

Recreation Inventory

Active Recreation

Recreation Introduction

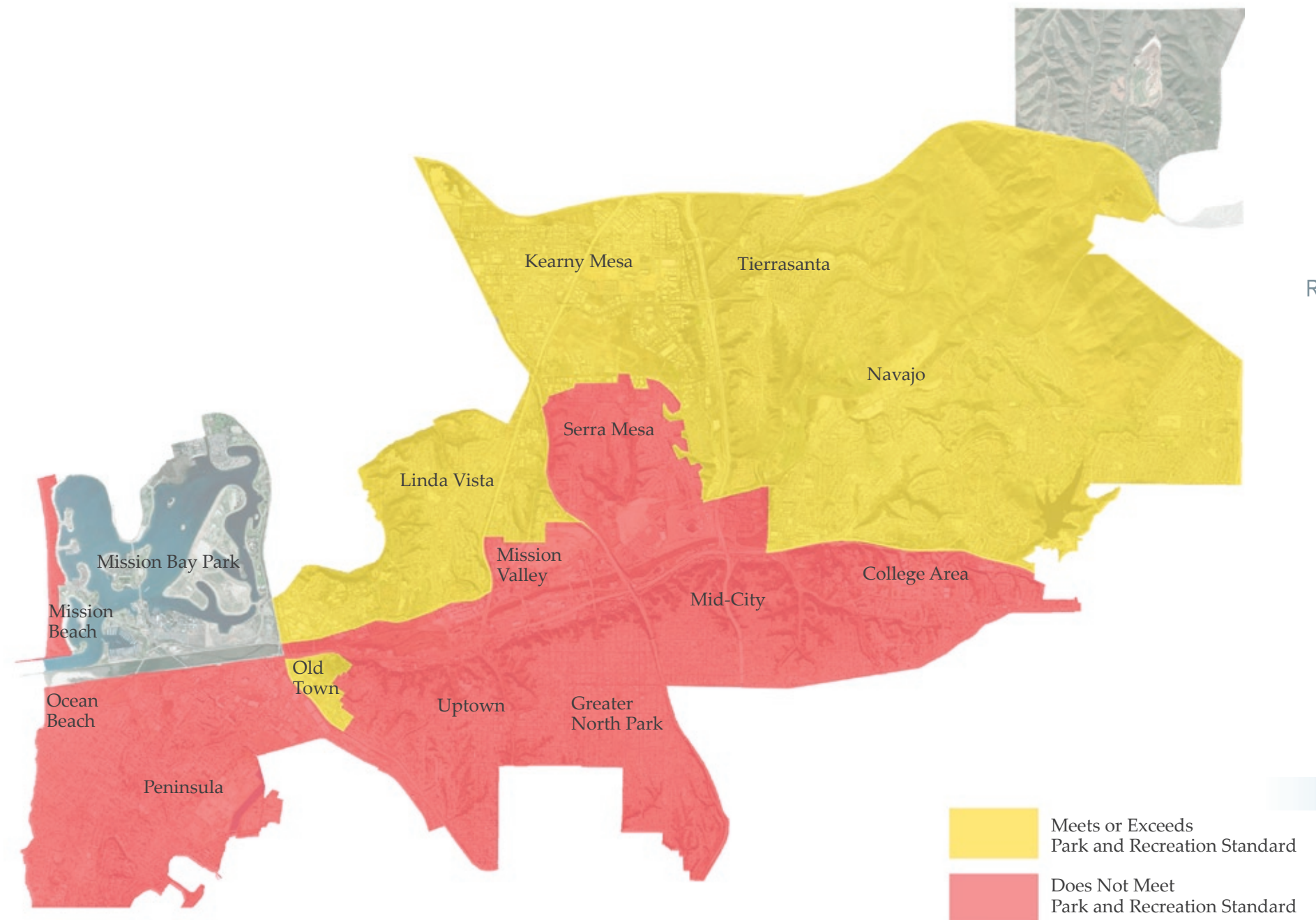
A major objective of the study is to identify the range of recreation opportunities in the river corridor. This section focuses on Active Programmed Recreation—defined as sports facilities, sports fields and parks—parkland suitable for organized sport activities, as well as major circulation trails. Passive recreation, such as nature study, hiking trails, interpretation of cultural sites and other activities related to specific resources are discussed separately in those specific resource sections. To supplement public resources, the San Diego River valley has many private facilities that offer commercial recreation. The relationship of those facilities to the San Diego River Park is discussed. The appreciation of the river as a recreational resource should be a fundamental part of recreation and land use planning in the river valley.

Active Recreation Goals

Although the study area for the San Diego River Park is a 1/2 mile corridor on each side of the river, existing facilities and recreation needs were examined within the fifteen adjacent community planning areas of the City of San Diego. The Progress Guide and General Plan has established 2.8 acres per 1,000 residents as the active park required acreage goal throughout the City. Recommendations for new open space and recreational facilities are focused within corridor. Open, developable land for new parks is very limited throughout these fifteen communities and many of them are at a deficit for active recreation acreage, according to Park and Recreation Department calculations. The river corridor is in concept an appropriate place to provide additional active and passive recreation sites for many reasons:

- The valley can be a “common” for the city.
- It is central and accessible to many neighborhoods from streets and transit.
- The river and recreation can be linked with communities.
- Residential population is growing in the river valley and adjacent communities.
- Recreation open space can reinforce natural open space and habitat.
- The river valley can be a beautiful setting for recreation.
- Some open land remains in the valley.
- Recreation land can provide flood overflow areas.

An overall goal is to balance active recreation with conservation and habitat. Riparian habitats, particularly in California, have been diminished over time due to human development. In proposing recreation for the communities along the river corridor, new recreation facilities can be created where the need exists, where they are accessible to the community and in locations which do not require displacement of existing development. The proposed east-west multi-use trail, as well as lateral bike and pedestrian paths, can link neighborhoods to the proposed parks and regional recreation facilities.



