Coming Full Circle: Turning to Forester Creek for Recreation

Forester Creek System Recreation Access Plan

Design Team:

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Hector Valtierra

Neil Rhodes

The 606 Graduate Studio, December 15, 2019

Department of Landscape Architecture

College of Environmental Design

California State Polytechnic University, Pomona

Top: The San Diego River Park Foundation sign outside the open house in February, 2019

Middle: Participants working on a map at a Community Committee meeting

Bottom: Fountain at City Hall on top of Washington Channel

The Forester Creek Recreation Access Plan was prepared for The San Diego River Park Foundation, with funding from the State of California Prop 1 Disadvantaged Community Involvement grant.

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well thought out + ambitious
public transportation hubs to get to the trolley would be nice

Any additional greenspace / parks / play grou
is an improvement. El Cajon needs this!

Bike / walking trails along the water ways is such a great idea!

ACKNOWLEDGMENTS

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State of California Department of Water Resources, Proposition 1: Water Quality, Supply, and Infrastructure Improvement Act of 2014

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City of El Cajon

Bill Wells	Mayor
Steve Goble	Deputy Mayor
Gary Kendrick	Council Member
Bob McClellan	Council Member
Anthony Shute	Director, Community Development
Dirk Epperson	Director, Public Works
Yazmin Arellano	Deputy Director, Public Works; City Engineer
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John Phillips	Stormwater Manager
Tim Williams	GIS Analyst

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Laurel Kelly	Engagement Coordinator
Marina Varano	Outreach and Engagement Coordinator
Steffani Jijón	Engagement Coordinator

Stakeholder Committee

Afrah Abdulkader	Survivor Advocate, International Rescue Committee (IRC); San Diego Refugee Forum
Carol Lewis	Coordinator, El Cajon Collaborative

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Cristina Aguirre	Senior Director, Youth and Leaders Living Actively (YALLA) San Diego
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David Raponi	El Cajon Community Cleanup Group
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John Allen	Founder, Friends of Forester Creek
John Phillips	Stormwater Manager, City of El Cajon
Kathy Pillman	Founder, El Cajon Community Cleanup Group
Lakeysha Sowunmi	Program Coordinator, Safe Routes to School; Rady Children's Hospital

The San Diego River Park Foundation staff and volunteers preparing for the open house

Michael Golden	Biology Professor, Grossmont College
Mohammed Tuama	Director, Newcomers Support and Development
Phil Ortiz	East County Chamber of Commerce; Board Member, El Cajon Community Cleanup Group
Rafal Albayati	Resident Leadership Academy, International Rescue Committee (IRC) El Cajon
Rosa Alcaraz	Community Advocate
Samarah Abdulkadhim	Resident Leadership Academy, International Rescue Committee (IRC) El Cajon
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Tim Williams	GIS Analyst, City of El Cajon
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Ernest	Student, Meridian Elementary
Ibrahim	Student
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Cristina Plemel	Student, Landscape Architecture
Brian Neshek	Student, Landscape Architecture
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Cajon Valley Union School District (CVUSD) Family & Community Engagement (FACE) Office

City of El Cajon

Climate Leaders Toolkit

Earth Discovery Institute

East County Transitional Living Center

El Cajon Collaborative

El Cajon Historical Society

Friends of Forester Creek

International Rescue Committee El Cajon

Live Well San Diego East Region Leadership Team

Newcomers Support and Development

Welcome Newcomer Network

Youth and Leaders Living Actively (YALLA) San Diego

Coming Full Circle: Turning to Forester Creek for Recreation

Forester Creek System Recreation Access Plan

EXECUTIVE SUMMARY

Society has come to recognize the importance of open spaces, parks, and recreation resources in encouraging physical activity and improving quality of life. Land for these resources is often only available at the periphery of the city, inaccessible to disadvantaged residents that have little open space in their neighborhoods. Urban waterways are one solution: they can provide recreational resources, and ecological, social, economic, and health benefits. A recreation access plan (RAP) is one tool that can engage local residents and stakeholders to determine the activities, facilities, and locations for recreation to meet their needs in their city and along their waterway.

Working with The San Diego River Park Foundation and faculty advisors, the 606 Studio used both an issue-driven geodesign or analytical mapping process, and a community engagement process, to create this *Forester Creek System Recreation Access Plan*. Input from the community coupled with creative land use planning and design resulted in a map and list of prioritized recreation opportunities and a strategy for initiating implementation. In addition, this process identified opportunities for safe and improved public access to the creek corridor, interpretation and environmental education, and site improvements for future grant funding applications.

1/Introduction to the Study Area

The study area is primarily defined by the boundaries of the City of El Cajon. To include the full watershed of Forester Creek and organically connected neighborhoods, the study area also includes small portions of the County of San Diego, the cities of Santee and La Mesa, and the community of Crest. Forester Creek is 11 miles long and begins in a rural area near the community of Crest, runs through the City of El Cajon, and merges into the San Diego River in Santee and thereby to the Pacific Ocean. Forester Creek is a major tributary of the San Diego River that carries stormwater and deposits debris and trash into the river, which eventually ends up untreated in the Pacific

Ocean 17.75 miles away. Forester Creek and its three main tributaries—Washington Channel, County Ditch, and Broadway Channel—form the Forester Creek System. It passes through a range of industrial, commercial, and residential land uses in areas with disadvantaged communities that lack access to parks/open space. Most of Forester Creek runs through disadvantaged neighborhoods, where the Median Household Income (MHI) is less than 80% of the State MHI, and severely disadvantaged neighborhoods with a MHI less than 60% of the State MHI. El Cajon can be defined as park-poor with less than 1 acre of parks per 1000 residents. According to the El Cajon 2030 (2019) plan, 44% of El Cajon residents are "park deficient" and only 1.3% of the land area within the City is parkland.

The poor environmental quality of the Forester Creek System combined with the need to provide more open space and to serve socially disadvantaged groups were major factors that led to the creation of the *Forester Creek System Recreation Access Plan*.

3/Project Process and Methods

The project involved multiple stages to address the range of stakeholders and level of data necessary for effective decision-making. Methods included data mining, GIS, remote sensing, fieldwork, and participatory design tools.

Data mining included collecting geospatial data measuring biophysical inventory about the study area such as the hydrological system, vegetation cover, parks, and other recreational resources. It also addressed sociocultural inventory such as demographics, health, traffic, and public safety.

GIS and geodesign involved analyzing all the mined data to identify and prioritize potential locations for new parks and open spaces. A wide range of factors were included in the analysis such as the location of existing parks and schools, the density and demographics of the population, and availability of alternative transportation resources for pedestrians and cyclists.

Field work included cycling and walking the entire length of the creek and its tributaries. Field work tasks included investigating targeted locations to assess the existing conditions and evaluating the potential of various locations for recreational access.

Participatory design efforts included small and large public events where residents and stakeholders answered the questions:

- What recreational activities are local residents interested in?
- What recreation facilities do we need?
- Which neighborhoods need what kind of parks and recreation spaces?

A city-wide questionnaire gathered input and ideas from residents and stakeholders who could not attend the public meetings.

4/Biophysical and Sociocultural Conditions of the Study Area

The project collected data on existing conditions in the study area. The results are documented at length in the full report. Four key insights have significant implications for developing a recreation access plan for the Forester Creek System.

A/The Forester Creek System is virtually invisible in El Cajon and the residential and commercial development of the City faces away from the creek system.

B/There is no usable right-of-way along most of the Forester Creek System and few full parcels of vacant land adjacent to the creek.

C/The creek-adjacent land that is currently available for recreational use is predominantly very small, under-utilized remnants and edges of parcels, and designated public right-of-ways that range from 50 to 1000 square feet in size.

D/El Cajon is severely park-poor, having less than 1/3 the state standard of acres of park per 1000 residents.

5/Geodesign

The geodesign approach uses issue-driven geospatial analysis and modeling to generate a geodesign proposal based on existing biophysical and sociocultural data. The geodesign proposal provided an initial planning scenario for The San Diego River Park Foundation (TSDRPF) and community to use to encourage discussion and debate during the participatory design process (described below). Chapter 5 of the full report documents the critical factors used to identify land use parcels and physical corridors with potential for future recreation opportunities.

6/Community Outreach and Participatory Design Process and Results

The primary objectives of the participatory design process were:

- Understand the existing public consciousness and impression of the Forester Creek System;
- Build awareness and educate local residents about the potential of the Forester Creek System;
- Collect the public's insights into how the Forester Creek System could serve their communities;
- Identify the public's preferences and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System;
- Identify the public's perception of potential and preferred opportunity and need areas; and,
- Solicit public input to inform the future evaluation criteria for identifying and prioritzing projects.

The team developed a process to engage local residents in discussions related to the important questions of "what" and "where".

Over a series of four meetings, a committee of community stakeholders answered these questions and developed the initial iterations of the plan. At the meetings, committee members used brainstorming and list-generating activities to promote divergent, creative thinking and explore as many ideas as possible (Milburn & Rasmussen Cancian, 2018). Committee members generated a range of concept plans, revised and refined them, and then worked together to organize a city-wide open house. At the open house, approximately 150 stakeholders provided additional input on all aspects of the plan.

The community direction generated by this deliberative, iterative process was complemented by a city-wide survey answered by over 1000 stakeholders. The San Diego River Park Foundation (TSDRPF) supplemented these efforts with presentations, tabling, flyer distribution, and social media sharing and thereby reached 11,022 individuals. TSDRPF also engaged 2358 people in meetings, discussions, surveys, and presentations.

Each step in the participatory planning process was also a step in building community leadership and a community constituency for improving recreation access across El Cajon, particularly adjacent to the Forester Creek System. Nine insights resulted from the participatory planning process:

A/There is a significant lack of awareness of the Forester Creek System. 54% of respondents had seen a section of the Forester Creek System, but thought it was a storm drain or sewer. Only 16% thought it was a creek or stream.

B/Many of El Cajon residents' top recreation priorities could be well served by creek and creek-side improvements. For example, participants ranked walking and cycling as their most favored activities and expressed particular preference for engaging in these activities in natural settings.

C/Beyond walking and cycling, the ranking of activities varied but consistently included table games, birdwatching, gardening, outdoor art, outdoor gyms, and soccer.

D/Participants had a strong preference for water-contact recreation, including predominantly fishing, but also kayaking and paddle boating.

E/Prioritizing safe pedestrian/cycling routes that connect parks, schools, work, shopping, downtown, and residential areas is key. The number one recreation facility need expressed was a complete and connected system of pedestrian and bicycle infrastructure.

G/When given an introduction and base maps that highlighted the creeks, Committee members still located parks evenly over the study area to cover all areas that lacked local green space.

H/Within both new and existing parks, residents wanted facilities for their favored activities, including benches and picnic tables in natural settings, community gardens, soccer fields, outdoor gyms, outdoor art, dog parks, splash pads, bodies of water for fishing and boating, and natural habitat for birdwatching.

I/Five factors drove resident selection of locations for recreation facilities: proximity to schools, densely populated neighborhoods, park-poor areas, downtown, and the creeks.

7/Creating a Plan by Integrating Inventory, Geodesign and Community Input

To create the FCSRAP, the project team integrated the results of the geodesign analysis and community input. The plan also responded to the objectives of the project and benefited from the insights of the design team. The plan was developed through four iterations: the Draft Plan, the Open House Plan, the Post-Open House Plan, and the Final Plan. The final recreation access plan for the Forester Creek System is the result of this iterative process.

The *Forester Creek System Recreation Access Plan* is a strategic blueprint for meeting the recreation needs of El Cajon residents by creating an interconnected network of schools, parks and creek-side open spaces. The plan maximizes the impact of each recreation investment by:

- Using schools as the organic centers of children's and families' activity.
- Leveraging El Cajon's recreation assets—schools, existing parks, active pedestrian routes, and Forester Creek and its tributaries.
- Locating the right number and size of parks in the locations where they will serve the highest number of under-served residents.
- Connecting these open spaces, the city's densest neighborhoods, and popular destinations with a network of pedestrian/cycling routes.
- Jump starting larger-scale implementation with strategic small-scale, low-cost improvement projects.

Final *Forester Creek System Recreation Access Plan*: Overall Concepts

Concept #1: Plan parks and pedestrian/cycling routes near schools

The plan locates parks and pedestrian/cycling networks adjacent to schools where younger users and their families already gather and feel safe. Linking schools and parks with safe pedestrian/cycling routes will also enable more youth and their families to cycle and walk safely from home to school, to the park, and back (see Table 7.05).

Concept #2: Place parks and pedestrian/cycling routes near creeks

The plan locates parks and pedestrian/cycling routes adjacent to the creeks to realize the recreational potential of the Forester Creek System and connect residents to these key natural resources.

Concept #3: Develop an interlocking system of recreation resources at a range of scales.

The plan overlays and interconnects three key components: (1) parks; (2) pedestrian/cycling facilities; and, (3) small-scale, low-cost (mini-park) projects.

***Forester Creek System Recreation Access Plan:* Park System**

The plan strategically distributes three types of parks throughout the City to maximize the number of residents served and assure as many residents as possible can walk to a park in 10 minutes or less. A particular emphasis is placed on densely populated neighborhoods that are currently under-served by parks. The three types of parks included are: Regional/Big parks, Neighborhood/Medium parks, and Pocket/Small parks. Each park type fulfills different needs and together form a complete park and recreation system. To maximize the potential for implementation, the plan matches the type of park to local land availability with pocket parks placed in the densely populated core where large lots are not available, neighborhood parks in the surrounding communities, and regional parks closer to the perimeter of the City where land is more plentiful.

***Forester Creek System Recreation Access Plan*: Pedestrian/Cycling Network**

The pedestrian/cycling network links existing and planned facilities into a complete and connected system. The network addresses three different functions: cycling facilities for recreation and transportation; pedestrian paths in residential neighborhoods and near schools; and, combination pedestrian/cycling facilities as needed to serve diverse local needs.

The network includes three types of facilities: a core loop that encircles downtown and the adjacent densely populated areas; secondary loops inside the core loop and extending from the core loop to connect to residential areas and destinations; and, pedestrian/cycling facilities in residential and rural areas to provide safe mobility alternatives. The network includes loops of different lengths to provide fitness options. It also connects to the public transportation system and cycling facilities in neighboring cities to encourage active transportation (Table 7.05).

Small-Scale, Low-Cost (Mini-Park) Projects

The plan also includes small-scale, low-cost (mini-park) projects to link parks to each other and to the creeks, as well as provide recreational spaces in dense urban neighborhoods with limited land availability. These projects can be located on excess right-of-ways, undevelopable triangular sites created as the creeks cut across lots, extra space in parking lots and frontages, and other under-utilized portions of parcels. They can serve as stepping stones that create connected sets of open spaces that guide people to the creek and as recreation spaces along the creek in areas of limited land availability. These projects are also a strategic asset as they allow fast and successful physical demonstrations of the plan. These demonstrations engage the local community and raise support and funds to implement the complete park system and pedestrian/cycling network. These small-scale projects and the opportunity sites are discussed in greater detail in Chapter 8.

8/Initial Small-Scale, Low-Cost Projects

Small-scale, low-cost (mini-park) projects can serve as literal and strategic “stepping stones” to greater recreational access to the Forester Creek System. Small sites have the potential to play an outsized role in creating an interconnected park system and recreational access to the creeks. The small-scale, low-cost (mini-park) projects envisioned for this project may take many forms—creek-side seating, exercise zones, play areas, learning spaces, public art—but they will always be designed to deliver two critical benefits: improved quality of life and positive connection to the creeks.

A successful small-scale, low-cost (mini-park) project is:

- Low-cost, no more than what funds are readily available;
- Quickly realized from concept to ribbon cutting; and,
- Easy to build, easy to repair, easy to maintain.

A **good site** for a small-scale, low-cost (mini-park) project is:

- Immediately adjacent to a creek;
- On active pedestrian routes; and,
- Highly visible.

An **excellent site** also includes:

- Existing shade or favorable sun exposure;
- A good view;
- A sense of protection and enclosure;
- No unpleasant neighboring uses; and
- No acquisition or rent required.

Examples of small-scale, low-cost (mini-park) projects include:

- Seating and picnicking areas—that create places for residents and visitors to rest, relax and recharge next to the creek.
- Informal exercise and play spaces—that promote creek-side recreation and appear as attractive creek-side landscapes when not in use.

- Community bulletin boards—that draw neighbors to the creek to catch up on the news and each other.
- Learning landscapes—that introduce visitors to the urban nature in and around the creeks.
- Rain gardens and greenways—that filter water before it enters the creek and reduce flooding, while creating a living connection to the creeks that is visible at the street and sidewalk level.
- Gateways and windows—that focus the attention of drivers, cyclists and pedestrians on the creeks.
- Public art—that can make the creek more visible and highlight its potential beauty.

9/Conclusion

This project involved engaging people in planning the recreation and open space future of a city with creeks at its heart. Before El Cajon is ready to focus on the creeks as a place to develop recreational resources, positive awareness of the creeks will need to be raised. The potential of the creek will need to be demonstrated at sites where the creeks already intersect daily life in El Cajon. New development—of buildings and open space—will need to be encouraged to turn toward the creeks.

The most viable first stage of implementation may be a series of demonstration projects on small remnants of land to introduce residents to the potential of creek-oriented recreational development. Once this occurs, the relationship between El Cajon's people and their creeks can come full circle, with the creek becoming a crucial part of their daily lives again.

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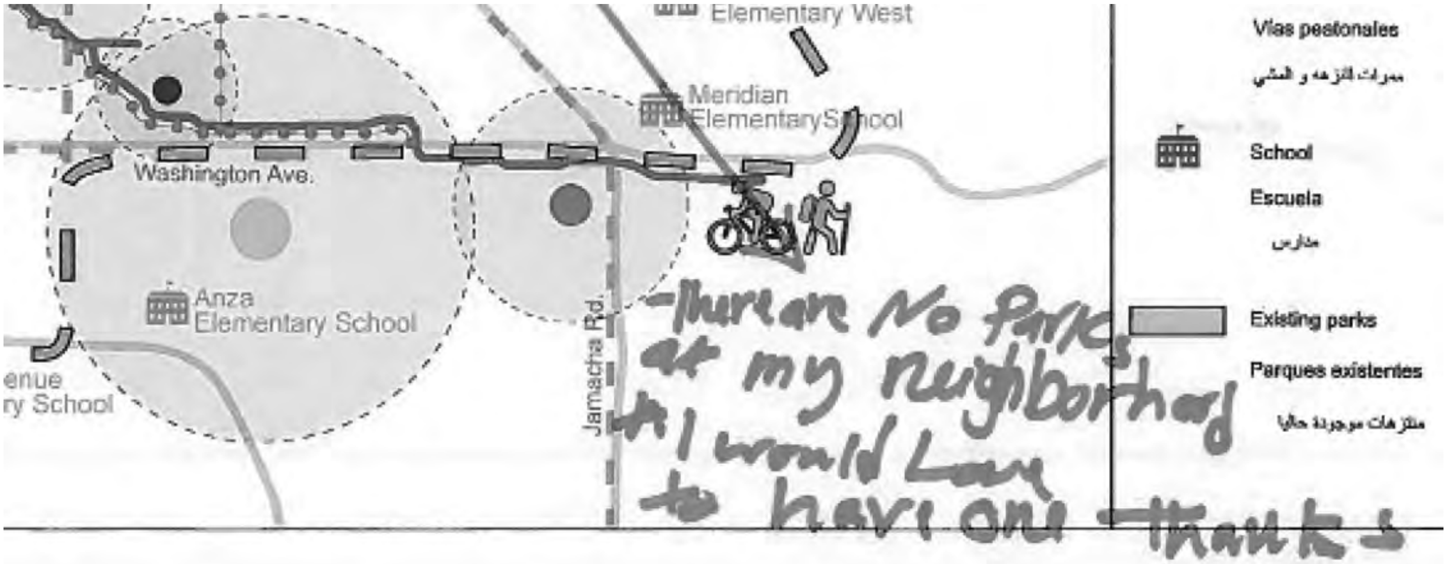
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Existing parks
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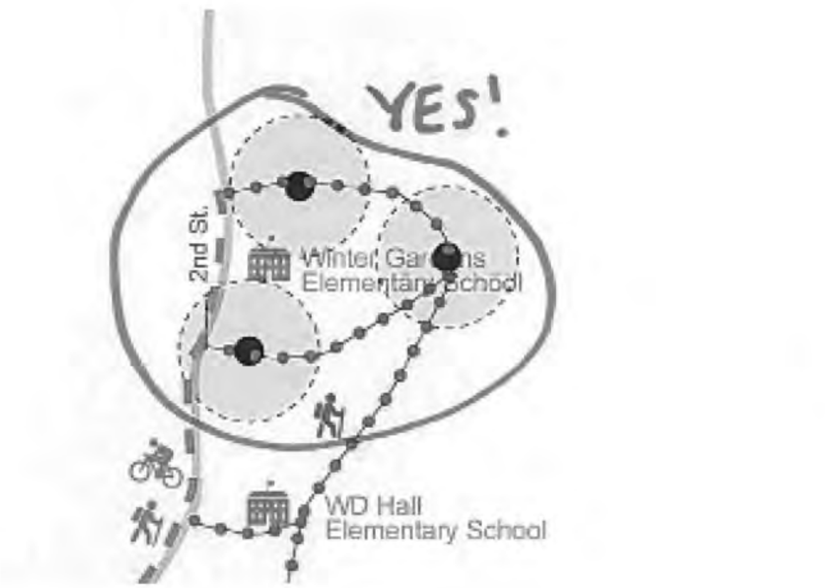
منتزهات موجودة حاليا
-There are No Parks at my neighborhood & I would Love to have one - thanks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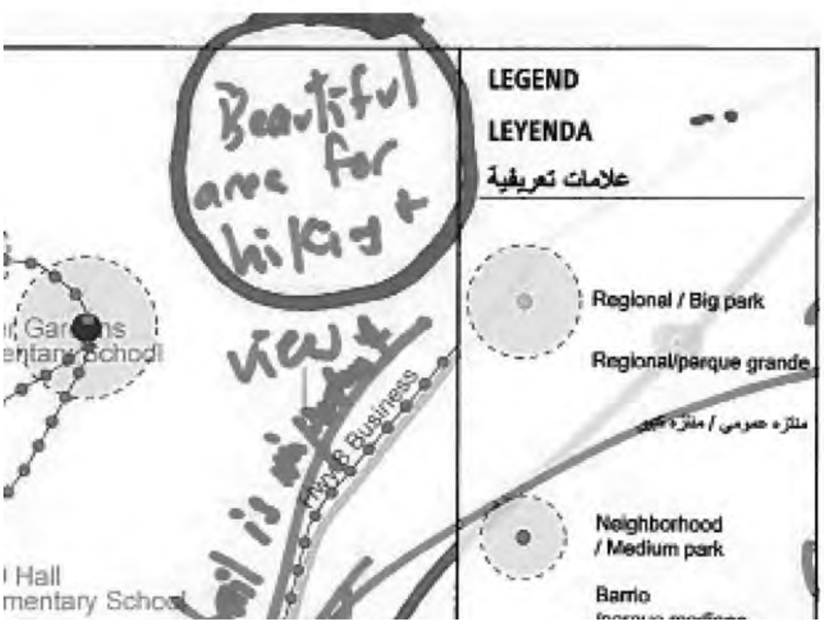
2nd St.
Winter Gardens
Elementary School
WD Hall
Elementary School


