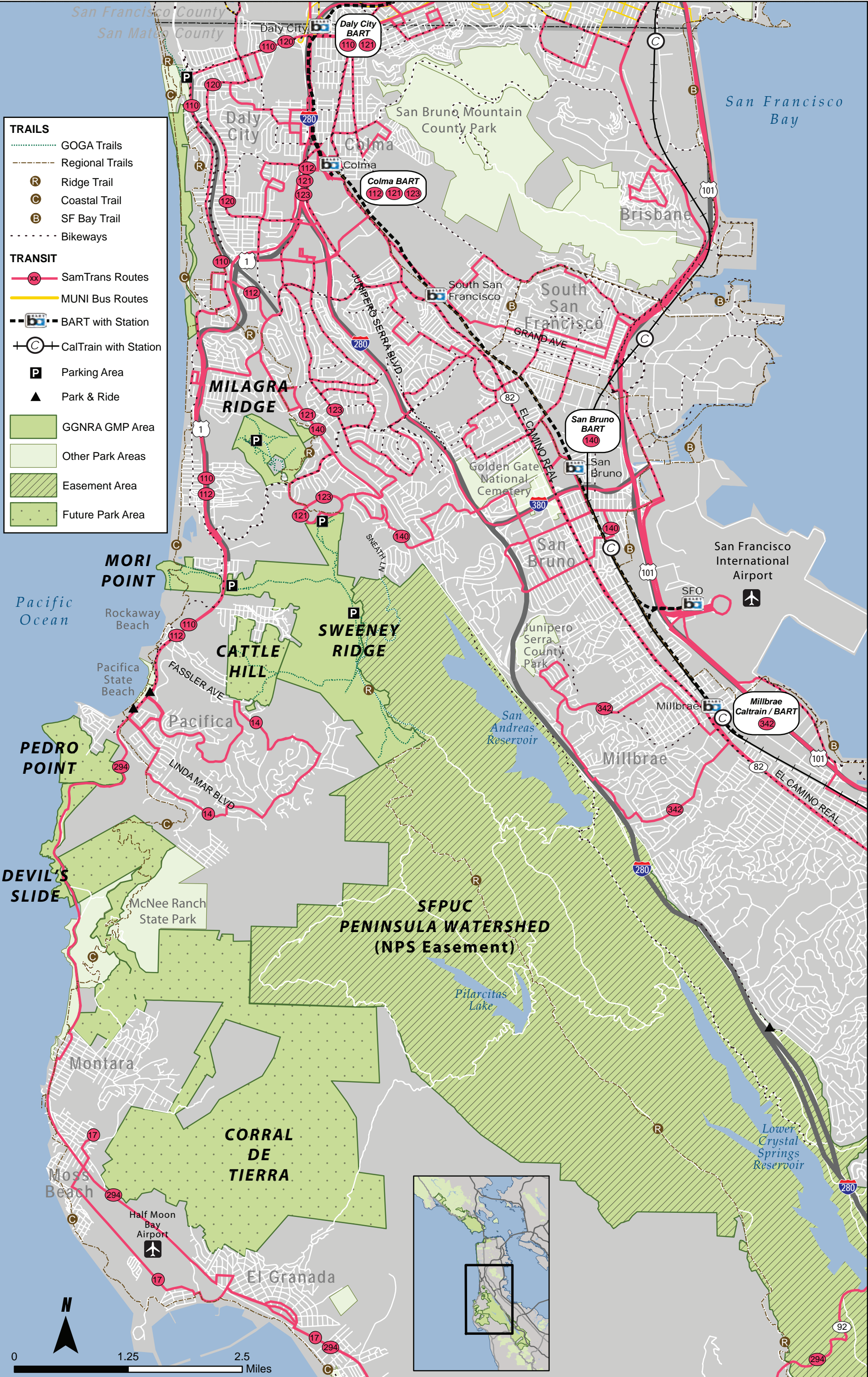
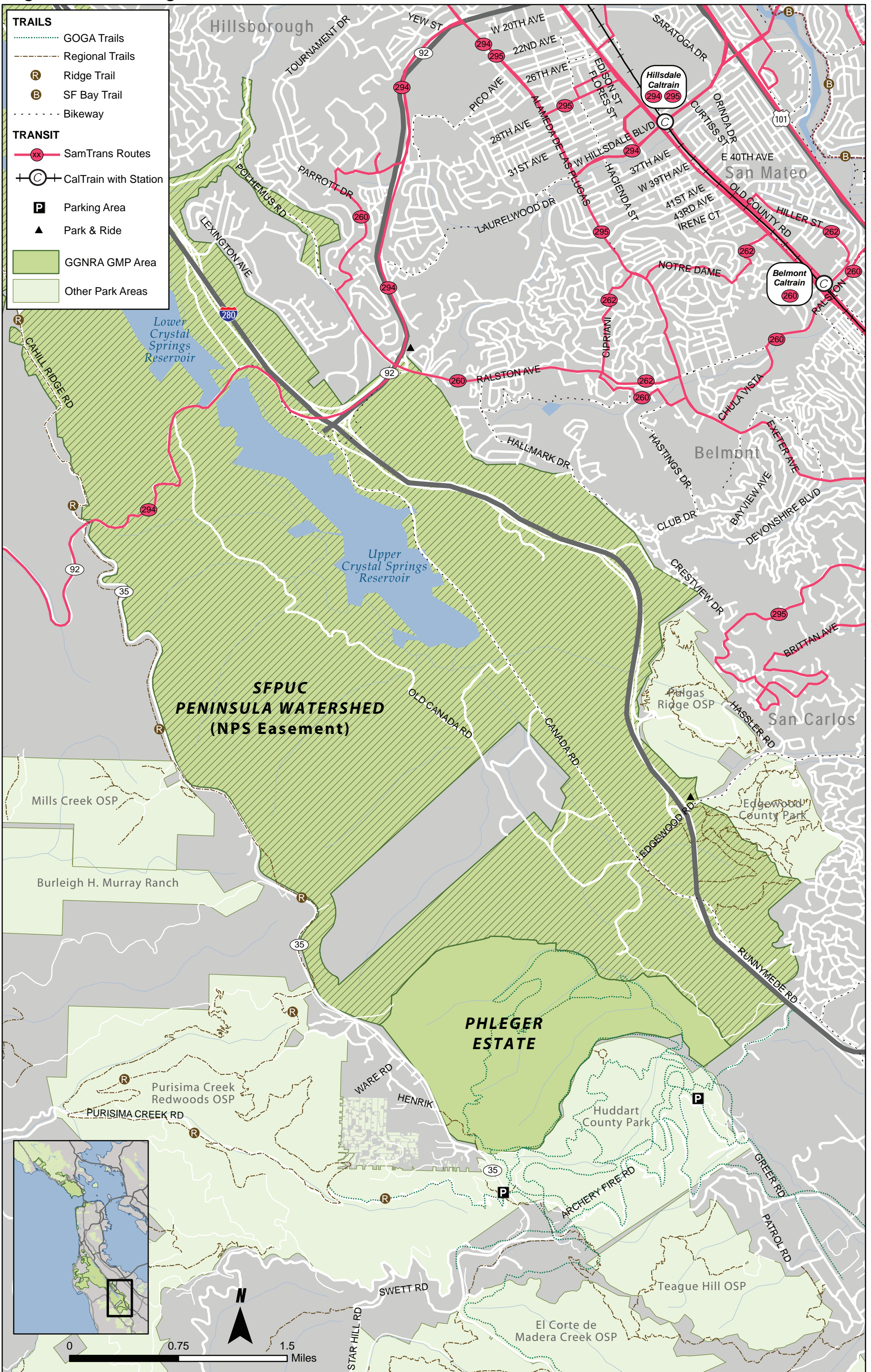


Figure 2-9: Phleger Estate, SF Watershed



Chapter 3. Regional Planning Context

One of the most difficult transportation planning challenges for the Golden Gate National Recreational Area is that while there is a strong interest in providing alternatives to the automobile for accessing the Park, in general, the Park does not control the transportation planning processes that would bring better alternative mode access to the parks. Without partnerships with local agencies, it will be difficult to change the way visitors access the Bay Area's National Park lands.

Successfully planning, funding, and implementation of transportation projects in the Bay Area requires a solid understanding of the key transportation organizations, planning processes, and funding sources in the region. This chapter provides a high-level description of traditional transportation funding programs in the Bay Area and describes how the Park could become more active in regional transportation decision-making.



In recent years, GGNRA has become increasingly involved in regional transportation planning, serving as a primary stakeholder or partner on projects as diverse as the Muir Woods Shuttle, Doyle Drive reconstruction and an extension of Muni's historic streetcar network.

How Projects Get Funded

Funds for transportation projects are obtained from a mix of local, regional, state, and federal sources. Virtually all federal, state, and regional transportation funding in the Bay Area is funneled through the Metropolitan Transportation Commission (MTC) because it has been designated by the state as the official Regional Transportation Planning Agency and by the federal government as the official Metropolitan Planning Organization (MPO) for the Bay Area. The main instruments for allocating these funds are the Regional Transportation Plan (RTP) and the accompanying Regional Transportation Improvement Program, which are updated every 3 years. (The most recent RTP, *Transportation 2030 Plan*, was released in February 2005.) Getting a project into the RTP requires a number of intermediary steps.

Most projects are first proposed at the local level, and if the scope of the project is local and all project funds would be obtained from local sources, inclusion in the RTP is not necessary. This would include projects that are fully funded by the NPS and a partnership with a

Metropolitan Transportation Commission
Executive Director: Steve Heminger
Email: sheminger@mtc.ca.gov
Phone: (510) 817-5810

local entity using entirely local funds. However, if the project will need any funding from most county, regional, state, or federal sources, it must be included in the Regional Plan.

Although MTC is the “author” of the regional plan, MTC does not generally propose or design projects. Projects come into the RTP through local processes, generally at the County level.

Roadway projects generally come to MTC through the Congestion Management Agency designated by each County. Transit projects are first developed in the transit agency’s Short Range Transit Plan, or SRTP. SRTPs are completed by every transit agency in the region every two years. The Transit Agency may be an agency of County government, or may be an entirely separate entity. Transit operators are responsible for meeting all transit needs within their available funding; however, transit operators tend to focus on the most productive routes, which tend to be weekday peak-hour services. Another complicating factor for partnering with transit agencies is that they tend to provide service only within their “boundaries” which are closely related to their funding sources. Transportation needs for the GGNRA park lands may cross jurisdictional boundaries, such as bringing visitors from San Francisco to sites in Marin, or bringing visitors from the East Bay to any of the GGNRA sites.

**Congestion Management Agencies
Transportation Authority of Marin (TAM)**

3501 Civic Center Drive, Room 304

San Rafael, CA 94903

(415) 507-2680

Executive Director: Dianne Steinhauser,

(415) 507-2680,

dsteinhauser@tam.ca.gov

**San Francisco County Transportation Authority
(SFCTA)**

100 Van Ness Avenue, 26th Floor

San Francisco, CA 94102

(415) 522-4800

Executive Director: Jose Luis Moscovich,

(415) 522-4803

**City/County Association of Governments of
San Mateo County (C/CAG)**

County Office Building

555 County Center, Fifth Floor

Redwood City, CA 94063

(650) 599-1406

Executive Director: Richard Napier,

(650) 599-1420,

rnapi@co.sanmateo.ca.us

Projects included in the county program requiring regional, state, or federal funding are then evaluated by the MTC and included in the Regional Transportation Plan if deemed a priority for funding. This regional prioritization is overseen by the Bay Area Partnership, a collection of the various agencies in the nine-county Bay Area that compete for these funds. Currently GGNRA is an ex-officio member of the Partnership. Because GGNRA is not a voting member of the Partnership, it is critical that GGNRA partner with local entities to ensure that its priorities move forward.

Projects vying for state funding are then submitted to the California Transportation Commission for inclusion in the State Transportation Improvement Program (STIP), while those requiring federal funding are submitted as part of the Transportation Improvement Program (TIP). In summary, projects that seek funding from sources further up the funding chain must be evaluated by organizations higher in the planning hierarchy. This structure is portrayed in the figure below.

Transit Agencies by County

Marin County

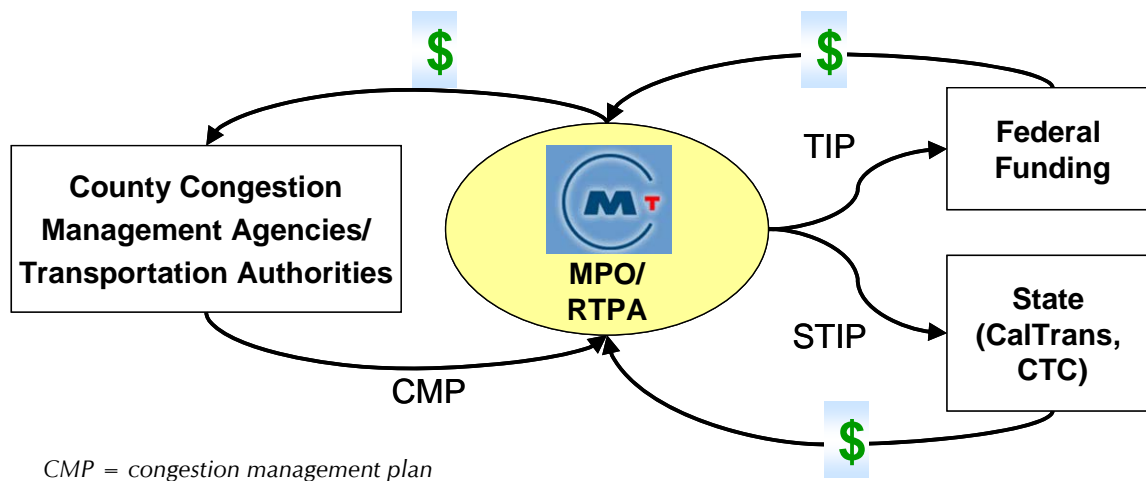
- Golden Gate Transit
- Marin County Transit District
- Blue and Gold Fleet

San Francisco County

- San Francisco Muni

San Mateo County

- SamTrans



In October of 2006, MTC approved the 2007 TIP Report, which included these GGNRA-related projects:

SF-070003	San Francisco	Historic Streetcar Extension to Fort Mason
SF-050045	San Francisco	Rehabilitation of trails and sites along the Coastal Trail and connectors in the GGNRA
MRN990035	Marin	Marin Parklands Visitor Access Improvements to develop Muir Woods Shuttle Bus and Tennessee Valley Multi-use pathway; and to expand the Manzanita Park & Ride by 80 spaces
MRN 050014	Marin	Central Marin Ferry Connection from Wornum Drive to Sir Frances Drake Blvd.
MRN050016	Marin	West Bunker and Mitchell Roads, in GGNRA – rehabilitate roadways
MRN050020	Marin	Stinson Beach Access Road – rehabilitate entry road and North and Central parking areas

At its January 25, 2006 Commission meeting, MTC adopted the 2006 RTIP. The RTIP was submitted to the California Transportation Commission (CTC) for inclusion in the 2006 State Transportation Improvement Program. CTC adopted the STIP on April 27, 2006. RTIP projects involve primarily highway-widening and public transit expenditures; none are specifically related to the GGNRA.

Self Help Counties

In the Bay Area, individual counties can levy a half-cent sales tax for local transportation priorities. These funds are often used as local matching funds for larger projects, and to close “funding gaps” in larger projects that would otherwise take much longer to implement. Sales tax funds can be used for both capital and operating funding, based on local priorities established in their expenditure plan.

All three of the counties that are home to GGNRA park lands are self-help counties. In general, the governing boards of the sales tax authorities are made up of elected officials from the cities and county in which the funds are collected. Many of the same people that govern the Congestion Management Program and the Short Range Transit Plan are also on the sales tax authority board. While their expenditure plan sets priorities for the life of the sales tax, they often have enough flexibility to partner with other organizations such as the Park Service to share funding and expedite projects that fit generally within their expenditure plan parameters. Each sales tax authority develops an annual work plan and a bi-annual Strategic Plan. The plans are developed in a public process, however, regular involvement with these agencies is important to influencing their spending decisions.

**County Transportation Sales Tax Authority
Transportation Authority of Marin (TAM)**

3501 Civic Center Drive, Room 304

San Rafael, CA 94903

(415) 507-2680

Executive Director: Dianne Steinhauser,

(415) 507-2680,

dsteinhauser@tam.ca.gov

**San Francisco County Transportation Authority
(SFCTA)**100 Van Ness Avenue, 26th Floor

San Francisco, CA 94102

(415) 522-4800

Executive Director: Jose Luis Moscovich,

(415) 522-4803

San Mateo County Transportation Authority

1250 San Carlos Ave.

P.O. Box 3006

San Carlos, CA 94070

(650) 508-6219

Other Organizations

State/Regional

Bay Area Air Quality Management District

The BAAQMD runs regional programs to ensure required air quality in the Bay Area. While the Bay Area is at Attainment status for most areas, it remains at “marginally non-attainment” status for the National 8-hour Ozone standard. BAAQMA can provide funds for programs directed at improving air quality, including transportation projects. Eligible projects include ridesharing; bicycle paths, lanes and routes; bicycle parking; traffic signal timing and transportation signal priority; and traffic calming. The Transportation Fund for Clean Air (TFCA) is a grant program funded by a \$4 surcharge on motor vehicles registered in the Bay Area; any public agency within the Air District's jurisdiction can apply for TFCA funds.

Caltrans

Caltrans is the more common name for the California Department of Transportation. Caltrans is responsible for the planning, operation, and maintenance of all federal and state highways in California. Caltrans would be involved in any discussions

regarding state and federal roadways that provide access to or through GGNRA park lands.

San Francisco Bay Area Water Transit Authority

The WTA is a regional agency authorized by the State of California to operate a comprehensive San Francisco Bay Area public water transit system. This system is currently in the planning process.

California State Parks

Some park lands such as Mount Tamalpais, Angel Island, and Thornton Beach located near or adjacent to GGNRA park lands are owned and operated by the California Department of Parks and Recreation.