Executive Summary

Site planning criteria for new recreation sites takes into account new environmental considerations and factors including hydrological improvements, habitat creation and vegetation buffers. In addition, new construction materials for recreation facilities would take a design cue from the riparian character. In summary, general goals for active recreation planning include the following:

Introduction

- Define criteria for locating active recreation sites relative to other objectives.
- Identify potential locations for active and passive recreation acreage that is identified in Community Plans.
- Identify additional recreation opportunities that may meet needs currently unaddressed in Community Plans, or other regional needs.
- Complement and reinforce resource-related opportunities such as nature study and enjoyment of the river and its cultural and geographic significance.
- Provide a program for recreational uses for each location or use area that is proposed.
- Identify design issues and criteria for proposed recreation areas.

Principles

Recommendations

Analysis of Recreation within Community Plan Areas

The City of San Diego "Progress Guide and General Plan" provides population-based acreage goals of 2.8 acres per 1,000 citizens, and the Land Development Code sets a standard of 2.8 acres of parkland per 1,000 people. "Community parks", "neighborhood parks" and "mini-parks" are included in the population-based acreage in each community planning area. Community parks are a minimum of 20 acres, but can be reduced to 13 acres if located adjacent to a school with a joint-use agreement. Community parks serve a 1-1/2 mile radius area and contain facilities such as ball fields, playgrounds, hard-courts, gymnasiums, swimming pools and recreation center buildings. Neighborhood parks are ideally 10 acres, although the size can be as small as 5 acres if located adjacent to a joint-use school facility. Neighborhood parks serve a 1/2 mile radius area. Neighborhood parks have smaller play fields, children's play areas, multi-purpose courts and passive park space such as picnic facilities. Mini-parks, defined under San Diego Council policy (Policy #700-34, 1990) as Vest Pocket parks, are small parks designed to provide park facilities in areas "which substantially do not meet General Plan standards". An additional requirement from the General Plan is that one city swimming pool shall be provided per each 50,000 residents. Each city swimming pool serves an area within a 1-1/2 to 2 miles radius.

Design Guidelines

Implementation

Appendices

Using 2.8 acres per 1000 residents and the most recent population figures and SANDAG projections, the Park and Recreation Department determines the population based park acreage goal for each community. Using these calculations, the Park and Recreation Department has determined that most urbanized communities are park-deficient. Without additional acreage, the average park deficit will continue to increase with a growing population.

Because most of the communities along the river corridor have little available land for new recreation facilities, Park and Recreation could conceivably develop a policy to aggregate recreation from several communities and locate a convenient regional recreation facility in the river valley.

Most of the Mission Valley community is within the San Diego River Park study. Significant portions of the following communities are within the study area: Navajo, Tierrasanta, Linda Vista, Mission Bay Park, Ocean Beach, Midway/Pacific Highway and Old Town San Diego. The study area lies within smaller portions of the communities of Mission Beach, Peninsula, Uptown, Greater North Park, Mid-City, Kensington, Serra Mesa, Kearny Mesa, College Area and East Elliot. To the east, the study area meets the City of Santee. One reason for the deficit of recreation land within these communities is that some portions of the recreation requirements may have been permitted to be satisfied with private open space within new developments, particularly in Mission Valley. This has yielded private recreation amenities such as tennis courts, gyms, pools and meeting rooms for project residents, but these facilities are not available to the public and therefore are not counted as part of existing recreation. This policy has changed and Mission Valley Community Plan update, which is currently underway bases active recreation needs on public facilities.

Mission Valley, Navajo, Tierrasanta community plans have specific recommendations for recreation within the river corridor study area. Some other community plans have general recommendations for trail connections, view areas over the valley, or open spaces that may be linked.

Community parks that service areas within 1/2 mile of the river:

- Ocean Beach Athletic Facility (Robb Field)
- Cleator Community Park
- Presidio Community Park (a regional passive park, without typical community park facilities)
- Allied Gardens Community Park (with swimming pool)

- Tierrasanta Community Park (Its service area of 1-1/2 mile does not extend to the river corridor study area, but its swimming pool service area of 2 miles does)
- Mission Valley YMCA (although a private facility, the pool is considered a public facility as part of an agreement in which the facility is located on public land)

Neighborhood parks that service areas within the river corridor study area:

- Collier Park
- Dusty Rhodes Park
- Mission Heights Park
- Mission Hills Park
- Old Trolley Barn Park
- Grantville Park
- Roadrunner Park
- Rancho Mission Canyon Park
- West Hills Park, Santee

Other Existing Public Recreation Facilities

The public can use recreation fields and some other facilities of selected public schools where the City has a "joint-use agreement" in place with the school district. To avoid conflict with school programs, public access is generally limited to after school hours. The acreage within the joint-use facilities are included in the park and recreation inventory.

Regional parks, such as Mission Bay Park and Balboa Park, are not counted in population-based park inventory. City property defined as "Open Space" are areas generally free from development or developed with low intensity uses that respect natural environmental characteristics. Open space is also not included in the population-based park inventory. Open Space is used for purposes such as:

- Preservation of natural and cultural resources
- Passive outdoor recreation
- Public health and safety
- Control of urban form
- Scenic and visual enjoyment

The City has over 30,000 acres of City-owned open space, consisting of major open space regional parks, urban canyons and slopes. For instance, significant acreage is under the jurisdiction of the Park and Recreation Department in the Mission Valley north-facing valley slopes.

In addition, the state and federal governments own significant land areas within the river valley and the river corridor study area that can be considered open space, or in some cases recreational areas. These include the following:

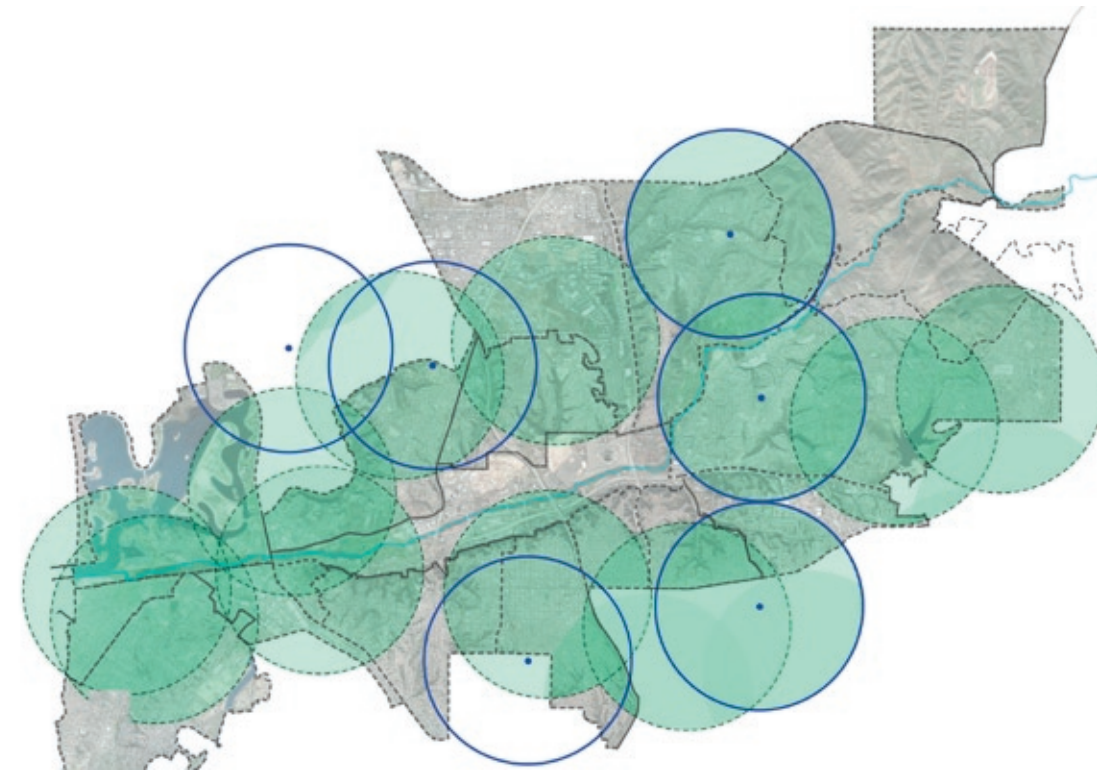
- Caltrans rights-of-way (State, freeway and interchange landscape areas)
- Admiral Baker Golf Course and Park (Federal, Navy golf course, swimming pool, picnic area, community building, gym)
- Army Corps of Engineers (Federal, river and tributary channels, floodways and structures)

Regional or Area-wide need

Although recreation need is currently evaluated within individual communities, the unmet opportunities adjacent to the river produce an overall need for active recreation land of more than 200 acres (even considering proposals within the community plans for new recreation facilities). Using other regional parks as examples—Mission Bay Park, Mission Trails Regional Park and Balboa Park—could a major sports park at Qualcomm or a resource based park in Grantville be justified based on regional opportunities not identified within individual community plans?

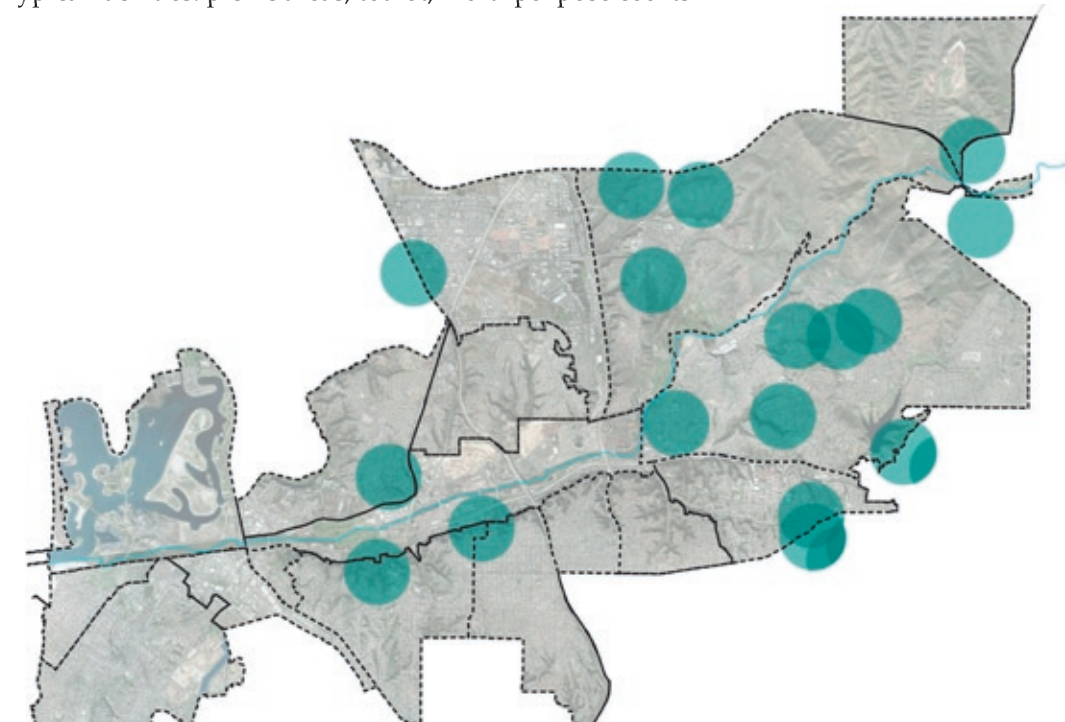
Private Recreation or Recreation Related Facilities

The River valley currently offers a wide array of commercial and retail attractions and recreation that can contribute to and benefit from the San Diego River Park. Like the downtown and beach areas of San Diego, many of these facilities are part of the tourist environment of the City, but are heavily used by residents as well. The obvious example is Sea World, but even the shopping malls in the valley are often used as a recreational resource for family outings, and the more integrated these facilities become with the San Diego River Park, the more residents and visitors will identify with the river as a significant resource for the region.