Beautiful area for hiking &
view
Gardens
Elementary School
Hall
Elementary School
Business
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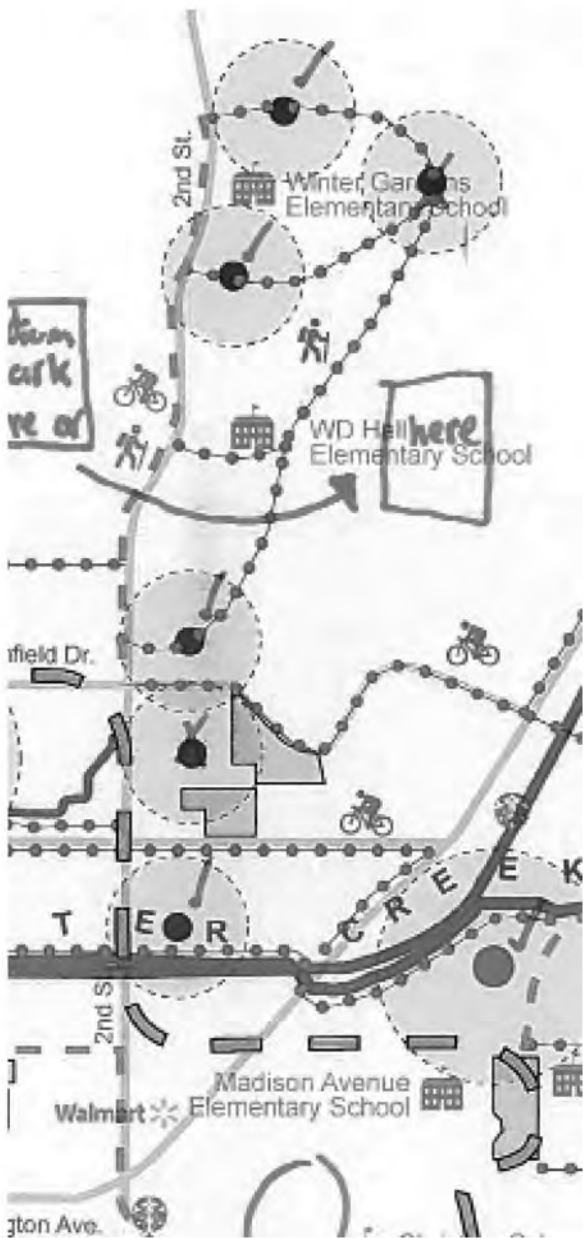
LEYENDA
علامات تعريفية
Regional / Big park
Regional/parque grande
Neighborhood / Medium park
Barrio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Coming Full Circle: Turning to Forester Creek for Recreation

Forester Creek System Recreation Access Plan

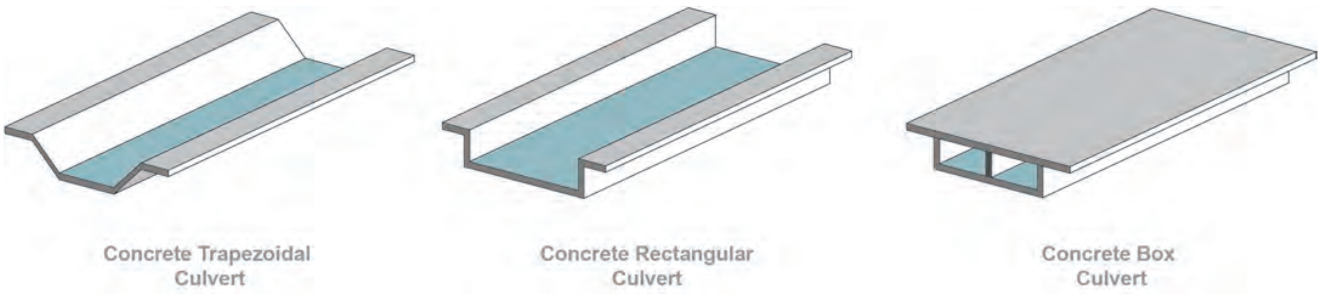
CHAPTER 1. INTRODUCTION

Society has come to recognize the importance of open spaces, parks, and recreation resources in encouraging physical activity and improving quality of life. Many cities struggle to incorporate these resources into landscapes that lack traditional park spaces and available land. Often available land is at the periphery of the city, inaccessible to disadvantaged residents that have little open space in their neighborhoods and lack resources to access distant parks. As a result, cities are looking inward to identify opportunities to address park poverty and improve environmental quality and access to recreation (Airola & Wilson, 1982). Restored waterways not only provide recreational resources, they also provide ecological goods and services such as water quality improvements, flood control, wildlife habitat, carbon sequestration, and mitigation of urban heat island effect (Warmink, Brugnach, Vinke-de Kruijf, Schielen, & Augustijn, 2017). Developing creek-related recreation can develop users' appreciation for the creek and their desire to see it protected and improved.

The process of channelization of urban waterways was a response to concerns about flooding, increasing the quantity of developable land, and protecting property values (Kondolf & Micheli, 1995). Streams were straightened, diverted, buried, and put into concrete channels. Vegetation was removed, floodplains were replaced with concrete embankments or walls, and the natural processes of sedimentation and deposition were interrupted. Channelization changed every aspect of the stream: its longitudinal section, cross section and bank profile, sinuosity, meanders, fluvial processes, flow velocity, and stream features such as pools and riffles. The impacts of these changes continue to be significant. They:

- Prevent sediment movement, deposition, and erosion processes;
- Increase the slope of streambanks, making them less able to support different vegetated zones and habitat types (Figure 1.01 & 1.02);
- Increase water velocities, erosion, flooding, and storm damage;

Figure 1.01 Box culverts, trapezoidal, and rectangular channels



- Increase bank erosion and flooding risks;
- Introduce pollutants and debris into the water system (Riley, 1998);
- Increase the water temperature;
- Change the chemical balance of the water;
- Prevent fish movement, impacting reproduction cycles (Berg, 2006);
- Prevent the creation of biodiverse river corridors with vegetative communities of different ages and at different stages of succession (Greco, Fremier, Larsen, & Plant, 2007);
- Reduce habitat for fish, wildlife, insects, and other creatures; and,
- Increase urban heat island effect and climate change.

The three most common types of flood control channels are: box culverts, trapezoidal, and rectangular channels. “Box culverts” are, in effect, large four-sided rectangular pipes carrying a former stream or river underground. “Trapezoidal culverts” are open air channels with angled banks, while “rectangular culverts” have vertical banks (Figure 1.01) (Riley, 1998).

While stream restoration often has the ecological goal of restoring a stream to dynamic equilibrium with its sediment load and water (Yochum, 2018) (Figure 1.03 & 1.04) and creating consistency in that sediment load, it is often also motivated by human desire for access to water, increased recreational resource availability, creation of a linear transportation corridor for hiking or biking, or mitigation of park poverty in disadvantaged areas. In this report, “stream restoration” includes any effort that attempts to serve either the aforementioned environmental goals or a combination of environmental and recreational goals.

In many places, streams were channelized to support industrial development, and the land associated with them often became blighted and environmentally and economically disadvantaged. This is an opportunity. Many disadvantaged areas are park (and recreation resource) poor, and stream corridors provide potential land and resources for recreation. Park poverty can be a product of reduced land designated for park use (BBC Research and Consulting, 2011), lower ratios of land to residents because of high population density, reduced access to recreation and park services because of physical barriers, changing recreation trends, or poor programming (“Park Poor”, 2011; Neighborhood Data for Social Change, 2018). Unsurprisingly, minority groups and people with lower incomes are disproportionately subject to park poverty in Southern California. Park poverty in San Diego County and the City of El Cajon is addressed in Section 4.3.1.

The California standard for park provision is 3 acres per 1000 population in comparison to the national standard of 10 acres per 1000 persons (National Recreation and Parks Association). The County of San Diego standard is 2.8 acres per 1000 persons. In the Southern California region, the average acreage of parks in high density cities is 6.8 acres per 1000 persons (Harnik & Martin, 2016), with some areas substantially lower.

A recreation access plan (RAP) is a tool used to address park poverty and access to recreational and open space resources. Recreation access plans are the product of processes designed to empower local residents to determine the activities, facilities, and locations for recreation that are associated with natural resources such

Figure 1.02 Channelized section of Broadway Channel

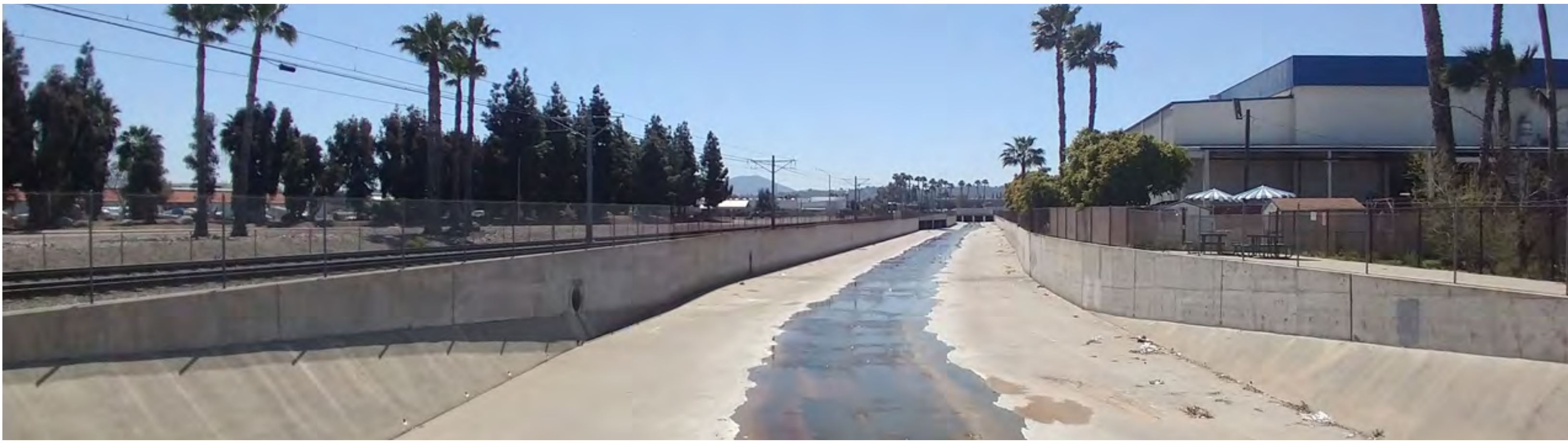
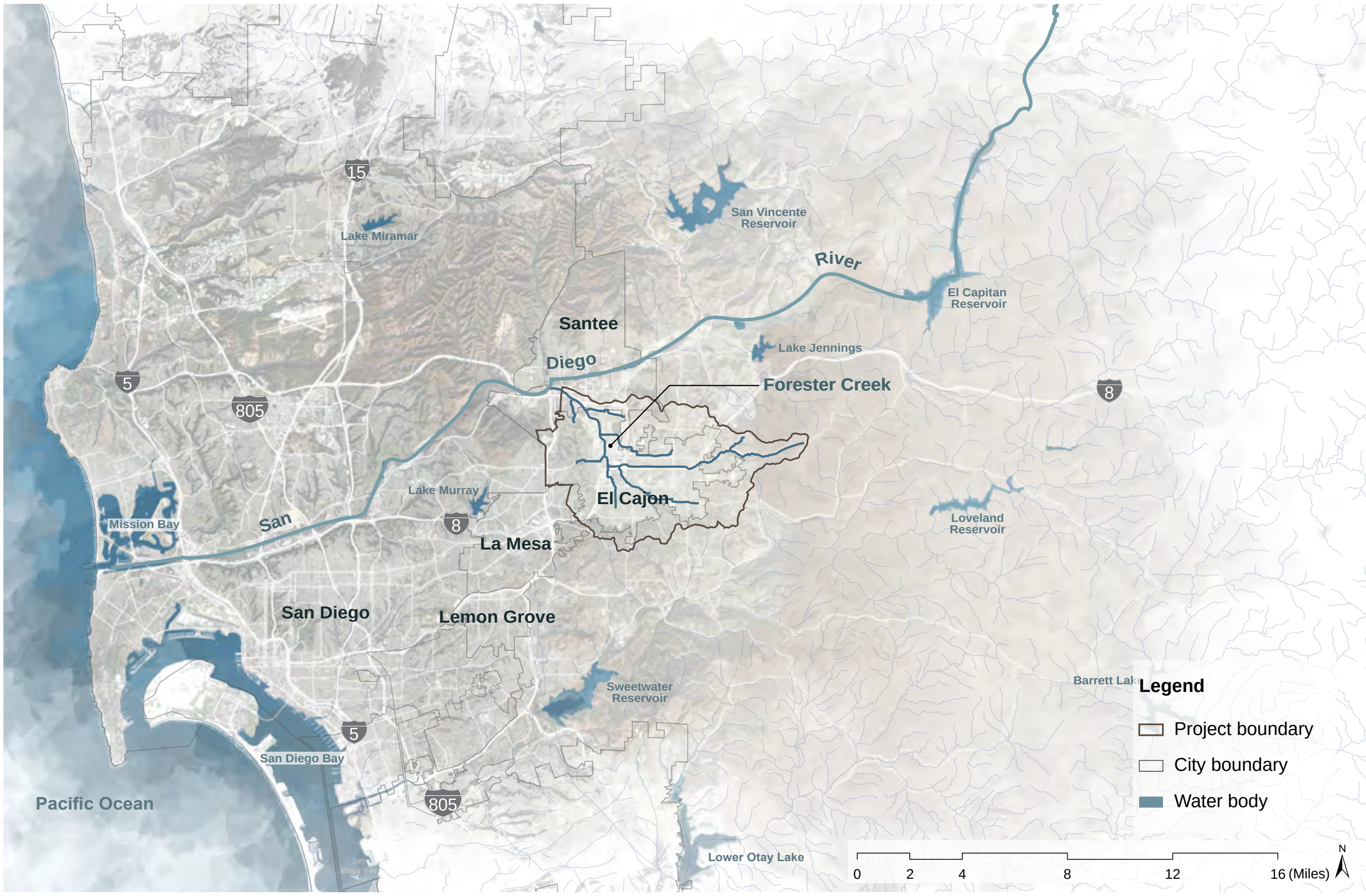


Figure 1.03 Stream channel vegetation (Broadway Channel)

Figure 1.04 Stream restoration (Forester Creek in Santee)

Figure 1.05 Context of Forester Creek System in San Diego County



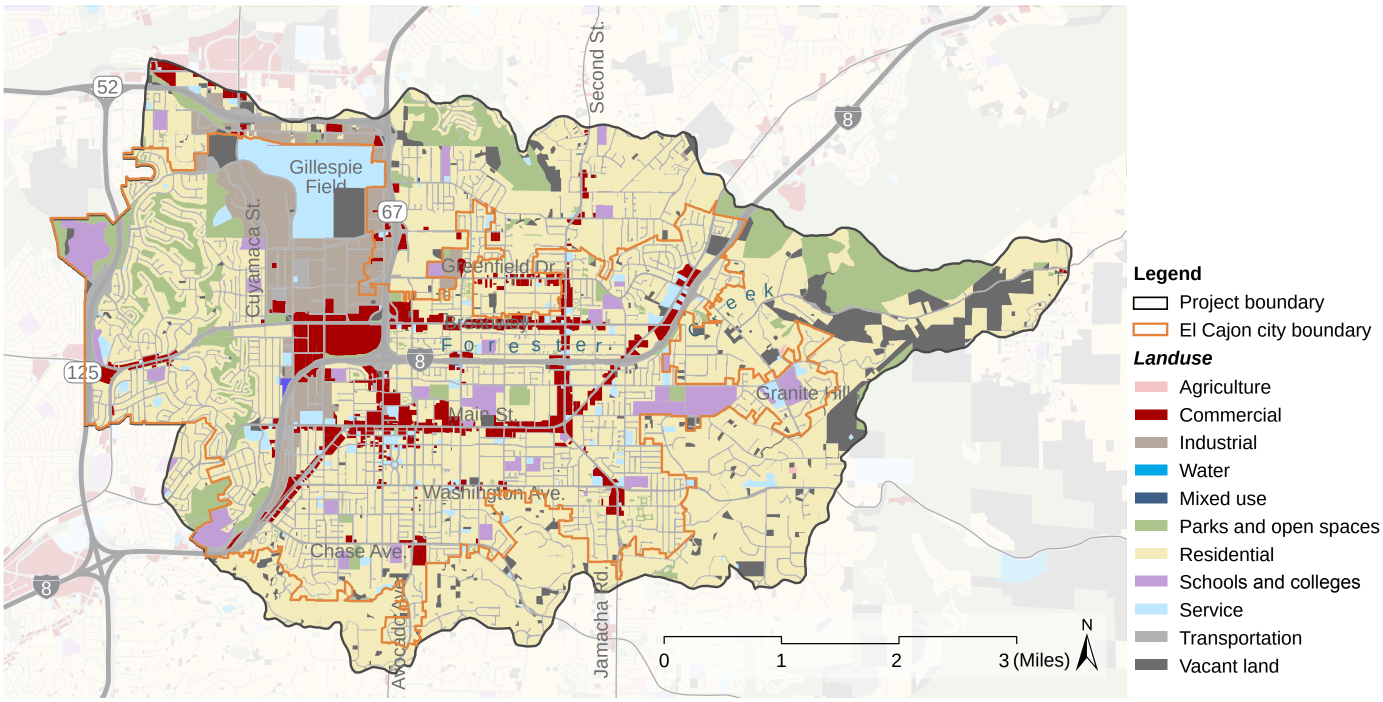
as river corridors (US Army Corps of Engineers, 2015). Recreation access plans are usually centered around an iconic landscape unit or resource, especially natural resources such as waterways (Washington State Department of Natural Resources, 2015) or forests (PlaceWorks, 2018). RAPs attempt to expand equitable access to recreational opportunities associated with a resource while minimizing the negative environmental impacts of those activities.

Outdoor recreational activities can range from sports such as basketball, baseball, and soccer, hiking, walking, or cycling (American Institute of Stress, 2017), low impact group activities such as tai chi, yoga, birdwatching, wildlife viewing, or creative activities related to music, art or dance. Recreation has been proven to benefit physical and mental health (Table 2.01) (Morgan, 2017; American Institute of Stress, 2017).

A recreation access plan not only provides access to the recreation resource but also aims to manage the use of the land to avoid potential user group conflicts and balance competing uses and interests (Golden Interagency Technical Committee, 2002). Strategic planning in access to recreation is required to prevent conflicts among resource users and management issues (Golden Interagency Technical Committee, 2002). User group conflicts can degrade the recreation experience, reduce the resource value, or lead to the destruction of the recreation industry.

Working with The San Diego River Park Foundation (TSDRPF) and faculty advisors, the 606 Studio used both an issue-driven geodesign process, and a community outreach process, to create this *Forester Creek System Recreation Access Plan*. Input from the community coupled with creative land use planning and design resulted in a list of prioritized recreation opportunities. This process also identified opportunities for safe and improved public access to the creek corridor,

Figure 1.06 Land use in the study area



interpretation and environmental education, and site improvements for future grant funding applications.

1.1/Introduction to the Study Area

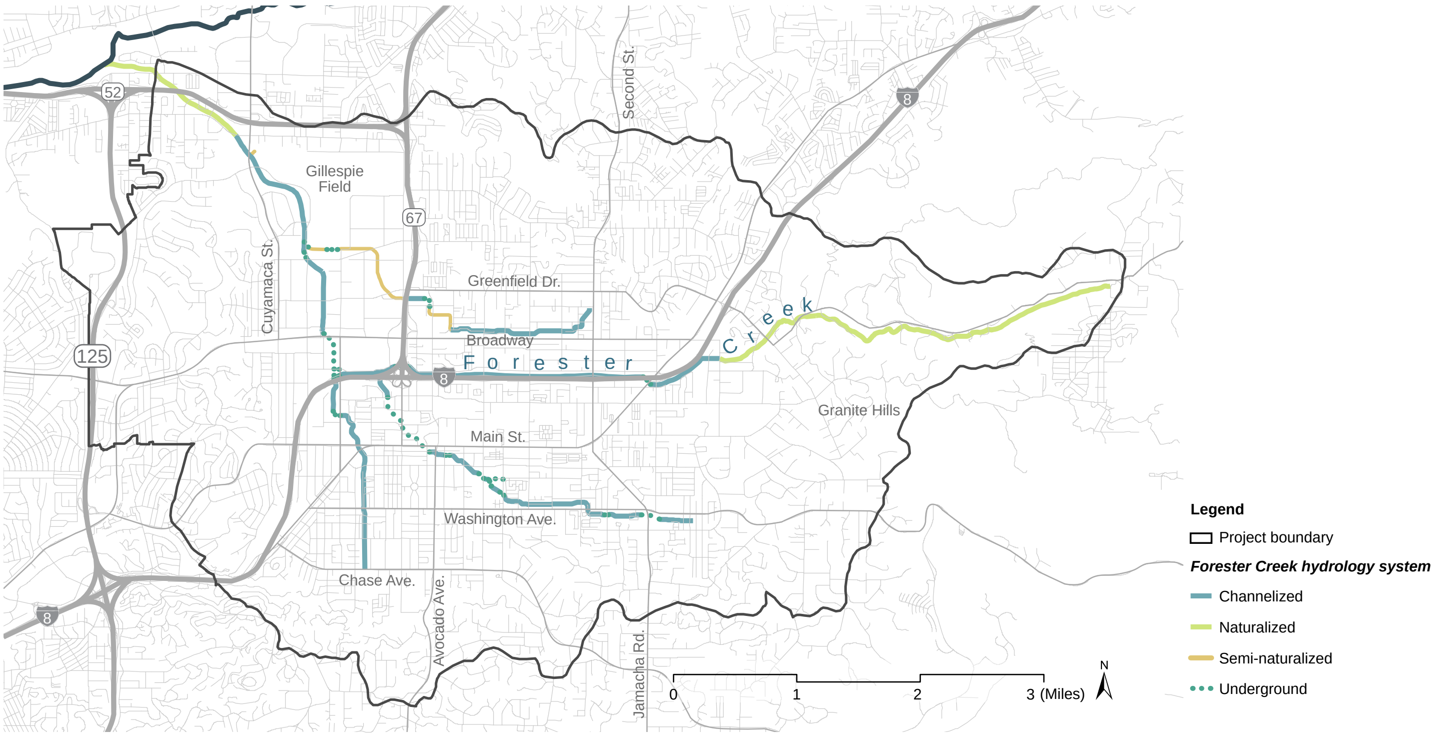
The project study area is located predominantly in the City of El Cajon, the County of San Diego, and small sections of the City of Santee, the community of Crest, and the City of La Mesa. The scope of the study area includes the City of El Cajon and the Forester Creek System: Forester Creek, its main tributaries, their watersheds, and the basins that drain to these waterways (Figure 1.07). The vast majority of these waterways in the study area are in concrete culverts. As indicated in Figure 1.07, small portions are "naturalized"—left or returned to a state where native flora and fauna flourish—or "semi-naturalized"—flowing in a culvert constructed of natural materials which supports some level of native flora and fauna. The stormwater in the Forester Creek System is not treated before it enters the creek, San Diego River, or Pacific Ocean.

Forester Creek is a major tributary of the San Diego River that carries stormwater and deposits debris and trash into the river, which eventually ends up untreated in the Pacific Ocean 17.75 miles away (Figure 1.05). Forester Creek and its three main tributaries—Washington Channel, County Ditch, and Broadway Channel—form the Forester Creek System (Figure 1.07). It passes through a range of industrial, commercial, and residential land uses (Figure 1.06) in areas with disadvantaged communities that lack access to parks/open space. These disadvantaged communities need recreation improvements that provide new opportunities and connect existing ones.

Forester Creek is 11 miles long and begins in a rural area near the community of Crest, runs through the City of El Cajon, and merges into the San Diego River in Santee. Ultimately, the San Diego River connects to the Pacific Ocean (see Figure 1.05).