Marin County

County of Marin

The County of Marin is responsible for the planning, operation and maintenance of all transportation facilities located on unincorporated Marin County lands.

Marin Municipal Water District, Marin Open Space District

Much of the GGNRA park land within Marin County is adjacent to park land managed by a number of different Marin County agencies. The Marin Municipal Water District allows recreational use of some of the watershed areas under its protection. The Marin Open Space District manages Marin County park lands.

San Francisco County

The Presidio Trust

Because of the Presidio's city-like infrastructure, its nearly 800 buildings, and its expansive cultivated forest and natural areas, funding the Presidio's operation and long-term care is much more costly than traditional parks. In 1996, Congress devised a management and funding model unique among national parks, and created the Presidio Trust to preserve the Presidio's natural, scenic, cultural, and recreational resources, and to make the Presidio financially self-sufficient. The Trust manages the interior 80 percent of Presidio lands (known as Area B), including most buildings and infrastructure. The National Park Service manages coastal areas (known as Area A).

The Trust receives federal appropriations that diminish each year, and will cease at the end of fiscal year 2012. The Trust uses these funds and lease revenues to rehabilitate the park's buildings, restore its open spaces and historic resources,

provide programs for visitors, maintain utilities and infrastructure, and fund the Presidio's long-term care.

San Mateo County

County of San Mateo

San Mateo County's Public Works Department is responsible for operation of all county roadways on unincorporated county land. The San Mateo County Parks Department manages all county park lands, many of which are adjacent to GGNRA park lands within San Mateo County.

Midpeninsula Regional Open Space District

The Midpeninsula Regional Open Space District's purpose is to purchase, permanently protect, and restore lands forming a regional open space greenbelt. The District works to form a continuous greenbelt of permanently preserved open space by linking its lands with other public park lands. The District also participates in cooperative efforts such as the Bay Trail, Ridge Trail, and Skyline-to-the-Sea Trail, which are regional trail systems in the Bay Area that include District lands.

Cities

In addition to the state, regional, and county organizations described above GGNRA may need to involve the city governments of municipalities located near the park in park planning processes.

GGNRA's Participation in the Regional Transportation Funding Process

Regional transportation decisions generally begin at the local level, focusing on the highest priority needs of local jurisdictions, including local cities and counties. As the previous section described, local jurisdictions identify their projects through either their congestion management plan, short range transit plan or other planning document before elevating those priorities to the regional plans that ultimately provide funding. Projects receiving the highest priority generally

Participating in the Regional Funding Process

- Know your partners – think local
- Participate as stakeholders in local decisions
- Work with gateway neighbors to highlight site area needs
- Be willing to participate creatively as funding partners
- Attend regional partnership meetings and be involved at MTC

deal with the most critical congestion problems, primarily focused on weekday commutes.

The fact that the primary needs for transportation to the recreational sites of the GGNRA is at times that are “off-peak” need not prevent them from being funded. Rather, a transit service that serves weekday commuters, for example, may be extended to weekend service to the park sites for relatively little additional investment. While the transportation demand for access to the park areas does not occur at peak commute times, communities adjacent to the sites may find that their worst congestion occurs on peak summer weekends rather than Monday through Friday.

The basic key to maximizing participation in the regional transportation process comes down to two things – identifying willing partners who have access to the traditional regional transportation funding streams, and “bringing something to the table” in the form of revenue or other contribution, to the project.

The following section provides some ways that GGNRA can increase its visibility in the region and enhance its role in regional transportation planning.

Develop Partnerships and Participate in Local Processes

No recommendation is more important to transportation funding than developing partnerships with neighboring jurisdictions and other local agencies. Because the amount of money coming into the region is essentially fixed, it is unlikely that GGNRA would be supported if it is seen as diverting funds from other high priority regional projects, rather than cooperating with a local agency to develop projects of mutual priority. Park staff should meet regularly with the Congestion Management Agencies, Sales Tax Authorities and Transit agencies adjacent to park land, as well as with the gateway cities. Finding projects of mutual benefit that can be developed and funded together will have a positive impact on relationships across park boundaries and will help GGNRA be recognized at the “funding table”. These agencies often have technical advisory committees or other stakeholder groups. GGNRA should attempt to participate on technical committees in an official capacity rather than as a member of the general public.

Because the GGNRA does not have a dedicated source of transportation funding, partnering with other agencies that do, such as cities, counties, or transit agencies, will be critical to funding transportation projects that benefit the park.

Work with Gateway Partners to Highlight Park Area Needs

Despite the benefits inherent in living near a national park, gateway communities are often concerned about the impacts on their communities from visitors to the national

parks. Transportation solutions that might improve a situation at a park site, for example implementing a parking fee, may be difficult to implement if the gateway community believes that the result will have a negative impact on them. The best way to implement access solutions is through the consensus of the gateway communities and the park. Developing consensus requires a history of working together, which needs to be built over time. Recognizing that the needs of the gateway communities and the needs of the site may not always be the same, the park and local gateways can engage constructively over time.

Participate Creatively as Funding Partners

Funding available to the parks is often limited to the site boundaries and may not be flexible enough to support access improvements outside of the site. Increasingly, however, national parks have identified ways to participate in funding projects that can improve park access. This is especially important in funding local transit services such as the Muir Woods Shuttle, which began with a Congressional earmark, but does not have an on-going funding source. Bringing some level of funding to the table, even a smaller amount of matching funds, will make GGNRA a full partner in the development of transportation projects.

Attend the Regional Partnership

GGNRA is an ex-officio partner in the Regional Partnership facilitated by MTC. These meetings are very important both as an opportunity to get to know potential partners and as an opportunity to understand and participate in funding decisions. GGNRA staff should consistently attend partnership meetings and should make every effort to become a full voting member.

Upcoming Funding Opportunities

Upcoming funding opportunities that would interest GGNRA and its local partners include the Regional Connectivity Program, which calls for improved standards for passengers using transit centers. Updated standards include passenger amenities and wayfinding. Funding from this program could be used to upgrade conditions of the park and ride facilities used by the Muir Woods shuttle, especially the Marin City stop, which is already scheduled for some improvements by the Marin County Transit District. GGNRA should engage through MCTD to define ways to accomplish multiple objectives with this important project.

MTC has also recently studied shuttle opportunities, looking at shuttles as the “last mile” connection between regional transit centers and destinations. The study focused on shuttles for access to regional transit in the context of work trips; however, recreational shuttles may be included in future phases, particularly in areas with high congestion related to site traffic. GGNRA should engage in this process

through their local transit agencies, especially in Marin and San Francisco counties where site congestion is an issue.

Finally, the Water Transit Authority is continuing to explore ways to partner with the parks, using vessels for recreational service during time periods when commute traffic is low. Because the WTA has independent funding resources, GGNRA should continue to work directly with this agency and with its transit partners who could provide shuttle services if needed as this program develops.

Think About Strategies that Go Beyond Projects

It is important for the Park to focus not only on the construction of projects such as parking lots, pathways and roads, but on strategic approaches that can coordinate and reach out to visitors and adjacent communities. This requires a comprehensive vision that combines projects with other strategies. For example, a strategy for shifting visitors from driving to the parks to taking alternative modes may require building convenient bus facilities at the expense of parking; but it may also require establishing new parking fees; disseminating information to potential visitors about the environmental impacts of driving, and working with partners to make sure that seamless service is provided from key regional connection points to the park. In general, this approach is more complex and more challenging than simply designing and building solutions to known problems. However, with Bay Area population and park visitation growing, it is only through these types of comprehensive approaches that a positive experience can be maintained for all visitors.

Thinking strategically not only drives the projects that will be pursued, but may also drive projects that will NOT be pursued. For example, if the strategy is to encourage people to come to the park by alternative modes, expanding roads or parking facilities would be counter productive. Use of alternative modes will be maximized both by enhancing access by alternative modes and by making driving more onerous.

Chapter 4. Transportation Analysis

Using information from regional and NPS planning documents, as well as scoping comments, this report defines three overarching transportation planning objectives for the General Management Plan¹. They are:

- Improve Park Access and Circulation
- Preserve and Protect the Environment
- Enhance the Visitor Experience

Each of these broad objectives can be addressed with a consistent set of transportation strategies, described in more detail later in this chapter. The strategies are not necessarily linked to any one objective, but are overarching strategies that address all objectives. The strategies are:

- Public transit access;
- Auto access and parking;
- Bicycle, pedestrian and equestrian access;
- Transportation information and wayfinding (including ITS).

For each of these strategies, the issues/challenges facing GGNRA are described along with relevant public input received through scoping meetings, and current planning efforts that GGNRA may engage with that influence each of these strategies. The list of planning efforts is taken from the document review conducted during the first phase of this project. Relevant documents are summarized in the document database which was delivered under separate cover.

The final section of this chapter identifies key questions for the Park to consider as part of its General Management Plan. At the end of this chapter, future conditions maps are provided that identify projects that are already planned in and adjacent to GGNRA parklands that may influence transportation planning to and within the parks.

Park Transportation Planning Objectives

This section introduces three transportation planning objectives that should guide the General Management Plan's transportation element.

¹ The area covered by the General Management Plan spans from the southernmost site in the GGNRA, Phleger Estates, north to the Bolinas-Fairfax Road. It does not include sites which have recently been the subject of land use management plans: the Presidio, Fort Baker and the Fort Mason Center, Muir Woods, and the San Mateo County park lands added since 1980. Park land north of the Bolinas-Fairfax Road are being addressed in the Point Reyes National Seashore General Management Plan Update.

Improve Park Access and Circulation

Parks are established to protect valued natural, cultural, and historical resources for the enjoyment of current and future generations. The public's ability to enjoy these resources is directly tied to how easily they can be accessed. Thus, one key objective of the GMP will be to explore how site access and circulation can be improved looking not only at the existing state of the site transportation system, but also at anticipated infrastructure, demographic and technological changes.

The goal is to improve accessibility without compromising environmental preservation and the visitor experience. One key strategy to meet this goal is improving public transit access. Because the majority of alternative transportation facilities and services leading to the park lands are operated by neighboring municipalities and agencies, the GMP should explore how the park can influence the design of existing and future services operated by others to best serve park lands and create park-specific services and facilities that are well coordinated with non-park facilities and services. The GMP will also explore how to more smartly manage parking and auto congestion in the immediate vicinity of the sites.

Key GMP Transportation Planning Objectives

- Improve Park Access and Circulation
- Preserve and Protect the Environment
- Enhance the Visitor Experience

Preserve and Protect the Environment

The park service must strike a delicate balance between protecting and providing access to the resources it manages. A key element in this balancing act is the transportation system that provides access to and circulation within the park.

The most popular GGNRA destinations already experience severe roadway congestion and parking shortages during peak periods of visitation. Though more visitors could experience the sites if roadways and parking lots were expanded, this expansion could also negatively impact the park by covering more park land with infrastructure, increasing habitat fragmentation, and increasing the number of autos visiting the sites. More autos result in more air pollution, more liquid and solid runoff from vehicles, and more noise and vibration.

Transportation strategies can preserve and protect the environment by limiting the impacts of auto travel to and within the parks. Strategies include:

- Providing defined and delineated parking areas
- Managing parking demand
- Providing alternatives that encourage pedestrian, transit and bicycle access
- Channeling visitors away from sensitive areas
- Recognizing the carrying limits of the park

Environmental preservation includes historic preservation as well. Many of the roadways within the GGNRA park lands, especially those in Marin and San Francisco counties were originally designed as military roads with curvatures and other historic features, or are

narrow rural roads. These roads may not be well suited for the type of traffic they experience today, but can not be easily modified due to their historic significance, even if changing their geometry would not impact other environmentally sensitive areas.

A key goal of the GMP is to develop transportation access and circulation improvements that can help improve existing environmental conditions in the park and accommodate future growth in visitation without negatively impacting the environment in or near the park sites.

Enhance the Visitor Experience

The park transportation system should be safe, convenient, and affordable to the user and should contribute to, and not distract from a positive visitor experience. Roadways and trails should be designed to safely accommodate all types of allowed users while connecting to adjacent visitor/community hubs. Facilities should not interfere with visitors' ability to enjoy the park. Wayfinding information, delivered using the most effective communication medium, should be provided at all key decision points to allow users to maximize their enjoyment of the park.

Transportation can enhance the visitor experience by providing:

- opportunities to access and explore park sites
- a safe environment for enjoying the parks
- a way to avoid congestion and long "searches" for parking
- wayfinding and directions to sites that might not be obvious
- interpretation that begins with trip planning and extends throughout the visit

The GMP should identify linkages between the transportation plan and an enhanced visitor experience for many different types of park visitors. This could mean providing more or less of certain types of trails, bikeways, roadways and transportation services or creating new regulations that spatially or temporally separate conflicting uses. It could also mean ensuring that visitors have central community hubs/nodes for trail, transit, and parking access with appropriate support services such as restrooms, shelter, and information.

Transportation Planning Strategies

Transportation and access projects and policies included in the GMP will not necessarily fit neatly into a single objective. An integrated transportation plan will cross all objectives to provide a comprehensive policy that defines access to the Park and travel within the Park in a way that provides a great visitor experience while protecting the resources of the Park.

Four primary transportation planning strategies are described below. Each of these strategies will be important to the GMP plan. They are:

- Public transit access;

- Auto access and parking;
- Bicycle, pedestrian and equestrian access;
- Transportation information and wayfinding (including ITS).

For each strategy, a description of the issue or challenge facing the park is described, along with public input received through the scoping process and existing related projects or known planning opportunities that should be considered in both GMP and shorter term strategic planning.

Public Transit Access

Issues/Challenges

Public transit access to park sites is limited. Although some public transit services are designed specifically to provide access to the sites, most are provided by non-park agencies serving communities adjacent to park lands. Consequently these services are not designed to satisfy the needs of park users. Transit services are generally less frequent on weekends, which tend to be peak times for park visitation; and transit services that access park boundaries may not provide direct access to key locations within the sites, or serve important under-represented segments of the community.

East Bay communities (Alameda and Contra Costa counties) do not have direct transit access to GGNRA sites. Visitors from the East Bay must first utilize BART or AC Transit's trans-bay bus service to the San Rafael Transit Center or the Transbay Terminal in San Francisco to make connections to transit services that serve the park sites. Ferry service also connects Jack London Square (in Oakland) and Alameda to the Ferry Building in San Francisco.

For a more detailed description of current transit issues by park unit see Chapter 2 "Existing Transportation Setting"

Public Input

Public input, expressed through the scoping meetings, shows that park visitors want transit that is easy to use, convenient, affordable and predictable. Transit services should connect regional systems to the primary site entry points, and within the site, to related trip attractions. It should also provide visitors access to the wide variety of recreational and educational opportunities the site has to offer. For example, drop-off and pick-up points should consider trail loop experiences. It should also reduce traffic impacts and enhance resource protection. Further emphasis was placed on ensuring visitor access every day and not just during peak periods. Public comments reinforced the importance of ADA access and

The public wants transit access to the parks that is easy to use, convenient, affordable and predictable.

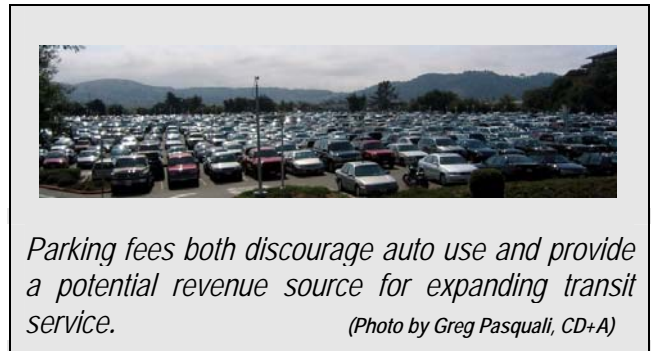
bicycle carriers on public transit services, and included concerns about the environmental impact of charter bus service (emissions, noise) on the park experience.

Relevant Park and Regional Transportation Planning Opportunities

The following describes existing efforts that support the strategy of improved public transit access to the Parklands:

Muir Woods Shuttle/Muir Woods Access Management

The Muir Woods Shuttle pilot project is an example of a partnership between the GGNRA, the local jurisdiction (Marin County) and a transit district (Golden Gate Transit). The project has proven to be very successful, with steadily increasing ridership despite imposing a \$2-per-round trip fare in the second year. Funding for this project, scheduled to end in the Fall of 2007, was a Public Lands Discretionary Program grant from the Federal Highway



Parking fees both discourage auto use and provide a potential revenue source for expanding transit service.
(Photo by Greg Pasquali, CD+A)

Administration; at this point, future funding sources for this project are not clear. The GGNRA may need to participate in funding the shuttle to keep the service going. In addition, one option would be to charge for parking in Muir Woods, thereby subsidizing the shuttle using funds contributed by those creating traffic congestion. Should it continue, consideration should be given to expanding the route to serve the Sausalito Ferry, and also to running the service for a longer period than just summer weekends. Using the Muir Woods shuttle as a model, shuttles to other GGNRA Marin park sites could also run out of the same Marin City and Manzanita satellite parking areas.

MUNI Service to Marin Headlands

San Francisco is the regional population center, and is home to less-affluent populations underrepresented in park visitor data. Muni currently runs a route to the Marin Headlands on Sundays and holidays. The GGNRA could work with SF Muni to expand the Route 76 Headland service to Saturdays, and also to run to Marin City so that visitors could transfer to the shuttle to Muir Woods.

Muni E-Line Extension to Fort Mason and the Presidio

In 2006, The Presidio Trust, GGNRA, the San Francisco Maritime National Historical Park, and the San Francisco Municipal Railway, released the **Muni E-Line Extension Feasibility Study**, which explores the feasibility of extending historic streetcar service beyond Fisherman's Wharf to Fort Mason and Crissy Field. An EIS is being prepared for public review in 2007-8 for the extension to Fort Mason Center. This will help reduce auto trips and parking demand in historic and environmentally sensitive areas. The streetcar extension will also help improve the mobility of transit-dependent residents who would like to use the National Park Service's (NPS) park lands, recreational facilities, and other northern waterfront attractions, and will provide increased transit options for Marina District residents who want to visit the San Francisco Maritime NHP, Fisherman's Wharf, or other downtown attractions.