Active Recreation Facilities-Neighborhood Parks

- 3,500 - 5,000 residents within 1/2 mile radius
- 10 acres, reduced to 5 if next to elementary school site
- Typical facilities: picnic areas, tot lot, multi-purpose courts



Active Recreation Facilities-Community Parks

- 8,000 - 25,000 residents within 1 1/2 mile radius
- 20 acres, reduced to 13 if next to junior high school site
- Typical facilities: much the same as neighborhood park, with ball fields and recreation center building

These facilities should be linked with trails and integrated with the landscape character of the river. They include:

Recreation

- Golf Courses: Carlton Oaks, Riverwalk, Admiral Baker, Old Town State Historic Park
- Presidio Park
- Sea World
- Sports Arena
- Qualcomm Stadium and practice fields
- Point Loma and Mission Valley YMCA's
- Sefton Little League Fields
- Numerous health clubs
- Hotels, resorts and spas
- Private residential recreation areas
- USD athletics and recreation
- San Diego Mission School recreation
- Admiral Baker community park area
- Private school sports facilities

Attractions with recreational qualities

- Sea World
- Old Town State Historic Park
- Presidio Park
- Serra Museum
- San Diego Mission and School
- Mission Valley Library
- Mission Bay Concessions
- Hotels, resorts
- Sports Arena
- Qualcomm Stadium
- Fashion Valley Mall/Cinemas
- Mission Valley Mall/Cinemas
- USD facilities
- Restaurants and Clubs



Trails

Trails analyzed in this section include those which provide access from communities to the river corridor as well as the east to west multipurpose trail, which provides access along the river corridor.

Trail Goals

- Continuous east to west trail from the ocean to Santee and on through the county.
- Create lateral links for bicycles and pedestrians to all communities, transit, recreation, interpretive, public and private facilities adjacent to the river corridor.
- Provide trails for horses in the eastern part of the corridor.
- Provide staging areas and conveniences such as bicycle parking, rest areas and overlooks to encourage use of the trails.
- Locate trails where they provide convenient access and an enjoyable setting.
- Locate trails where they conflict least with habitat and river hydrology.

Existing Circulation Trails

An east to west multipurpose trail system is partially established in the corridor and fairly convenient bicycle access is possible from adjacent communities and between sections of off-street trail. However, pedestrian access from communities is extremely limited, the east to west trail is interrupted by awkward street crossings and many of the missing pieces of the trail system use on-street bicycle connections that are dangerous.

Existing trails consist of a multi-use-trail for bicycles and pedestrians in the central part of Mission Valley (completed as part of the FSDRIP), multi-use trails on the levees in the estuary, trails in existing parks (Mission Bay Park, Dusty Rhodes Neighborhood Park, Mission Trails Regional Park) as well as on-street bikeways and sidewalks. Equestrian uses are allowed in Mission Trails Regional Park on some designated trails, but horses are not envisioned for the San Diego River multi-purpose trail.

The "multi-use trail" at FSDRIP is a 10-12 ft. wide paved path on both sides of the river. A criterion for the river path is that it be a bike-pedestrian shared path parallel to the river. Per a Caltrans Highway Design Manual (Feb. 1, 2001) recommendation, the shared recreation path is not intended as a high-speed transportation facility for bicycles. Where space allows, the San Diego River Park plan proposes that a pedestrian-only, soft surface trail be on a separate path on the opposite side of the river.

Trail Definitions

City of San Diego

"Multi-use trail" is a term already used in City of San Diego Community Plan documents to describe a Class I bikeway that is shared with pedestrians. City of San Diego "Transit and Bike Route" plans define the width of the multi-use trail as 8' to 12' with a 2' soft shoulder on each side. The Transportation Department of the City of San Diego defines the multi-use trail as generally 10' wide with 2' shoulders and paved to meet ADA standards with concrete, asphalt, "resin pavement" or other similar surface.

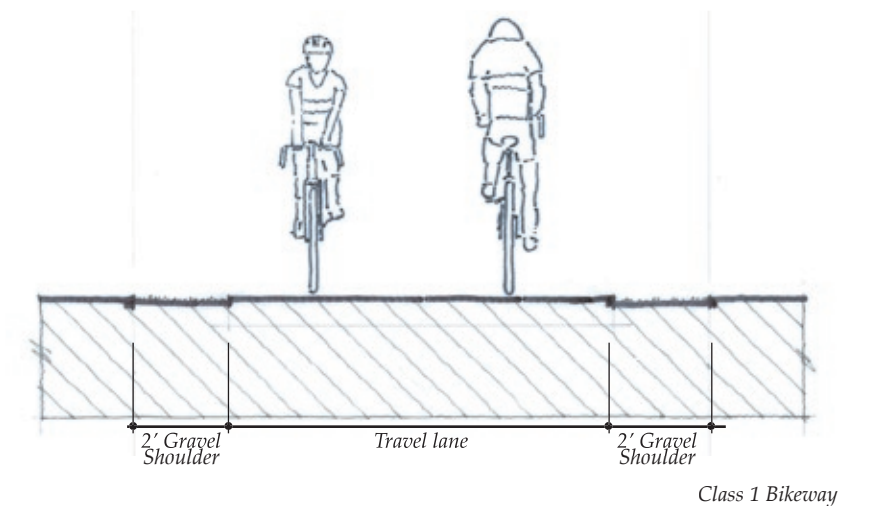
Refer to Design Guidelines for specific trail and path definitions used in this document and proposed by this plan

Caltrans

Class I Bikeways are defined by Caltrans as bike paths on their own rights-of-way for the exclusive use of bicycles and pedestrians. Caltrans also defines the Class I Bikeway as providing a recreational opportunity or a high-speed commute route. Therefore, the "multi-use trail" designation should clarify our intended use for the trail. Caltrans does not specify shoulder surfaces.

San Diego Master Bike Plan

The San Diego Master Bike Plan calls its existing and proposed dedicated bike paths "Class I Bikeways". The section of the "Class I Bikeway" shown in the San Diego Master Bike Plan shows a soft shoulder.



Passive Recreation and Hiking Trails

Passive recreation refers to enjoyment of the outdoors and the natural and cultural resources of the river valley—as opposed to activities that require sports fields and facilities. This category includes interpretation and education concerning the resources as well as simply walking and hiking for exercise.