Most of Forester Creek runs through disadvantaged neighborhoods where the Median Household Income (MHI) is less than 80% of the State MHI, and severely disadvantaged neighborhoods with a MHI less than 60% of the State MHI. In addition, the City of El Cajon can be defined as park-poor with far less than the County of San Diego (2.8:1000) and State of

Figure 1.07 Forester Creek System



California (3:1000) standards for park provision. This study estimates that, as of 2017, the City of El Cajon has less than 1 acre of parkland for every 1000 residents. According to the *El Cajon 2030* (2019) plan, 44% of City of El Cajon residents are "park deficient" and only 1.3% of the land area within the City is parkland.

The poor environmental quality of the Forester Creek System (Figure 1.07 & 1.08) combined with the need to provide more open space and to serve socially disadvantaged groups were major factors that led to the creation of the *Forester Creek System Recreation Access Plan*.

1.2/Project Goals and Objectives

The goal of this project was to develop a recreation access plan (RAP) for the Forester Creek System that includes non-motorized, non-contact, water-based recreation activities and potential recreation opportunity locations for the purpose of increasing community recreation and connecting people to the creek system. The project involved a community-based process that identified environmental, social, and cultural characteristics that support recreation activities and locations. The community-based process combined with a GIS-based suitability analysis helped prioritize recreation opportunities that will benefit the local community (Figure 1.09). In addition, The San Diego River Park Foundation has found through nearly 20 years of advocacy along that main stem of the San Diego River, that increased access is an important component of elevating awareness and connection to natural resources, and can ultimately result in fostering respect and stewardship of a resource.

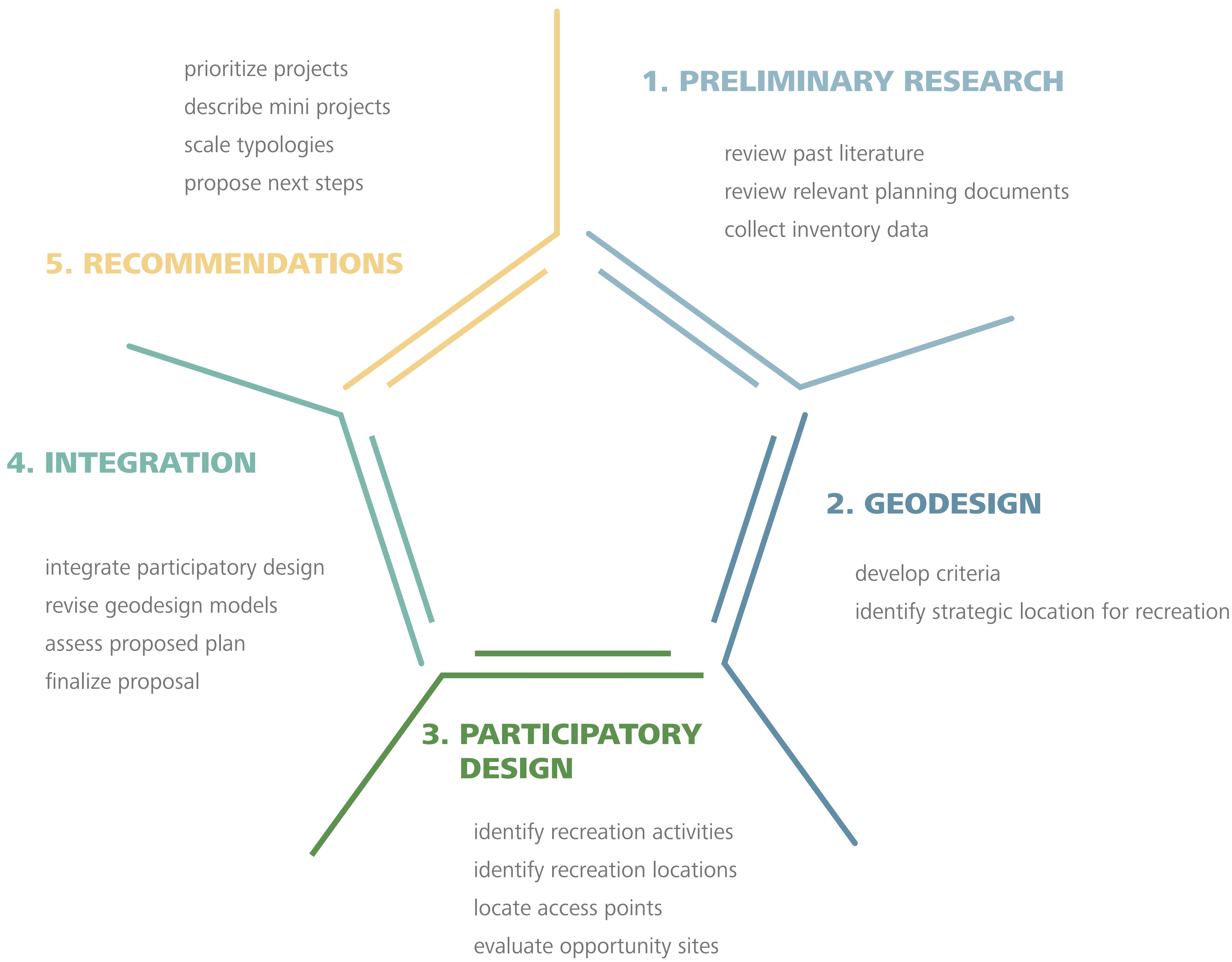
1.2.1/Objectives

Project objectives included:

1. Evaluate the biophysical and sociocultural resources along the length of Forester Creek, Broadway Channel, Washington Channel, and County Ditch, and adjacent land within ¼ mile of the creek and its tributaries.
2. Build awareness and educate local residents about the Forester Creek System, its processes, history, and current and future provision of ecosystem services.
3. Work with TSDRPF, local residents, and stakeholders to identify and prioritize non-motorized, non-contact, water-based recreational activities in the Forester Creek System.

Figure 1.08 Forester Creek System surrounded by industrial, commercial, and residential land uses

Figure 1.09 Relationship between project components



4. Work with TSDRPF, local residents, and stakeholders to identify potential and preferred opportunity sites, support facilities, and development impacts.
5. Prepare a written report summarizing the result of project research, including Community Committee meetings involving facilitated discussions, workshops and/ or focus groups. This document is that report.

1.3/Project Scope

Recreation access plans (RAPs) are initiated by government agencies, municipalities or non-governmental organizations to promote and highlight the importance of recreation in an area (Lower Mississippi River Conservation Committee, 2014), and to improve recreation opportunities and accessibility to recreation. The spatial distribution of recreation resources in a region guarantees their effectiveness and also plays an important role in recreation planning (Erkip, 1997). RAPs often include the creation of an advisory committee and public engagement to ensure the recommendations are meaningful to stakeholders, users, visitors, and local communities (Lower Mississippi River Conservation Committee, 2014). Generally, RAPs include the following:

- Inventory and mapping of existing study area conditions such as hydrology, topography, and vegetation;
- Analysis of demographics such as age, education, and income;
- Factors such as land use, recreational facilities, public transportation, traffic patterns and collisions;
- Existing social and economic conditions of the surrounding areas;
- Environmental risk factors such as fire hazard areas and pollution;
- Projected population changes and recreation trends (City of Steamboat Springs, 2018); and,
- Strategies to enhance equitable access to the natural resources in the planning area.

In many situations there is no GIS data available or, in some cases, the data is not accurate. Information which is not available through GIS mapping can be collected by conducting a field survey in the study area. Information which appears inaccurate can be verified through ground-truthing and field work. Ground-truthing involves checking the results of analysis and planning done in the lab or studio against the actual conditions on the ground. This process ensures inaccuracies in the data or factors not measured do not lead to faulty conclusions. Field work validates the accuracy of information, supplements GIS data, and supports the integration of factors such as perceived safety and aesthetics, which are difficult to capture using computer system tools. Often, the data is used to evaluate the suitability of a particular parcel for particular uses, e.g. cycling or birdwatching.

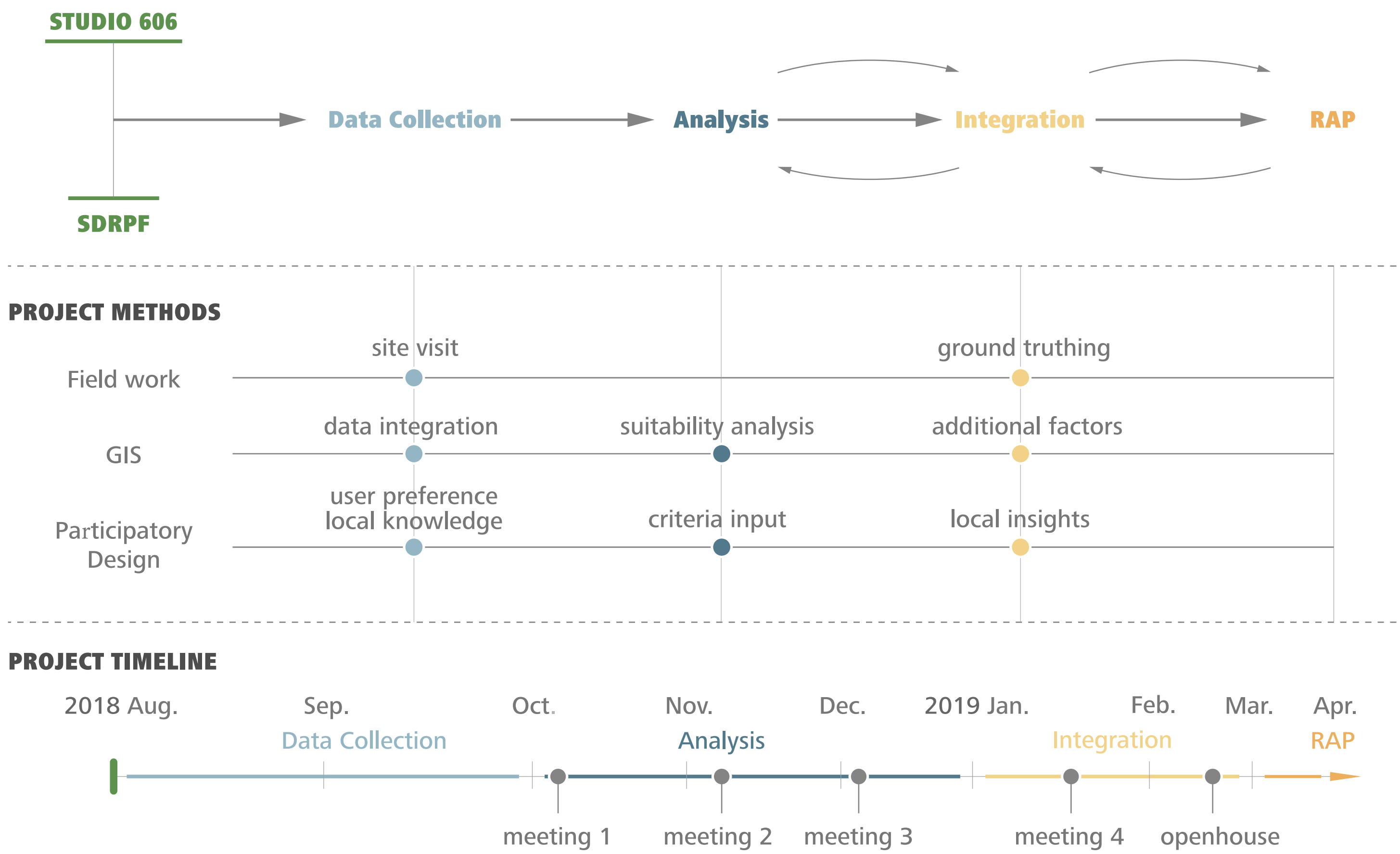
1.3.1/The 606 Studio and The San Diego River Park Foundation (TSDRPF) Partnership

The *Forester Creek System Recreation Access Plan* was a collaboration between the California State Polytechnic University, Pomona (Cal Poly Pomona) 606 Studio and The San Diego River Park Foundation (TSDRPF). The 606 Studio is the capstone project of the landscape architecture graduate program at California State Polytechnic University, Pomona. The 606 Studio has a 50 year history of serving municipalities, NGOs, community organizations, and other agencies who are concerned with the complex interaction between natural and human systems. Projects have covered a wide range of topics for different federal, state, and local agencies, as well as nonprofit and for-profit organizations. Since its inception, the 606 Studio has developed numerous projects that have been recognized with professional awards by professional associations.

The academic studio environment offers a unique opportunity for graduate students to explore issues and possibilities at a variety of levels. The students, with faculty direction and participation, carry out the project–including the tasks of research, analysis, planning, and presentation. Because the Studio is part of an educational institution, the projects that come from it must maintain academic integrity, display technical and professional expertise, advance sustainable land management practices and theory, and be grounded in reality. The projects are also required to address significant issues concerning resources and the physical environment with broad implications beyond the boundaries of the study area. The projects should result in significant benefits to the general public.

The 606 Studio collaborated with The San Diego River Park Foundation (TSDRPF) to develop the recreation access plan for the Forester Creek System. This included the implementation of a planning process that matches TSDRPF's community engagement strategy and long-term vision.

Figure 1.10 Project process



The 606 Studio's responsibilities included reviewing literature, on-site field work, GIS analysis, and organizing and delivering portions of a five-meeting community outreach program, including participatory design materials, and the creation of this document.

TSDRPF is a grassroots non-profit organization dedicated to fostering stewardship and appreciation for the San Diego River and the river's tributaries and watershed. The organization's mission includes enhancing the river's valuable natural and cultural resources while encouraging local communities to embrace their role as stewards. The vision is to create a river-long system of parks, trails, open spaces, and community places that will connect and unify local communities and landscapes along the river corridor.

Dedicated to improving the San Diego River and local communities, TSDRPF has several programs that aim to "Connect, Create and Conserve." These programs include community engagement and mobilization, nature education programs for children, land conservation through acquisition, and scientific study. The organization is also involved in monitoring watershed health, advocacy for the creation of the San Diego River Park and Trail System, trash clean-up in pursuit of a trash-free San Diego River, and riparian habitat conservation. This work is accomplished through close partnership with volunteers, land owners, government agencies, funders, and community leaders.

In 2002, the 606 Studio collaborated on the San Diego River Park Conceptual Plan, which serves as a guiding document for The San Diego River Park Foundation and was incorporated into legislation that created a state agency dedicated to the San Diego River.

As a result of past success with the 606 Studio, TSDRPF contacted the Department of Landscape Architecture at Cal Poly Pomona to discuss a new collaboration: a recreation access plan for the Forester Creek System—this project.

1.4/Project Process and Timeline

The project involved multiple stages to address the range of stakeholders and level of data necessary for effective decision-making (Figure 1.10). Methods included data mining, GIS, remote sensing, field work, and participatory design tools.

The project included:

- **Preliminary research** including a review of the literature and existing planning documents, GIS, field work, and community surveys.
- **A GIS and field work**-based evaluation of locations along the four reaches of the creek and its primary tributaries for their suitability to support the non-contact, water-based recreation needs of local residents.
- **A community stakeholder committee**, with representatives from a diversity of backgrounds, interests, and demographics. These stakeholders were reached through personal contacts and cold calls, networking and referrals, community presentations, and other outreach. This project's stakeholder committee members are listed in the Acknowledgments.
- **An education and outreach effort** in the broader community. This effort was designed to collect less robust input, but from a statistically significant (with a level of accuracy +/- 3%) segment of the population. Surveys were translated into four languages, and in total, 1,064 questionnaires were completed. The questionnaire served two main purposes: first, it provided baseline information about the community's current awareness and perception of the creek, and second, it provided basic information about the recreational facilities and amenities preferred by survey respondents.
- **Community engagement and participatory planning** processes to engage residents and stakeholders in identifying and prioritizing desired non-motorized, non-contact, water-based recreational activities along the river, preferred visual access points to the river, and opportunity sites for future recreational development.
- **Integration of geodesign and community engagement** results into a recreation access plan that identifies the suitable locations for recreation along the creek corridor.
- **Recommendations** to support safe and improved public access to the creek corridor and associated landscapes, opportunity sites, and integration of the Forester Creek corridor greenway into the San Diego River trail system.

The project began in August 2018, with a draft target date of April 2019, and project completion by September 2019.






CHAPTER 2. BACKGROUND AND PAST RESEARCH

By Wei-Shiun Chen, Muriel Fernandez Replogle, Alexander Jauregui, Monica Marathey, Brian Neshek, Cristina Plemel, and Lee-Anne Milburn

Edited by Lee-Anne Milburn

The *Forester Creek System Recreation Access Plan* aims to identify non-motorized, non-contact, water-based recreation activities and potential recreation opportunity locations. As such, the project has two primary components: identifying outdoor recreation activities and facilities of interest to the community, and examining potential locations for suitability for implementation. These components have two primary challenges: (1) identifying not just current, but also likely future, recreational activities preferred by community members, and (2) visualizing and creating a creek system that is a recreational resource, rather than primarily an urban water management channel.

The following case studies were reviewed, and their recommendations are integrated into the following research:

- *Lower Platte River Recreation Access Plan*, Nebraska
- *Upper Nooksack River Recreation Access Plan*, Washington State
- *Mayo River Recreation Access Plan*, Virginia
- *Golden Backcountry Recreation Access Plan*, British Columbia, Canada
- *Naneum Ridge to Columbia River Recreation and Access Plan*, Washington
- *San Vicente Redwoods Public Access Plan*, California
- Los Angeles River, Los Angeles, California
- San Antonio River, San Antonio, Texas
- Kissimmee River, South-Central Florida
- Strawberry Creek Park, Berkeley, California
- Baxter Creek Greenway Project, El Cerrito, California

- Wildcat Creek Restoration and Greenway Trail, Berkeley, California
- Guadalupe River Trail, San Jose, California
- Tujunga Wash Greenway Restoration, Los Angeles, California
- Sunnynook River Park, Los Angeles, California

2.1/Benefits of Outdoor Recreation Access

A wide range of benefits come from providing recreational opportunities to the public. Benefits of outdoor recreation include improved health, economic benefits and social benefits that increase the quality of life in communities.

2.1.1/Health Benefits of Outdoor Recreation

Declining health is a serious problem facing most communities around the country and in California. Obesity, diabetes, heart disease, and mental health issues are a few of the health problems that can be improved with physical activity and outdoor recreation (State of California Resources Agency, 2005).

Research demonstrates a strong positive correlation between recreation activity and positive health (HHS, 2001) (Figure 2.01). Outdoor recreation provides an overall boost to the immune system and more physically fit people are less prone to illness (Tarrant, Manfredo, & Driver, 1994). Positive changes to the immune system occur during moderate exercise (State of California Resources Agency, 2005; Nieman, 2001) and more active people are better protected against weight-related health risks (Welk & Blair, 2000). Although genetics, eating habits, and chronic illnesses contribute to being overweight, increased physical activity in the form of recreation can have significant positive impacts on human health and can help

Figure 2.01 Advantages of recreational spaces (adapted from Witt & Caldwell, 2010, p. 18)

prevent heart disease, obesity, and mental health issues (Berman et al., 2012; Legrand, Race, & Herring, 2018). Outdoor recreational activities such as running, walking, swimming, and bicycling are good for increasing the heart rate and lowering the risk of heart disease (State of California Resources Agency, 2005) (Table 2.01).

Outdoor recreation can relieve stress, improve mental health, and improve overall quality of life (State of California Resources Agency, 2005). Statistics show that job stress is a major source of concern for adults, and which has intensified in the past few years (Witt & Caldwell, 2010). Increased levels of job stress along with personal problems are the leading causes of growing rates of heart disease, hypertension, and other disorders (American Institute of Stress, 2017). A study showed a significant correlation between length of stay in parks and stress reduction, lower blood pressure, and perceived health (National Recreation and Park Association, 2012). Recreation activities reduce alienation, loneliness, and isolation, which all contribute to depression (Gorman, 2002). Mentally recalling outdoor recreation activities increases positive mood, which is linked to improved self-esteem and lowered depression (Tarrant et al., 1994; Fontaine, 2000) (Table 2.01). Finally, recreation locations such as parks or open spaces encourage the development of innovative and creative ideas (American Institute of Stress, 2017).

Today's society is becoming increasingly sedentary, a major contributing factor to current physical and mental health problems (State of California Resources Agency, 2005). It is

Table 2.01 Health benefits of outdoor recreation (Fontaine, 2000; Neshek, 2018)

Health Issue	**Recommended Outdoor Activities**	**Benefits**	**References**
Obesity	Physical activities such as running, swimming, walking, cycling	Increases energy to burn fat; helps to maintain healthy weight	Welk & Blair, 2000; Haennel & Lemire, 2002; State of California Resources Agency, 2005
Asthma	Running, swimming	Decreased severity of symptoms	Lovasi, Quinn, Neckerman, et al., 2008; Lang, Butz, Duggan, & Serwint, 2004; Fitch, Blitvich, & Morton, 1986; Matsumoto, Araki, Tsuda, et al. 1999
Diabetes	Physical activities such as running, swimming, walking, cycling	Lowers blood pressure; helps regulate blood sugar levels	Welk & Blair, 2000; Haennel & Lemire, 2002
Heart disease	Physical activities such as running, swimming, walking, cycling	Increases heart rate; lowers the chance of heart disease; prevents obesity and diabetes (contributors to heart disease)	Welk & Blair, 2000; Haennel & Lemire, 2002
Immune system	Moderate exercise	Boosts immune system; lower risk of illness	Tarrant, et al., 1994; State of California Resources Agency, 2005; Nieman, 2001
Mental health	Cognitive thoughts about outdoor recreation, nature, wildlife	Increases positive mood; reduces alienation; reduces loneliness; reduces isolation; reduces stress; increases self esteem	Tarrant, Manfredo & Driver, 1994; State of California Resources Agency, 2005; Fontaine, 2000; Gorman, 2002
Depression	Moderate exercise	Reduces symptom severity	Fontaine, 2000
Anxiety	Moderate exercise	Reduces symptom severity	Fontaine, 2000
Panic disorder	Moderate exercise	Reduces anxiety over time with regular regimen	Fontaine, 2000
Self-esteem	Moderate exercise	Improves low self-esteem	Fontaine, 2000

estimated that seven out of ten American adults are not regularly active during leisure time (time spent away from necessary activities such as work, education, eating, and sleeping), and four out of ten adults are not active at all (State of California Resources Agency, 2005; Schoenborn & Barnes, 2002). Research suggests that lack of physical activity has contributed to 20% of Americans being obese.

In California, 26% of children are overweight (CDC, 2002). Fifty percent of the children that are overweight will become obese adults (Kao, Stone, Craypo, Adess, & Samuels, 2002), a serious issue that can have life-long impacts on quality of life. Children who engage in more recreation activities are less likely to be involved in consuming alcohol and misusing marijuana and are less likely to drop out of school (Witt & Caldwell, 2010). Recreation activities also support personality development by providing facilities to improve physical and social skills and encouraging and facilitating interpersonal interaction (Witt & Caldwell, 2010).

2.1.2/Economic Benefits of Outdoor Recreation

Studies illustrate that outdoor recreation facilities such as trails and open green space are an important community asset (Southern Research Station & National Forest Service [SRS/NFS], 2010). The presence of outdoor recreation is an important consideration for homeowners choosing a new community.

The presence of a park or open space in a particular location naturally increases local property values and tax revenues in the surrounding area (National Recreation and Park Association, n.d.; SRS/NFS, 2010). “Quality parks and recreation are cited as one of the top reasons that businesses cite in relocation decisions in a number of studies” (National Recreation and Park Association, 2012, p. 1). In Austin, Texas, increased property values associated with a single greenway were estimated to result in $13.64 million of new property tax revenue (Nichols & Crompton, 2005). Land adjacent to a greenbelt in Salem, Oregon was found to be worth about $1,200 an acre more than land only 1,000 feet away (Brabec, 1992). Also, recreation spots such as music venues or art centers provide indirect revenues to local and regional economies (National Recreation and Park Association, 2012).