Doyle Drive Studies

The San Francisco County Transportation Authority, in conjunction with the Federal Highway Administration and Caltrans, is currently planning the replacement of Doyle Drive, the roadway connecting the Golden Gate Bridge with the Marina neighborhood. Currently Doyle Drive is primarily an elevated roadway through the Presidio, which limits the opportunities for access to the Presidio using Doyle Drive, especially as a primary transit route. The elevated roadway also creates an unsightly barrier between the bayside park areas and those to the south of Doyle Drive. With the rebuilding of Doyle Drive to a parkway, including direct Presidio connections in the vicinity of the Presidio Transit Center, the road could become a primary route for transit access to the Presidio, connecting the Presidio with park sites north of the Golden Gate. An FEIS was completed in 2006. The design phase is scheduled to begin in March 2007 and be completed in December 2009. Construction is scheduled to begin in January 2010, to be completed in December 2013.

Opportunities to Extend Transit to the Parks

- Extend and expand the Muir Woods Shuttle with secure and improved "park and ride" facilities that provide basic visitor services and information
- Work with Marin Cities and MCTD on local initiative partnership opportunities
- Muni's E Line will provide enhanced streetcar service to Ft. Mason
- Work with Muni to extend and expand the 76 line
- Ensure that transit is adequately provided for in the rebuilding of Doyle Drive through the Presidio
- Complete the environmental analyses and plan for water access to GGNRA sites, and work with the WTA to provide water transit access to bayside park sites
- Implement the transit and Transportation Demand Management recommendations in the Headlands/Ft. Baker Transportation plans
- Provide safe and well signed bus stops near trails and park entrances with interpretive information
- Work with Marin county, state parks and CALTRANS to provide a joint transit/welcome center in SW Marin for alternative access to parklands.

Improved Ferry Access

Two ferry planning projects are currently underway, and being coordinated - one led by the National Park Service and another by the regional Water Transit Authority.

The Water Transit Authority in 2003 released the **Water Transit Authority Strategy to Improve Public Transit with an Environmentally Friendly Ferry System, and a Ferry Implementation Plan**. This plan recommends that connections to the new ferry transit system include ground (buses and shuttles) transport that may provide GGNRA connections. In the long-term, the WTA could have a joint program with GGNRA that uses ferries to bring visitors to park destinations. Existing terminals in Marin County and San Francisco, in addition to new terminals in Berkeley, Hercules, and South San Francisco, could be GGNRA connection points. The WTA also expressed interest in coordinating with GGNRA efforts on a recreational ferry service.

In 2006 the GGNRA completed the **GGNRA Water Shuttle Access Study & Conceptual Plan (2006)**. Currently only two sites, Alcatraz and Angel Island, are accessible by ferry. This document identified three additional locations within the GGNRA as possible water shuttle intercepts: Fort Baker, Fort Mason, and the Presidio/Crissy Field. This study underscores the feasibility, estimates ridership, identifies potential environmental impacts that would have to be addressed in a NEPA document at a later date, and identifies the costs and benefits to be addressed in a final operational plan. This project could provide an opportunity to link park sites with key Bay Area attractions, enhancing the bike and pedestrian connectivity to major trail systems.

Both of these plans and the WTA/GGNRA partnership provide the opportunity to improve public transit access to water-accessible park sites and improve the visitor experience through a unique, enjoyable, and scenic ferry experience.

Marin County Transportation Sales Tax Expenditure Plan and Short Range Transit Plan

The Transportation Authority of Marin in 2004 released the **Marin County Transportation Sales Tax Expenditure Plan**, which includes funding recommendations for an expansion of the West Marin Stagecoach and funding for improving the "Sally" shuttle in Sausalito which would connect to the Muir Woods Shuttle. Both of these services would have the potential to improve public transit access to a number of Marin County GGNRA Park sites.

The Marin County Transit District Short Range Transit Plan discusses a new "local initiative service partnership" created to allow larger destinations (schools, hospitals, large employers) to partner with MCTD to provide more customized service. The GGNRA may want to explore this option for providing service to park sites. For example, the Park could partner with MCTD and State Parks on "Parklands" shuttles from Marin City to the Headlands, around the Mount Tam watershed, to Stinson Beach, and to Point Reyes National Seashore. Additional land-based shuttles could be used to connect park sites such as the Headlands and Fort Baker with the Sausalito ferry. Since Marin residents make up a major portion of the visitors to Marin park lands, this partnership may be able to draw

upon county sales tax to pay for service. Increasing the regional share of the FTA allotment for transit, tied to alleviating weekend congestion and recreational transit, should also be explored.

Other Short Range Transit Plans (SRTP) and Strategic Plans.

Every transit operator in the Bay Area is required to do a Short Range Transit Plan every two years. The plan is intended to evaluate existing services and develop plans for future services that will be implemented in the short term. All SRTP's are completed in a public process, and the park has an opportunity to participate in the planning process. Transit operators need to be aware of the demand for service for park transportation; and since they typically hear only from residents and people who work within their jurisdiction, they generally are unaware of the needs of visitors. GGNRA can work with the transit operators to provide information about the number of visitors who come from these jurisdictions who may be inclined to use a transit service to access the park. Since peak visitation to the parks tend to occur on weekends when the transit operator has vehicles available, it may be possible to design partnership services that can accommodate park needs at relatively low marginal costs.

From time to time, transit operators engage in longer-range strategic plans, similar in scope to the GMP for the parks. Muni is currently engaged in such a process, called the Transportation Effectiveness Project or TEP. A representative from the Presidio participates in that process as part of its Technical Advisory Committee. This is an opportunity to develop linkages between the Park's overall strategy and Muni's strategies for increasing transit ridership in the future.

Marketing Opportunities

Park-oriented transit services will only be successful with adequate marketing support. Information about existing transit should be provided for each site on the GGNRA website, and actively promoted as a safe, pleasant and reliable way to get to the site.

Even sites without direct service could provide information, wayfinding and interpretation at the nearest major transit stop.

As part of the Park's participation in the Bay Area Partnership (described in Chapter 3), it should work with MTC to ensure that transit information to the parks is included in the region's "511" information system and that all National Parks are recognized as "destinations" by the 511 system.

Auto Access and Parking

Issues/Challenges

While the need for improved public transit service is clear, most visitors will continue to access park sites via private auto. Developing strategies to accommodate, or limit, visitors with cars represents one of the greatest challenges to any park. Roads accessing popular park locations are often congested during peak periods, diminishing the visitor experience and potentially damaging the environment around the park boundaries. In addition, extreme congestion creates negative impacts on the quality of life in the gateway communities, creating tension between the sites and surrounding neighbors. This congestion also creates pressure to expand roadways and parking lots, construction of which would damage the land the park is designed to protect.

While most visitors to the park areas are expected to continue to arrive by auto, allowing unchecked auto visitation could negatively impact sensitive lands, deteriorate the quality of visitor experience and have a negative impact on surrounding communities.

In addition, relying on autos as the primary form of access leads to demand for expanded parking capacity. Parking areas at many of the GGNRA's most popular park lands are already fully utilized, with drivers spending inordinate amounts of time searching for parking at the most popular destinations. Parking problems can be caused by a lack of transit alternatives, particularly on peak weekends. The lack of adequate parking can result in environmental degradation as drivers park illegally on road shoulders or in undesignated areas. Expanding legal parking often requires paving on sensitive areas or could require very high cost garage parking. Numerous studies have shown that it is less expensive to fund alternatives to automobiles and invest in demand management systems than to build and maintain parking garages.

Residents in southwest Marin communities adjoining the parks experience impacts from visitors attempting to access the parks. Park visitors often park illegally or in areas that would otherwise be used by locals. They also contribute to congestion on narrow roadways, making it difficult for local residents in Tam Valley and Stinson Beach to conduct their daily business, especially on peak season weekends. Because residents feel the impact of the site's visitation, their scoping comments commonly voiced concern about the need to maintain a special relationship between locals and the sites "in their backyards".

Another key issue is that parking at newer park lands in San Mateo County are either non-existent or underdeveloped. Unlike park lands in southwest Marin or San Francisco Counties, the public may be unaware of these sites and how best to access them.

Strategies for managing transportation demand rather than expanding capacity, called Transportation Demand Management (TDM), would be appropriate to consider during the GMP process. One strategy would be to charge for or increase the current fee for parking during periods of peak demand. This would encourage visitors to use alternate modes of transport for site access or to drive to the site outside of peak visitation hours. A reservation system would be another method of spreading visitation demand more evenly throughout the day. Traffic congestion could be controlled on access roadways by restricting the supply of parking closer to the site. Instead offsite parking further from the site could be provided, with shuttle buses transporting visitors to the site and consequently removing cars from the most congested site access roadways. Finally, providing visitors prior to their arrival with information on when to arrive to avoid crowds and which park site destinations are less crowded can help reduce demand during peak visitation periods.

Transportation Demand Management Strategies limit peak auto demand. They include:

- Reservation systems
- Parking charges
- Congestion management gate fees
- Shuttles and alternative access
- Park and ride lots
- Wayfinding and information to spread visitors throughout the Park
- Directing visitors to other park lands with less crowding

Public Input

The NPS collected public comments on auto access and parking through a variety of public input processes. Many visitors are concerned about the balance between access and resource protection driven by fears that some sites are being overused and “loved to death”. Frequently heard concerns:

- Visitors are concerned about the balance between access and resource protection
- There are too many people in Muir Woods/Need to restrict the number of people in Muir Woods
- Introducing fees would prohibit equal access for all
- Local residential traffic in Marin County is impeded by park site visitors in communities adjacent to and within the Park lands
- A comprehensive transportation strategy should include removing parking, roads, and related facilities that substantially impact park resources and values
- There is a need for improved connections with regional systems such as ferries and BART

Relevant Park and Regional Transportation Planning Opportunities

Planning activities which may provide opportunities to improve auto access to GGNRA sites are summarized below.

State Route 1 Tennessee Valley Improvements

In 2003 Marin County and GGNRA released the Tamalpais Transportation Improvement's (TTI) Tennessee Valley Trail Alternatives Analysis which evaluates alternatives for access improvements in this corridor which would benefit both county residents and GGNRA park visitors. The projects would be designed to reduce congestion, improve safety and circulation in, around and through the Tamalpais Valley, and provide alternative transportation access to the Tennessee Valley site. The TTI projects are the Tennessee Valley Trail upgrade project, designed to provide a multi-use trail connection from the Mill Valley- Sausalito Bike Path to the GGNRA trailhead at the end of Tennessee Valley Road; and the Coyote Creek Bridge replacement project on Shoreline Highway designed to improve alternative access under the bridge and across the creek, as well as vehicle access across the bridge. Marin County has proposed to complete preliminary design and environmental analysis of a segment connecting to the Community Center in 2007-8. NPS would plan for the trail improvements within park boundaries.

Opportunities to improve auto access focus on managing demand:

- Utilizing satellite parking otherwise used by commuters and providing shuttle connections
- Moving the "gateway" to the regional transit connection
- Limited road improvements and safety enhancements
- Designating and limiting parking to safe and legal areas
- Congestion Management Incentives

Marin Headlands and Fort Baker Transportation Management

The Marin Headlands and Fort Baker are extremely popular GGNRA park destinations experiencing roadway congestion and parking shortages during peak visitation periods. A number of studies have been released evaluating transportation improvements for these GGNRA park areas. The most current study will be released with a draft EIS in 2007 and is titled the "Marin Headlands/Fort Baker Transportation Infrastructure and Management Plan". This project would provide improved access to and within the Marin Headlands and Fort Baker for a variety of users in a way that minimizes impacts to the rich natural diversity and cultural resources of the Marin Headlands and Fort Baker. This project includes a number of components that would directly impact auto access and parking including parking management and fees and car-free days.

Muir Woods Auto and Parking Management

Muir Woods access roadways and parking areas experience extreme capacity issues during peak periods of visitation. In addition to addressing these issues by providing improved transit access to Muir Woods, a number of studies have also explored auto and parking

management schemes. The Muir Woods Transportation Study released in 1999 by the GGNRA and Marin County, and subsequent tri-lateral Marin County, GGNRA and CALTRANS subregional transportation planning efforts, have explored a number of auto and parking access management schemes including a reserved parking system, parking fees, shuttle service from off-site parking area near the 101 corridor, a visitor support hub outside the site, and elimination of all parking at Muir Woods. After introduction of the Muir Woods Shuttle as a pilot program, such alternatives were to be further evaluated as part of a joint, adaptive management program.

Doyle Drive Corridor Improvements

Some of the objectives of the Doyle Drive project are to improve the seismic, structural and traffic safety on Doyle Drive; to preserve the natural, cultural, scenic and recreational values of affected portions of the Presidio; to minimize the effects of noise and other pollution from the Doyle Drive corridor on natural and recreational areas at Crissy Field and other areas adjacent to the project; and to improve intermodal and vehicular access to the Presidio. These improvements would ease auto access to the GGNRA park lands in the vicinity of this project and for the many visitors traveling by auto from San Francisco to the popular Marin County GGNRA sites. During construction (planned for 2010-2013), auto access to GGNRA sites may be negatively impacted.

Huddart and Wunderlich Parks Master Plan

This Master Plan presents a 20-year vision for the development, operation, and maintenance of Huddart and Wunderlich Parks, which are San Mateo County sites adjacent to GGNRA-managed Phleger Estate. Transportation related goals include improving traffic circulation; increasing parking in the Redwood and Oak picnic areas; improving pedestrian circulation to increase safety; ensuring the continued existence of equestrian use within the site; and providing additional trail loops to increase variety of hiking and horseback riding experiences. The Phleger Estate is located immediately adjacent to and north of Huddart Park, south of the San Francisco watershed lands, and east of Skyline Boulevard. This recreation area contains several miles of trails. Access to the trails is through Huddart only, either from Richards Road Trail or the Skyline Trail. Hikers, bikers and equestrians all want to use the Skyline Trail, which runs through both Huddart and the Phleger Estate.

Bicycle, Pedestrian, and Equestrian Access

Issues/Challenges

GGNRA park trails and roadways are shared by bicyclists, hikers, dog walkers, and equestrian users. These different users have different needs and impact the environment differently, yet often share the same facilities; thus conflicts between these user groups occur.

Safe, pleasant pedestrian and bicycle access to sites can play an important role in reducing auto traffic and parking requirements. Good non-auto connectivity to the surrounding community can encourage visitors to walk or bike, knowing they will be able to do so safely; while in more rural areas or where pedestrian and bicycle access is poor, visitors will be more likely to drive. The NPS/GGNRA can work with adjacent communities to ensure that pedestrian paths and bikeways connect safely and directly to site entrances. Information regarding bicycle access might be included or even highlighted in web-based information on how to get to each site.

Provision of bike racks would also be helpful, especially in areas where bicycling into the site itself is not allowed, or is not feasible (at the beach, for example) so visitors can confidently store their bikes while visiting. Pedestrian and bicycle access from transit stops near sites should also be considered.

Another key issue facing the GGNRA is the development, improvement, and management of trails in newly acquired park lands and providing connectivity to other parks and surrounding communities.

Currently, compliance with ADA regulations varies greatly, from fully compliant wide paved paths to inaccessible steep, narrow dirt trails both to and through sites. While it is probably unreasonable to aim for full ADA accessibility on all trails to and through sites, economically feasible improvements could be evaluated to provide the greatest access to those with mobility challenges. As with pedestrian and bicycle access, ADA-accessibility from nearby transit stops is an important aspect of transportation to sites.

As noted below in the Wayfinding section, where trails cross from non-park lands into park-lands or cross jurisdictions, the public has requested that the borders be clearly marked, and that trail regulations are posted.

Public Input

Following are comments received from the public related to pedestrian, bicycle, and equestrian access. These comments reflect some tensions among the three groups, where

Opportunities to enhance non-motorized access:

- Work with adjacent communities and park lands for continuous access trails
- Provide wayfinding and signage along trail routes
- Provide safety for all trail users.
- Enhance accessibility for all users
- Consider the needs for bike parking
- Focus on safe connections to transit
- Consider additional trailheads

each would like resources for their activity maintained or expanded, and each sees the other(s) as a source of resource limitation or degradation.

- Visitors want increased access, whether on shared or exclusive use trails, for biking, hiking, dog walking, and equestrian usage.
- Visitors are concerned about the damage caused by dogs, horses and bikes
- Conflicts with dogs in the site, especially concerns regarding dog waste and impact on resources
- Conflicts with horses, especially concerns regarding safety of non-equestrians and equestrians and horse manure on trails
- Conflicts with bicycling, especially concerns regarding safety and inconsiderate behavior
- Conflicts with different recreation opportunities and wildlife, particularly dog walking
- Certain activities (bicycling and equestrian) should be limited/removed
- Need to dedicate trails (spatially or temporally) to specific uses (bicycling and equestrian) to reduce use conflicts.
- Concern about lack of access and the limited number of trails available to mountain bikes
- Need to allow mountain biking on the Coastal Trail
- Need to limit/restrict the amount of mountain biking in the site, including enforcing illegal mountain bike use on trails.
- Need to restrict mountain biking to wider trails/fire roads or mountain bike only trails.
- Visitors value the horseback riding opportunities, especially in such close proximity to an urban area – the site is one of the last remaining places to ride
- The site needs to be equestrian friendly – don't lose opportunities for horseback riding
- Concerns about the damage on the park land from horses

Relevant Park and Regional Transportation Planning Opportunities

Planning activities which may provide opportunities to improve non-motorized access to GGNRA sites are summarized below.

GGNRA Trails Forever Initiative

GGNRA and its non-profit support partner, the Golden Gate National Parks Conservancy, are partnering on a program to improve trails throughout the park. The signature project is

the improvement of 17 miles of the California Coastal Trail in the park between Muir Beach and Mori Point, as well as key connector trails. The program includes planning, design and construction of trails and a strong component of community engagement.