Historic and Cultural Resources Inventory

Geologic History

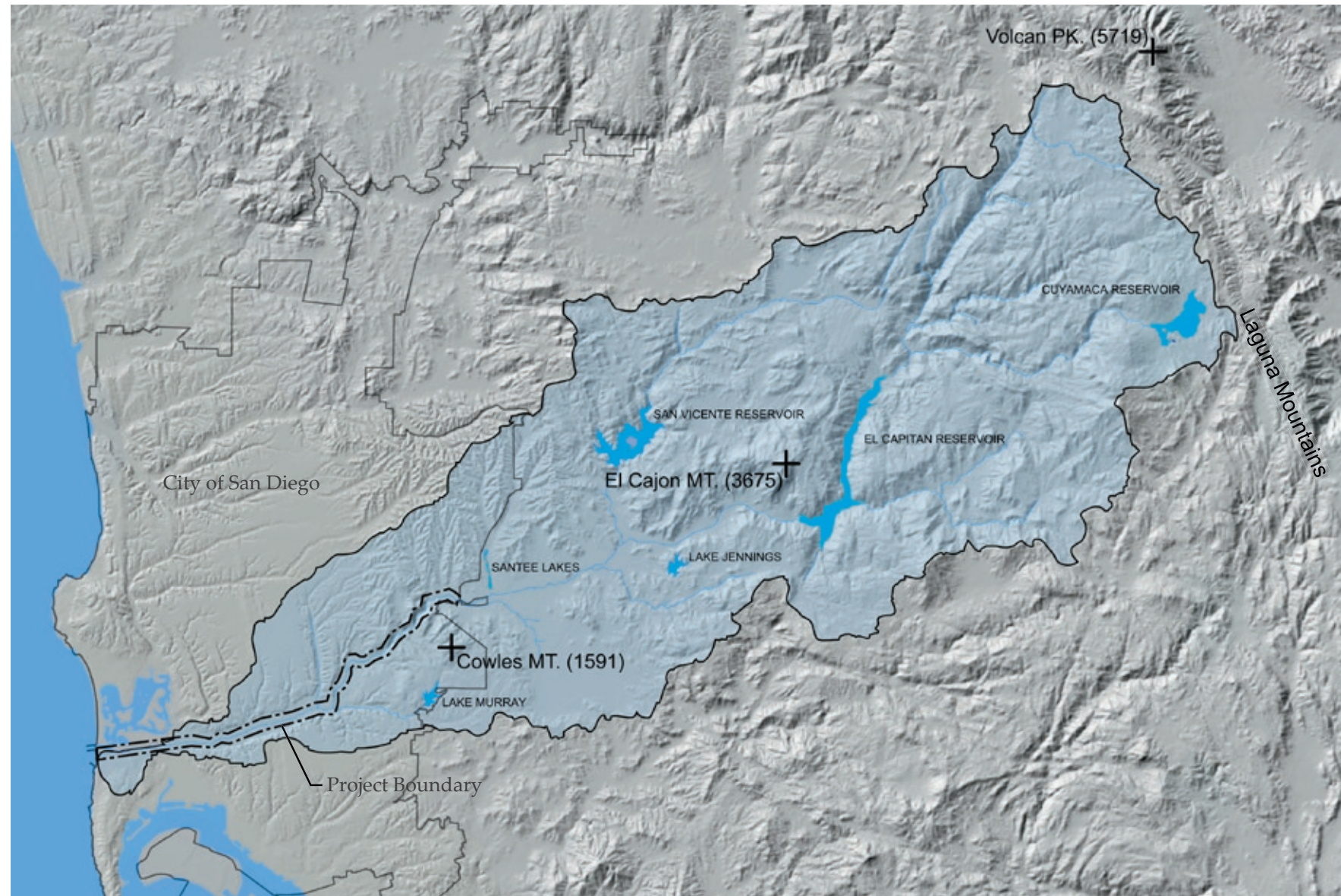
Rivers have been fundamental to the shaping of the earth's surface since vapor first coalesced into raindrops and fell to earth. Since then, by collecting into ever larger and more powerful channels from rivulets to gullies to streams and rivers, water has carved the surface of the earth and redistributed materials through erosion and sedimentation. The geologic terrains aggregated over the past one and a half billion years, drifting layer by layer into the North American plate creating the land mass that now constitutes California. The Sierras continue to rise more rapidly than they erode; the evidence of this land mass's relatively young age is seen and felt in the earthquakes occurring along many faults that outline the edges of what were once separate land masses. The erosion of the California landscape is more visibly evident than in many places. The combination of its young geology and pattern of rain fall results in a pattern of erosion that is often abrupt and eventful.

As the earth evolved, the fundamental process of erosion was influenced by two critical events. The first event was the development of vascular plants. Early vegetation existed in swamps and other lowlands, and the adaptation to higher and drier conditions likely occurred in riparian (river related) environments. The subsequent rapid expansion of plants across the surface of the earth dramatically changed the environment by stabilizing much of the earth's surface, fundamentally impacting the erosional processes and the behavior of stream flow itself. The plant species that made up the riparian vegetation of a stream corridor affected the basic structure and patterns of the stream flow, and as the vegetation evolved or otherwise changed over time, the pattern of the stream itself was changed.

The second critical event was the arrival on earth of humans a species with the ability to think, manipulate and fundamentally change the environment. Water access and rich floodplain soils often drew early peoples to river valleys, and the earliest humans migrated into southern California at least ten thousand years ago. The Kumeyaay settled in the San Diego River watershed at about this time, although their impact on the behavior of the river was minimal. Only with the late eighteenth century arrival of Europeans, with the ingenuity and desire to control water on a larger scale, did the character of natural stream flow begin to change dramatically.

The effect of these two fundamental events is clearly manifested in the historic changes to the San Diego River. Once an ephemeral waterway, often dry in the summer and occasionally flooding, the San Diego River carved through the granitic tilted fault block of California's Peninsular Range and the coastal terraces spilling onto the coastal plain. As these terraces uplifted and tilted, the River carved the Gorge in what is now Mission Trails Regional Park, leaving the promontories now known as Cowles Mountain and Fortuna Mountain. Ongoing stream

erosion subsequently created Mission Valley and its tributary canyons through the softer material of the Linda Vista Formation and Poway Group conglomerates. Seasonal flooding would often flush nearly all vegetation from the floodplain and deposit nutrient-rich sediments as it spilled onto the flatter terrain of the valley. These deposits created a rich alluvial plain and built the coastal beaches with sand and minerals carried down from the mountains.