Trail and path infrastructure increase physical connectivity, and result in increased tourism and visitors. Tourism, growth in outdoor recreation industries, and attracting and retaining local businesses increase revenues for communities (Headwaters Economics, 2018).

2.1.3/Social Benefits of Outdoor Recreation

Outdoor recreation also contributes social benefits to society. Outdoor recreation can provide spaces and connectivity within a community that foster stewardship and improve community cohesion. According to the California State Parks Department (State of California Resources Agency, 2005), recreation encourages volunteerism and increases stewardship and social bonds.

According to The San Diego River Park Foundation (TSDRPF), they annually engage “...more than 100,000 people in special events, volunteerism, youth education, and more. ...Since 2001, the organization has seen a strong positive correlation between the number of individuals that they have engaged and the community’s investment in the San Diego River and the river headwaters. The more hands-on nature experiences the organization facilitates, the more volunteer time, public advocacy, and financial donations they receive. This increased investment leads to additional public attention and resource allocation, which allows the organization, partners, and government agencies to address environmental health issues such as trash, water quality, and invasive plant species” (TSDRPF, 2019).

Also according to TSDRPF, “...this same model could apply in the study area. By increasing interaction opportunities along the Forester Creek System, new recreation projects can build public passion for the Creek and its tributaries, creating new stewards, advocates, and donors. Ultimately, this can increase investment and awareness, addressing water quality issues within the Creek System” (TSDRPF, 2019).

Outdoor recreation also promotes positive contact between different cultural groups (State of California Resources Agency, 2005), providing a means for interaction that can help break down barriers resulting from cultural unfamiliarity and fear of difference (State of California Resources Agency, 2005).

Recreation can have different benefits for different age groups in the population. Although passive recreation activities such as walking, birdwatching, and photography are popular among elderly populations, more active aging populations also commonly participate in group activities such as sports, yoga, exercising, and gardening (Singh & Kiran, 2014). Outdoor recreation helps to strengthen social relationships and plays a key role in the well-being of an elderly population by connecting people with common interests, providing informal interactions, and mitigating the health risks associated with the isolation that can result from retirement and aging (Chang, Wray & Lin, 2014; Singh & Kiran, 2014).

Urban green spaces are a resource that encourage activities that increase family well-being and social relationships, enhancing community identity (Shafer & Floyd, 1997). Many families use outdoor recreation as a way to bond and transfer important values to children. These experiences can act as catalysts for future participation in outdoor recreation.

Recreation activities are important to supporting youth. Recreation helps develop youth, improve their education, deter negative behavior, and is fundamental for physical, mental, social and emotional development (State of California Resources Agency, 2005). Youth self-esteem and self-sufficiency increase with the amount of time spent participating in recreation activities (Dahl & Reed, 1999; Strauss, Rodzilsky, Burack & Colin, 2001). With nearly five million California households having children under the age of 18, access to recreation has an important role in guiding youth (CDC, 2002).

Research by the National Recreation and Parks Association (2012) has demonstrated that recreation resources such as trail networks act as natural benefit multipliers that strengthen communities by providing safe alternative transportation routes. The creation of linear parks and greenways can increase public support for sustainable development initiatives such as alternative transportation, urban growth management, and increased development density (Bryant, 2006; Lindsey, 2003; Ryder, 1995). Outdoor recreation common in greenways includes: hiking, biking, jogging, and wildlife viewing (Little, 1990; Miller, & Hobbs 2000; Smith & Hellmund, 1993). While a network of recreation resources is key to a functional, utilitarian recreation system, the trails that most significantly benefit residents are close to where they live and work (Lawson, 2016).

2.1.4/ Environmental Benefits of Outdoor Recreation

Positive environmental attitudes and behaviors are correlated with people's emotional connection to the natural world (Andre, Williams, Schwartz & Bullard, 2017; Mayer & Frantz, 2004). Increasing peoples' level of environmental awareness and attachment generally requires direct contact with nature (Hungerford & Volk, 1990; Hinds & Sparks, 2008; Kals, Schumacher, & Montada, 1999; Chawla, 1999; Eisenhauer, Krannich, & Blahna, 2000; Palmer, 1993; Sivek, 2002). This direct contact can occur in many ways, but most often is associated with outdoor recreation activities (Theodori, Luloff & Willits, 1998), especially non-motorized activities (Teisl & O'Brien, 2003; Thapa & Graefe, 2003).

2.2/Preferences in Outdoor Recreation Activities

A wide variety of activities are associated with outdoor recreation. Different activities require different facilities, such as paths for walking and hiking, fields for organized sports, or nature areas for wildlife viewing. Several outdoor recreation activities have been consistently popular since the 1950s, including picnicking, driving for pleasure, sightseeing, walking, jogging, swimming, and organized team sports (Anderson & Manning, 2012; Cordell, 2008; Gartner and Lime, 2000). Organized team sports and driving for pleasure are becoming less preferred as environmental awareness increases (Anderson & Manning, 2012; Cordell, 2008; Gartner & Lime, 2000).

Since 2000, user preferences for outdoor recreation have shifted towards more nature-based and passive activities. Nature-based recreation activities are activities that either take place in natural environments, or otherwise involve natural environmental elements such as terrain, plants, wildlife, or waterbodies (Cordell, 2008). Nature-based recreation such as hiking and birdwatching is dependent on the quality of the resource and its ability to provide a restorative experience. Passive recreation entails activities that involve observation (e.g., birdwatching), non-consumption behaviors (e.g., photography), and/or lower exertion or activity levels (e.g., tai chi, yoga, or walking). The increase in participation in passive recreation has been attributed to several factors, including the aging population and the desire for recreational activities with reduced likelihood of injury and lower environmental impact (Anderson & Manning, 2012). Passive recreation facilities are often relatively low-cost and low maintenance, and make outdoor recreation accessible to people of all ages and abilities. Passive recreation activities require a lower level of physical fitness, allowing youth, elderly, and people with disabilities to participate.

2.3/Recreation and Water Resources

Water resources can be important assets in the attempt to provide equitable access to open space and recreation in cities that suffer from inequitable pollution or wealth distribution (Sugiyama, Watarai, Oda, Kim, & Oda, 2016). River corridors offer more potential for recreation than most open spaces, mostly due to the variety of ecosystem services associated with the landscape (Palta, du Bray, Stotts, Wolf, & Wutich, 2018).

The land located near or adjacent to waterways is typically located within floodplains and is often unavailable or unsuitable for development (Miller & Hobbs, 2000). Development on this land is often subject to increased costs, flood risks, and threats to valuable riparian habitat (Little, 1990; Naiman, Decamps & Pollock, 1993; Smith & Hellmund 1993). Outdoor recreation is compatible with land adjacent to waterways such as rivers, streams or creeks because it provides green open space for recreation, leaves land open to conserve local biological diversity, and preserves river functions such as seasonal flooding. Recreation associated with water resources includes swimming, kayaking, canoeing, rafting, and fishing (Southwick Associates, 2012). However, the most common recreational uses of water resources happen adjacent or parallel to waterways. The most popular forms of recreation along waterways, rivers, streams, and creeks include jogging, running, biking, walking, picnicking, relaxing, wildlife viewing, and birdwatching (Anderson & Manning, 2012; Cordell, 2008). It is important to acknowledge the impacts of recreation: good planning attempts to mitigate these impacts.

2.4/Potential Negative Impacts of Outdoor Recreation

2.4.1/Potential Negative Environmental Impacts of Outdoor Recreation

In addition to the positive impacts of recreation on human health, our economy, and our social systems, recreation can have negative impacts. Human use of outdoor recreation facilities impacts the health of vegetation, soil, wildlife, and water resources. Generally, the scale of impacts increases from urban, developed areas, to more natural areas (Clark and Stankey, 1979; Cole, 1986). Narrow, linear riparian areas are particularly vulnerable to disturbed habitat and changes in microclimate (Benninger-Truax, Vankat, & Schaefer, 1992; Liddle, 1975; Cole, 1981; Tyser & Worley, 1992; Miller & Hobbs, 2000).

Environmental impacts of recreation facility development include damage to native species through trampling and wildlife interaction (Boyle and Samson 1985; Miller & Hobbs, 2000; Monz, Cole, Leung & Marion, 2010). Trampling results in three direct impacts: breaking vegetation, exposure and displacement of soil, and soil compaction (Hammitt & Cole 1998; Liddle 1975; Sun & Liddle, 1993; Monz et al., 2010). Increases in soil compaction reduce stormwater infiltration rates, leading to more runoff and increased erosion (Webb & Wilshire, 1983). Soil erosion can be detrimental to terrestrial and aquatic vegetation, aquatic organisms, and creates uneven trail surfaces (Monz et al., 2010).

Human and wildlife interactions through outdoor recreation also impact the environment. Interactions frequently result in the development of wildlife dependencies on human food sources. Food attraction has the potential to harm both wildlife and visitors (Larson, 1995; Orams, 2002; Monz, at al., 2010). Additionally, wildlife attracted to the presence of human food and trash may become comfortable in outdoor recreation sites, becoming more vulnerable to dogs, predators, hunters, or collisions with vehicles (Edington & Edington, 1986; Newsome, Dowling & Moore, 2005; Monz et al., 2010).

Inland freshwater ecosystems such as creeks are subject to issues of nutrient influx and pathogen introduction from adjacent lands, affecting water quality (Monz et al., 2010). Studies illustrate that waterway-adjacent recreation has the potential to cause bacterial contamination (Varness, Pacha & Lapen, 1978), and physical, biological and chemical changes to waterways (Taylor & Erman, 1979; Cole, 1986).

2.4.2/Potential Negative Social Impacts of Outdoor Recreation

Recreation experiences are built around personal and cultural evaluations of resources which establish expectations for future use and how recreational spaces should be used by others (Jacob & Schreyer, 1980). Outdoor recreational facilities can become the source or location of conflicts. Generally, these conflicts are one of two types: user conflicts or cultural differences.

Some factors that can lead to user conflicts during outdoor recreation include:

- Activity style - the various personal meanings assigned to an activity by the user;
- Resource specificity - the significance attached to using a specific recreation resource for a given recreation experience;
- Mode of experience - the varying expectations of how the natural environment will be perceived; and,
- Lifestyle tolerance - the tendency to accept or reject lifestyles different from one’s own (Jacob & Schreyer, 1980).

Cultural differences result in variations between ethnic groups in terms of their preferences for, and use of, urban parks, open spaces and natural settings (Carr & Williams, 1993; Kaplan & Talbot, 1988). With sensitive planning, outdoor recreation can create stronger multicultural communities.

2.5/Stream Restoration

Natural waterways have been transformed in the last century to make room for development, protect cities from flooding risks, and divert water to agriculture, domestic consumption, or urban uses (Allan & Colbert, 2001). During the last century, the Army Corps of Engineers was tasked with the modification of stream and river corridors throughout the country to move flood waters quickly and efficiently away from developed areas. The results are river corridors dominated by concrete embankments, channels, and underground waterways.

Concerns about climate change, water availability, and pollution impact on receiving waterways have encouraged the shift from a concentrated to a distributed approach to water management. This change, in combination with the growing demand for parks and recreation resources, especially in park-poor areas, has changed the perception of these waterways to a community resource and potential amenity (Sugiyama et al., 2016). To this end, dechannelization and daylighting efforts have been initiated across the country in an attempt to restore natural river beds, increase the general awareness of waterways, regenerate sensitive habitat, and provide non-motorized, non-contact, water-based recreational activities for local communities.

The indirect result of the previous reactionary approach to watershed management has been urban blight: “Rather than clear water winding freely through the landscape, concrete walls channel clouded water down a sterile path. Raw sewage, toxic chemicals and trash inhibit fish, turtles and frogs from spawning and breeding” (U.S. Fish and Wildlife Service, 2005). While it is never entirely possible to return these water bodies to their ‘natural’ state, urban river restoration has significant positive impacts for the environment, economy, and health of local communities (Dufour & Piégay, 2009).

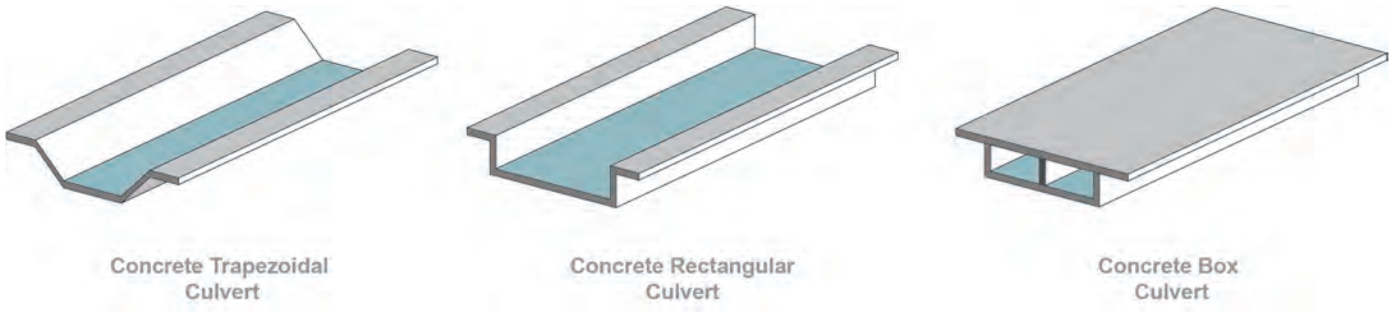
2.5.1/Stream Channelization

Channelization is the process of straightening a stream or dredging a new channel for a stream to be diverted into, which results in a lack of channel complexity and a loss of riparian habitat (Yochum, 2018). Stream channelization was a common solution for flood control, for directing water for agricultural use, and wetland draining.

Figure 2.02 Channelized river corridor

Figure 2.03 Natural river corridors

Figure 2.04 Types of flood control channels



Channelized streams have reduced stream-side habitat (Riley, 1998), higher water velocities (Riley, 1998), increased pollution, higher water temperatures, and degraded riparian and fish habitat (Figure 2.02). Channelized streams cannot serve the natural processes of sediment transport which are vital to supporting a functioning riparian ecosystem ("Stream Channelization," 2003). They lack the vegetation that is important for ensuring streambank stability. Streams with vegetation manage 20,000 times more sediment than streams without vegetation (Knighton, 1998) (Figure 2.03).

The three common types of flood control channels include: a box culvert, a trapezoidal channel, and a rectangular channel (Riley, 1998) (Figure 2.04). The type of channel used in an area is determined by the peak storm flows in the area, the capacity of the channel, and the land use surrounding the area (Riley, 1998). For example, if the stream is in an urban area where land is more expensive, a rectangular channel might be used instead of a trapezoidal channel since a rectangular channel would use less space (Riley, 1998).

As noted in the introduction, the impacts of changes to river corridors are significant:

- Channelization, dams and levees interrupt sediment movement, deposition, and erosion processes. This reduces resources for riparian habitat buffers (Berg, Hager, & Hassenzahl, 2011) and new landscapes for plants to colonize (Naiman et al., 2005). Streams that meander create biodiverse river corridors with vegetative communities of different ages, and at different stages of succession (Greco, Fremier, Larsen, & Plant, 2007). Straightened and channelized streams have much higher water velocities, increasing downstream erosion, flooding, and storm damage.

- The installation of stormwater outfalls introduce pollutants and debris into the water system (Riley, 1998), increasing water temperatures, changing chemical balances, causing bank erosion, and increasing flooding risks.

- Dams and levees prevent fish movement, impacting reproduction cycles (Berg et al., 2011).

- Vegetation removal from the stream channel, banks, and floodplain reduces habitat for fish, wildlife, insects, and other creatures. The vegetation provides other ecosystem services, such as filtering and cleaning water through phytoremediation (using plants to clean soil, air, and water), slowing storm flows, decreasing runoff as a result of absorption and evapotranspiration, reducing urban heat island effect, and increasing climate change adaptation and resilience. Vegetation also stabilizes stream banks to prevent erosion (Knighton, 1998).

- Bank stabilization tools and channelization-related techniques such as concrete levees, gabion baskets and rip-rap reduce access to soil, thereby preventing the growth of riparian vegetation (Yochum, 2018). They also increase the slope of streambanks, making them less able to support different vegetated zones and habitat types.

- "Burying" streams places them in closed-profile pipes, culverts, or ditches (Riley, 2016). Stream burial significantly impacts natural stream processes by preventing natural sedimentation and reducing light and oxygen, which results in little to no vegetation or habitat. Water temperatures increase as a result of contained heat, and processes of water cleansing fail to occur.

2.5.2/Restoration Processes

Physical development and stormwater management needs limit the options for urban stream restoration, though the wide range of approaches and new technological solutions make it more viable. Stream restoration projects have the goal of restoring a stream and ecosystem functionality to dynamic equilibrium with its sediment load and water (Field, 2002; Yochum, 2018). Goals of a stream restoration project could include: improving water quality, removing non-native plants and invasive species, restoring the natural channel, re-creating fish habitat, stopping erosion of the streambank, or restoring the natural hydrologic function of the stream (Riley, 1998).

While in some contexts "restoration" has a technical definition, for recreation planning and this project, a wide spectrum of projects are considered "restoration" efforts. At one end of this spectrum are simple, low-cost efforts such as volunteer creek clean-ups and passively allowing the establishment of vegetation in streams channelized in concrete. At the other end of the spectrum is the complete removal of the concrete channel and careful reestablishment of pre-development hydrology, ecology, and native flora and fauna. Along the spectrum are a wide range of projects that seek to take steps toward reestablishing pre-development hydrology, ecology and native flora and fauna (Riley, 1998; Field, 2002; Yochum, 2018). In contemporary practice, planning recreation access to a creek system is most often integrated with considering what kinds and levels of restoration can be achieved simultaneously.

The first step in complete stream restoration involves removal of the concrete channel and reestablishment of the stream corridor, banks and floodplain. Generally, this includes the removal or modification of the levee for the purpose of reconnecting the stream to its floodplain (Yochum, 2018). Engineered riffles can be created in a stream to increase levels of hydraulic complexity, leading to greater biodiversity. Engineered riffles are also created to stabilize streambeds (Newbury, Bates, & Alex, 2013). Soil bioengineering of streambanks is another approach which combines engineering practices and ecological principles to design, construct and maintain healthy riparian habitats (Yochum, 2018).

Engineered structures are beneficial for providing short-term relief to erosion, however natural geomorphic mechanisms are longer lasting and better for the environment (Yochum, 2018). For example, rip-rap is effective in bank stabilization, but it prevents the regrowth of vegetation. Often it is useful for projects to use a combination of structures to address excessive erosion and vegetation methods for longer-term success. For example, a combination of woody structures and vegetation management are required to ensure sustainable short- and long-term management (Yochum, 2018).

Weber and Ringold (2015) evaluated the priorities of people relative to stream restoration. They found recurrent ecological themes of water quality, vegetation, fish, and wildlife, as well as human-associated themes of garbage, graffiti, odor, infrastructure, other people, and noise (Weber & Ringold, 2015). Specifically responding to the needs of Southern California waterways, respondents focused on ameliorating the condition of the concrete channels. They prioritized improving water quality in the corridors, reducing pollution levels, improving water clarity, and improving aesthetic quality by increasing water levels and consistency of flow (Weber & Ringold, 2015), all of which are possible without significant changes to the stream corridor profile.

Modern restoration efforts concerned with stormwater revolve around the balance between maintaining current capacity and human demands for improved recreation access and aesthetics. Examples of this compromise include restoration techniques involving the increase of vegetation or construction of terraces, both of which would reduce stormwater capacity and need to be balanced by a widening or deepening of the channel elsewhere in the system (Landers, 2007).

A concrete channel does not inspire human users to participate in adjacent recreational activities. In cases where development is immediately adjacent to the channel, creating recreational opportunities along the waterway requires rethinking the design of the waterway and surrounding land uses. In order to create an aesthetically appealing experience that encourages recreation and physical activity, a waterway must have traits that inspire use, including positive visual appearance, scent, auditory traits, and a sense of safety. Many of these traits are not provided by a concrete channel, but rather require some level of restoration.

Chapter 2 Summary

The *Forester Creek System Recreation Access Plan* aims to:

- Identify what creek-based, non-motorized, non-contact, water-based recreation activities fulfill the needs and desires of local residents.
- Locate the most suitable areas for parks and open spaces that support these activities.

Developing and implementing this plan is critical because outdoor recreation improves:

- Health by reducing obesity, asthma, heart disease, depression, anxiety and a host of other ailments.
- The economy by raising property values, increasing tourism, and making neighborhoods more desirable.
- Society by bringing diverse communities together, fostering a greater sense of community pride and stewardship, and building young peoples' confidence and social skills.
- The environment by connecting people to nature and nurturing a commitment to conservation.

Nationally, the potential for creek-adjacent recreation is growing:

- Interest in passive and active recreation in natural environments in increasing as interest in team sports drops.
- This trend is likely to accelerate as the baby boomers and subsequent generations age.
- The most popular forms of recreation along waterways, rivers, streams and creeks include jogging, running, biking, walking, picnicking, relaxing, wildlife viewing, and birdwatching.

To realize this potential in the study area, several key considerations need to be kept in mind:

- Increased human presence along creeks can negatively impact the very nature that attracts visitors, unless spaces are designed to enable access while minimizing impact.
- Different generations, ages, cultures, and individuals have different expectations for how nature should be used, so spaces need to be designed to accommodate the diversity of users and avoid conflicts.
- Bringing nature back to creeks channelized in concrete culverts is a long-term process that begins with small, local, even volunteer efforts, and grows to multi-million dollar restorations.

I want to ride my bike more but is unsafe on the roads.

LEGEND
LEYENDA

well thought out + ambitious
public transportation hubs to get to the trolley would be NICE

Id like to have a Park by The creek behind-
Jeroms Furniture. at the big open Field. behind The
Majestick Apts. and the Park lane town homes.

Any additional greenspace / parks / play grounds
is an improvement. El Cajon needs this!

WElls Dog PARK should BE swept once a day Due to Drug users TO DISPERSE Homeless.
WE WANT BATHROOM IN DOG PARK - HOMELESS MONOPOLIZES PARK BATHROOMS.
WATER FOUNTAIN ON THE HILL OF LARGE DOG PARK.
DON'T TAKE ANY OF THE AREA AWAY!

Bike/walking trails along the water ways is
such a great idea!

High School District
Emerald Middle School
Chase Avenue Elementary School
Jamacha
Parques existe

C.
children from Magnolia walk down Ballantyne South toward the
County Library. Down Main Street → Claydelle or Prescott Promenade.

We Love our dog park and would love a bathroom, we could use
the "homeless" live + use drugs in the porta potties.
P.S. Please no bike path on Johnson Ave
we need street parking

Sample comments from open house maps

CHAPTER 3. PROJECT METHODS AND DATA COLLECTION

Today's complex problems require a broad range of tools and approaches to data collection and analysis. According to Gillespie and Sinclair (2000) and deMarais (1998), research methods can be separated into three categories: questioning and listening; observing; and re-reading and examining documents/data (or narrative knowing, observational knowing, and archival knowing). This project was structured to address all three of these categories. Participatory "public engagement" methods were selected to address questioning, listening and observing. A self-administered community questionnaire addressed questioning, and the review of past research and use of geographic information system tools (GIS) involved re-reading, re-analyzing and examining documents.

A number of methods were used by the 606 Studio and The San Diego River Park Foundation (TSDRPF) to gain a better understanding of the study area and its inhabitants. Data mining and GIS/geodesign were used to build a biophysical and sociocultural inventory and provide preliminary change proposals. Participatory design methods were used to help community members identify their preferences and priorities for recreational activities, amenities, and facilities in their neighborhoods. These methods included Community Committee meetings, workshops, and an open house. The Community Committee was a group of stakeholders formed by TSDRPF who worked together during facilitated discussions, workshops and/or focus groups to develop the plan.