Dias Ridge and Lower Coast View Trails Rehabilitation and Access Improvement Project (2007)

This project will complete a portion of larger regional and statewide trail plans through this segment near Muir Woods, for both the Bay Area Ridge Trail and the California Coastal Trail. The present Bay Area Ridge Trail alignment is causing sedimentation problems in Redwood Creek, and there is no safe bike route to this site. The addition of the Lower Coast View Trail will improve visitor safety by providing bicyclists and hikers with an alternate route off of the road shoulder of Highway 1, where vehicle-bicycle conflicts frequently occur. The poorly aligned and eroding segments of the Dias Ridge trail will be realigned to a sustainable multi-use Bay Area Ridge Trail, and the abandoned sections removed and restored to natural conditions, improving the overall quality of the park land.

Tamalpais Transportation Improvements (TTI) Tennessee Valley Trail Alternatives Analysis (2003) County of Marin

This involves two separate construction projects designed to decrease congestion, and improve safety and circulation in, around and through the Tamalpais Valley, and provide alternative transportation access to the park lands. The two TTI projects are the Tennessee Valley Trail upgrade project to improve access for all users from the Mill Valley- Sausalito Bike Path to the GGNRA trailhead at the end of Tennessee Valley Road and the reconstruction of the Coyote Creek Bridge to provide adequate clearance on the trail beneath the bridge. The completion of the trail link will allow for improved bike and pedestrian access from the parking in the Manzanita area.

Central Marin Ferry Connection Project (2004)

The Central Marin Ferry Connection (CMFC) project calls for a new bicycle and pedestrian connection between East Sir Francis Drake Boulevard to the north and to the Redwood Highway and access roads in Corte Madera at Wornum Street and Redwood Highway to the south, thus connecting a gap in bicycle and pedestrian access in Central Marin County. Such a bike and pedestrian crossing would strengthen the interconnected bike network in Marin County, much of which leads to GGNRA sites. With such a connection, other weak points could be strengthened. With more bicycle access opportunities to GGNRA sites, more bicyclists will have an opportunity to visit. Increased bike access could also reduce vehicle traffic trying to access GGNRA sites.

Presidio Trails and Bikeways Master Plan and Environmental Assessment (2003)

The Presidio Trails and Bikeways Master Plan identifies improvements to the paths and trails in the Presidio area of the GGNRA. The preferred alternative emphasizes the widest range of trail types and connections including new bike lanes and many new pedestrian and multi-use trails.

San Mateo County Trails Assessment (2007)

Park and Conservancy staff are completing an assessment of the trail system serving GGNRA lands in San Mateo County, evaluating the condition and providing recommendations.

Mori Point Restoration and Trail Plan Environmental Assessment (2006)

This document, prepared by the National Park Service, provides a plan for habitat restoration and development of a safe and sustainable trail system at Mori Point, including the California Coastal Trail. The approved plan has some hiking-only paths; but many multiple-use paths responds to the GGNRA goals of providing access to the park while protecting natural resources. The hiking-only trails are principally located where there is steep terrain and erosion-prone area.

City of Pacifica Pedro Point Headlands Coastal Trail Connection

The City of Pacifica proposes to construct a multi-use Coastal Trail connection west of Highway 1 through this site prior to its transfer to GGNRA. This trail segment would connect with the future north trailhead and Coastal Trail on the abandoned Highway 1 segment that will become a multi-use trail when the Devil's Slide Tunnel Project is complete.

The City of Pacifica has constructed paved multi-use paths along Highway 1, connecting or with potential to expand and connect to GGNRA sites.

Devil's Slide

Carved out of the steep cliff sides, Route 1 hugs the coastline for much of the distance between Pacifica and Montara. In one part, the road crosses the aptly named Devil's Slide region, a steep, unstable geological formation. This section of road has a long history of closure due to rockslides and land slippage. Following many years of public input and careful evaluation of alternatives, Devil's Slide will be bypassed by two inland tunnels, providing a safe, dependable highway between Pacifica and Montara. This is Caltrans' Devil's Slide Tunnel project. The bypassed section of Route 1, together with 70 acres of State right of way, will be closed to motor vehicles and made available as a multi-use Coastal Trail segment for public access and recreational use following the planned tunnel opening in 2011, with small trailhead parking lots at the north and south ends. This land was included in the 2005 boundary expansion. Acquisition and management of this site has not been determined.

Completing the California Coastal Trail (2003)

The California Coastal Trail is intended to provide "a continuous public right-of-way along the California coastline...designed to foster appreciation and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-

motorized transportation." The Coastal Trail runs through parts of the GGNRA and provides opportunities for connections to other trails within the study area. It is focused on enhancing public access to the coastal region and providing education to visitors. These goals are completely compatible with those of the GGNRA, so working together there may be opportunities for efficiencies in providing access to GGNRA lands along the coastline.

Huddart and Wunderlich Parks Master Plan (2006)

This Master Plan presents a 20-year vision for the development, operation, and maintenance of Huddart and Wunderlich Parks, which are not GGNRA parks. Transportation-related goals include improving traffic circulation; increasing parking in the Redwood and Oak picnic areas; improving pedestrian circulation to increase safety; ensuring the continued existence of equestrian use within the park; and providing additional trail loops to increase variety of hiking and horseback riding experiences. The Phleger Estate is located immediately adjacent to and north of Huddart Park, south of the San Francisco watershed lands, and east of Skyline Boulevard. This recreation area contains several miles of trails. Access to the trails is through Huddart only, either from Richards Road Trail, or the Skyline Trail. Hikers, bikers and equestrians all want to use the Skyline Trail, which runs through both Huddart and the Phleger Estate.

Transportation Information and Wayfinding

Issues/Challenges

The amount and quality of wayfinding information varies significantly among parks. Those with the highest number of visitors tend to have the most complete signage, with highway, road intersection, entrance and trail signs to guide the visitor. For sites with lower numbers of visitors, there is minimal signage, sometimes comprised of only one sign at the entrance. There is little or no wayfinding information at transit stops near park lands, even those in San Francisco.

Providing transportation information and wayfinding signage can increase access to GGNRA sites for local residents, tourists, transit users, drivers, and the disabled. At present, this kind of information is inconsistent across GGNRA sites. One planning opportunity would be to create guidelines for levels of wayfinding information for all GGNRA sites, starting from outside the sites at highways, local streets, and local transit stops; and then within the sites at the entrance, at trails and intersections, and where GGNRA lands meet other public lands. This could be followed by an inventory of the current status of wayfinding at each site to greater detail, and a scheduled effort to bring each site into compliance with the guidelines.

Other kinds of pre-trip travel information are available through the GGNRA website, <http://www.nps.gov/goga/>, which provides information on the entire park, and some information on the individual park sites, including some maps and walking tours. However, information is organized by topic (hours, fees) rather than by site, which makes it difficult for visitors who know where they want to go to find out everything they need to know



Wayfinding Issues and Opportunities

- Wayfinding begins with pre-trip information and continues throughout experience. Provide “leading indicators” of what’s ahead rather than waiting to provide information after visitors have made critical decisions.
- Wayfinding connects the transportation network to the parks.
- Balance the need for “self discovery” with the need to feel comfortable moving through the park.
- Use wayfinding to disperse crowds in the most heavily visited park areas.
- Most County and local bike and pedestrian plans include wayfinding plans that can link the parks to the trail system.
- Partnering with transit operators can provide links from the regional transit system.
- Use information to keep visitors safe – provide information about trail conditions, difficulty, etc.
- Use modern technology and intelligent systems where possible.
- Enhance consistency of information throughout the GGNRA system.

on one page. The website offers some maps and some brochures for several, but not all, sites.

Currently wayfinding information on the GGNRA website is very uneven, with some maps and a few brochures for self-guided walking tours. Brochures for individual park sites are available for some but not all sites in downloadable Pdf format. The brochures have highly detailed and useful maps in them that are not offered in the maps section of the site and provide driving directions to the site, but no transit information.

It would be beneficial to fill the gaps in this library, and arrange the information by park site rather than by topic to make it easier to find. Another helpful addition would be an interactive map of the GGNRA where the user can click on the site they are interested in to see a map of the individual site, with relevant visitor information such as hours, facilities, and directions and possibly nearby transit lines.

Radio communication of travel information is currently in use in one region of the park; this could be expanded to cover a greater number of sites, and would be available from homes, hotels, and cars. Highway Advisory Radio (a dedicated frequency to provide area specific road condition information) is currently used for Point Reyes National Seashore and the northern district of the GGNRA, to broadcast road conditions, road closures, and trail closures. It does not serve the GMP planning area, however, it could serve as a prototype for information delivery to visitors already in transit to other sites as well.

In the San Francisco Bay Area, MTC has created the “511” system (www.511.org), which provides comprehensive transportation information over the web and by phone. Information provided includes trip planning on transit from start to end point; traffic conditions throughout the Bay Area on highways and some local roads; applications to start or join carpools and vanpools; and bicycle route planning, transit accommodations and maps. The GGNRA could consider integrating park information with the 511 system so that people wishing to travel to the parks could not only find out how to get there on transit or bicycle, but would also be able to determine site hours and parking conditions. Intelligent Transportation Systems (ITS) provide opportunities for the park to inform travelers about conditions at park sites, including parking availability, traffic congestion, alternate sites which may be less crowded, and park-and-ride opportunities. ITS has been the focus of both state and national efforts to provide more accurate and timely information to travelers. There is now a federal standard for architecture for ITS systems, and regulations requiring both adherence to standards and more robust planning for ITS systems. Caltrans has completed their regional architecture standards for California.

Not only can improved information and wayfinding improve the visitor experience, but it can also be used as a Transportation Demand Management tool. Providing visitors with information prior to their arrival regarding busiest park destinations and periods of visitation can help spread crowds out in time and space, relieving some of the pressure to expand facilities. As visitors get closer to the site, changeable message signs and radio

broadcasts can alert them to more current conditions and suggest alternative routes, ways to get to the site on transit, or destinations.

The NPS has invested in exploring the use of ITS in the GGNRA and other National Parks, providing specific recommendations for projects based on agreed-on themes and objectives. The movable highway signs now used in Marin County informing Muir Woods visitors of parking lot conditions were a result of this effort. Other than the signs for Muir Woods, no real-time information system exists for visitors making decisions about travel to sites.

Public Input

Public input on transportation-related information emphasized a need for standardization of both form and content of signage within the sites, more clear delineation of when the visitor is entering or leaving a GGNRA site, and the use of technology to make travel information more accessible.

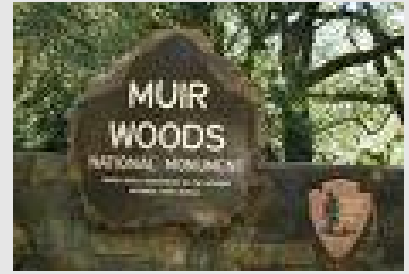
- Signage pollution is caused by signs being thoughtlessly and haphazardly placed within the viewshed of major cultural and natural features; need a comprehensive signing program
- Trail signing should include description of user opportunities, trail characteristics and conditions, and the appropriate use and constraints (e.g. dogs); signs along trails help protect sensitive habitats and visitor safety
- Interpretive signing throughout the site is needed to guide visitors' appreciation and exploration of site resources that are currently hidden for lack of interpretation
- Signs that highlight visitor services such as food, restrooms, etc. are appreciated
- The visual symbols of the National Park Service (uniform ranger and "arrowhead") are often not apparent to visitors at GGNRA or Fort Point National Historic Site
- Visitors are often unable to distinguish when they are within a unit of the National Park Service at GGNRA; cross-over information where lands connect and a similar style of presentation is important and should be available
- Need to communicate visitor opportunities, especially for San Mateo lands
- Disconnects in bike routes, trails and signage lead to safety concerns
- Need to ID areas that are ADA-accessible and make this info available to stakeholders and visitors
- Highlight underutilized gems (camping/waterfalls) through transit
- Need to stay abreast of changing technology and embrace it to advance park objectives: cell phone coverage, internet service, pod-casting, etc. to communicate opportunities

Relevant Park and Regional Transportation Planning Opportunities

The following projects, which are referenced in the document data base

Assessing Needs and Identifying Opportunities for ITS Applications in California's National Parks: Final Technical Report

This large (400 pg.) document is the final report for Phase I of the "ITS Applications in California National Parks" project. This research project seeks to understand the transportation needs within California's National Parks, and then develops potential ITS solutions or themes consistent with the National ITS Architecture. This was done by looking at two case study areas: the GGNRA and Sequoia and Kings Canyon National Park (SEKI).



A consistent set of guidelines for signage and other forms of information would both identify the park lands as being part of the GGNRA system and would provide consistent information across park lands.

A variety of methods were used to identify transportation challenges and potential solutions. This led to the identification of objectives and themes. A series of checklists was presented that would enable National Parks to use themes as a foundation to implement ITS projects in their park sites. Caltrans DRI has provided additional funding for a second phase of this research project, intended to lead toward demonstration and evaluation of ITS in park settings. This second phase includes "early winner" projects identified by CalTrans for each park that are most likely to show significant benefits in the short-term, in order to generate greater support for future ITS initiatives among stakeholders.

Opportunities are examined in detail in this document, with thorough descriptions of how ITS solutions can be used for the following:

- Roadway congestion forecasting
- Parking information and management
- Parking intercept facility
- Transit trip planning info
- Pre-trip traveler information

Intelligent Transportation System (ITS) "Early Winner" Pilot Project: Portable Changeable Message Signs (PCMS) Ops Plan

While this document describes a completed pilot project (summer 2005) for the use of Portable Changeable Message Signs (PCMS) to manage traffic in Muir Woods and Stinson Beach, it may be used as a template for an operational guide in future projects.

Marin / Muir Woods Transportation Projects: Implement Parklands Intelligent Transportation System

The GGNRA has received a grant to move forward with the Marin/Muir Woods Parklands Intelligent Transportation Systems (ITS) Project to implement a large integrated ITS program. It is a component of a larger transportation action program that has already implemented a 3-year pilot shuttle funded by Marin County operating between park-and-ride lots near U.S. 101 and Muir Woods, and a smaller pilot ITS program managed by GGNRA.

This grant program, sponsored by the National Park Service, Marin County, and Cal Trans, is expected to deploy several different types of information technology including, but not limited to electronic warning signs, traffic counters, highway advisory radio, webcams, centralized management software, and other equipment as necessary.

The program will benefit park visitors by providing traveler information such as transportation access (roadways, parking, transit), weather and interpretation information, as well as emergency information, such as wildland fires, storms, or other events requiring road closures or visitor evacuation.

Key Questions for GMP Transportation Planning Consideration

The following broad questions should be addressed by the GMP planning process. These are summarized from sections presented above.

1. How will projected population growth and demographic changes impact site access and circulation?

Located in one of the most populous and visited urban areas in the country, the GGNRA sites experience congested roadways and parking shortages during peak periods of visitation. These conditions will most likely worsen as the Bay Area continues to grow. From the year 2000 until the year 2030, the Bay Area population is forecast to increase by 1.6² million residents and the population will continue to age and diversify. Demographic groups shown by studies to be underrepresented among park visitors will become a larger percentage of the Bay Area population.

2. How can site access and circulation be improved without conflicting with resource protection and visitor experience goals?

Expanded roadways and parking facilities can improve visitor access, but they may also conflict with GGNRA environmental preservation and visitor experience goals. New or expanded roadways and parking facilities occupy land that was previously protected and attract more autos which can ultimately lead to increased air and noise pollution and can cause travel by bike and foot to feel less safe. While increasing access is a primary

² Association of Bay Area Governments, "Projections 2005"

objective for the park, doing so through increased roadway capacity may be in conflict with the park's overarching goals for resource preservation, environmental stewardship, and creating a positive visitor experience.

Since the majority of visitors still do access the sites via auto, auto access needs cannot be ignored. More intelligently managing that access rather than expanding it may prove most effective in avoiding conflict with environmental preservation and the visitor experience.

3. How can site access and circulation be improved for those lacking access to a private automobile?

Many people who wish to visit the GGNRA park lands may not have access to a vehicle; out-of-town tourists without a rental car; youths, seniors and visitors with disabilities who may be unable to operate a motor vehicle as well as those who cannot afford vehicle ownership are just a few examples of those who may rely on alternative modes of transportation. Many studies have shown that visitors to the parks tend to be higher-income individuals. Surprising numbers of lower income Bay Area residents have never visited a National Park, despite living in an area that has many park resources.



Transit and alternative mode access open the park up to people who would normally not visit a national park as well as reducing the impact of autos on the park.

Enabling visitors to conveniently access the site at a comparable or lower cost without using a private automobile can improve accessibility for all, including those with diverse mobility needs, without compromising environmental preservation and the visitor experience. The GMP could also explore whether a lack of site access is a contributing factor to some groups being under-represented as park site visitors and how site access could be improved for those groups.

4. How can GGNRA work with transit providers to improve transit access to the parks?

There are some challenges in engaging local transit operators in planning transportation to park sites within their areas. They tend to focus on serving commuters on weekdays, and may not be open to routes which cross county lines, while transportation to the park sites require weekend/holiday service and may serve the recreational traveler best by establishing routes covering all three counties. However, communities adjacent to the parks will have the greatest interest in seeing auto traffic reduced, and thus are natural partners to work with on transportation projects with potential to shift travelers to transit. If initial projects are local in scope, the NPS could work with local community planning groups and agencies to define transportation projects of mutual benefit. Local partners may be more enthusiastic if the NPS can fund the project, either in part or completely.

It is important that the GGNRA identify and work with the transit agencies providing transit to areas adjacent to park sites, so that park transportation project ideas are included in the agency's biennial Short-Range Transit Plans. These plans will then move forward to the MTC for prioritization on a regional basis by Bay Area Partnership, of which GGNRA is a non-voting member. Having specific projects in these plans, supported by local transit agencies and communities, will strengthen GGNRA's position in getting these transportation projects funded.