San Diego River Watershed



Mission Trails Regional Park includes several Kumeyaay sites

Human History

The earliest occupants of the valley changed the river little. The riparian zone provided habitat for food sources and vegetation from which dwellings, clothing and baskets were made. The valley also served as a transportation corridor between the uplands and the ocean.

With the arrival of the Spanish in the late eighteenth century, pressure on the valley landscape began to increase. The first mission and presidio were built on a hillside above the Kumeyaay village of Cosoy near Old Town and the Mission was relocated near Nipaguay shortly thereafter where it remains today as the San Diego Mission de Alcalá

The expanding mission and conversion of Kumeyaay people to Christianity led to an increasing population in the valley. The Spanish introduced agriculture and cattle to the valley and built the first dam above the gorge by 1815. The Mission Flume was constructed from the dam to bring water to crops and livestock at Mission San Diego de Alcalá down valley.

As California gained statehood and the city and county of San Diego were established in 1850, change began to occur more rapidly. The Derby Dike was constructed by the Army Corps of Engineers, effectively isolating the San Diego River from half of its natural delta and estuary to San Diego Bay, and diverting the flow permanently to False Bay, now known as Mission Bay. Population of the valley began to grow significantly and along with it the demand for a reliable water supply. By the end of the 19th century numerous dams had been constructed throughout San Diego County, including the El Capitan and San Vicente on the San Diego River. These dams isolated the lower San Diego River watershed from its headwaters and upper reaches, drastically changing the hydrologic pattern of the river and its seasonally diverse flows. The sand and gravel industry developed within the valley to meet demand for the construction of roads, dams, jetties and railroads.

Today, the river is a remnant of its past significance as it flows through the City of San Diego. As the City went through extensive growth following World War II, development began to move from the mesas and into the river valley itself. Until the 1950's the valley was still primarily agricultural land and served as place for relief from the burgeoning urban environment. Within two decades the valley was dramatically altered as the ranches, dairy farms and truck farms were replaced by highways, shopping centers, parking lots and offices. Sand and gravel mining already in the valley increased operations to meet the demands of the expanding development. Through this evolution, the river became treated not as a focus within the valley but rather an engineering and flood problem to be solved. Development has typically turned its back on the river, lining the stream corridor with loading docks, parking lots and roadway embankments. Land use laws have allowed development to occur within the floodplain, forcing the river into an increasingly channelized condition, reducing meander, groundwater recharge, sediment transport and water filtration. Uncontrolled urban runoff has further diminished the water quality of the river. These changes have affected the natural riparian habitat that once flourished in the valley, by diminishing not only its extent, and its overall quality by disrupting the connections to the upland environment of the valley walls. Through this process much of the evidence of the river's historic value to the region has been lost. Kumeyaay rancheria sites have been developed as golf courses, the Mission flume disrupted and damaged, and other sites are threatened by development and damage from vandalism.



Old Mission Dam, Mission Trails Regional Park

Prehistoric Land Use

The San Diego River valley was first settled nearly 10,000 years ago. Known as part of the La Jolla Complex, these people used the coast and the marshes of the San Diego River extensively, as hunting grounds and as sources for materials for shelter, tools and clothing. The valley is also believed to have served as a significant movement corridor between the coast and the mountains.

During the Late Prehistoric (Kumeyaay Period), from circa 2,000 years ago to the Spanish era, at least three Rancherias existed along the river in what is now the City of San Diego, along with outlying camps and special use areas.

Opportunities and recommendations

- Create a sense of place at Mission San Diego de Alcalá and the Presidio celebrating Nipaguay and Cosoy history as Spanish.
- Support interpretation of rock art sites in Mission Trails Regional Park
- Support interpretation of Bedrock Milling sites within Mission Trails Regional Park
- Support interpretation of Cowles Mountain was a solstice and equinox observatory

Kumeyaay (tipai) Place Names Along the San Diego River

‘Ewiiykaakap	Goes around (the rocks)
‘Amotaretuwen	El Cajon
Sinyaweche	Descending woman-the hills as seen from the river along Mission Gorge
Nipaguay	Rancheria name for the San Diego Mission area
Cosoy	Rancheria name for the area from the foot of Presidio Hill on both sides of the river
Qujar	A place name for the area in general from the Mission to the sea.
Paulpa	Ocean Beach area
Qapai	Ocean Beach to Point Loma area. Used to go to sea in canoe from there.

Opportunities and Recommendations

Use early place names to name places, and include in maps, graphics, and signage.

Historic Land Use and Key People

Spanish Period

The first mission was developed on Presidio Hill in 1769 as part of the first Alta California presidio and settlement. Early leaders included Rivera y Moncada and Father Junipero Serra. In 1774, Mission San Diego de Alcalá moved near to the current site (but not exactly where it is today) overlooking the San Diego River valley at confluence with Alvarado Creek. During this period Mission San Diego de Alcalá was lead by Father Junipero Serra and Father Luis Jayme. To support the burgeoning population of both immigrating Spaniards and Natives converted to Christianity, improvements to the efficiency of agricultural production and obtaining an adequate and reliable water supply were necessary. To achieve this the Mission Dam and Flume system were constructed during the period from 1813 to 1816. Additional water ditches (la zanjias) were built in Grantville and to supply Old Town during this period.

Mexican Period

Land Grants and Vaqueros (1821-1846)

Pio Pico

Pueblo of San Diego (now Old Town)

Juan Bandini

Pio Pico

Arguellos

Estudillos

American Period

Derby Dike to divert the river (1855)

George Derby

Manuel Cota and Indian laborers

Farming and Ranching in the Valley

Early Farms and Ranches

Sandrock Family

John Murphy (1860-1870)

George and Jennie CoMes (1877)

Milton and Jennie (Cowles) Santee (1890)

Japanese Truck Farms

Dairy Industry

Serano Allen Family (1885-1957)

Ferraris

Others

Sand and Mining Operations

Fenton

Hazard

Commercial and Retail

Meat Packing Plants (Cudahay and others) in the Morena District

Development of Highway 80 as east/west Corridor

Motels associated with Highway 80

Town & Country Hotel (1959)

Le Baron Hotel (1967)

Development of Mission Valley Center (circa 1958)

Development of Fashion Valley

Office Development

Recreational

Early Use for Fishing and Swimming

Duck Clubs and Hunting

Horse Tracks

Westgate Ball Park

Golf Courses

Hiking and Day Trips (Mission Dam, Spring Canyon)

San Diego Jack Murphy Stadium (1967)

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Opportunities and recommendations

Interpret recent historic uses and activities, emphasizing value of the river and its impetus to development within the valley. Graphics and maps could show previous land use with signage and interpretation linked to trails and hiking.