The San Diego River Park Foundation also performed education and outreach efforts from September 2018 to August 2019. As of February 2019 when the majority of the work was completed, a total of 11,022 individuals were educated through presentations, tabling, flier distribution, and social media sharing in the community. They also engaged 2358 people in meetings, discussions, surveys, and presentations.

The biophysical and sociocultural inventories and preliminary change proposals were integrated with the community's insights and priorities. Additionally, suitability analyses were conducted to determine areas of greatest need and the most appropriate and viable locations for outdoor recreational facilities. Following is a complete list of methods that were applied throughout the project.

Table 3.01 Questions and project methods

	Data Mining	GIS and Geodesign	Field Work	Surveys	Participatory Design
1. What are the existing biophysical and sociocultural conditions of El Cajon?	X	X	X		
2. What are the existing physical conditions associated with the Forester Creek System and its surroundings?	X	X	X		
3. What outdoor recreational facilities are needed in the study area?	X	X		X	X
4. What are peoples' preferred leisure activities?				X	X
5.Where are outdoor recreational facilities and amenities needed in the study area?	X	X			X
6.What is the existing level of knowledge about the Forester Creek System?				X	
7.What are the primary concerns of local residents?				X	
8.What criteria should be used for locating, planning, and designing new parks and other recreation facilities in the study area?		X			X

Table 3.01 summarizes the key questions that drove the selection of these methods, and their utilization during the project. Detailed findings for each method are documented in the biophysical and sociocultural inventory, geodesign analysis, and community outreach sections of the report (Chapters 4, 5, & 6).

3.1/Data Mining

Data mining describes the process of acquiring and processing information from a variety of sources and perspectives (Palace, 1996). A number of sources were used including internal and external internet databases, pertinent organizational and political web resources, and academic literature. The instructional faculty and student team's data mining efforts focused on obtaining four types of data which were in either spatial or attribute format.

One type of data was **geospatial data measuring biophysical characteristics** of the study area such as the hydrological system, vegetation cover, parks, and other recreational resources. This type of data was mostly from an internal geodatabase developed by past 606 Studios. The San Diego Geographic Information Source (http://www.sangis.org) was also a source of external data as it is considered the official source of GIS data for the County of San Diego (Table 3.02). Biophysical inventory in geospatial format from other public data sources such as the City of El Cajon's Public Works Department and other local, state and federal GIS data agencies also fall into this category.

Second is **geospatial data measuring the demographic, social and economic composition** of the study area. This type of data is mainly obtained from the Census Bureau's 2010 census data and ESRI's Business Analyst, which consolidates data from both the Census and other public or private data sources.

Third, the team retrieved **environmental quality and public health data** in geospatial format from California's Office of Environmental Health Hazard Assessment (CalEnviroScreen 3.0). The data helped the 606 team understand how different communities in the study area were affected in the past and are currently impacted by many sources of pollution as reflected by

Table 3.02 GIS/Geodesign mapping and analysis issues and questions

Issue	Research Question	Data Layers	Source(s)
Existing condition of creek, study area, and/or watershed	What are the existing regional biophysical conditions of the creek and its watershed?	Hydrology and water quality; Air quality; Vegetation cover	GIS data, San Diego Association of Governments; CalEnviroScreen
	What are the existing sociocultural conditions?	Demographics; Income; Education	Census data, United States Census Bureau; Smart Location Mapping, United States Environmental Protection Agency; GIS data, San Diego Association of Governments
	Where are existing outdoor (and indoor) recreation resources such as parks?	Parks; Schools; Religious institutions	GIS data, San Diego Association of Governments
	Where are areas of park poverty that need additional recreational resources?	Parks and open spaces; Demographics	GIS data, San Diego Association of Governments
	What recreational amenities are currently provided and where?	Amenities available in parks, schools and religious institutions (etc.)	Google maps; City of El Cajon website
	What recreational amenities need higher provision levels and where?	Amenities available in parks; Parks and open spaces	Google maps; Park division, City of El Cajon
	Where are major population centers and job centers?	Demographics; Employment centers; Shopping/restaurants; Schools	GIS data, San Diego Association of Governments
	Where are the existing schools and educational institutions?	Schools, Colleges, and Other Institutions	GIS data, San Diego Association of Governments
	Where are key destinations (e.g., shopping, civic buildings, etc.) located in the study area?	Employment centers; Shopping/restaurants; Religious institutions; Public resources such as libraries, community centers, and post offices; Schools; Parks; Historic sites; Cultural heritage sites	GIS data, San Diego Association of Governments
	What are the existing demographic conditions?*	Gender; Education; Income; Ethnicity; Age	American Community Survey and Census data, United States Census Bureau
Location of existing recreational corridors	Where are existing paths, lanes, trails (etc.) for walking, hiking, and cycling?	Trails; Sidewalks; Bicycling Facilities	GIS data, San Diego Association of Governments; Digitized

Issue	Research Question	Data Layers	Source(s)
	Where are critical paths, lanes, trails for both walking and cycling that facilitate safe routes to schools?	Trails; Sidewalks; Schools; Parks; Collisions; Speed limits; Road widths; Cycling facilities	GIS data, San Diego Association of Governments; Transportation Injury Mapping System; Digitized
	Where are the best locations for bird and wildlife habitat and viewing?	Parks and open space; Bird and wildlife habitat; Bird and wildlife locations	GIS data, San Diego Association of Governments
	Where are major constraints to use of recreation opportunities?	Crime; Homelessness; Collisions; Speed limits; Road widths; Sidewalks	2018 Weallcount Annual Report San Diego County; Transportation Injury Mapping System; Digitized
Potential location of additional or expanded recreational resources and/or facilities and/or amenities	Where are potential recreational resources, especially natural areas and areas related to cultural heritage?	Natural areas; Land use; Property ownership; Waterbodies; Historic sites; Cultural heritage sites	GIS data, San Diego Association of Governments; Lay & Brockett (1987); City of El Cajon website
	Where is there appropriate land for additional outdoor recreation facilities?**	Natural areas; Land use; Property ownership; Waterbodies; Historic sites; Cultural heritage sites; Vacant or abandoned land	GIS data, San Diego Association of Governments; Lay & Brockett (1987)
	Where are major population centers and job centers that can be served by better and more outdoor recreation opportunities?	Population; Businesses; Parks; Schools; Shopping/ restaurants; Land use	GIS data, San Diego Association of Governments
	Where are key destinations (e.g., shopping, civic buildings, schools, etc.) located in the study area?	Employment centers; Shopping/restaurants; Religious institutions; Public resources such as libraries, community centers, and post offices; Schools; Parks; Historic sites; Cultural heritage sites	GIS data, San Diego Association of Governments; Lay & Brockett (1987)
	Where are locations with existing recreation facilities that could be expanded to provide additional services?	Parks and open space; Schools; Trails	GIS data, San Diego Association of Governments
	Where are existing schools?	Schools	GIS data, San Diego Association of Governments

**The research literature review was used to tie existing demographic conditions to future conditions and anticipate likely recreational trends.*

*** In this table and throughout the report recreation "facility" and "amenity" have distinct meanings following the standard professional definitions. A recreation "facility" is a physical location—a park, a recreation center—designed and managed for recreation. A recreation "amenity" is an element of a facility. For example, a park (a recreation "facility") might include amenities such as picnic tables, basketball courts and a community building.*

both environmental quality and public health measures. Analyzing such data allows assessment of the level of vulnerability of the general population, especially those in disadvantaged communities within the study area. This analysis also provides insights on where changes should happen in terms of the allocation of new and improved recreation resources.

A fourth type of data included various **physical and social survey data** collected by The San Diego River Park Foundation (TSDRPF) and other organizations and agencies in the region. For example, the team contacted the City of El Cajon's Department of Recreation to obtain data on city parks and their amenities. Access to data from the trash survey conducted by The San Diego River Park Foundation (TSDRPF), and the homeless population survey conducted by the San Diego Regional Task Force on the Homeless (RTFH), allowed the project team to map the spatial distribution of these phenomena and their impact on recreation activities.

In summary, data mining allowed the project team to quickly and efficiently collect valuable data or information from reliable sources to support the analysis, planning, public engagement, and decision-making processes of the project. It is a time-efficient and cost-effective way to take advantage of publicly available data in the big data age and foster collaboration among data users and data providers to support better decision-making.

3.2/Geodesign

Since 2010, when the first Geodesign Summit was held in Redlands, California, the term geodesign has been widely used to describe decision-making processes that are fully informed by disciplinary knowledge of the natural and human systems of a place. These disciplines include, but are not limited to, architecture, landscape architecture, and urban/regional planning, all of which often take advantage of geographic data and information to inform decision-making through geodesign. According to Jack Dangermond (2011), "geodesign brings geographic analysis into the design process, where initial design sketches are instantly vetted for suitability against a myriad of database layers describing a variety of physical and social factors for the spatial context of the project." The history of contemporary geodesign practice dates back to the 1960s when Ian McHarg, renowned landscape architect, developed a sophisticated approach to create overlay maps for land suitability analysis (McHarg, 1969). Today, rational digital overlay techniques are widely adopted as standard geodesign practice to evaluate change proposals in landscape planning and design. The merging of geographic principles and physical design creates opportunities for designers to achieve a variety of social and environmental goals through geospatial analysis.

While geodesign does not have to be computer-based, as indicated by Carl Steinitz (2012), contemporary geodesign does embrace modern computer-based geospatial technologies. In the big data era, Geographic Information Systems (GIS) brings both comprehensiveness and efficiency to the analysis of information: it gathers, manages, and analyzes geospatial data. It can integrate different types of information to link *geospatial location* (where things are) with *descriptive information* (what things are). GIS also provides analysis tools to interpret raw data to reveal meaningful patterns and develop new knowledge. Contemporary GIS-based geodesign practice increasingly plays a critical role in planning and design professions and practices, increasingly changing the way space and places are planned and designed. Since its inception, geodesign strategies have been utilized for: trail planning, park availability and accessibility analysis, planning and design scenario development, habitat protection against encroaching development, land use change monitoring over time, and addressing habitat fragmentation (among others) (Hanna, 1999; McElvaney, 2012).

In this project, through a geodesign component as part of the integrated design process, the 606 Studio utilized GIS as the primary tool for analyzing and integrating data about the study area's physical environment and demographic characteristics (Table 3.02). This analysis was used to identify and locate existing and potential locations for recreational opportunities. The resulting maps were the baseline tool for participatory design with the local community and project stakeholders. Through the geodesign process (Goodchild, 2010; Li & Milburn, 2016), the team collected detailed information about

Figure 3.01 Students surveying Forester Creek System and surrounding communities

the creeks and their nearby landscape and superimposed data layers relevant to recreation decision-making to reveal patterns to the project participants during the participatory design stage of the project. This was particularly important as the Forester Creek System is difficult to access, the majority of participants were not aware of its existence, and information needed to be provided to them before they could provide insights or input.

Guided by the above geodesign principles and equipped with the latest GIS software platform (ESRI ArcGIS 10.6.1), the 606 Studio used GIS mapping in the inventory and analysis process to understand the biophysical and socioeconomic conditions of the City of El Cajon and the study area, and compare them to those of San Diego County, which was used as a baseline. GIS was utilized to process, map, analyze, and visualize data that was collected from various sources, including The San Diego River Park Foundation, the City of El Cajon, San Diego Geographic Information Source, the Office of Environmental Health Hazard Assessment (OEHHA), the State of California, the U.S. Fish and Wildlife Service, the U.S. Census Bureau, the U.S. Environmental Protection Agency, and other public sources.

The 606 Studio followed an issue-driven approach to analysis that focused on community-specific topics related to recreation planning. Environmental analysis centered on hydrology and water quality, air quality, open space opportunities, and habitat conditions (Table 3.02). Socioeconomic analysis focused on factors likely to impact recreation preference or environmental education, such as sex, ethnicity, language, income, and level of educational attainment. Each of the major issues was addressed by a group of research questions as listed in Table 3.02. Data from different sources was used to address each research question. More information about the geodesign process and modeling can be found in Chapter 5.

Finally, both parcel-based and corridor-based suitability analyses were conducted to identify the most suitable land use zones/sites and transit/circulation corridors. This analysis was used to identify opportunities for future recreation facilities based on a comprehensive evaluation system (see Chapter 5 for more details). A parcel-based analysis was used as a proxy for an assessment of general landscape areas, as the analysis required information on specific landscape characteristics. However, the project assumes that implementation will occur on an opportunity basis, and that parks will be located in the general zones rather than on the specific parcels identified. The Final Plan (Chapter 7) targets the most suitable zones for future park development based on the parcel level analysis.

3.3/Field Work

Field work or "field surveys" and observation is used to investigate the existing conditions and potential opportunities of a site or neighborhood. Field surveys provide first-hand site-scale information which literature and GIS databases do not include. Information on the experience of a landscape, such as visual character and perceived safety, is rarely found in digital form. Field work can also be used to fill gaps and resolve uncertainties in available information.

Field surveys involve repeated cycles of preparation, on-site field work, and field work reporting and debriefing. Cumulatively, field work is intended to generate a deep, experiential understanding of the place and the people. Field work helps researchers understand the information they hear from community members and stakeholders in workshops, meetings, and surveys, and places that information in its physical context.

Field work debriefs are used to confirm the course of the project: to answer the question, "does what we are doing, what we are focusing on, ring true on the ground, in the community?" Asking and answering this question repeatedly is critical for the success of a project seeking to serve a community.

On field work days, the 606 Studio worked as a team and in pairs to collect study area and community data, document the condition and character of the creeks and surrounding land, and identify opportunity sites (Figure 3.01). The team used field work to develop a better understanding of stream characteristics such as width, cross section, and floodplain conditions, and the creeks' relationships with surrounding land such as distance from top of bank to first fence, visibility to and from the creeks, and adjacent vacant property (Figure 3.02). Field work was also used to study street conditions and pedestrian amenities. The teams documented their observations using photography, informal and structured note-taking, and Global Positioning System (GPS) devices (Figure 3.03). The geodesign analysis was also presented to the Community Committee, which included local subject matter experts who provided additional verification of creek conditions (see Chapter 6 for additional details).

The project field work occurred on three day-long visits plus a weekend for photographing key aspects of the creek system and ground-truthing elements of the final plan (Table 3.03).

On August 31, 2018, the team bicycled the entire length of Forester Creek in the study area and visited the most accessible points on each of the three tributaries. The team stopped to observe and document approximately 30 sites during the tour.

For the August 31, 2018 cycling tour, the team gathered at the accessible location closest to where Forester Creek enters the City of El Cajon. The team then cycled and walked the

Figure 3.02 Geographically ordered photographic survey of County Ditch

length of the creeks in the City of El Cajon, staying as close to the waterway as possible without trespassing. When a creek was located behind private property, the team sought out viewpoints to investigate reaches that were not immediately accessible. Each time the condition, form, or character of a creek changed or a creek intersected with a road, path, vacant lot, or activity node, the team stopped to investigate. Investigation included taking photographs of the creeks' interfaces and surroundings; informally interviewing residents; and, noting defining characteristics in sketches and writing. At the end of each stop, the team discussed the planning and design implications of what they had observed.

On September 21 & 28, 2018, the team returned to visit targeted locations on each of the four waterways. To target sites, the team used Google Earth to identify locations that met one or more of the following criteria:

1) Presence of a change in material, character, or form of creek channel from neighboring segments;

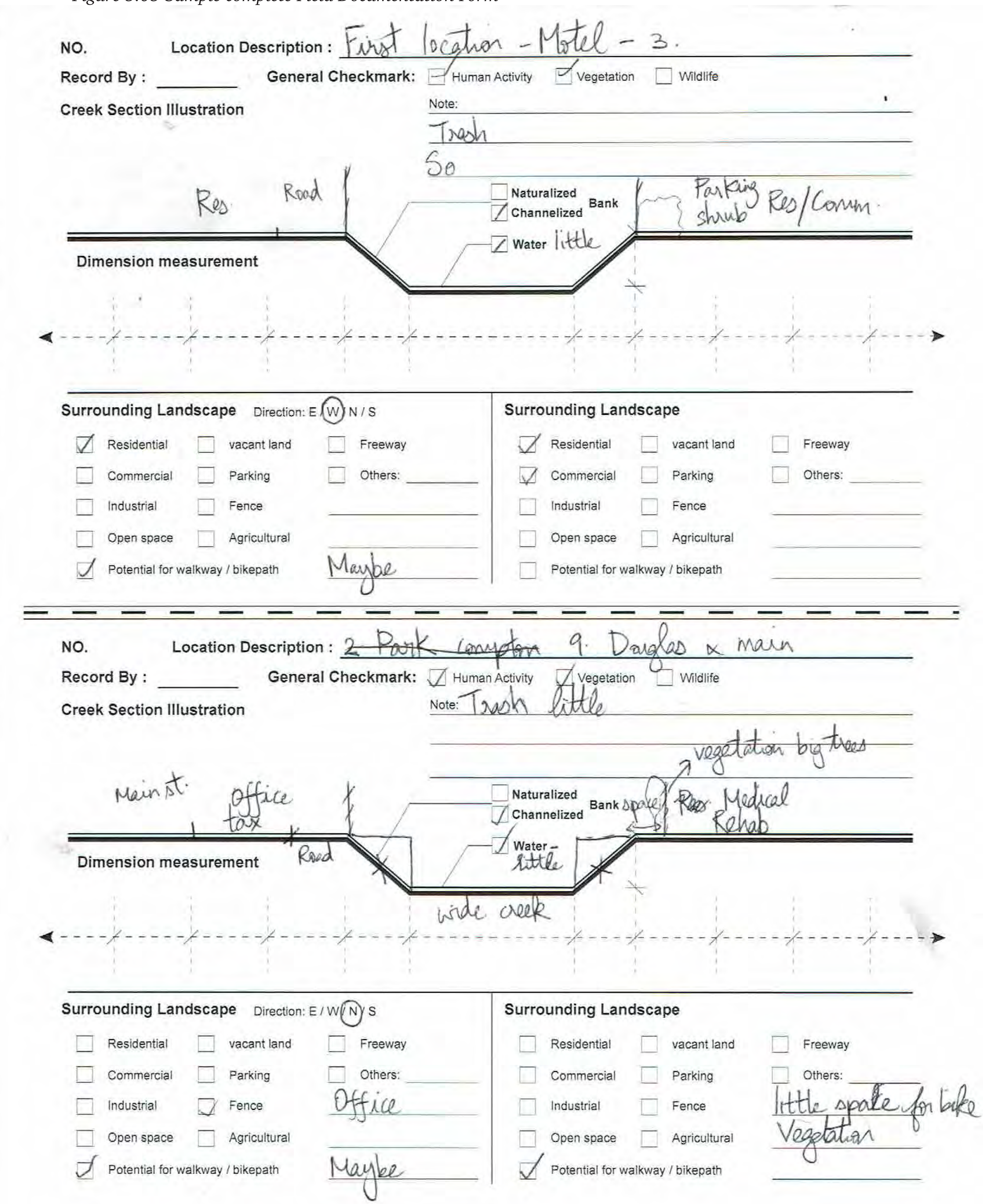
2) Presence of a change in the width or accessibility of land along the bank from neighboring segments;

3) Intersection with vacant parcels; and/or,

4) Intersection with recreation facilities or other activity nodes such as civic buildings, schools, or malls.

On September 21, 2018 the team visited an additional 30 targeted locations. On September 28, 2018 the team visited 27 locations. For this field work, the team divided into pairs and drove and walked to sites that had been previously targeted as explained above. At each location, team members took photographs, informally interviewed residents when they were present, and noted defining characteristics. They used the *Field Documentation Form* (Figure 3.03) to

Figure 3.03 Sample complete Field Documentation Form



NO. **Location Description :** First location - Motel - 3.

Record By : ________ **General Checkmark:** ☑ Human Activity ☑ Vegetation ☐ Wildlife

Creek Section Illustration

Note:
Trash
So

Res Road ☐ Naturalized ☑ Channelized Bank Parking shrub Res/Comm.

☑ Water little

Dimension measurement

Surrounding Landscape Direction: E / W / N / S

☑ Residential ☐ vacant land ☐ Freeway
☐ Commercial ☐ Parking ☐ Others: ________
☐ Industrial ☐ Fence
☐ Open space ☐ Agricultural
☑ Potential for walkway / bikepath Maybe

Surrounding Landscape

☑ Residential ☐ vacant land ☐ Freeway
☑ Commercial ☐ Parking ☐ Others: ________
☐ Industrial ☐ Fence
☐ Open space ☐ Agricultural
☐ Potential for walkway / bikepath

NO. **Location Description :** ~~2 Park compton~~ 9. Douglas x main

Record By : ________ **General Checkmark:** ☑ Human Activity ☑ Vegetation ☐ Wildlife

Creek Section Illustration

Note: Trash little
vegetation big trees

Main st. Office tax Road ☐ Naturalized ☑ Channelized Bank space Res Medical Rehab

☑ Water – little

Dimension measurement

wide creek

Surrounding Landscape Direction: E / W / N / S

☐ Residential ☐ vacant land ☐ Freeway
☐ Commercial ☐ Parking ☐ Others: ________
☐ Industrial ☑ Fence Office
☐ Open space ☐ Agricultural
☑ Potential for walkway / bikepath Maybe

Surrounding Landscape

☐ Residential ☐ vacant land ☐ Freeway
☐ Commercial ☐ Parking ☐ Others: ________
☐ Industrial ☐ Fence little space for bike
☐ Open space ☐ Agricultural Vegetation
☑ Potential for walkway / bikepath

Table 3.03 Field trip dates and tasks

	Date	Objective	Tasks
1	August 31, 2018	Become familiar with the Forester Creek System	1/Cycle ride along the Forester Creek System 2/Photograph the creek and its corridor 3/Identify important creek characteristics 4/Identify the reaches of the creek
2	September 21, 2018	Survey and photograph the existing condition of the Forester Creek System	1/Identify and photograph potential sites for recreation 2/Measure creek dimensions 3/Document and photograph conditions (surrounding land use, creek bank, vegetation, etc.) of the creek and surroundings
3	September 28, 2018	Survey and photograph the existing condition of the Forester Creek System	1/Identify and photograph potential sites for recreation 2/Measure creek dimensions 3/Document and photograph conditions (surrounding land use, creek bank, vegetation, etc.) of the creek and surroundings
4	November 13, 2018	Helicopter aerial survey	1/Photograph creek condition and land uses surrounding the Forester Creek System
5	March 29, 2019	Supplement photographs of the existing condition of the Forester Creek System	1/Photograph conditions (surrounding land use, creek bank, vegetation, etc.) of the creek and surroundings
6	March 30, 2019	Survey potential "mini-project" sites	1/Develop criteria for potential mini-project sites 2/Locate the potential mini-project sites 3/Ground-truth potential mini-project sites 4/Photograph the existing condition of potential mini-project sites

collect specific information about the creek at each location, including: the width, character and material of the channel; the amount of land between the top of bank and the first fence; and, the adjacent land use. The teams also noted the relative potential for recreational uses such as trails, cycling facilities and parks on the *Field Documentation Form*. Such field documentation forms are used to ensure consistent and complete information is collected at multiple sites in the field in real time. This approach produces more accurate and complete information than informal field note-taking.

On March 29 & 30, 2019, the team re-visited 35 locations on all four waterways and surveyed 40 potential sites for projects in the areas surrounding the creeks. The team ground-truthed the project proposals identified through geodesign and participatory design. The team also collected photographs of locations and elements that were necessary to explain or illustrate key points, or describe specific locations.