**5. How can information and wayfinding be used to improve site access and circulation?
How will new technologies change how GGNRA can deliver that information?**

Wayfinding information can improve site access and circulation by helping visitors make well-informed decision about their travel to and within the site. It can also act as a transportation demand management strategy by helping raise awareness of how to access the site via alternative modes of transport, and helping visitors choose less congested routes or destinations in real-time.

Wayfinding information is communicated to visitors via different media depending on the stage in the visitor's journey to the site. At the trip origin, usually the visitor's home or hotel, wayfinding information is delivered via telephone, printed brochures/maps, or the internet. Looking to the future, the internet will play an ever increasing role in the dispersal of information. The GMP could explore how wayfinding information provided over the internet could be improved including, more usable website design and more comprehensive site information on park websites. In addition, as mobile access to the internet becomes more prevalent, providing both static and real-time information to mobile devices will become more important.

6. How can the park use transportation planning to help protect environmental and historical resources?

Enabling more people to access and circulate throughout the park sites without use of a private automobile can help maximize accessibility without compromising the resources the park protects. Thus, improving accessibility to and within the site by alternative modes of transportation may be one strategy for achieving the park's environmental preservation goals. Also, the park could encourage the use of more environmentally friendly vehicles by only using quiet, low emission vehicles for public transit operations and charging reduced parking fees for hybrid and other low emission vehicles.

7. How can the park enhance the visitor experience through transportation planning?

The park transportation system can both enhance and degrade the visitor experience, at times simultaneously. For example, a roadway may improve the visitor experience by providing convenient auto access, but that new roadway may harm the visitor experience of those hiking near it by increasing noise and air pollution. During the GMP process as decisions are made with regard to the transportation system, it will be important to

consider not just the access benefits of transportation changes but also any negative impacts on the visitor experience.

The transportation system also impacts the visitor experience by providing visitors with the facilities, such as trails and trailheads, to engage in recreational activities they might enjoy such as jogging, biking, horseback riding, and dog walking. The GMP should also consider the recreational aspect of transportation facilities. For example, the GGNRA might explore providing a park information center at a transit hub, and interpretation/information on-board shuttles/buses serving park destinations and at bus stops. Providing ITS systems can improve the visitor experience by helping visitors plan to avoid congested areas/times. Also, transportation modes such as ferries /water shuttles can provide an enjoyable park experience in themselves.

8. How can the park accommodate different types of users on the same transportation facilities?

The GGNRA sites offer a diverse set of recreational opportunities, many of which involve use of the park's system of roadways, bikeways, and trails. These activities include hiking, dog walking, cycling, mountain biking, jogging, horseback riding, and touring in an automobile. Visitors who participate in these activities may have different and sometimes conflicting needs. For example, mountain bikers and hikers may dislike sharing the same trail for fear of collisions, while hikers may dislike horseback riding on trails due to animal waste. Thus the creation and designation of transportation facilities for different users has a substantial impact on the visitor experience. However, creating separate circulation systems for every type of user would result in too much land being devoted to transportation purposes, diminishing the resources of the site.

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Figure 4-1: Muir Woods, Stinson Beach