Introduction

Transportation

- El Camino Real
- Railroad (AT&SF)
- Highway 80
- Highway 395 (163) [1949]
- Early Bridges Across the River
- Pike (Mission Bay) Airport
- 1-805 Bridge Structure (1972)

Principles

Recent History Place Names

Names tell a lot about the land and the people, often suggesting the deeper reasons why a place has evolved to its current condition.

Recommendations

Older Place names

- Sandrock Road (Texas Street)
- Duckville
- Cudahy Slough
- Blood Alley (101)
- Sixth Street Extension
- Gravilla
- Overlook
- False (Mission) Bay
- Fanita Ranch

Design Guidelines

Current Place names

- Cowles (kohls) Mountain
- Dog Spring
- Spring Canyon
- Grantville
- Gravilla
- Murphy Canyon
- Murray Canyon
- Alvarado Canyon
- Adobe Falls
- Mission Valley

Implementation

Appendices



Key historic sites

Utilities Inventory

Utilities

Existing utilities within the planning area present both constraints and opportunities. The constraints are primarily near-term issues. It is necessary to plan proposed improvements around some existing facilities, and to protect vital infrastructure. In the longer view, planning should guide the placement of utility corridors instead of the other way around. Except for the major facilities described below, most utilities within the planning area can be relocated as necessary to accommodate improvements as described in this Master Plan. For those utilities that must remain in place, opportunities will exist in the future to replace aging facilities. At that time, replacement utilities should be sited in locations that are compatible with the San Diego River Park Draft Master Plan.

Sanitary Sewers

A trunk sewer and an interceptor sewer traverse the entire length of the planning area, aligned generally following the valley floor. The location of sanitary sewer pipelines relative to the actual river bed varies. In some places the sewer is in the riverbed. In other places, the sewer is in or near the bank of the river. In still others, the sewer is far removed from the river. In addition to the major sewer lines described below, numerous outfall sewers tie into the system, some of them beneath the river bed.

At the easterly City limits there are two sanitary sewer two pipes flowing to the west – the East Mission Gorge Interceptor (EMGI), a 42-inch diameter concrete pipe and the Mission Gorge Trunk Sewer (MGTS), a 48-inch diameter steel pipe. These two pipes are aligned between Mission Gorge road and the river. The EMGI follows the alignment of the Father Junipero Serra Trail and Mission Gorge Road. The MGTS is located in the valley floor, sometimes in and sometimes out of the river bed. The diameter of the MGTS in this reach varies from 36 inches to 42 inches. In the Grantville area the two pipes come together, becoming the North Mission Valley Interceptor (NMVI). The NMVI crosses the river at San Diego Mission Road and continues flowing west through Mission Valley, located along the north bank of the river. The NMVI is a concrete pipe, varying in diameter between 78 inches and 96 inches.

Also in Mission Valley, the South Mission Valley Trunk Sewer (SMVTS) flows westerly, south of the river. This pipe is generally aligned along Camino Del Rio North and Hotel Circle North, then along the river bank, through the baseball fields, then under Morena Boulevard and Interstate 5.

Both the NMVI and the SMVTS flow to the North Metro Interceptor Sewer (NMIS) which carries sewage south to the treatment plant in Point Loma. Near the San Diego River, the NMIS consists of two pipe systems. The easterly branch is a 108-inch diameter concrete pipe beneath Morena Boulevard and Taylor Street. The westerly branch is a 96-inch diameter concrete pipe running along the west edge of Interstate 5, then south beneath Rosecrans Street. The westerly branch is fed by two sewer pipes crossing the river just west of Interstate 5. One pipe, an extension of the East Mission Bay Trunk Sewer, is 60 inches in diameter. The other is 72-inches in diameter. These two pipes join together south of Interstate 5, becoming the westerly branch of the NMIS.

West of Interstate 5, a 14-inch diameter sludge line is located along the north bank of the river channel. This pipe crosses the river at Sunset Cliffs Boulevard. East of Interstate 5, the sludge line runs east beneath Friars Road, then north under Via Las Cumbres.

Discharges of raw sewage into the San Diego River caused by blocked or overflowing sewer mains have been a major problem in the past and continue to this day in spite of the best efforts of the City to prevent such occurrences. In 2001, the Metropolitan Wastewater Department initiated a Sewer Spill Reduction Program funded by sewer rate increases. This program includes cleaning and inspecting thousands of miles of sewer as well as accelerating the replacement and rehabilitation of older facilities. General guidance for sewer facility replacement and management in environmentally sensitive lands is provided by City Council Policies 400-13 and 400-14, both adopted in January 2002. Council Policy 400-14 makes the redirection of sewer flow away from environmentally sensitive lands a priority.

In the San Diego River Valley, the potential for damaging sewage spills has been reduced but not yet eliminated. There are a number of factors contributing to the problem. Through most of the study area, there is nothing to prevent sewage spills from flowing directly into the river. In some places, sewer mains actually lie under the river. Also, many sewer manholes are not easily accessible to maintenance crews and equipment, making both maintenance and emergency response difficult.

A complete solution to the sewage spill problem in the San Diego River Valley will include the following: (1) Relocating sanitary sewers out of the river bed; (2) Redirecting sewage flow away from the valley floor; (3) making sewers more accessible for maintenance and repair; and (4) providing the means for the physical containment of any spills. As sewers in sensitive areas near the end of their useful service life, the Metropolitan Wastewater Department considers the redirection of flow as prescribed in Council Policy 400-14. However, it is not yet practical to relocate all the trunk sewers away from the valley floor. In the future, the rapidly improving technology in the field of trenchless construction and tunneling may make possible such a goal.