Working in two groups, the team documented over 50 locations from the headwaters of the Forester Creek System to the point where the creek exits the City of El Cajon at the city boundary. In addition to providing photographic documentation of different areas for the analysis and plan, this second survey was an opportunity to confirm past field observations and supplement study area documentation. On March 30, 2019 the team also performed a finer grain, walking survey of a targeted section of the study area to identify opportunities for short-term, low-cost projects. The team visited, evaluated, and documented over 40 sites along Main Street as it crosses County Ditch and Washington Channel.

The cumulative information from the four site visits was organized in four forms:

- Geographically ordered photographic survey of each waterway (Figure 3.02);
- Geographically ordered *Field Documentation Forms* for each targeted site visited (Figure 3.03);
- Written reports of observations from the field and analysis from debriefs of each trip; and,
- A map of a sample area locating verified potential sites for short-term, low-cost (mini-park) projects (Figure 8.04).

3.4/Questionnaires

Questionnaires have long been the chosen data collection technique of marketing researchers, government organizations, consumer analysts, academics, sociologists, and public opinion surveyors. The technique can quickly and cost effectively provide information on peoples' beliefs, ideas, feelings, plans, preferences, behavior, attitudes, opinions, motives, attributes, expectations, as well as social, educational and financial background (Alreck & Settle, 1995; Babbie, 1973; Dillman, 1978; Fink & Kosecoff, 1985; Hyman, 1960; Saroff & Levitan, 1969). As noted by Fink and Kosecoff (1985), questionnaires are the most appropriate method when information "should come directly from people" (Fink & Kosecoff, 1985, p. 13).

Surveys can take several forms: in-person or on the phone with individuals (generally termed "interviews") or groups (sometimes termed "kitchen table meetings"), by mail (generally termed "mail questionnaires"), or on-line, often using interfaces such as Survey Monkey.

Questionnaires, whether administered on-line or via mail, are an extremely versatile technique of data collection. It is the best method available for collecting information on a group too large to observe directly (Babbie, 1995). Sampling procedures provide a small group of respondents who are representative of the population, and carefully constructed questions provide consistent and reliable data. Ideally, questionnaires are done in conjunction with other research methods such as focus groups or participant observation (Babbie, 1973). Adding in-person interactions provides sufficient detail to answer complex and involved questions, questions which need lengthy explanations, or questions which require additional probing in order to access information that is difficult to express or is subconscious (Moser, 1969).

The information and insights collected through participatory design processes can be supplemented by questionnaires completed by a broader number of community members (American River, 2015). Questionnaires are often used in the process of developing a recreation access plan in order to collect information from people unable to participate in the Community Committee meetings (Greenways, Inc. & US Army Corps of Engineers, 2017; City of Steamboat Springs, 2018).

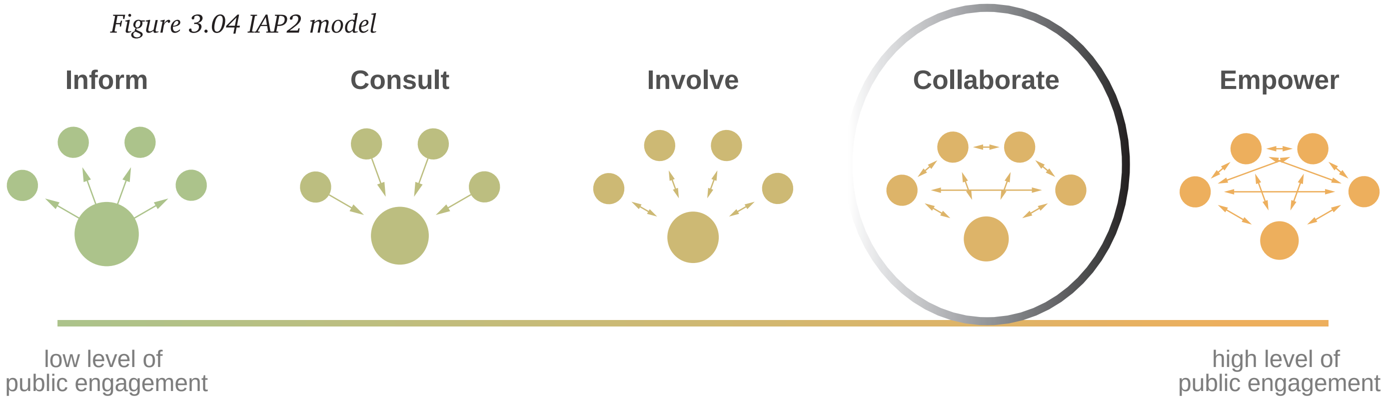
3.4.1/The San Diego River Park Foundation Forester Creek Questionnaire

The *Forester Creek System Recreation Access Plan* participatory process included the administration of a questionnaire by The San Diego River Park Foundation (the "Forester Creek Questionnaire" in Appendix D). Questions were designed to collect additional information on:

- Interest in outdoor activities;
- Environmental education, awareness, and concern;
- Recreational facility needs; and,
- Perceptions and concerns about recreation spaces.

The questionnaire was delivered at Community Committee meetings, community events, local gathering places (e.g., libraries and parks), and college classes. Additionally, surveys were distributed digitally through community mailing lists and social media. People were approached by TSDRPF at various venues and encouraged to complete the questionnaire, but they self-selected to participate. A total of 1064 individuals completed the questionnaire between the dates of October 10, 2018 and February 26, 2019.

Figure 3.04 IAP2 model



The majority were completed in-person, but the questionnaire was also available on-line. The questionnaire was available in four languages: English, Spanish, Arabic, and Farsi (see Appendix D for the questionnaires).

The results are presented in Chapter 6.

3.4.2/Follow-Up Questionnaire

The results of the Community Committee meetings suggested strong interest in walking, hiking, and cycling, especially in natural areas. As a result, the 606 Studio developed a follow-up questionnaire to elicit additional detail on the desire for these types of recreational facilities ("Community Committee meeting 1 Follow-up Questionnaire" in Appendix D). Questions were designed to collect additional information on:

- Interest in utilitarian versus recreational cycling;
- Need for additional cycling, hiking, and walking infrastructure in urban and/or natural areas; and,
- Most popular activities.

Questionnaires were handed out in-person in hard copy at the Community Committee meeting on December 4, 2018 at the Renette Community Center. All participants at the meeting received a copy of the questionnaire (n=15). The questionnaires were only available in English, but all participants present were fluent. Nine participants completed the survey at the meeting and returned the form to the 606 Studio Team before the end of the meeting. Results are presented in Chapter 6.

3.5/Participatory Design Methods

Participatory design is intended to develop positive relationships between designers and the people they serve, with an overall goal of improving the quality of projects (606 Studio, 2016). Even through there are many different frameworks for participatory design, the consensus is that stronger decisions are made when the community is involved in the decision-making process (Sanoff, 2000; Sanoff, 2011). Engaging the community through participatory design includes the people who will ultimately be affected by the design, increasing community confidence in the decision-making process and building support. More confident communities are more positive, leading to higher self-reliance: residents are more likely to fix problems within their community. Participatory design creates a sense of shared capital within the community (Hou & Rios, 2003), in which an open dialogue is created allowing decision makers to anticipate public concerns and attitudes, leading to more realistic expectations.

The International Association for Public Participation (IAP2) defines five levels of public participation: *(1) Inform, (2) Consult, (3) Involve, (4) Collaborate, and (5) Empower* (Figure 3.04). **(1) Inform** and **(2) Consult** simply open a dialogue between the design professional and the public (606 Studio, 2016). Designers provide information to help the public understand the problem, alternative opportunities and/or solutions to projects, and request feedback on design proposals without active community involvement in their development (International Association for Public Participation, n.d.). **(3) Involve** and **(4) Collaborate** (as in this project) include working with the community to facilitate decision-making. **(5) Empower** provides public control over all design decisions.

Figure 3.05 Arnstein's ladder (1969)

There are different levels of public participation in the process of creating a recreation access plan (RAP). In some projects, very detailed guidelines are developed as a result of a more extensive consultation process (Washington State Department of Natural Resources & Washington Department of Fish and Wildlife, 2015), whereas some projects are more the result of expert decision-making (Golden Interagency Technical Committee, 2002).

Arnstein (1969) differentiates between the different levels of participatory design that can be used in the design process (Figure 3.05). At the bottom of the ladder are **Manipulation** and **Therapy**, which are sometimes called participatory design but that tend to involve a one-way communication process in which the community is presented previously determined solutions. The next three levels—**Informing, Consulting, and Placating**—are considered degrees of tokenism or symbolic gestures, rather than genuine community participatory design (Arnstein, 1969). The top levels of the ladder involve meaningful community participation and give power to the citizens. **Partnership** (as in this project), **Delegated Power, and Citizen Control** include the community having a voice in the design process. A partnership with the community allows residents to negotiate and engage in trade offs in order to achieve the outcomes they desire. Delegated Power and Citizen Control are achieved when the community controls most of the decision-making roles (Arnstein, 1969).

Participatory design methods can be used to help community members to identify their preferences and priorities for recreational activities, amenities, and facilities in their neighborhoods. These methods can include community committee meetings, design workshops, charrettes, focus groups, and open houses.

Community committee meetings and focus groups involve a small gathering of people who discuss particular questions related to a project. Exercises are designed to encourage all participants to share their opinions and comments (Schwandt, 2007).

During design workshops and charrettes, design problems are introduced and the public works on completing exercises associated with designing and placing physical elements, often by drawing or placing components on a map (Nick Wates Associates, 2016).

Open houses are used to collect feedback and ideas from a larger number of participants than can be managed in a meeting or group setting. Open houses are often used to inform the community about a project, educate them about the planning and development process, and share ideas (American Rivers, 2015). The results of this project's participatory design process are presented in Chapter 6.

3.6/Implementing Participatory Design in the Study Area

The *Forester Creek System Recreation Access Plan*'s participatory design process was a result of certain project and landscape characteristics. The scale of the project was sufficiently large that it was difficult for many members of the community to conceptualize and visualize the solutions being proposed.

This challenge was complicated by the character of the Forester Creek System: much of the creek

Table 3.04 Summary of participatory design meeting organization and structure

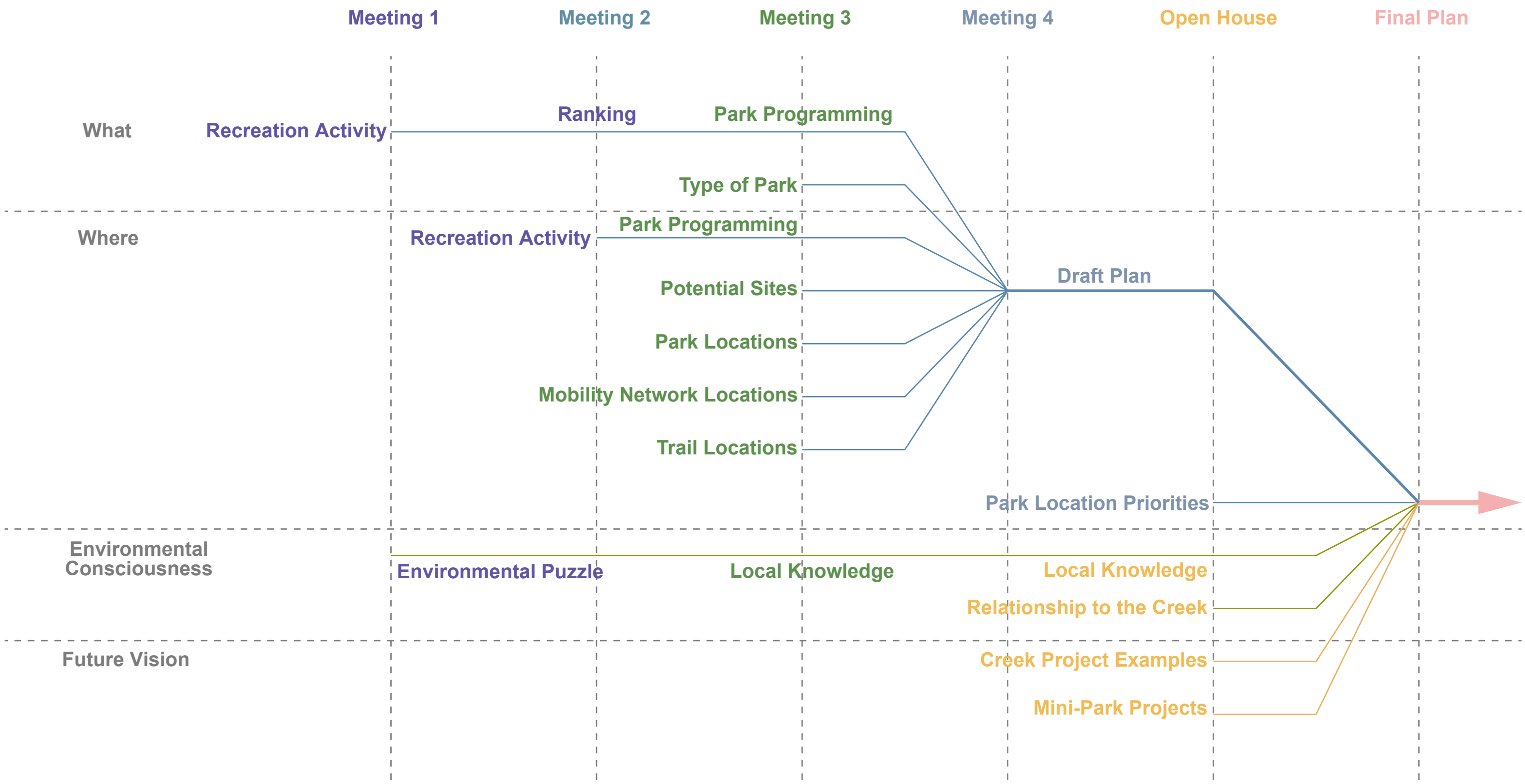
October Community Committee meeting	
Date and time	October 9, 2018, 6:00pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in a circle
Number of participants	20
Role of TSDRPF	Introduction; project scope; update on other projects; role of Community Committee; paperwork; conduct icebreaker (designed by 606 Studio Team)
Primary question	Where is Forester Creek and what does it look like?
Secondary question	What activities would you most like to do along Forester Creek?
Activity 1 tool(s)	Icebreaker – map with photos to be matched to location
Activity 2 tool(s)	Cards with activity photos; index cards to record responses
November Community Committee meeting	
Date and time	November 13, 2018, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up with groups of two in rows
Number of participants	22
Role of TSDRPF	Introduction
Primary question	What outdoor recreational activities do you want to do along Forester Creek?
Secondary question	Where are the best locations for those activities? Why?
Activity 1 tool(s)	Discussion with brainstorm; voting on alternatives
Activity 2 tool(s)	Map; stickers of top 5 activities; post-it notes
December Community Committee meeting	
Date and time	December 4, 2018, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in clusters
Number of participants	15
Role of TSDRPF	Introduction
Primary question	Where should new parks be located in El Cajon and what size should they be?
Secondary question	Where should trails/paths be located in El Cajon and how should they relate to one another?
Activity 1 tool(s)	Map; stick pins; color-coded foam core parks; explanatory forms
Activity 2 tool(s)	Map; sticky string
January Community Committee meeting	
Date and time	January 29, 2019, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in rows facing one side of the room
Number of participants	16

Role of TSDRPF	Introduction
Primary question	What changes should be made to park locations/sizes?
Secondary question	What changes should be made to trails/paths?
Activity 1 tool(s)	Map; markers
Activity 2 tool(s)	Map; markers
February open house/meeting	
Date and time	February 26, 2019, 4:30pm to 7:30pm
Location	Ronald Reagan Community Center, 195 E Douglas Ave, El Cajon, CA 92020 Open house set up with stations
Number of participants	122 plus volunteers and children = ~ 150
Role of TSDRPF	Advertising and recruitment; volunteer coordination and management; room rental and set up; education and interpretation
Primary question	What do you think of the proposed locations and programming for the parks and open spaces?
Secondary question	What do you think of the proposed locations for the trails/paths?
Open house tools	Stations; maps; markers; stickers; photographs; coloring supplies; flip charts; education materials

Table 3.05 Community Committee meeting objectives and participatory activities

OBJECTIVE	**Meeting/participatory activity**				
	#1 – photo ranking	**#2 – activity mapping**	**#3 – park mapping**	**#4 – refining mapping**	**#5 – open house**
1/ Understand the existing public consciousness and impression of the Forester Creek System.	X	X	X	X	X
2/ Build awareness and educate local residents about the potential of the Forester Creek System.	X	X	X	X	X
3/ Collect the public's insights into how the Forester Creek System could serve their communities.	X	X	X	X	X
4/ Identify the public's preference and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System.	X	X		X	X
5/ Identify the public's perception of potential and preferred opportunity areas or zones and need areas or zones.			X	X	X
6/ Identify the public's perception of sites, support facilities and development impacts.			X	X	X

Figure 3.06 Relationship between five Community Committee meetings



and its tributaries are channelized, buried, or inaccessible to community members. The creeks are not visually present in the community: this made a primary task of the project creating awareness of the creeks, their existence, and helping people imagine their potential. This was addressed through exercises involving maps and photographs of the creeks, and showing images of other channelized creeks that had been significantly changed to accommodate recreational uses. The community questionnaire also endeavored to increase awareness of the creeks and their functions.

Finally, the project had a short timeline. The participatory process needed to be completed within six months, which limited the amount of public involvement (Figure 3.06). As a result, the 606 Studio selected the "Partnership" approach from Arnstein's ladder for this project (Figure 3.05). This approach involves shared planning and decision-making between community members and facilitators. On the IAP2 model, the project is at the "Collaborate" level (Figure 3.04).

The community outreach for the *Forester Creek System Recreation Access Plan* was a collaboration between The San Diego River Park Foundation and the 606 Studio from California State Polytechnic University, Pomona (Cal Poly Pomona), that engaged stakeholders in making decisions to prioritize recreation opportunities sites and activities. TSDRPF and 606 Studio's specific roles in the community outreach process can be found in Chapter 1. The community outreach framework included a questionnaire provided by TSDRPF and a five-meeting (including one open house) process in which the 606 Studio prepared and facilitated activities during Community Committee meetings (Table 3.04 & 3.05; Figure 3.06). Collaborating with faculty advisors, the 606 Studio developed exercises, created materials, and led the Community Committee meetings. The 606 Studio also provided materials and helped TSDRPF with the open house.

The goals and challenges associated with developing a recreation access plan for the Forester Creek System are similar to those faced by other planning projects in other locations. The five primary objectives of the participatory design process were:

1. Understand the existing public consciousness and impression of the Forester Creek System;

2. Build awareness and educate local residents about the potential of the Forester Creek System;

3. Collect the public's insights into how the Forester Creek System can serve their communities;

4. Identify the public's preferences and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System; and,

5. Identify the public's perception of potential and preferred opportunity areas and locate need areas.

Objectives #3 and 4 required "what" and "where" questions. The committee discussed the rationale behind their recommendations to establish criteria to evaluate new or supplemental information outside the scope of the participatory process during the analysis process. "What" questions included:

- What outdoor recreational activities would residents participate in if facilities were available?

- What outdoor recreational facilities and amenities are needed to support desired activities?

"Where" questions involve the issues of spatial distribution, connection, and accessibility. They can be directed at existing or future conditions. Where questions included:

- Where are existing outdoor recreational facilities?

- Where should facilities to support outdoor recreation be located?

The 606 Studio designed the participatory process to ensure that every question was introduced at one meeting and further explored at a subsequent meeting. This allowed participants to reflect on questions and discuss them with family, friends, and neighbors.

Figure 3.07 Stakeholders at Community Committee meeting

Answers were integrated with GIS data and field work analysis to identify new information, issues, or opportunities.

Two different community groups participated in the participatory design process: 1) a Community Committee representing different areas of expertise, community demographics, or special interests as identified by The San Diego River Park Foundation (meetings 1 to 4), and 2) a broader self-sample of the larger community responding to a general invitation to an open house (meeting 5).

Community Committee members were recruited to include perspectives on the following issues/special interests:

- Recreation
- Stormwater
- Transportation
- Health and human services
- Urban planning
- Business and community development
- Homeless population
- Education at both the district and school level
- Environment
- Science/research
- History
- Waste management
- Newcomers and the refugee community
- Parents/families
- Students at both the K-12 and college levels
- City residents
- Religious organizations
- Community organizations
- Service organizations
- Racial/ethnic minority groups
- Park advocates
- City of El Cajon and San Diego County

Individuals were identified and then asked to consider participating by a team member in-person, over the phone or via email. Individuals attended meeting one and were presented with information about the expected volunteer commitment and asked to officially "sign up" by filling out a form. Details of the organization and structure of each meeting are provided in Table 3.04.

The open house was strategically designed to be accessible to a wide range of local residents and stakeholders in the community. Recruitment was completed in multiple languages, using the following techniques:

- Geographically targeted mailers/direct mail
- Sharing in social networks/community groups
- Email
- Local paper advertising/media coverage
- Press release
- Social media
- TSDRPF website
- Fliers
- Targeted recruitment of members of specific stakeholder groups
- Stakeholder networking
- City Council members

Chapter 3 Summary

Developing this plan required using a broad range of tools and approaches to data collection and analysis:

- Data mining and GIS/geodesign spatial analysis were used to build a biophysical and sociocultural inventory and provide preliminary plan proposals.
- Participatory design and survey research were used to identify the community's preferences and priorities.
- Field work was used to observe physical and social conditions first-hand and ground-truth results.

Data mining included:

- Collecting geospatial biophysical data about the study area, including information about the hydrological system, habitat and plant communities, parks and other recreational resources, plus sociocultural information about demographics, health, traffic, and public safety (among others).

GIS/geodesign included:

- Analyzing all the mined data to identify and prioritize where to propose new parks and open space based on factors including the location of existing parks and schools, the density and demographics of the population, need and park poverty, and accessibility for pedestrians and cyclists.

Participatory design included:

- Small and large public events where residents and stakeholders answered the questions: "What recreational activities are we interested in?"; "What recreation facilities do we need?"; and, "Which neighborhoods need what kind of parks and recreation space?".

Survey/questionnaire research included:

- A city-wide questionnaire which gathered input and ideas from residents and stakeholders who could not attend the public meetings.

Field work included:

- Cycling and walking the entire length of each creek in the system and visiting targeted locations to assess existing conditions, the potential for recreational access, and the viability of developing new parks and open spaces.

Sample images of the Forester Creek System

CHAPTER 4. BIOPHYSICAL AND SOCIOCULTURAL INVENTORY

Biophysical and sociocultural inventories provide the physical data foundation on which geodesign and participatory design processes are built (Figure 4.02). Questions were designed specifically to address the tasks associated with the scope of work for the project. The project required the identification of environmental, social, and cultural characteristics that support recreation activities and potential recreation opportunity locations (Chapter 4). The community-based process (Chapter 6) combined with a suitability analysis (Chapter 5 and 7) helped prioritize recreation opportunities that would benefit the local community. The questions answered by the inventory included those listed in Table 4.01.

Necessary information (Table 4.01) for the research documented in this chapter included:

- Inventory and mapping of existing study area conditions such as hydrology, topography, and vegetation (section 4.1);
- Demographic information about residents in the study area, including age, education, and income (section 4.2);
- Analysis of land use, recreational facilities, and public transportation (section 4.3);
- Identification and location of social and cultural resources along the length of Forester Creek and its tributaries and of adjacent land within ¼ mile of the creeks, as well as in surrounding areas (section 4.3);
- Demographic information about potential current and future recreation users (section 4.4);
- Projected population changes (section 4.4);
- Anticipated changes in recreation, sports and leisure patterns and trends (section 2.2 and 4.4); and,
- Environmental risk factors such as pollution (section 4.5).