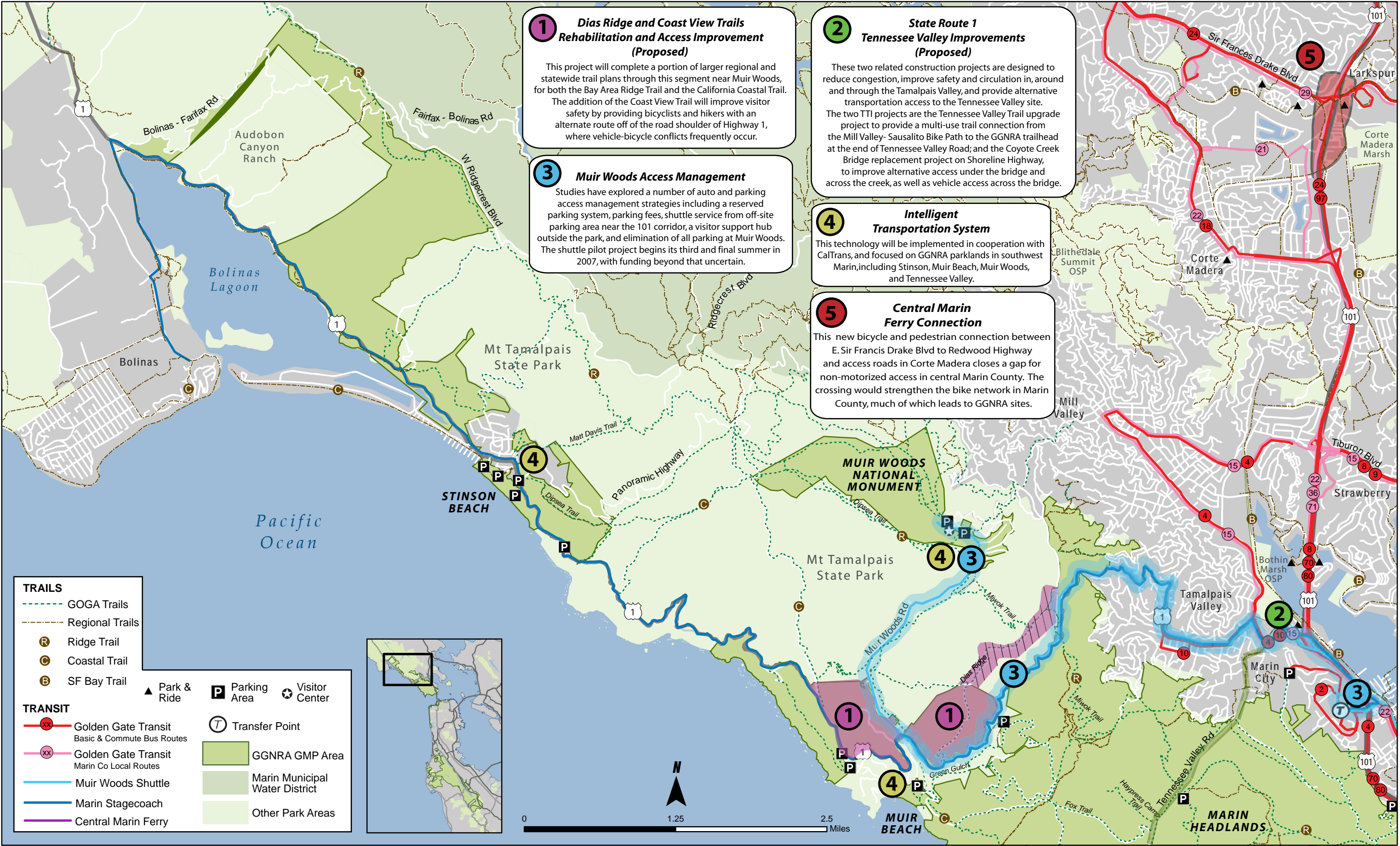


Figure 4-2: Marin Headlands

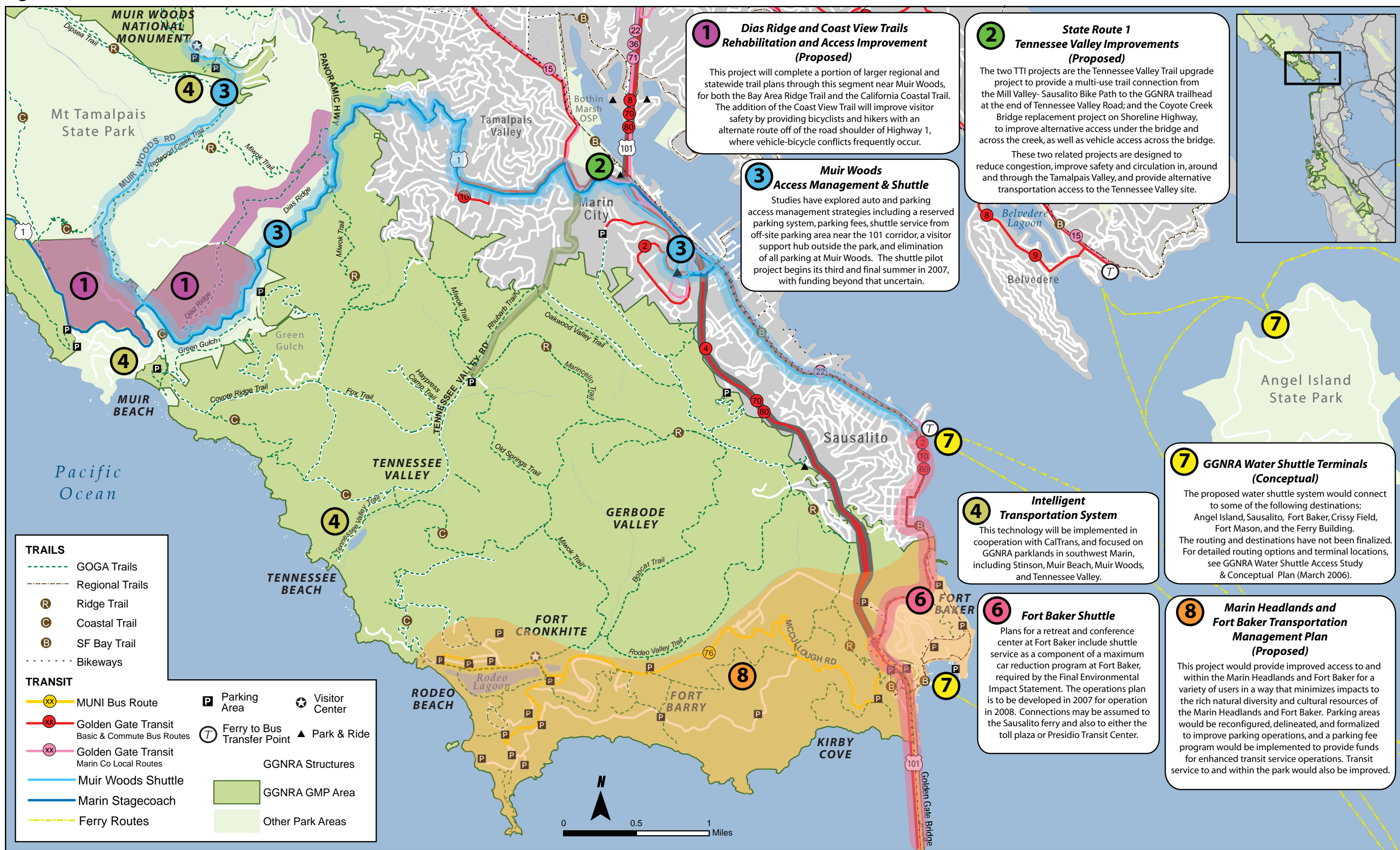


Figure 4-3: Lands End, Sutro Heights

Proposed Transportation Improvements



Figure 4-4: Fort Mason, Alcatraz

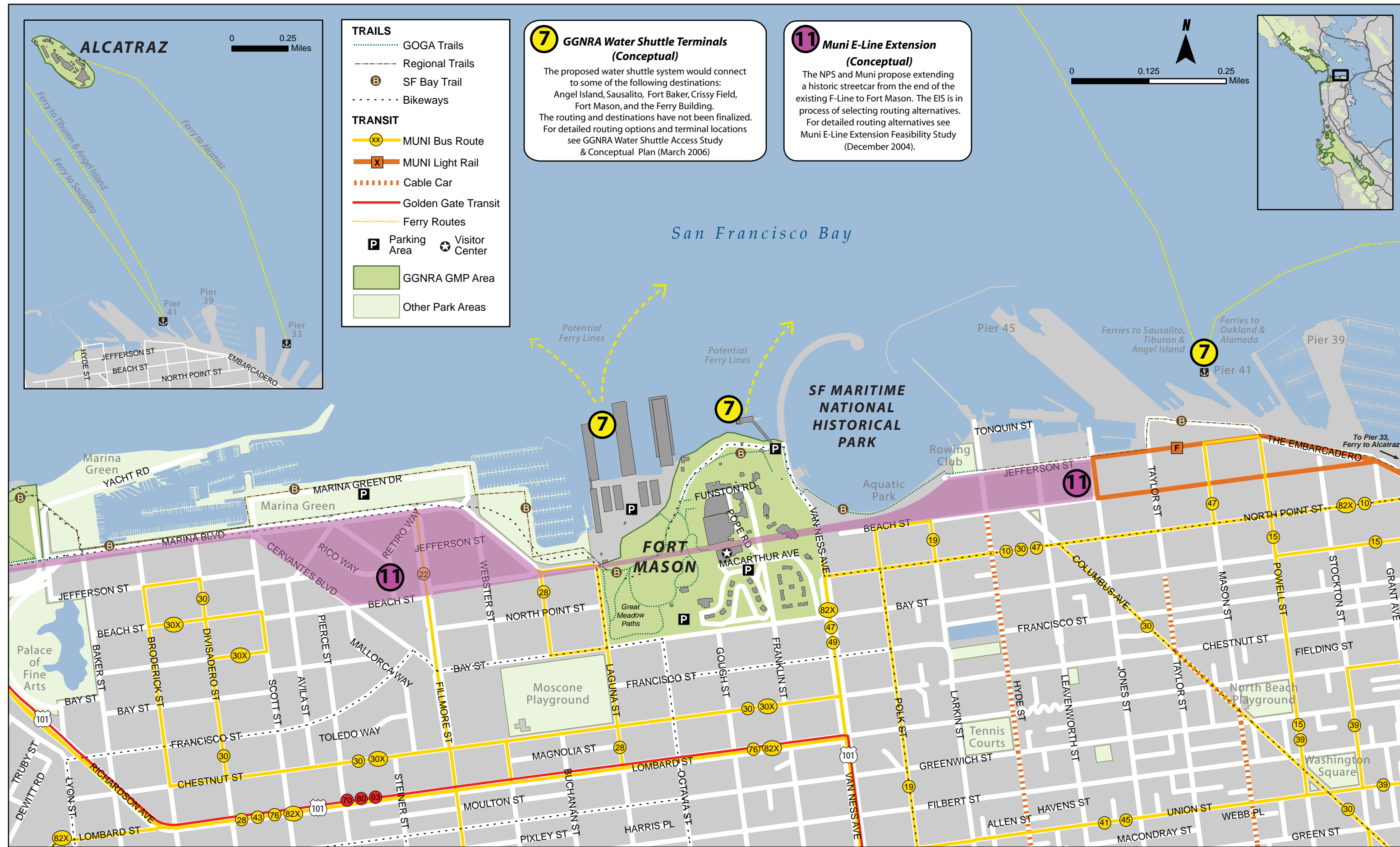


Figure 4-5: Baker Beach, Presidio, Crissy Field



Figure 4-6: Ocean Beach, Fort Funston

Proposed Transportation Improvements



Figure 4-7: Northern San Mateo County

Proposed Transportation Improvements

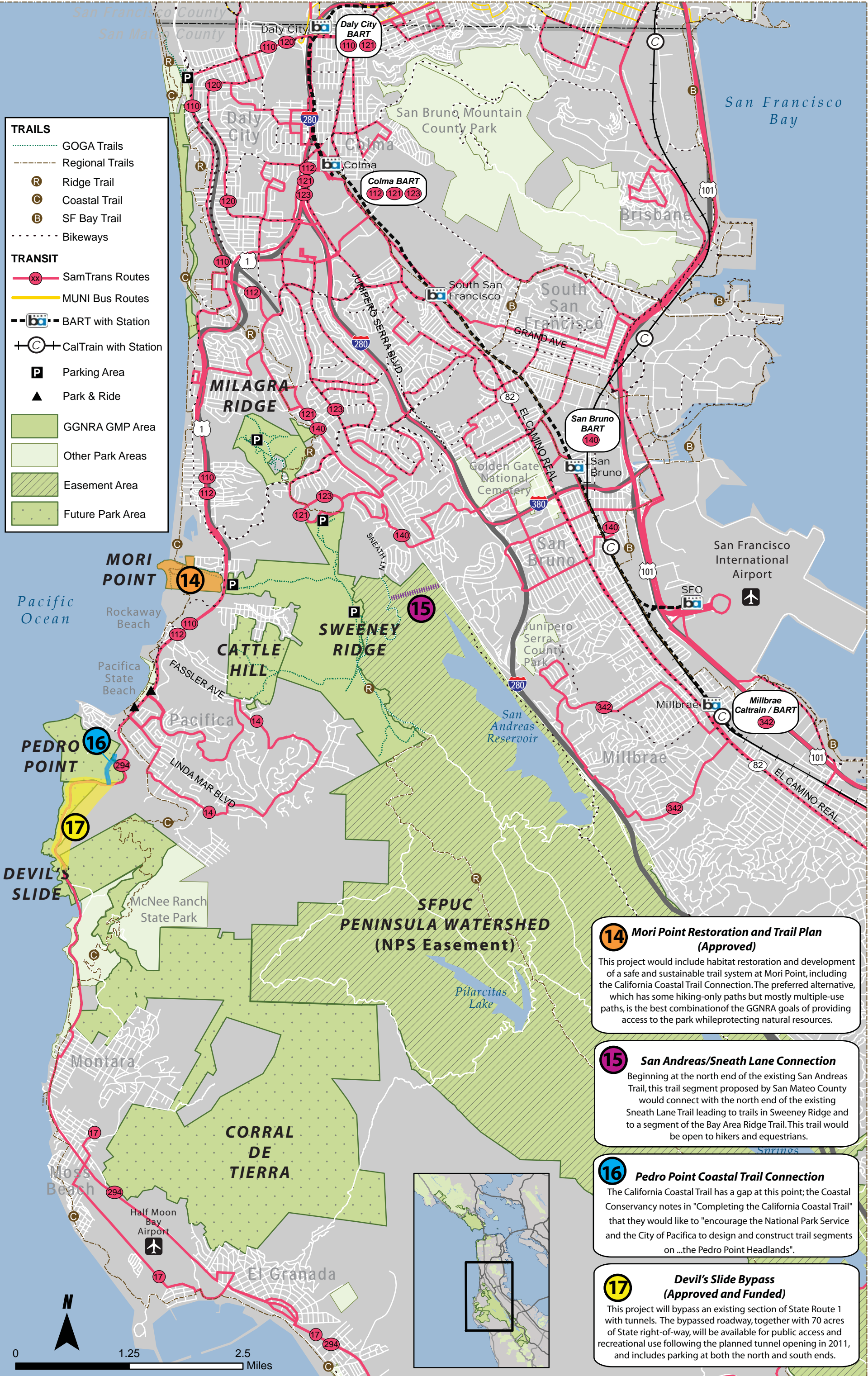
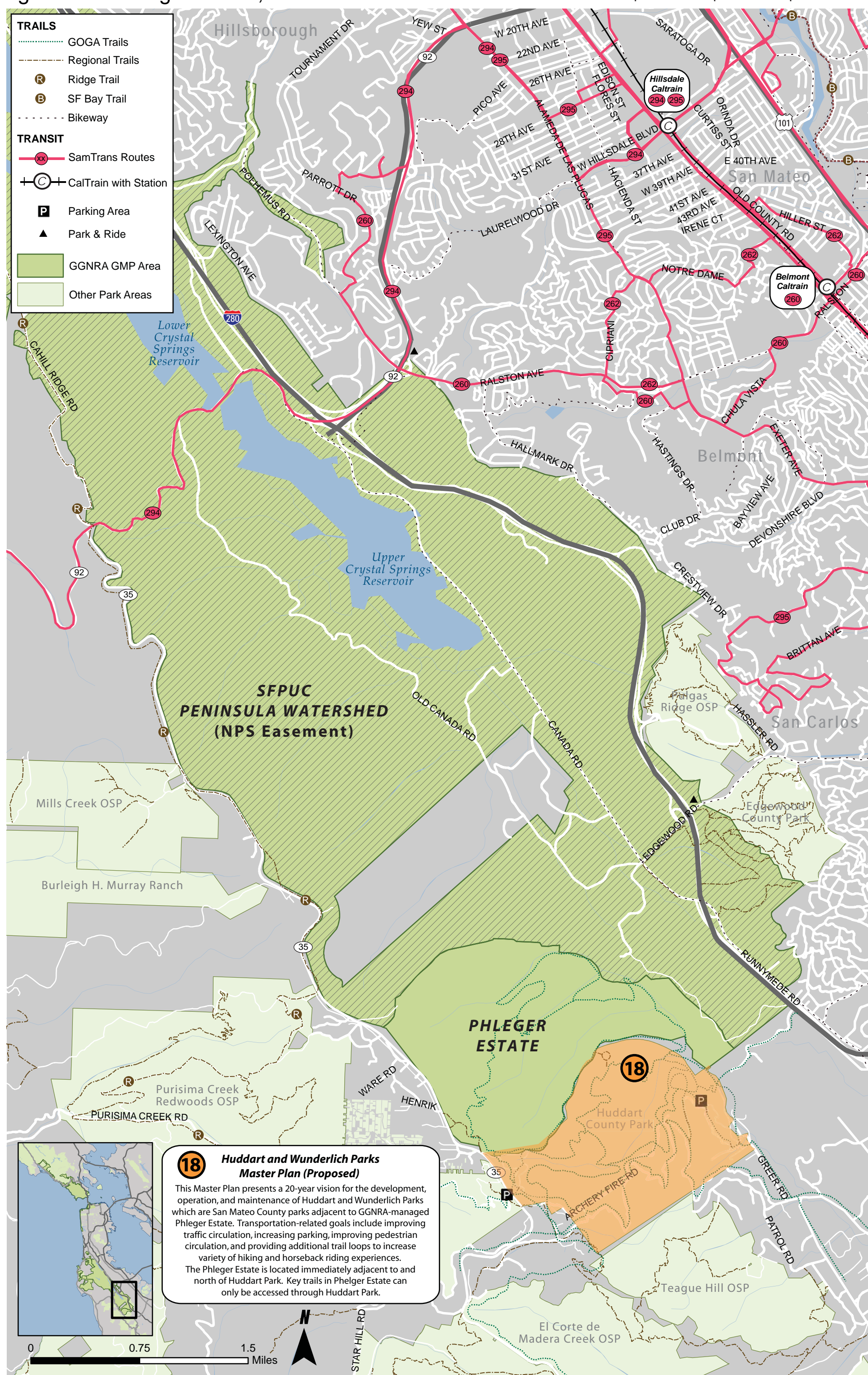


Figure 4-8: Phleger Estate, SF Watershed

Proposed Transportation Improvements



APPENDIX A

ISSUES, OPPORTUNITIES, AND THREATS

Appendix A. Issues, Opportunities, and Threats

Summary of Issues, Opportunities, and Threats

N/N: confirm that this list is complete and reflects the issues/opportunities in the analysis in Ch. 5. Consider whether it is better to reference this table in Chapter 1 with the database, and add it to the appendix.

Following is a summary of transportation-related issues, opportunities and threats extracted from the planning document bibliography database.

Issues	Opportunities	Threats
<ul style="list-style-type: none"> Wayfinding and transportation information, including real-time parking and roadway conditions need to be improved Lack of visitor information and usage data for most sites that would be valuable input into the transportation planning process Lack of regional transit connections to recreational park lands major sites Convenience and affordability of transit alternatives Public transit access to most San Mateo County and most Marin County park lands is limited Conflicts between different types of users on multi-use trails Roadway congestion and parking shortages at Muir Woods and Stinson Beach Some of the recently acquired San Mateo County park lands lack adequate roadway access, parking, and trails Concerns about overuse at Muir Woods 	<ul style="list-style-type: none"> Improved ferry connections between San Francisco, Marin, and Marin County park lands. A wealth of visitor information and usage data for some of the more popular parks in the system such as Muir Woods. Tie-in with 511 and regional ITS. Translink's regional fare payment system provides the opportunity for occasional riders to "cross systems easily. Marin County Transit District Local Initiative Service Partnership SR-1 Tennessee Valley Improvements could improve pedestrian and bicycle access to Tennessee Valley and auto access to all Marin County park lands off of SR-1. Muni Historic Streetcar extension to Fort Mason and possibly the Presidio. Devil's Slide project provides opportunity to re-use former auto-oriented road into a multi-use pathway The Huddart and Wunderlich Parks Master Planning process provides the opportunity to improve access to the recently acquired Phleger Estate. 	<ul style="list-style-type: none"> Muir Woods Shuttle will lose funding after 2007. Doyle Drive reconstruction could interfere with Presidio and Crissy Field site access.

APPENDIX B

DOCUMENTS IN DATABASE

Appendix B. Documents in Database

Following is a list of the documents included in the annotated bibliography database of planning documents.

GGNRA Planning Library – Document List

Title	Document Date	Originating Agency
2001 Regional Bicycle Plan for the San Francisco Bay Area	12/1/2001	Metropolitan Transportation Commission
A Strategy to Improve Public Transit with an Environmentally Friendly Ferry System: Final Implementation & Operations Plan	7/1/2003	San Francisco Bay Area Water Transit Authority
Alcatraz and Muir Woods Visitor Use Surveys (Manning)	1/1/2007	Golden Gate National Recreation Area (GGNRA)
Alexander Avenue / Danes Drive Intersection Analysis	10/4/2002	Federal Highway Administration (FHWA)
Assessing Needs and Identifying Opportunities for ITS Applications in California's National Parks: Final Technical Report	6/30/2004	California Department of Transportation (CalTrans)
Assessing Needs and Identifying Opportunities for ITS Apps in CA's National Parks: Tech Memo 5: Integrating Parks into a Regional ITS Architecture	12/5/2005	California Department of Transportation (CalTrans)
Central Marin Ferry Connection Project	4/1/2004	City of Larkspur
City of Sausalito General Plan: Circulation and Parking Element	1/1/1995	City of Sausalito
Completing the California Coastal Trail	1/31/2003	Coastal Conservancy
Comprehensive Transportation Management Study (CTMP) Binders 1 and 2	11/3/2006	County of Marin

Title	Document Date	Originating Agency
Comprehensive Transportation Management Study (CTMP) Binders 3, 4, 5	2/1/2005	County of Marin
CTMP Final Status Report (Letter)	3/1/2005	County of Marin
Dias Ridge and Coast View Trails Rehabilitation and Access Improvement Project EA/IS	6/1/2007	Golden Gate National Recreation Area (GGNRA)
Doyle Drive Environmental and Design Study: Traffic and Transit Operations Report	4/1/2002	San Francisco County Transp. Authority (SFCTA)
Doyle Drive Final Parking Analysis	9/1/2004	San Francisco County Transp. Authority (SFCTA)
Doyle Drive: Draft Environmental Impact Statement Report and Draft Section 4(f) Evaluation	12/1/2005	San Francisco County Transp. Authority (SFCTA)
East Fort Baker Transportation Study, Task 1 Report: Site Inventory, Opportunities and Constraints	3/24/1999	Golden Gate National Recreation Area (GGNRA)
Expansion of Ferry Transit Service - Final Program EIR	6/1/2003	San Francisco Bay Area Water Transit Authority
Expansion of Ferry Transit Service in the San Francisco Bay Area: Environmental Impact Report, Technical Appendices	6/1/2003	San Francisco Bay Area Water Transit Authority
Feasibility Report for Early-Winner Project Concepts	10/22/2003	California Department of Transportation (CalTrans)
Final Report on Developing a Comprehensive Transportation Management Plan for Southern Marin County Park lands	8/1/2005	County of Marin
Fort Baker EIS Transportation Report	8/7/1998	Golden Gate National Parks Conservancy
Fort Baker Traffic and Circulation Monitoring Program	5/31/2002	National Park Service (Pacific West Region)
Fort Mason Long-term Lease Environmental Assessment: Appendix D - Transportation Demand Management	8/1/2003	Fort Mason Foundation

General Management Plan • *Phase 1 Transportation Analysis*

GOLDEN GATE NATIONAL RECREATIONAL AREA

Title	Document Date	Originating Agency
GGNRA Asset Management Plan	7/26/2004	Golden Gate National Recreation Area (GGNRA)
GGNRA Combined 2005 Visitor Survey Card Data Report	1/6/2006	National Park Service (Pacific West Region)
GGNRA General Management Plan (GMP) Transportation Matrix	9/1/2006	Golden Gate National Recreation Area (GGNRA)
GGNRA Transportation Demand Management Program	1/1/2002	Golden Gate National Recreation Area (GGNRA)
GGNRA Water Shuttle Access Plan: Draft Final Report		Golden Gate National Recreation Area (GGNRA)
GGNRA Water Shuttle Access Study & Conceptual Plan Study	3/1/2006	Golden Gate National Recreation Area (GGNRA)
GOGA Public Use Statistics - Monthly Service Report	8/1/2006	Golden Gate National Recreation Area (GGNRA)
Golden Gate National Parks Association: Summary of Qualitative Research	2/5/2002	Golden Gate National Recreation Area (GGNRA)
Golden Gate Recreational Travel Study	7/1/1977	U.S. Department of Transportation
Highway 101 Greenbrae Corridor Improvement Project: Information Open House & Public Meeting	11/28/2005	Transportation Authority of Marin (TAM, MCMA)
Huddart and Wunderlich Parks Master Plan	5/1/2006	County of San Mateo
Intelligent Transportation System (ITS) "Early Winner" Pilot Project: Portable Changeable Message Signs (PCMS) Ops Plan	7/1/2005	Golden Gate National Recreation Area (GGNRA)
ITS Applications in California National Parks - Outreach Meeting at GGNRA	2/26/2003	National Park Service (Pacific West Region)
Lands End Coastal Trail Enhancements		Golden Gate National Recreation Area (GGNRA)
Marin / Muir Woods Transportation Pilot Projects 2005 Report	4/1/2006	National Park Service (Pacific West Region)

Title	Document Date	Originating Agency
Marin County Congestion Management Program	1/1/2004	Transportation Authority of Marin (TAM, MCMA)
Marin County Local Coastal Program	5/1/1981	County of Marin
Marin County North-South Bikeway Feasibility Study	11/1/1994	County of Marin
Marin County Transportation Sales Tax Expenditure Plan	5/6/2004	Transportation Authority of Marin (TAM, MCMA)
Marin County Unincorporated Area Bicycle and Pedestrian Master Plan	6/1/2001	Marin County Public Works
Marin Countywide Plan 1994 - Transportation Element (p. 300-340 of PDF)	1/1/1994	County of Marin
Marin Countywide Plan 2005 - Transportation Element (p. 3-139)	8/1/2005	Marin County Community Development Agency
Marin Countywide Plan: Final Transportation Background Report	3/1/2003	Marin County Community Development Agency
Marin Countywide Plan: Trails Element	1/1/2004	Marin County Community Development Agency
Marin Headlands/Fort Baker Transportation Infrastructure and Mgmt Plan EIS	1/1/2007	Golden Gate National Recreation Area (GGNRA)
Marin Short-Range Transit Plan	3/20/2006	Marin County Transit District
Mill Valley - General Plan Transportation Element	12/18/1989	City of Mill Valley
Mill Valley Bicycle and Pedestrian Transportation Plan Update	1/1/2003	City of Mill Valley
Mori Point Restoration and Trail Plan Environmental Assessment	2/1/2006	Golden Gate National Recreation Area (GGNRA)
Moving Forward A 25-Year Transportation Vision For Marin County	2/1/2003	Transportation Authority of Marin (TAM, MCMA)

Title	Document Date	Originating Agency
Mt Tamalpais Watershed Road and Trail Management Plan	5/18/2005	Marin Municipal Water District (MMWD)
Muir Woods Shuttle Evaluation	12/1/2005	County of Marin
Muir Woods Transportation Study	3/8/1999	Golden Gate National Recreation Area (GGNRA)
Muir Woods/Muir Beach VERP Study (Manning)	1/1/2007	Golden Gate National Recreation Area (GGNRA)
Muni E-Line Extension Feasibility Study	12/4/2006	National Park Service (Pacific West Region)
Muni E-Line Extension Feasibility Study - Executive Summary	12/1/2004	National Park Service (Pacific West Region)
Parking and Access Studies for Muir Woods and Dias Ridge	1/20/2005	Golden Gate National Recreation Area (GGNRA)
Parking Study for Fort Mason Center	11/15/2004	Fort Mason Foundation
Peninsula Watershed Management Plan	4/11/2002	San Francisco Public Utilities Commission
Point Lobos Avenue TETAP: Existing Conditions Project Data Memo	4/13/2005	National Park Service (Pacific West Region)
Presidio Trails and Bikeways Master Plan and Environmental Assessment	7/1/2003	National Park Service (Pacific West Region)
Presidio Trust Parking Management Plan	1/7/2006	Presidio Trust
Regional ITS Meeting Summary: Stakeholder Meeting at GGNRA, Ft. Mason	11/15/2001	Golden Gate National Recreation Area (GGNRA)
Research to Support Visitor Mgmt at Muir Woods National Monument and Muir Beach: Study Completion Report	10/1/2005	Golden Gate National Recreation Area (GGNRA)
SamTrans Short Range Transit Plan	9/8/2004	San Francisco County Transp. Authority (SFCTA)

General Management Plan • *Phase 1 Transportation Analysis*

GOLDEN GATE NATIONAL RECREATIONAL AREA

Title	Document Date	Originating Agency
San Francisco Bicycle Plan Update: Policy Framework	5/1/2005	San Francisco County Transp. Authority (SFCTA)
San Francisco Countywide Transportation Plan	7/20/2004	San Francisco County Transp. Authority (SFCTA)
San Francisco General Plan - Transportation Element	7/6/1995	San Francisco Bay Area Water Transit Authority
San Francisco MUNI Short Range Transit Plan	12/6/2005	San Francisco Municipal Railway (Muni)
San Francisco Pedestrian Master Plan	6/1/2007	San Francisco Municipal Transportation Agency
San Mateo County 2001 Trails Plan	1/1/2001	San Mateo Parks and Recreation Division
San Mateo County Comprehensive Bicycle Route Plan	10/1/2000	City/County Ass'n of Governments of San Mateo Co
San Mateo County NPS Trails Assessment	6/1/2007	Golden Gate National Recreation Area (GGNRA)
San Mateo County Transportation Expenditure Plan	1/1/2004	San Mateo County Transportation Authority
San Mateo Countywide Transportation Plan 2010 Executive Summary	1/18/2001	City/County Ass'n of Governments of San Mateo Co
San Mateo Visitor Survey (Manning)	1/1/2006	Golden Gate National Recreation Area (GGNRA)
Sausalito Bicycle Master Plan	10/1/1999	City of Sausalito
Short Range Transit Plan (GGHBTD)	6/4/2004	Golden Gate Bridge, Highway and Transp'n District
Summer 2000 Fort Baker Queuing Analysis: Summary Conclusions of Data Analysis	12/1/2000	National Park Service (Pacific West Region)
Tamalpais Transportation Improvements (TTI) Tennessee Valley Trail Alternatives Analysis	1/15/2003	County of Marin

Title	Document Date	Originating Agency
The Bay Trail: Planning for a Recreational Ring Around San Francisco Bay	7/1/1989	Association of Bay Area Governments (ABAG)
Transportation Demand Management Plan for the Marin Headlands and Fort Baker: Car-Free Day	1/1/2002	Golden Gate National Recreation Area (GGNRA)
Transportation Improvement Program (TIP) 2005	7/28/2004	Metropolitan Transportation Commission
Transportation Management Plan for the Marin Headlands and Fort Baker	3/1/2002	Golden Gate National Recreation Area (GGNRA)
Transportation Management Plan for the Marin Headlands and Fort Baker APPENDIX	11/15/2000	Golden Gate National Recreation Area (GGNRA)
Transportation Management Plan for the Marin Headlands and Fort Baker: Alternatives Evaluation	12/1/2001	Golden Gate National Recreation Area (GGNRA)
Transportation Management Plan For the Marin Headlands and Fort Baker: Data Collection Analysis	12/4/2001	Golden Gate National Recreation Area (GGNRA)
Transportation Management Study for the Marin Headlands and Fort Baker: Existing Conditions Report	11/15/2000	Golden Gate National Recreation Area (GGNRA)
Visitor Count Project at Crissy Field	11/16/2000	Golden Gate National Recreation Area (GGNRA)
Visitor Use Summary & Projections (Sheffield)	1/1/2007	Golden Gate National Recreation Area (GGNRA)
Woodside General Plan, Circulation Element	4/6/1988	Town of Woodside

APPENDIX C

CONTACTS LIST

Appendix C. Contacts List

Following is a list of contacts for Bay Area agencies related to transportation or land-use planning, sorted by agency and then last name.