Relocation of trunk sewers and redirection of flow are a major expenses that cannot feasibly be included as part of this Master Plan. However, access to sewer manholes and planning for the relocation of facilities in the future should be a consideration in any development within the area.

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The San Diego Aqueduct

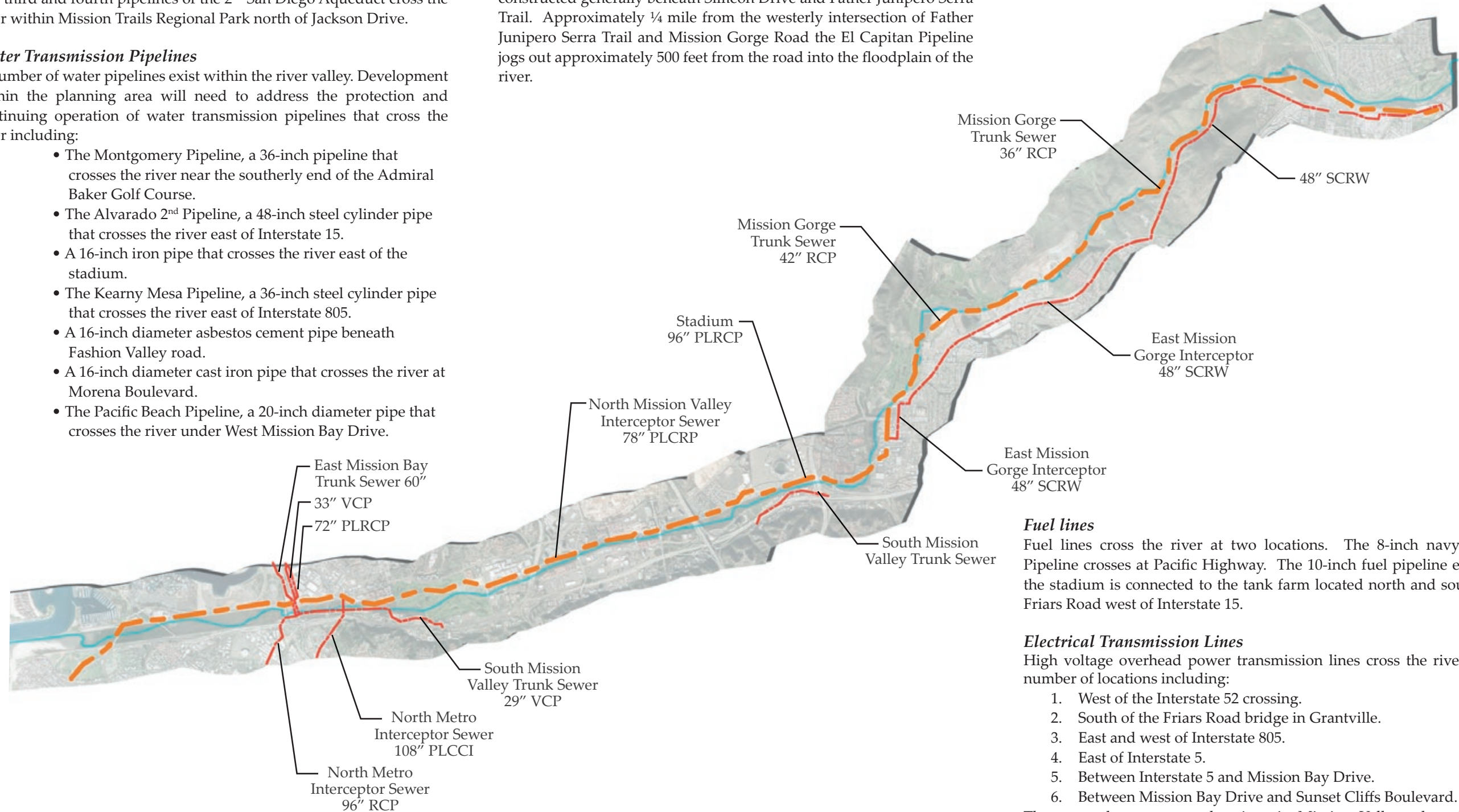
The third and fourth pipelines of the 2nd San Diego Aqueduct cross the river within Mission Trails Regional Park north of Jackson Drive.

Water Transmission Pipelines

A number of water pipelines exist within the river valley. Development within the planning area will need to address the protection and continuing operation of water transmission pipelines that cross the river including:

- The Montgomery Pipeline, a 36-inch pipeline that crosses the river near the southerly end of the Admiral Baker Golf Course.
- The Alvarado 2nd Pipeline, a 48-inch steel cylinder pipe that crosses the river east of Interstate 15.
- A 16-inch iron pipe that crosses the river east of the stadium.
- The Kearny Mesa Pipeline, a 36-inch steel cylinder pipe that crosses the river east of Interstate 805.
- A 16-inch diameter asbestos cement pipe beneath Fashion Valley road.
- A 16-inch diameter cast iron pipe that crosses the river at Morena Boulevard.
- The Pacific Beach Pipeline, a 20-inch diameter pipe that crosses the river under West Mission Bay Drive.

Additionally, the El Capitan Pipeline, a 36-inch diameter steel pipe, is constructed generally beneath Simeon Drive and Father Junipero Serra Trail. Approximately ¼ mile from the westerly intersection of Father Junipero Serra Trail and Mission Gorge Road the El Capitan Pipeline jogs out approximately 500 feet from the road into the floodplain of the river.



Fuel lines

Fuel lines cross the river at two locations. The 8-inch navy Fuel Pipeline crosses at Pacific Highway. The 10-inch fuel pipeline east of the stadium is connected to the tank farm located north and south of Friars Road west of Interstate 15.

Electrical Transmission Lines

High voltage overhead power transmission lines cross the river at a number of locations including:

1. West of the Interstate 52 crossing.
2. South of the Friars Road bridge in Grantville.
3. East and west of Interstate 805.
4. East of Interstate 5.
5. Between Interstate 5 and Mission Bay Drive.
6. Between Mission Bay Drive and Sunset Cliffs Boulevard.

There are also numerous locations in Mission Valley where lower voltage primary overhead power lines cross the river.

Gas Transmission Mains

Gas transmission lines exist at points along the river banks, crossing the river at several locations.