Table 4.01 Inventory task list

BIOPHYSICAL CONDITIONS OF THE STUDY AREA	
1	What are the existing natural resources in the study area?
2	What is the current condition of the Forester Creek System?
3	What are other biophysical considerations in the study area that could influence or impact current or future recreational resources, activities, and facilities?
DEMOGRAPHICS OF THE CITY OF EL CAJON	
4	What is the current demographic profile of El Cajon?
EXISTING OUTDOOR RECREATIONAL RESOURCES, ACTIVITIES, AND FACILITIES	
5	What outdoor recreational activities do the residents of the study area participate in?
6	Where are existing outdoor recreational facilities, including parks, open spaces, trails, paths, and bike lanes in the study area?
7	Where are key transportation nodes and corridors that are linked by trails, paths, or bike lanes in the study area?
8	Where are popular destinations in the study area?
9	Where are historic or cultural resources that can be an asset for parks or open space in the study area?
POTENTIAL OUTDOOR RECREATIONAL RESOURCES, ACTIVITIES, AND FACILITIES	
10	What is the projected future demographic profile of the City of El Cajon?
11	What are key physical or policy changes expected in the study area in the next 30 years?
12	Where are key transportation nodes and corridors that could be linked by trails, paths, or bike lanes to encourage active transportation in the study area?
13	Where are likely destinations that could be linked by trails, paths, or bike lanes to encourage active transportation in the study area?
14	What aspects of the study area's cultural or natural history could be used as part of educational or interpretive tools in parks and open spaces?
ISSUES MITIGATED BY OUTDOOR RECREATIONAL RESOURCES	
15	Where are there health issues in the study area that can be mitigated by the creation of parks or open space?

Figure 4.01 Land uses adjacent to Broadway Channel

Figure 4.02 Relationship between data collection and decision-making tools: inventory

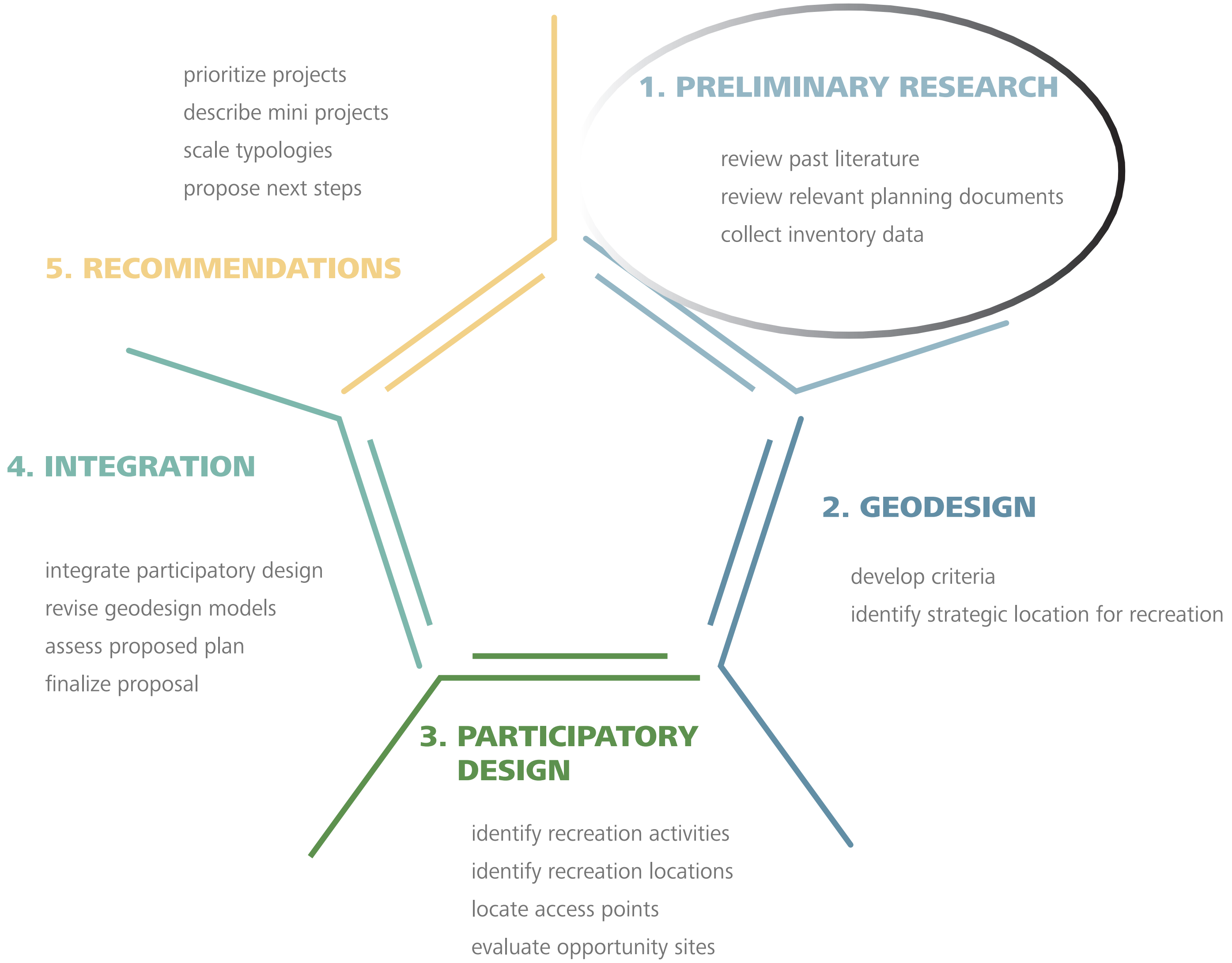


Figure 4.03 Acanthomintha ilicifolia (San Diego thornmint)

4.1/Biophysical Conditions of the Study Area

The City of El Cajon is almost completely developed. Until you reach the edges of the City, there is little to no land that retains its pre-development natural character—even the few vacant lots show signs of being graded and scrubbed after previous development was demolished.

The natural resources that most effect the human experience of the study area are the granite hills that bring the city its name. El Cajon, “the box” in Spanish, is surrounded by dramatic granite hills on four sides. These hills are a constant presence in the landscape, close and large enough to be visible even with the smog that obscures the topography in other (larger) Southern California basins. The boulder-covered hills interrupt the pattern of development to create an unexpected presence of “nature” in the suburbs. In contrast, the four waterways that run through the City are almost entirely invisible.

4.1.1/Natural Resources in the Study Area

While currently the distant hills are the study area’s defining natural resource, the valley and its four creeks were once verdant homes to hundreds of species of native plants and animals (Table 4.02). Table 4.02 lists the plant communities and associated wildlife that historically existed in the study area. As Table 4.03 shows, many of the species listed exist at the outskirts of town, in parks, school yards, and backyards, and along the creeks, even though they run through concrete channels. The tenacity of these plants and animals suggests that it would be possible to restore some of the study area’s habitat and increase residents’ access to nature with even modest projects. These projects could include native plant gardens designed to attract native insects and birds, or seating areas with views of portions of the creeks already used by a diversity of creatures. Table 4.04 details the hundreds of species that historically called the Forester Creek System home. The tables are color coded as follows:

- **Currently present native species are shown in black, unless they have a conservation status of threatened (critically endangered, endangered, or vulnerable), in which case they are shown in red;**
- **Introduced species are show in blue.**

There is a wide array of native plants that would flourish in public recreation landscapes in the study area. The animals that can be practically served and engaged in such landscapes are more limited: predominately birds and insects. The appropriate native flora and fauna for any project should be carefully considered in the context of the site’s conditions and the intended use and users.

Restoring the Forester Creek System habitat and plant communities through recreation access projects can benefit multiple species including endangered species such as Least Bell’s vireo (*Vireo bellii pusillus*), California gnatcatcher (*Polioptila californica*), San Diego thornmint (*Acanthomintha ilicifolia*) (Figure 4.03), Quino checkerspot butterfly (*Euphydryas editha quino*), and San Diego ambrosia (*Ambrosia pumila*).

Restored or new habitat areas can also provide ecosystem services including increasing water filtration and infiltration, removing pollutants from air and water, moderating urban heat island effect, and providing space for recreation and physical activity. These areas introduce opportunities for wildlife viewing, birdwatching, hiking, etc.

While the study area has limited natural open space and tree cover, many resilient animals have persisted. A 2010 study found the City of El Cajon to have “poor” tree cover (Nowak & Greenfield, 2010). Another study listed it as 65% impervious surfaces and only 11% tree canopy (American Forests, 2013). Many animals have adapted to not only surviving, but thriving, in urban environments, including the common rock pigeon (*Columba livia*), coyote (*Canis latrans)*, raccoon (*Procyon lotor)*, house sparrow (*Passer domesticus)*, and Virginia opossum (*Didelphis virginiana)* (see Figure 4.04 to 4.11).

According to naturalist Hector Valtierra, “many species found within [the City of] El Cajon (Table 4.03), but not seen in Forester Creek, actually do migrate through or even reside within Forester Creek” (Table 4.04).

Table 4.02 Vegetation communities and associated wildlife historically native to the study area

Community	Types	Description	Predominant Plants	Associated Wildlife
Coastal sage scrub	Diegan coastal sage scrub	Fragrant, drought deciduous low growing scrub community; alluvial soils at low elevations	California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), sages (*Salvia spp.*), monkey flowers (*Diplacus spp.*)	Birds are predominantly diurnal (day time) species; insects, reptiles and small nocturnal mammals are numerous; predators such as mountain lions, bobcats, grey foxes, coyotes, hawks and eagles hunt in these areas
Chaparral	Southern maritime chaparral; northern mixed chaparral; chamise chaparral	Tall, often impenetrable; evergreen scrub community; adapted to long, dry summers; dry south-facing hillsides	Laurel sumac (*Malosma laurina*), sugarbush (*Rhus ovata*), lemonadeberry (*Rhus integrifolia*), chamise (*Adenostoma fasciculatum*)	Birds are predominantly diurnal (day time) species; insects, reptiles and small nocturnal mammals are numerous; predators such as mountain lions, bobcats, grey foxes, coyotes, hawks and eagles hunt in these areas
Oak woodland	Dense coast live oak woodland; mixed oak woodland	Evergreen, broad-leaf trees with scrub and grassland understory; deep soils in canyons and north-facing hillsides	Coast live oak (*Quercus agrifolia*), poison oak (*Toxicodendron diversiloba*), toyon (*Heteromeles arbutifolia*), fuchsia-flowering gooseberry (*Ribes speciosum*)	Small mammals and birds that eat acorns, salamanders, reptiles, snakes and many birds are abundant, predators such as mountain lions, bobcats, grey foxes and coyotes
Riparian	Southern riparian scrub; Southern riparian woodland; Southern coastal live oak riparian woodland; Southern cottonwood-willow riparian forest	Winter-deciduous, dense, water-loving shrubs and trees; Southern California's fall color; along watercourses	Cottonwoods (*Populus fremontii*), Western sycamores (*Platanus racemose*), Willows (*Salix spp.*), White alders (*Alnus rhombifolia*), Mulefat (*Baccharis salicifolia*)	Many insects; amphibians and birds inhabit riparian communities; riparian birds such as Least Bell's vireo and Southwestern willow flycatcher are endangered due to habitat loss; many other birds and mammals
Aquatic	Coastal valley freshwater marsh; disturbed wetland	In fresh water or along edges	Cattail (*Typha latifolia*), California bulrush (*Scirpus californicus*)	Aquatic resources draw a diversity of migratory and resident bird species, some that are rare or endangered. Also fish, crustaceans, insects, amphibians

Limitations on iNaturalist data (systemic)

iNaturalist.org data is sourced from community photographs and the data quality relies on distance and lighting of the subject. Identifiers attempt to narrow species down to the most sensible taxa that can be allowed, ideally the genus and specific epithet level or species. Under-represented species may not be seen in iNaturalist. For example, many animals are nocturnal, such as bats and moths.

Table 4.03 City of El Cajon species (Valtierra, 2019; iNaturalist, 2019)

LATIN NAME	COMMON NAME
PLANT SPECIES	
Kalanchoe daigremontiana	Alligator plant
Aloe spp.	Aloes
Fraxinus spp.	Ashes
Asparagaceae spp.	Asparagus family
Cotula australis	Australian waterbuttons
Lupinus concinnus	Bajada lupine
Bambusoideae	Bamboos
Hordeum spp.	Barley and allies
Laurus nobilis	Bay laurel
Oxalis pes-caprae	Bermuda buttercup
Arctostaphylos glauca	Big berry manzanita
Convolvulaceae spp.	Bindweed family
Strelitzia reginae	Bird-of-paradise flower
Brassica nigra	Black mustard
Salvia mellifera	Black sage
Salix nigra	Black willow
Dichelostemma capitatum	Blue dicks
Sambucus cerulea	Blue elder
Bougainvillea spp.	Bougainvilleas
Schinus terebinthifolia	Brazilian pepper
Helminthotheca echioides	Bristly oxtongue
Medicago polymorpha	Bur clover
Malacothamnus spp.	Bush mallow
Cactaceae spp.	Cactuses
Encelia californica	California brittlebush
Eriogonum fasciculatum	California buckwheat
Pseudognaphalium californicum	California cudweed
Paeonia californica	California peony
Eschscholzia californica	California poppy
Eulobus californicus	California primrose
Artemisia californica	California sagebrush
Quercus berberidifolia	California scrub oak
Cirsium occidentale californicum	California thistle
Pyrus calleryana	Callery pear
Camellia spp.	Camellias
Tecomaria capensis	Cape honeysuckle
Asparagus asparagoides	Cape smilax
Anacardioideae spp.	Cashews, sumacs, and allies
Prunus ilicifolia lyonii	Catalina cherry
Leucophyllum frutescens	Cenizo
Agave spp.	Century plants
Adenostoma fasciculatum	Chamise
Opuntia oricola	Chaparral prickly pear
Ceanothus leucodermis	Chaparral whitethorn
Hesperoyucca whipplei	Chaparral yucca
Sidalcea spp.	Checkerblooms
Marah macrocarpa	Chilicothe
Hibiscus rosa-sinensis	Chinese hibiscus
Miscanthus sinensis	Chinese silver grass
Cylindropuntia spp.	Chollas
Citrus spp.	Citruses
Salvia clevelandii	Cleveland sage
Echinocactus spp.	Clustered barrel cacti
Quercus agrifolia	Coast live oak
Opuntia littoralis	Coastal prickly pear
Lupinus truncatus	Collared annual lupine
Amsinckia menziesii	Common fiddleneck
Hedera helix	Common ivy
Lantana camara	Common lantana
Nerium oleander	Common oleander
Sonchus oleraceus	Common sow-thistle
Malephora crocea	Coppery mesemb

Erythrina spp.	Coral trees
Pseudognaphalium stramineum	Cottonbatting plant
Romneya coulteri	Coulter’s matilija poppy
Baccharis pilularis	Coyote brush
Oxalis corniculata	Creeping woodsorrel
Melaleuca citrina	Crimson bottlebrush
Rumex crispus	Curled dock
Muhlenbergia rigens	Deergrass
Acmispon glaber	Deerweed
Baccharis sarothroides	Desert broom
Plantago erecta	Dot-seed plantain
Urtica urens	Dwarf nettle
Sisymbrium orientale	Eastern rocket
Rubus fruticosus	European bramble complex
Stylocline gnaphaloides	Everlasting neststraw
Pterostegia drymarioides	Fairy mist
Heterotheca spp.	False golden asters
Pseudognaphalium microcephalum	Feltleaf everlasting
Amsinckia spp.	Fiddlenecks
Euphorbia tirucalli	Fire stick
Dietes spp.	Fortnight lilies
Dietes grandiflora	Fortnight lily
Pennisetum setaceum	Fountain grass
Bromus rubens	Foxtail brome
Plumeria spp.	Frangipani trees
Freesia spp.	Freesias
Linanthus dianthiflorus	Fringed linanthus
Glebionis coronaria	Garland daisy
Passiflora quadrangularis	Giant granadilla
Eriophyllum confertiflorum	Golden yarrow
Lamarckia aurea	Goldentop grass
Poaceae spp.	Grasses
Bromus diandrus	Great brome
Chlorophyta spp.	Green algae
Cardamine hirsuta	Hairy bittercress
Hibiscus spp.	Hibiscuses
Cistus criticus	Hoary rock-rose
Navarretia hamata	Hooked pincushion plant
Desmanthus illinoensis	Illinois bundleflower
Rhaphiolepis indica	Indian hawthorn
Euonymus japonicus	Japanese spindle tree
Isocoma spp.	Jimmyweeds and goldenbushes
Ceiba pentandra	Kapok tree
Brodiaea terrestris kernensis	Kern brodiaea
Dudleya lanceolata	Lanceleaf liveforever
Malosma laurina	Laurel sumac
Lavandula spp.	Lavender
Rhus integrifolia	Lemonade berry
Lupinus spp.	Lupines
Centaurea melitensis	Maltese star-thistle
Pluchea odorata	Marsh fleabane
Romneya spp.	Matilija poppies
Euphorbia serpens	Matted sandmat
Erodium botrys	Mediterranean stork’s-bill
Melilotus spp.	Melilots and sweetclovers
Stipa tenuissima	Mexican feather grass
Platanus mexicana	Mexican sycamore
Claytonia perfoliata	Miner’s lettuce
Lupinus bicolor	Miniature lupine
Xylococcus bicolor	Mission manzanita
Opuntia ficus-indica	Mission prickly-pear
Hydrangea macrophylla	Mophead hydrangea
Bryophyta spp.	Mosses
Baccharis salicifolia	Mule fat
Brassicaceae spp.	Mustard family
Phormium spp.	New Zealand flax species
Solanaceae spp.	Nightshade family
Sairocarpus nuttallianus	Nuttall’s snapdragon
Quercus spp.	Oaks
Asphodelus fistulosus	Onion-leafed asphodel

Lathyrus vestitus	Pampas grass
Castilleja spp.	Paintbrushes
Cortaderia selloana	Pampas grass
Phacelia parryi	Parry's phacelia
Helianthemum scoparium	Peak rushrose
Albizia julibrissin	Persian silk tree
Pinus spp.	Pines
Metrosideros excelsa	Pohutukawa
Opuntia spp.	Prickly pears
Echium candicans	Pride of Madeira
Tribulus terrestris	Puncture vine
Disphyma crassifolium	Purple dewplant
Diplacus puniceus	Red bush monkeyflower
Rhamnus crocea	Redberry buckthorn
Cistanthe grandiflora	Rock purslane
Rosmarinus officinalis	Rosemary
Xanthium strumarium	Rough cocklebur
Lasthenia coronaria	Royal goldfields
Ficus elastica	Rubber plant
Juncus spp.	Rushes
Salsola spp.	Russian thistles
Datura wrightii	Sacred thorn-apple
Stephanomeria diegensis	San Diego wirelettuce
Crassula connata	Sand pygmyweed
Hazardia squarrosa	Saw-toothed goldenbush
Lysimachia arvensis	Scarlet pimpernel
Limonium spp.	Sea lavenders
Grevillea robusta	Silky-oak
Solanum elaeagnifolium	Silverleaf nightshade
Sonchus tenerrimus	Slender sowthistle
Helianthus gracilentus	Slender sunflower
Melilotus indicus	Small melilot
Acmispon micranthus	Small-flowered lotus
Chlorogalum parviflorum	Small-flowered soaproot
Hypochaeris glabra	Smooth cat's ear
Sansevieria trifasciata	Snake plant
Clematis pauciflora	Southern California clematis

Magnolia grandiflora	Southern magnolia
Eleocharis spp.	Spikerushes
Lupinus hirsutissimus	Stinging lupine
Oncosiphon piluliferum	Stinknet
Crassulaceae spp.	Stonecrop family
Acmispon strigosus	Strigose lotus
Helianthus spp.	Sunflowers
Agave attenuate	Swan-neck agave
Foeniculum vulgare	Sweet fennel
Phoradendron macrophyllum	Sycamore mistletoe
Dianella tasmanica	Tasmanian flax-lily
Heterotheca grandiflora	Telegraphweed
Lantana urticoides	Texas lantana
Heteromeles arbutifolia	Toyon
Ailanthus altissima	Tree of heaven
Nicotiana glauca	Tree tobacco
Cupaniopsis anacardioides	Tuckeroo
Salsola tragus	Tumbleweed
Croton setiger	Turkey mullein
Cyperus involucratus	Umbrella papyrus
Aechmea fasciata	Urn plant
Acacia redolens	Vanilla-scented wattle
Kalanchoe beharensis	Velvet-leaf
Juglans spp.	Walnuts
Persicaria amphibia	Water smartweed
Acacia obtusifolia	Wattles
Ficus benjamina	Weeping fig
Sisyrinchium bellum	Western blue-eyed grass
Ambrosia psilostachya	Western ragweed
Platanus racemosa	Western sycamore
Marrubium vulgare	White horehound
Morus alba	White mulberry
Salvia apiana	White sage
Diplacus brevipes	Wide-throated yellow monkeyflower
Stephanomeria spp.	Wirelettuce
Mirabilis laevis crassifolia	Wishbone plant

Oxalis spp.	Woodsorrels
Melica frutescens	Woody melicgrass
Hemerocallis lilioasphodelus	Yellow daylily
Yucca spp.	Yuccas
Phacelia cicutaria hispida	Caterpillar phacelia
Myrtillocactus spp.	Cacti
Albizia spp.	Silk plants
Arecoideae spp.	Palms
Clarkia spp.	Clarkia
Nandina spp.	Nandina
Echeveria spp.	Echeveria
Asteroideae spp.	Aster family
Schismus spp.	Mediterannean grasses
Fabeae spp.	Legumes
Gnaphalieae spp.	Asters
FUNGI	
Basidiomycota spp.	Basidiomycete fungi
Nidulariaceae spp.	Bird's nest fungi
Polyporaceae spp.	Bracket fungi
Clitocybe brunneocephala	Brownit
Candelaria concolor	Candleflame lichen
Leratiomyces ceres	Chip cherries
Flavoparmelia caperata	Common greenshield lichen
Agaricaceae spp.	Field mushrooms, puffballs, and allies
Caloplaca spp.	Firedots
Coprinopsis lagopus	Hare's foot inkcap
Xanthoria parietina	Maritime sunburst lichen
Lycoperdaceae spp.	Puffballs
Xanthoparmelia spp.	Rock shield lichens
Gymnopilus spp.	Rustgills
Ascomycota spp.	Sac fungi
Chlorophyllum brunneum	Shaggy parasol
Volvopluteus gloiocephalus	Stubble rosegill
Drechslera poae	Doctor fungus
Trichaptum spp.	Poroid fungi

REPTILE AND AMPHIBIAN SPECIES	
Aspidoscelis hyperythrus beldingi	Belding's orange-throated whiptail
Phrynosoma blainvilliei	Blainville's horned lizard
Lampropeltis californiae	California king snake
Masticophis lateralis lateralis	California striped racer
Aspidoscelis tigris stejnegeri	Coastal whiptail
Uta stansburiana	Common side-blotched lizard
Plestiodon skiltonianus interparietalis	Coronado skink
Tarentola mauritanica	Moorish gecko
Crotalus ruber	Red diamond rattlesnake
Lichanura trivirgata	Rosy boa
Pituophis catenifer annectens	San Diego gopher snake
Elgaria multicarinata	Southern alligator lizard
Elgaria multicarinata webbii	San Diego alligator lizard
Crotalus oreganus helleri	Southern Pacific rattlesnake
Crotalus pyrrhus	Southwestern speckled rattlesnake
Sceloporus occidentalis	Western fence lizard
Salvadora hexalepis	Western patch-nosed snake
Uta stansburiana elegans	Western side-blotched lizard
Batrachoseps major	Garden slender salamander
Anaxyrus boreas	Western toad
BIRD SPECIES	
Fulica americana	American coot
Corvus brachyrhynchos	American crow
Falco sparverius	American kestrel
Anthus rubescens	American pipit
Calypte anna	Anna's hummingbird
Setophaga coronata auduboni	Audubon's warbler
Setophaga castanea	Bay-breasted warbler
Sayornis nigricans	Black phoebe