Agency name	First name	Last name	Title	Email address	Phone number
Association of Bay Area Governments (ABAG)	Laura	Thompson	Bay Trail Project Manager	laurat@abag.gov	(510) 464-7935
Bay Area Ridge Trail Council	Bern	Smith	Director, South Bay Ridge Trail	sbay@ridgetrail.org	(415) 561-2595
California Coastal Commission	Deborah	Lee	Sr. Deputy Director		(805) 585-1800
California Coastal Commission	Charles	Lester	Deputy Director		(415) 904-5260
California Department of Transportation (CalTrans)	HP	Tang	Marin County Support	hsien-ping_tang@dot.ca.gov	(510) 622-5917
California State Parks	Patti	DuMont		pdumont@parks.ca.gov	(916) 445-9081
City of Pacifica Planning Department	Debbie	Gehret	Assistant to the Director of Public Works	gehretd@ci.pacifica.ca.us	
City of Sausalito	Paul	Kermoyan	Community Development Director		(415) 289-4111
City of Sausalito	Todd	Teachout	City Engineer		(415) 289-4111
City/County Ass'n of Governments of San Mateo Co	Mark	Duino	Planner	mduino@co.sanmateo.ca.us	(650) 363-1855
City/County Ass'n of Governments of San Mateo Co	Walter	Martone	Transportation System Manager	wmartone@co.sanmateo.ca.us	(650) 599-1465
Coastal Conservancy	Terry	Nevins	Program Manager, San Francisco Bay Area	tnevins@scc.ca.gov	(510) 286-4161
Federal Highway Administration (FHWA)	Lisa	Randall	Planning Technical Service Team Leader	lisa.randall@fhwa.dot.gov	(720) 963-3209

Agency name	First name	Last name	Title	Email address	Phone number
Golden Gate National Parks Conservancy	Jennifer	Greene	Project Manager		(415) 561-3086
Golden Gate National Recreation Area (GGNRA)	Rick	Foster		rick_foster@nps.gov	(415) 561-4472
Golden Gate National Recreation Area (GGNRA)	Steve	Griswold		steve_griswold@nps.gov	(415) 561-4934
Golden Gate National Recreation Area (GGNRA)	John	Skibbe	Project Manager		(415) 561-3063
Golden Gate Transit	Dennis	Mulligan	District Engineer	dmulligan@gldengate.org	(415) 923-2250
Golden Gate Transit	Alan	Zahradnik	Director of Planning	azahradnik@goldengate.org	(415) 257-4475
Marin County Community Development Agency	Kristin	Drumm	Planner	kdrumm@co.marin.us	(415) 499-6290
Marin County Open Space District	David	Hansen	Planning and Acquisition Manager		(415) 499-6387
Marin County Public Works	Art	Brook	Transportation Engineer	ABrook@co.marin.ca.us	(415) 499-6752
Marin County Public Works	Craig	Tackabery	Assistant Director	ctackabery@co.marin.us	(415) 499-6528
Marin County Transit District	Amy	Van Doren	Acting Director	avandoren@co.marin.ca.us	(415) 499-6100
Marin Municipal Water District (MMWD)	Nicholas	Salcedo	Inform Systems Analyst II, Sky Oaks Watershed HQ	nsalcedo@marinwater.org	(415) 945-1186
Marin Municipal Water District (MMWD)	Mike	Swezy	Natural Resource Specialist, Sky Oaks Watershed HQ	mswezy@marinwater.org	(415) 945-1190
Metropolitan Transportation Commission	Sean	Co	Planner	sco@mtc.ca.gov	(510) 817-5748
Metropolitan Transportation Commission	Lisa	Klein	Senior Transportation Planner	lklein@mtc.ca.gov	(510) 817-5832
Midpeninsula Regional Open Space District	Jeannie	Buscaglia	Planning Administrator	jbuscaglia@openspace.org	(650) 691-1200
National Park Service (Pacific West Region)	Jon	Jarvis	Regional Director		

Agency name	First name	Last name	Title	Email address	Phone number
National Park Service (Pacific West Region)	Andrea	Lucas		andrea_lucas@nps.gov	(415) 561-4478
National Park Service (Pacific West Region)	Carrie	Strahan		carrie_strahan@nps.gov	(415) 561-4931
Peninsula Open Space Trust	Daphne	Muehle			(650) 854-7696
Peninsula Open Space Trust	Walter	Moore	Executive Vice President		(650) 854-7696
Peninsula Open Space Trust	Paul	Ringold	Director of Land Stewardship		(650) 854-7696
San Francisco Bay Area Water Transit Authority	John	Sindzinski	Manager, Planning and Development	sindzinski@watertransit.org	(415) 291-3377
San Francisco County Transp. Authority (SFCTA)	Tilly	Chang	Senior Planner	tilly_chang@sfcta.org	(415) 522-4832
San Francisco County Transp. Authority (SFCTA)	Rachel	Hiatt	Planner	rachel_hiatt@sfcta.org	(415) 522-4809
San Francisco County Transp. Authority (SFCTA)	Julie	Kirschbaum		julie_kirschbaum@sfcta.org	(415) 522-4830
San Francisco Municipal Railway (Muni)	Peter	Straus	Director of Service Planning	peter.straus@sfmta.com	(415) 701-4374
San Francisco Municipal Transportation Agency	Peter	Albert	Manager, Long Range Planning	peter.albert@sfmta.com	(415) 701-4328
San Francisco Municipal Transportation Agency	Peter	Straus	Planner	peter.straus@ci.sf.ca.us	(415) 701-4374
San Mateo County Transit District (SamTrans)	Larry	Stueck	Manager of Planning	stueckl@samtrans.com	(650) 508-6226
San Mateo County Transportation Authority	Joseph M.	Hurley, P.E.	Director, San Mateo County TA	hurleyj@samtrans.com	(650) 508-7942
San Mateo Parks and Recreation Division	Sam	Herzberg	Senior Park Planner	sherzberg@co.sanmateo.ca.us	(650) 363-1823
Transportation Authority of Marin (TAM, MCMA)	Carey	Lando	Senior Transportation Planner	CLando@co.marin.ca.us	(415) 499-5078

APPENDIX D

PRESENTATION TO GGNRA WORKSHOP
12/04/06

GGNRA General Management Plan Transportation Analysis

Nelson\Nygaard Consulting Associates

December 4, 2006



Today's Presentation

- Overview of GMP and Transportation Analysis Process and Library
- Existing Conditions
- Regional Planning Context
- Transportation Analysis
- Discussion

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2



GMP Purpose & Scope

A General Management Plan:

- serves as a foundation and framework for the management of park lands
- articulates desired conditions for natural and cultural resources and visitor experiences to best fulfill park's purpose
- looks ahead 20 years and lays the groundwork for more detailed planning

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3



GMP Purpose & Scope

A General Management Plan:

- considers the park as part of larger ecological, cultural, and economic systems
- includes coordination with park neighbors: other open space land managers, neighboring communities

Since the last GMP (1980), the park has doubled in size and the population and urban footprint of the Bay Area have grown significantly.



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4



Parks Addressed in this Analysis

- National Park Service-administered lands within the boundaries of GGNRA
- Sites that do not have recent land use planning (for example, Presidio/Fort Mason)
- Sites south of Bolinas-Fairfax Road

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5



Parks Addressed

Marin County	San Francisco County	San Mateo County
Fort Cronkhite	Alcatraz	Devil's Slide
Fort Baker	Aquatic Park	Milagra Ridge
Marin Headlands	Baker Beach	Mori Point
Muir Beach	China Beach	Pedro Point
Muir Woods	Cliff House	Phleger Estate
Olema Valley	Crissy Field	Picardo Ranch
Rodeo Beach	Fort Funston	Rancho Corral de Tierra
Stinson Beach	Fort Point	SF Watershed
Tennessee Beach & Valley	Lands End	Sweeney Ridge / Cattle Hill
	Marina Green	
	Ocean Beach	

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6



Transportation Analysis

Provides input to the GMP by:

- providing a regional context for GMP transportation issues
- documenting regional transportation planning and park planning processes
- relating scoping comments to issues identified for the GMP

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7



Transportation Analysis

Identifies issues, opportunities and threats that may influence the GMP

At this stage:

- is not designed to provide solutions to potential issues
- does not describe how to take advantage of opportunities

More refined linkages between the park's plans and the regional plans will be developed in subsequent phases, if appropriate.

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8



Planning Document Library & Database

- Nearly 100 documents summarized in database
 - Transportation-related studies, plans, and statistical reports relevant to GGNRA transportation planning
 - Included if they addressed transportation-related information/plans affecting at least one GGNRA park, or a regional transportation issue affecting access to a GGNRA-managed park
- Helps to inform the transportation issues to be analyzed as part of the GMP

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9



Planning Document Library

For each document, information includes:

- originating agency, date, status, link to an online copy
- Table of Contents
- Related and referenced documents
- Purpose
- Summary, key facts and findings as related to the GGNRA
- Geographic area covered (region, GGNRA-wide, county, city, and by specific park)
- Topics covered, types of data included
- Relationship to GGNRA (within, adjacent to, or affecting the park)
- Transportation-related issues, opportunities and threats to parks

Reports can be generated for any of the these information categories

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10



Agencies & Contacts

For each document, information on the originating agency is included.

- Over 40 agencies with individual contacts
- National, state, regional, county, city and private non-profits
- Planning, transit, conservation, parkland management

Can be useful in generating buy-in and providing additional information

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11

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Existing Conditions



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12

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Existing Conditions

Marin County (northern sites)

- Stinson Beach
- Muir Woods
- Muir Beach

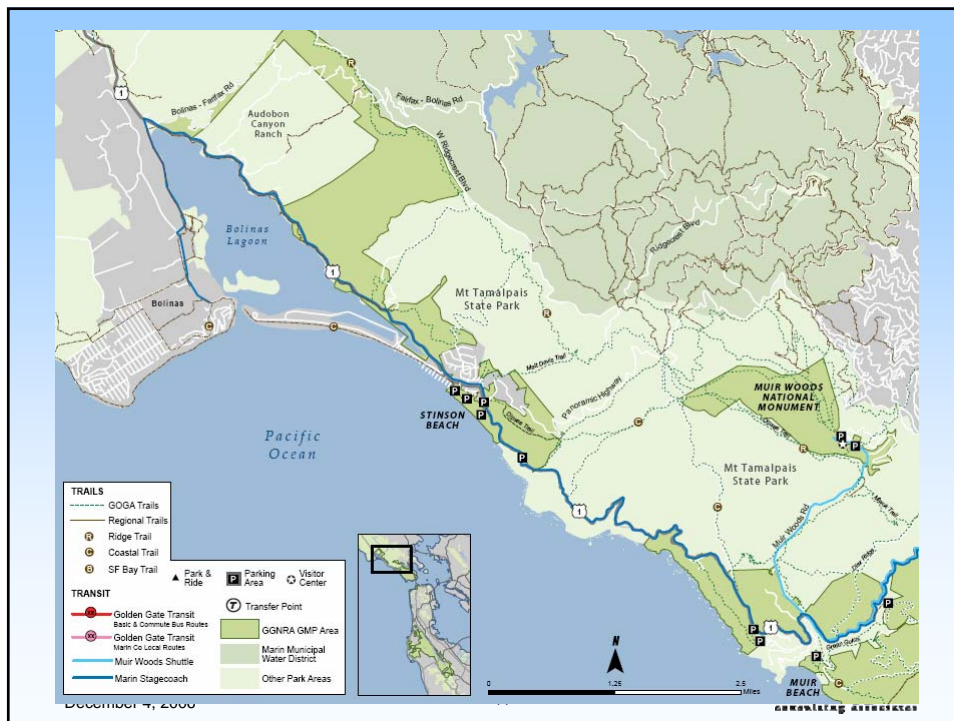


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13

Marin County
existing conditions



Existing Conditions

Marin County (Stinson, Muir Beach/Woods)

- Extremely popular coastal sites, small winding 2-lane roads
- Strong local commitment to rural character; road widening not an option
- Congestion and parking impacts led to Muir Woods shuttle demonstration; very successful, but will end after summer '07
- Public transit to Stinson (Marin Stagecoach) – service on weekdays and every 2 hours on weekends
- Stinson has adequate parking, but auto access causes paralyzing local congestion on summer weekends, preventing emergency access except by helicopter
- Few sidewalks leading to sites ; no bike lanes to sites
- Picnic areas potentially ADA-accessible
- Good signage on approaching roads, entrances, trails



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15

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Existing Conditions

Marin County (south sites)

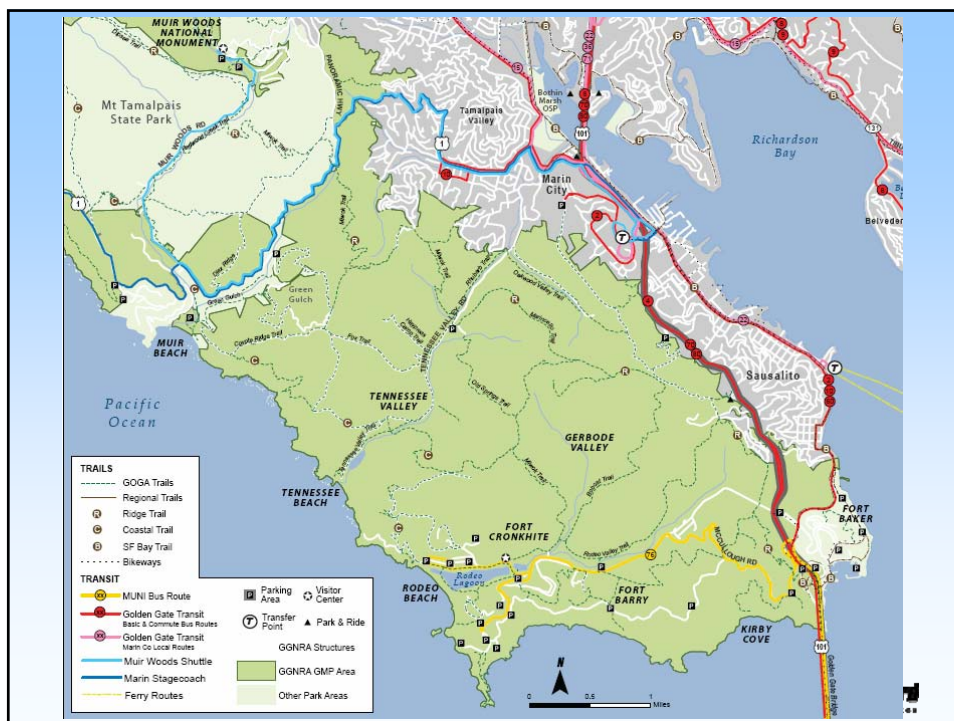
- Fort Cronkhite
- Fort Baker
- Marin Headlands
- Rodeo Beach
- Tennessee Beach and Valley



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16

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Existing Conditions

Marin County (southern sites)



- Public transit
 - Headlands served by Muni 76 hourly on Sundays and holidays; no Saturday service
 - Golden Gate Transit commuter weekday service to north end of bridge, continuing to Marin City/West Marin Stage
- Auto access congested during peak summer weekends
- Good roadway conditions, parking lots throughout Headlands and ample unformalized roadside parking
- Excellent bicycle roads & paths throughout the Headlands and Fort Baker
- Equestrian uses in Tennessee Valley
- Boat rental at Fort Baker
- Good signage

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18

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Existing Conditions

San Francisco (northern / Presidio sites)

- Alcatraz
- Fort Point
- Aquatic Park
- Fort Mason
- Crissy Field
- Marina Green
- Baker Beach



Photo Credits: Thomas Story
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19



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20



Existing Conditions

San Francisco (northern / Presidio sites)

- Located in San Francisco, excellent public transit to the parks; within parks, travel is more difficult.
- NPS-sponsored “PresidiGo” shuttle
- Ferry to Alcatraz from Pier 41
- Ample parking adjacent & throughout the parks
- Excellent sidewalks and trails throughout the sites
- Bicycling access is excellent once in the park, but can be dangerous due to high-speed local traffic
- All areas very ADA-accessible
- Very good signage throughout; none at transit stops



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21

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Existing Conditions

San Francisco (southern/coastal sites)

- China Beach
- Cliff House
- Fort Funston
- Lands End
- Ocean Beach



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Existing Conditions

San Francisco (southern/coastal sites)

- Coastal SF parks
- Well-connected to public transit, but less service than parks in Presidio; maximum 20 minute service
- Multiple roadway entrances with on- and off-street parking
- Most are potentially ADA-accessible except Baker Beach
- Bicycle access fair to good, with some Class I bike lanes



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24

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Existing Conditions

San Mateo (northern sites)

- Milagra Ridge
- Mori Point
- Pedro Point
- Sweeney Ridge / Cattle Hill
- Future: Devil's Slide, Rancho Corral de Tierra



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25

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Existing Conditions

San Mateo (northern sites)

- These parks have the lowest number of visitors; typically, hikers, dog walkers and equestrians
- SamTrans routes to all but Devil's Slide; weekday commuter routes, lighter weekend service
- Auto access often unmarked; parking often informal, at roadside
- Pedestrian access varies from poor to good; good trail connectivity between parks, beaches, and other major trails
- Mori Point & Sweeney Ridge have good bike access and trails; the rest have no established trails, or bicycles are not allowed
- Rancho Corral used extensively by equestrians and dog walkers



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27

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Existing Conditions

San Mateo (southern sites)

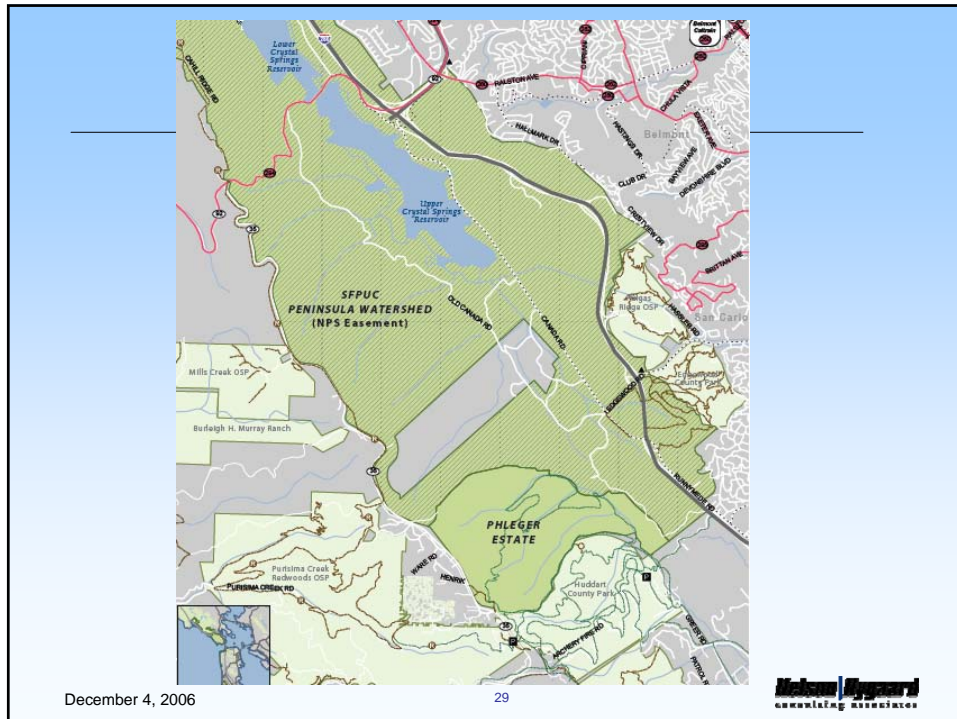
- San Francisco Watershed
- Phleger Estate
- Picardo Ranch



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28

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Existing Conditions

San Mateo (southern sites)



- **Phleger Estate** is accessed through Huddart County Park; 50% of visitors are equestrians
- Excellent connectivity to about a dozen trails in the immediate vicinity
- Auto access over windy steep road needing repair; parking shared with Huddart Park
- No public transit or pedestrian access; ADA-difficult
- Neither bicycles nor dogs allowed
- No NPS signage until within the park

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30

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Existing Conditions

San Mateo (southern sites)

- **San Francisco Watershed** has high number of visitors; strollers, runners and bikers
- Poor pedestrian access to site, but hikers willing to drive have access to many trails, paved and striped for high capacity; restrooms and mile-markers.
- Roadway connections fair to good, parking on shoulders and pullouts – total of ~50 spaces in two locations
- One bus route; weekdays only, 60 minute service throughout day; 30 minute service during commute hours, connects to BART
- Good bicycle access and trails
- Good signage at both entrances; no way-finding signage nearby nor at transit stops



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31



Existing Conditions – Regional Trails

Bay Area Ridge Trail

- Passes through almost all non-coastal GGNRA parks in San Mateo, north through inland Marin parks
- Sections traversing GGNRA lands are almost complete, from Milagra Ridge south through Sweeney Ridge and through the San Francisco Watershed (access by guided group only) to Route 92

California Coastal Trail

- Passes through Sweeney Ridge (completed), Mori Point (planned), and within a half a mile of Milagra Ridge, north through Muir Beach, Stinson Beach, and points north

Juan Bautista de Anza Historical Trail

- National Historic Trail starting in Nogales, Mexico, ending at the foot of the Golden Gate Bridge (1200+ miles)
- Goes through the San Francisco Watershed, connects to the "Discovery Site" near the Sweeney Ridge Trail.

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32





Regional Planning Context

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33



Regional Planning Context

Understanding Bay Area Transportation Planning

- The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area.
- It is designated as the Metropolitan Planning Organization (MPO) and the Regional Transportation Planning Agency (RTPA) by the State.

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34



Regional Planning Context

Selecting and Planning Projects

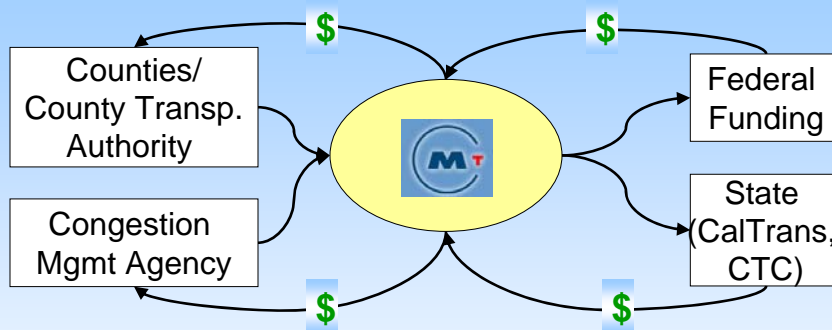
- MTC is responsible for the *regional transportation plan* (RTP)
- RTP is a comprehensive blueprint for all Bay Area transportation
- MTC screens requests from local agencies for Federal and state approval and funding
- Most recent plan: “Transportation 2030” promotes Smart Growth

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35



Regional Planning Context



Requests from local governments go to the MTC, which then includes that request in its submitted plans to State and Federal government for approval and funding.

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36



Regional Planning Context

Selecting and Planning Projects

- The *Regional Transportation Improvement Program* (RTIP) is a listing of all transportation projects the region hopes to fund; compiled every two years by MTC
- The *California Transportation Commission* (CTC) must approve or reject the RTIP in its entirety
- Once approved, the CTC combines it with RTIPs from other regions to make up the *State Transportation Improvement Program* (STIP)

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37



Regional Planning Context

Funding Transportation Projects

- MTC sets priorities for spending Federal funds on transportation projects through the **Bay Area Partnership**, made up of some three dozen transportation and environmental agencies
- Board members from the GGNRA area are:
 - Transportation Authority of Marin (TAM)
 - San Francisco County Transportation Authority
 - San Francisco Municipal Transportation Agency (SFMTA)
 - City/County Association of Governments of San Mateo County (CCAG)
 - Federal Transit Administration, Region 9

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38



Regional Planning Context

How does GGNRA get its transportation projects planned and funded?

- Partner with a local agency – City, County or Congestion Management Agency (CMA)
 - GGNRA and Agency go to MTC together with the project
 - Project is added to the appropriate document (RTIP or other) for submission to Fed or State for funding
- Work with BAP Board member closest to project

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39



Regional Planning Context

Regional Projects you should know about:

- Tennessee Valley Trail Improvement
- Coyote Creek Bridge Replacement
- 19th Avenue Improvements
- Doyle Drive Improvements
- E-Line Streetcar Extension
- Devil's Slide Bypass

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40



Transportation Analysis



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41

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Transportation Analysis

Park Transportation Planning Objectives

- **Improve Park Access and Circulation**
- **Preserve and Protect the Environment**
- **Enhance the Visitor Experience**

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42

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Transportation Analysis

Improve Park Access and Circulation

- Located in an urban area, GGNRA parks experience severe congestion
- By 2030, population forecast to increase by 1.8 million
- Expanded roadways and parking
 - Can address some issues
 - May conflict with park goals
 - May increase air and noise pollution
 - May make access by other modes difficult

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43



Transportation Analysis – Access

- Visitors may not drive or have access to a car
 - Youth
 - Seniors
 - Visitors with disabilities
 - Lower income residents
- Nearly all transit facilities and services are provided by neighboring municipalities and agencies, and are not designed to serve parks
- Transit may not attract enough visitors, and may not satisfy visitor expectations
- Auto access needs cannot be ignored but can be managed

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44



Transportation Analysis - Access

- Examples of transit designed for parks
 - Muir Woods shuttle
 - PresidiGo
 - Ferry service to Alcatraz
 - Muni's Route 76



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45

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Transportation Analysis - Access

The GMP should explore

- how the park can influence the design of existing / future services operated by others
- creating park-specific services and facilities, well coordinated with local agency services
- better managing auto congestion and parking in the immediate vicinity of the parks.

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46

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Transportation Analysis

Preserve and Protect the Environment

- Find a balance between **protecting** and **providing access to** park resources
- Although expanded auto access enables more visitors to these parks, it can also
 - remove more park land
 - increase habitat segmentation
 - increase the number of autos resulting in more air pollution, more liquid and solid runoff from vehicles, and more noise and vibrations.
 - impact historical resources and views

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47



Transportation Analysis - Environment

Providing Access in New Ways

- Provide more transit to enable visitors a non-auto way to get to the parks
- Partner with local agencies to create transit designed to serve parks
- Provide ample and safe pedestrian and bicycle access
- Use clean “green” vehicles

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48



Transportation Analysis - Environment

The GMP will explore transportation access and circulation improvements that can help improve existing environmental conditions in the park and accommodate future growth in visitation without negatively impacting the environment.

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49



Transportation Analysis

Enhance the Visitor Experience

- Wide variety of activities use transportation: roads, bikeways and trails
- Hiking and jogging, dog walking, cycling and mountain biking, horseback riding, and touring in an automobile
- May cause conflicts among user types
 - Hikers / mountain bikes
 - Horses / dogs
- Creating separate trails for uses impractical

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50



Transportation Analysis – Visitor Experience

One park transportation system for all users should:

- be safe and convenient to the user
- contribute to, not distract from, a positive visitor experience
- be designed to safely accommodate all types of allowed users
- provide access to and through parks during peak recreational times

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51



Transportation Analysis – Visitor Experience

The GMP will explore how to provide transportation facilities to create an enjoyable visitor experience for all park visitors. This could mean providing facilities and services that are part of the overall experience, or creating new regulations that spatially or temporally separate conflicting uses.

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52



Transportation Planning Elements

These three transportation objectives are directly influenced by transportation planning centered around **four key elements**:

- Public transit access
- Auto access and parking
- Bicycle, pedestrian and equestrian access
- Wayfinding

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53



Transportation Elements

Public Transit Access

- Public transit access to the parks is limited
- Most is provided by non-park agencies, not designed for park access
- Less frequent service on weekends
- Service does not provide direct access
- Transit can relieve pressure to expand roads and parking lots

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54



Transportation Elements: Transit

Marin Parks

- Who are the transit agencies?
 - Marin County Transit District (MCTD)
 - Golden Gate Bridge, Highway and Transit District (GGBHTD)
 - San Francisco Municipal Railway (Muni)
- Existing service
 - MCTD: West Marin Stage, local routes
 - GGBHTD: Routes on Highway 101, north end of GG Bridge
 - Muni: Headlands to SF hourly on Sundays/holidays only
 - Muir Woods Shuttle: specifically designed to serve park; 30-minute service on summer weekends only



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55



Transportation Elements: Transit

San Francisco Parks

- Who are the transit agencies?
 - San Francisco Municipal Railway (Muni)
 - Hornblower Cruises
- Existing service
 - Muni: Frequent service to all parks within the city, all days
 - PresidiGo: designed to serve the Presidio area; weekdays and weekends. Not well coordinated with Muni information, and the shuttle is not well used by visitors.
 - Ferry access to Alcatraz Island provided by Hornblower Cruises; specifically designed to serve park visitors



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56



Transportation Elements: Transit

San Mateo Parks

- Who are the transit agencies?
 - San Mateo Transit Authority (SamTrans)
- Existing service
 - SamTrans: Operates routes connecting BART and Caltrain stations to communities near many San Mateo GGNRA parks; many require long walks from transit to the park. Service is reduced on weekends.
 - Devil's Slide, Picardo Ranch, and Phleger Estate are not served by public transit.



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57



Transportation Elements: Transit

Public Input

Comments collected through a number of different public input processes said transit should:

- be easy to use, convenient, predictable
- connect to the primary park entry points
- provide access to the recreational and educational opportunities within the park
- reduce traffic, enhance resource protection
- provide access throughout the year
- be ADA-accessible

Further comments included concerns about the impact of tour buses on the park experience

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58



Transportation Elements: Transit

Opportunities

- Improved Ferry Service
- Muni E-Line Extension to Fort Mason / Presidio
- Doyle Drive Improvements
- Muir Woods Access Management
- MCTD Local Initiative Partnership Service
- Marin County Transportation Sales Tax Expenditure Plan
- Marin Headlands & Fort Baker Access Management

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59



Transportation Elements

Auto Access and Parking

- Auto access most popular mode for getting to parks, for residents and tourists
- Significant congestion during peak seasons/days impacts quality of life for adjacent communities, visitor experience
- Full parking lots lead to free-form parking on unpaved areas
- Widening roads and creating more parking encourages congestion and reduces natural areas of parklands

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60



Transportation Elements: Autos

Marin Parks

- Experience severe congestion and parking issues during peak months
 - Popular parks close to SF
 - Lack of transit
 - Steep, narrow, winding roads



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61

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Transportation Elements: Autos

San Francisco Parks

- Same issues for driving to SF parks as driving and parking anywhere in SF
- Ample parking in San Francisco parks
- Because of good transit and connectivity, many visitors arrive by other means



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62

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Transportation Elements: Autos

San Mateo Parks

- San Mateo parks are newest and least-known
- Relatively undeveloped signage, roadways, bike/pedestrian access, parking
- Because there is very little transit, majority of visitors must drive to parks
- Parking is limited and unmarked at many sites



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63

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Transportation Elements: Autos

Public Input

Comments collected through a variety of input processes show visitors are concerned about:

- balance between access and resource protection - parks are being overused and “loved to death”.
- balance between access and resources protection.
- too many people in Muir Woods/need to restrict number of visitors
- introducing fees that would prohibit equal access for all
- impacts on local residential mobility by park traffic

A comprehensive transportation strategy should include removing parking, roads, and related facilities that substantially impact park resources and values.

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64

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Transportation Elements: Autos

Opportunity: MANAGE traffic and parking rather than ACCOMMODATE demand

- Use intercept lots adjacent to parklands to disperse and collect visitors using shuttles
- Utilize reservation systems to manage arrival times and distribute visitors over a full day, avoiding concentration in peak times
- Charge entry fees that correspond to the impacts of automobiles and encourage alternative mode use
- Restrict or control parking as a means of controlling access

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65



Transportation Element: Autos

Opportunities

- Marin Headlands & Fort Baker Transportation Management
- Muir Woods Auto and Parking Management
- State Route 1 Tennessee Valley Improvements
- Doyle Drive Corridor Improvements
- Devil's Slide
- Huddart and Wunderlich Parks Master Plan

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66



Transportation Elements

Pedestrian, Bicycle and Equestrian Access



- Safe pedestrian and bicycle access to parks means fewer cars, greater connectivity to community
- Park trails are for use by all
- Different needs sometimes lead to conflicts

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67



Transportation Elements: Pedestrian, Bicycle, Equestrian

Public concerns related to pedestrian, bicycle, and equestrian access

Each group – bikers, horseback riders, dog walkers – wants to preserve and increase their own opportunities in the parks, and restrict other groups.

- Dogs damage park, leave waste, bother horses, and if off leash, harass wildlife, people, other dogs
- Horses damage trails, leave waste, and may be a safety issue
- Bicyclists scare horses, go too fast, show inconsiderate behavior, and damage the trails

Possible solutions:

- Dedicate trails (spatially or temporally) to specific uses to reduce use conflicts.
- Determine park-wide rules that are easy to understand (i.e., all dogs on leash, bikes only on pavement, etc.)

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68



Transportation Elements: Pedestrian, Bicycle, Equestrian

Opportunities for Marin Sites

- Dias Ridge and Coast View Trails Rehabilitation and Access Improvement Project (2007)
- Tamalpais Transportation Improvements (TTI) Tennessee Valley Trail Alternatives Analysis (2003) County of Marin
- Central Marin Ferry Connection Project (2004)



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69

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Transportation Elements: Pedestrian, Bicycle, Equestrian

Opportunities for San Francisco Sites

- Presidio Trails and Bikeways Master Plan and Environmental Assessment (2003)
- 2001 Regional Bicycle Plan for the SF Bay Area



- SF Bicycle and Pedestrian Master Plan (2007)

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70

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Transportation Elements: Pedestrian, Bicycle, Equestrian

Opportunities for San Mateo Sites

- Mori Point Restoration and Trail Plan Environmental Assessment (2006)
- Completing the California Coastal Trail (2003)
- Huddart and Wunderlich Parks Master Plan (2006)



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71

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Transportation Elements

Wayfinding

Regardless of the mode used, visitors must find their way *to* the park, and find their way around *within* the park

- Road signs – stationary, ITS
- Signs at transit stops
- Well-marked entrances
- Trails / pathways within parks
- Visual, tactile, audible cues



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72

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Transportation Elements: Wayfinding

The Visitor's Viewpoint

- How will visitors get to the park?
- At what points do they need to decide which way to go?
- Who is the visitor?
 - age, language, physical abilities, cognitive abilities
- Minimal signage to accomplish goal: appropriate sizes, colors, materials



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73

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Transportation Elements: Wayfinding

Wayfinding at GGNRA Today

- Signage better at parks with higher attendance
- Entrances generally well-marked
- San Mateo parks particularly anonymous



- Almost no signage at transit stops adjacent to parks
- Trailheads inconsistently marked
- Few signs on rules (dogs, bikes, horses, hours)

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74

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Transportation Elements: Wayfinding

Strategies for Wayfinding Implementation

- Develop guidelines for “layers” of signage and other wayfinding means (road, entrance, within)
- Make signs consistent among parks



- As capitol projects are planned, include signage budget
- When repairs are required, replace old signs with new ones

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75

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Discussion



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76

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Discussion

- Relationship of Analysis Findings to GMP
- Additional Analysis Activities
- Other