Pheucticus melanocephalus	Black-headed grosbeak
Polioptila caerulea	Blue-gray gnatcatcher
Euphagus cyanocephalus	Brewer's blackbird
Cynanthus latirostris	Broad-billed hummingbird
Psaltriparus minimus	Bushtit
Aphelocoma californica	California scrub-jay
Toxostoma redivivum	California thrasher
Melozone crissalis	California towhee
Branta canadensis	Canada goose
Tyrannus vociferans	Cassin's kingbird
Bombycilla cedrorum	Cedar waxwing
Corvus corax	Common raven
Accipiter cooperii	Cooper's hawk
Corvus spp.	Crows and ravens
Anas platyrhynchos domesticus	Domestic duck
Streptopelia decaocto	Eurasian collared dove
Sturnus vulgaris	European starling
Columba livia domestica	Feral pigeon
Fringillidae spp.	Finches, euphonias, and allies
Phalacrocorax carbo	Great cormorant
Ardea alba	Great egret
Geococcyx californianus	Greater roadrunner
Quiscalus mexicanus	Great-tailed grackle
Bucorvus spp.	Ground hornbills
Icterus cucullatus	Hooded oriole
Haemorhous mexicanus	House finch
Passer domesticus	House sparrow
Trochilidae spp.	Hummingbirds
Gallus spp.	Junglefowls
Spinus lawrencei	Lawrence's goldfinch
Ixobrychus exilis	Least bittern
Spinus psaltria	Lesser goldfinch
Anas platyrhynchos	Mallard
Poecile gambeli	Mountain chickadee
Zenaida macroura	Mourning dove
Icteridae spp.	New world blackbirds and orioles
Colaptes auratus	Northern flicker
Circus hudsonius	Northern harrier
Mimus polyglottos	Northern mockingbird
Dryobates nuttallii	Nuttall's woodpecker
Strigiformes spp.	Owls
Falco peregrinus	Peregrine falcon
Phasianidae spp.	Pheasants, grouse, and allies
Spinus pinus	Pine siskin
Sphyrapicus ruber	Red-breasted sapsucker
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk
Agelaius phoeniceus	Red-winged blackbird
Columba livia	Rock pigeon
Regulus calendula	Ruby-crowned kinglet
Aimophila ruficeps	Rufous-crowned sparrow
Lonchura punctulata	Scaly-breasted munia
Egretta thula	Snowy egret
Melospiza melodia	Song sparrow
Pipilo maculatus	Spotted towhee
Larus occidentalis	Western gull
Sitta carolinensis	White-breasted nuthatch
Plegadis chihi	White-faced ibis
Chamaea fasciata	Wrentit
Setophaga coronata	Yellow-rumped warbler
Calypte spp.	Hummingbirds
MAMMALS	
Neotoma macrotis	Big-eared woodrat
Rattus rattus	Black rat
Thomomys bottae	Botta's pocket gopher
Peromyscus eremicus	Cactus mouse
Otospermophilus beecheyi	California ground squirrel
Procyon lotor	Common raccoon
Canis latrans	Coyote
Sylvilagus audubonii	Desert cottontail
Felis catus	Domestic cat

Canis familiaris	Domestic dog
Mus musculus	House mouse
Molossinae spp.	Free-tailed bats
ARACHNIDS	
Latrodectus geometricus	Brown widow
Bothriocyrtum californicum	California trapdoor spider
Pholcidae spp.	Cellar spiders
Theridiidae spp.	Cobweb spiders
Entelegynae spp.	Entelegyne spiders
Steatoda grossa	False black widow
Oecobiidae spp.	Flatmesh weavers
Agelenidae spp.	Funnel weavers
Badumna longinqua	Grey house spider
Gnaphosidae spp.	Ground spiders
Salticidae spp.	Jumping spiders
Peucetia longipalpis	Lesser green lynx spider
Pholcus phalangioides	Long-bodied cellar spider
Holocnemus pluchei	Marbled cellar spider
Steatoda nobilis	Noble false widow
Araneidae spp.	Orbweavers
Phidippus johnsoni	Red-backed jumping spider
Argiope argentata	Silver garden orbweaver
Steatoda triangulosa	Triangulate comb-foot
Oecobius navus	Wall spider
Latrodectus hesperus	Western black widow
Neoscona oaxacensis	Western spotted orbweaver
Latrodectus spp.	Widow spiders
Lycosoidea spp.	Wolf spiders and allies
Cheiracanthium mildei	Yellow sac spider
Bothriocyrtum sp.	Trapdoor spiders
Eratigena sp.	House spiders
Mastophora cornigera	Southern bolas spider
Metacyrba taeniola	Jumping spiders
Protolophus singularis	Harvestman spider
Sassacus vitis	Jumping spiders
Scytodes sp.	Spitting spider

Trachelas pacificus	Sac spider
INSECTS AND OTHER INVERTEBRATES	
Lumbricus terrestris	Common earthworm
Armadillidium vulgare	Common pill woodlouse
Bipaliinae spp.	Hammerhead worms
Armadillidiidae spp.	Pillbug
Oniscidea spp.	Woodlice and pillbugs
Paradoxosomatidae spp.	Millipedes
Juliformia spp.	Round-backed millipedes
Diplopoda spp.	Millipedes
Scutigera coleoptrata	House centipede
Chilopoda spp.	Centipedes
Scolopendra polymorpha	Common desert centipede
Acrididae spp.	Short-horned grasshoppers
Agraulis vanillae	Gulf fritillary
Agrius cingulata	Pink-spotted hawkmoth
Allograpta obliqua	Oblique stripetail hover fly
Ammophila spp.	Thread-waisted sand wasps
Anax junius	Common green darner
Andricus quercuscalifornicus	California gall wasp
Anicla infecta	Green cutworm moth
Anthocharis sara	Sara orangetip
Anthophila spp.	Bees
Anthracinae spp.	Bee flies
Apidae spp.	Honey bees, bumble bees, and allies
Apis mellifera	Western honey bee
Apodemia virgulti	Behr's metalmark
Apsena spp.	Darkling beetle
Aquarius remigis	Common water strider
Asilinae spp.	Robber fly
Autographa spp.	Moths
Blapstinus spp.	Darkling beetle
Blatta orientalis	Oriental cockroach
Blattella germanica	German cockroach

Blattodea spp.	Cockroaches and termites
Bombyliidae spp.	Bee flies
Bostrichidae spp.	Auger beetles
Calliphora spp.	Blow flies
Calosoma spp.	Caterpillar hunter beetles
Calyptratae spp.	Calyptrate flies
Carabidae spp.	Ground beetles
Celastrina echo	Echo azure
Chilocorinae spp.	Lady beetles
Chironomidae spp.	Non-biting midges
Chrysopidae spp.	Green lacewings
Cibolacris parviceps	Cream grasshopper
Cicadellidae spp.	Typical leafhoppers
Coccinella septempunctata	Seven-spotted lady beetle
Coccinellidae spp.	Lady beetles
Coliadinae spp.	Yellows and sulphurs
Copestylum mexicanum	Mexican cactus fly
Cotinis mutabilis	Green fig beetle
Culicidae spp.	Mosquitoes
Culicinae spp.	Culicine mosquitoes
Culicomorpha spp.	Mosquitoes and midges
Curculionoidea spp.	Snout and bark beetles
Cycloneda spp.	Spotless lady beetles
Cyclorrhapha spp.	Muscoid flies and allies
Danaus plexippus	Monarch
Dermaptera spp.	Earwigs
Diptera spp.	Flies
Dolichopodidae spp.	Long-legged flies
Elateridae spp.	Click beetles
Elateroidea spp.	Click, firefly, and soldier beetles
Eleodes gigantea	Desert stink beetles
Embiidina spp.	Webspinners
Erynnis funeralis	Funereal duskywing
Euborellia annulipes	Ring-legged earwig
Forficula auricularia	European earwig
Formicidae spp.	Ants
Formicinae spp.	Formicine ants
Geometridae spp.	Geometer moths
Glycaspis brimblecombei	Red gum lerp psyllid
Gorytina spp.	Sand wasps
Gryllidae spp.	True crickets
Gryllodes sigillatus	Tropical house cricket
Halictidae spp.	Sweat bees
Halyomorpha spp.	Sweat bees
Halyomorpha halys	Brown marmorated stink bug
Harmonia spp.	Greater lady beetles
Harmonia axyridis	Asian lady beetle
Helicoverpa zea	Corn earworm moth
Heliothinae spp.	Moths
Hermetia illucens	Black soldier fly
Herminiinae spp.	Litter moths
Hippodamia convergens	Convergent lady beetle
Homalodisca spp.	Glassy-winged sharpshooter
Hylephila phyleus	Fiery skipper
Hyles lineata	White-lined sphinx moth
Hymenoptera spp.	Ants, bees, wasps, and sawflies
Iris oratoria	Mediterranean mantis
Jadera spp.	Red-shouldered bug
Larentiinae spp.	Carpet moths
Largus spp.	California bordered plant bug
Lasioglossum sisymbrii	Tansy mustard sweat bee
Lepismatidae spp.	Typical silverfishes
Lestomyia spp.	Robber fly
Libellula croceipennis	Neon skimmer
Linepithema humile	Argentine ant
Lucilia cuprina	Australian sheep blowfly
Lucilia sericata	Common greenbottle fly
Lygaeus kalmii	Small milkweed bug
Mallophora fautrix	Robber fly
Mantis spp.	Mantises

Mantodea spp.	Mantises
Mecidea spp.	Narrow stink bugs
Membracoidea spp.	Leafhoppers and treehoppers
Muscidae spp.	House flies and allies
Mycetophilidae spp.	Fungus gnats
Mythimna unipuncta	White-speck mot
Narnia spp.	Leaf-footed bug
Nematocera spp.	Nematoceran flies
Noctuoidea spp.	Owlet moths and allies
Notiophilus spp.	Ground beetle
Nymphalis antiopa	Mourning cloak
Okanagana spp.	Cicada
Oncopeltus fasciatus	Large milkweed bug
Ophelimus maskelli	Chalcid wasp
Palpada spp.	Syrphid flies
Papilio eurymedon	Pale swallowtail
Papilio rumiko	Western giant swallowtail
Parcoblatta americana	Western wood cockroach
Pentatomomorpha spp.	Stink bugs
Pepsis spp.	Tarantula hawk wasps
Periplaneta americana	American cockroach
Phereoeca uterella	Household casebearer
Phoebis spp.	Sulphur butterflies
Plodia interpunctella	Indian meal moth
Pogonomyrmex spp.	Harvester ants
Pogonomyrmex rugosus	Rough harvester ant
Polistes dominula	European paper wasp
Polyphaga spp.	Water, rove, scarab, long-horned, leaf, and snout beetles
Polyphylla spp.	Lined june beetles
Pontia protodice	Checkered white
Pterygota spp.	Winged and once-winged insects
Pyraloidea spp.	Pyralid and crambid snout moths
Rhopalinae spp.	Hemipteran
Rhyzobius lophanthae	Scale-eating ladybird

Sarcophagidae spp.	Flesh flies
Saropogon luteus	Robber fly
Scarabaeidae spp.	Scarab beetles
Scarabaeoidea spp.	Scarabs, stag beetles, and allies
Schistocerca spp.	Bird grasshopper
Schistocerca nitens	Gray bird grasshopper
Scudderia spp.	Scudder’s bush katydids
Serinethinae spp.	Soapberry bugs
Sphaeroceridae spp.	Lesser dung flies
Sphingini spp.	Moths
Stagmomantis californica	California mantis
Stagmomantis limbata	Arizona mantis
Stenopelmatus spp.	Jerusalem crickets
Sympetrum corruptu	Variegated meadowhawk
Tabanus subsimilis	Horse fly
Termitoidae spp.	Termites
Tipula silvestra	Crane flies
Tipulidae spp.	Large crane flies
Tipulomorpha spp.	Crane flies
Trichobaris spp.	Flower weevil
Vanessa atalanta	Red admiral
Vanessa cardui	Painted lady
Villa spp.	Bee flies
Xylocopa tabaniformis orpifex	Carpenter bee
Xylocopa varipuncta	Valley carpenter bee
Zelus spp.	Assassin bug
Zelus renardii	Leafhopper assassin bug
Zeuzera spp.	Moths
Zygentoma spp.	Silverfishes
Pomacea canaliculata	Channeled apple snail
Stylommatophora spp.	Common land snails and slugs
Rumina decollata	Decollate snail
Cornu aspersum	Garden snail
Gastropoda spp.	Gastropods
Otala lactea	Milk snail
Theba pisana	White Italian snail

Helminthoglyptinae spp.	Banded dune snails
Ambigolimax spp.	Land slugs

Table 4.04 Forester Creek System species (Valtierra, 2019; iNaturalist, 2019)

LATIN NAME	COMMON NAME
PLANT SPECIES	
Cirsium vulgare	Bull thistle
Encelia californica	California brittlebush
Baccharis pilularis	Coyote brush
Plantago erecta	Dot-seed plantain
Rubus fruticosus	European bramble complex
Ligustrum lucidum	Glossy privet
Vitis spp.	Grapevines
Rhus integrifolia	Lemonade berry
Lupinus spp.	Lupines
Baccharis salicifolia	Mule fat
Lathyrus vestitus	Pacific pea
Carya illinoinensis	Pecan
Conium maculatum	Poison hemlock
Ambrosia spp.	Ragweeds
Solanum elaeagnifolium	Silverleaf nightshade
Euphorbia maculata	Spotted spurge
Heteromeles arbutifolia	Toyon
Salsola tragus	Tumbleweed
Cercis occidentalis	Western redbud
Salicaceae spp.	Willows
Anemopsis californica	Yerba mansa
BIRD SPECIES	
Corvus brachyrhynchos	American crow
Calypte anna	Anna's hummingbird
Sayornis nigricans	Black phoebe
Melozone crissalis	California towhee
Ardea alba	Great egret
Geococcyx californianus	Greater roadrunner
Haemorhous mexicanus	House finch
Passer domesticus	House sparrow
Anas platyrhynchos	Mallard
Zenaida macroura	Mourning dove
Mimus polyglottos	Northern mockingbird
Falco peregrinus	Peregrine falcon
Buteo jamaicensis	Red-tailed hawk
Egretta thula	Snowy egret
REPTILE AND AMPHIBIAN SPECIES	
Elgaria multicarinata webbii	San Diego alligator lizard
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Common side-blotched lizard
Lithobates catesbeianus	American bullfrog
MAMMALS	
Felis catus	Domestic cat
Procyon lotor	Common raccoon
Otospermophilus beecheyi	California ground squirrel
OTHER	
Procambarus clarkii	Red swamp crayfish
Armadillidium vulgare	Common pill woodlouse
Oxidus gracilis	Greenhouse millipede
Araneidae spp.	Orbweavers
Oecobiidae spp.	Flatmesh weavers
Scorpiones spp.	Scorpions
Linepithema humile	Argentine ant
Veromessor pergandei	Black harvester ant
Largus spp.	California bordered plant bug
Tipulomorpha spp.	Crane flies
Tenebrionidae spp.	Darkling beetles
Eleodes dentipes	Dentate stink beetle
Eleodes spp.	Desert stink beetles
Phloeodes diabolicus	Diabolical ironclad beetle
Hylephila phyleus	Fiery skipper
Sarcophagidae spp.	Flesh flies
Geometridae spp.	Geometer moths
Exitianus exitiosus	Gray lawn leafhopper
Cotinis mutabilis	Green fig beetle

Chrysopidae spp.	Green lacewings
Pyrausta inornatalis	Inornate pyrausta moth
Insecta spp.	Insects
Coccinellidae spp.	Lady beetles
Dolichopodidae spp.	Long-legged flies
Danaus plexippus	Monarch
Glycaspis brimblecombei	Red gum lerp psyllid
Jadera haematoloma	Red-shouldered bug
Estigmene acrea	Salt marsh moth
Polyphylla decemlineata	Ten-lined june beetle
Gryllodes sigillatus	Tropical house cricket
Boisea rubrolineata	Western boxelder bug
Apis mellifera	Western honey bee
Ochlodes sylvanoides	Woodland skipper
Ophelimus maskelli	Chalcid wasp
Agapostemon spp.	Sweat bees
Myrmeleontinae spp.	Ant lions
Givira arbeloides	Moth
Thyanta pallidovirens	Red-shouldered stink bug
Otala lactea	Milk snail
Rumina decollata	Decollate snail
Cornu aspersum	Garden snail
Pseudoinonotus dryadeus	Oak bracket
Schizophyllum commune	Splitgill mushroom
Ischnoderma resinosum	Resinous polypore
Pleurotus spp.	Oyster, abalone, or tree mushrooms
Pleurotus ostreatus	Oyster mushroom
Phellinus pomaceus	Cushion bracket
Volvopluteus spp.	Mushrooms

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Figure 4.04 Artemisia californica (California sagebrush)

Figure 4.05 Eriogonum fasciculatum (California buckwheat)

Figure 4.06 Baccharis pilularis (Coyote brush)

Figure 4.07 Diplacus aurantiacus (Monkey flower)

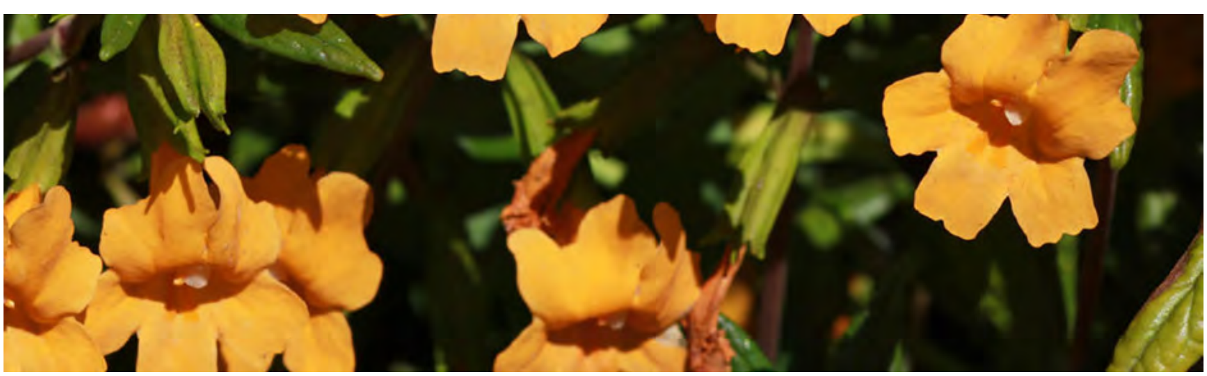


Figure 4.08 Ribes speciosum (Fuchsia-flowered gooseberry)

Figure 4.09 Didelphis virginiana (Virginia Opossum)

Figure 4.10 Otospermophilus beecheyi (California ground squirrel)

Figure 4.11 Tadarida brasiliensis (Mexican free-tailed bat)

4.1.2/Current Condition of the Forester Creek System

While this project focuses on Forester Creek and its tributaries as they flow through the City of El Cajon, the Forester Creek System has a significant impact outside the city limits. The water in the Forester Creek System ends up in the San Diego River and then the Pacific Ocean 17.75 miles away.

California is made up of ten different hydraulic regions. The South Coast Hydraulic Region (SCHR) (Figure 4.12) is one of the most urbanized and populated areas within California, including portions of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties (California Department of Water Resources, 2013). The SCHR covers approximately 6.78 million acres (10,600 acres) `of land that drain toward the Pacific Ocean (California Department of Water Resources, 2013). About 17 million people live within the boundaries of the SCHR, producing the highest population density of any California hydraulic region (California Department of Water Resources, 2013). The SCHR is very dependent upon supplemental water supplies from the Colorado River, Eastern Sierra Mountain, and California State Water Project, as well as groundwater basins within the region (California Department of Water Resources, 2013). The SCHR includes 19 major rivers and watersheds, one being the San Diego River Watershed

Figure 4.12 Portion of South Coast Hydraulic Region within San Diego County

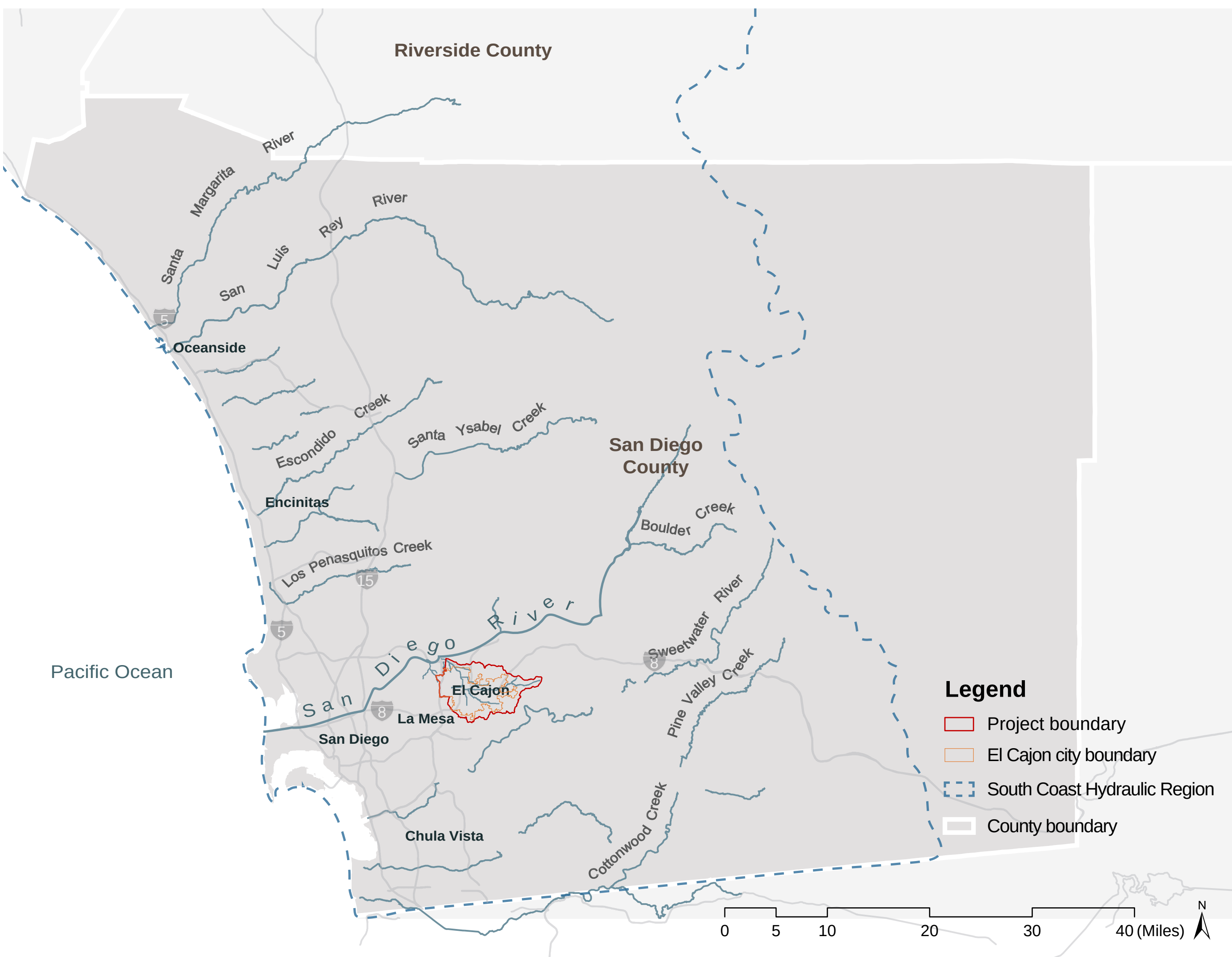
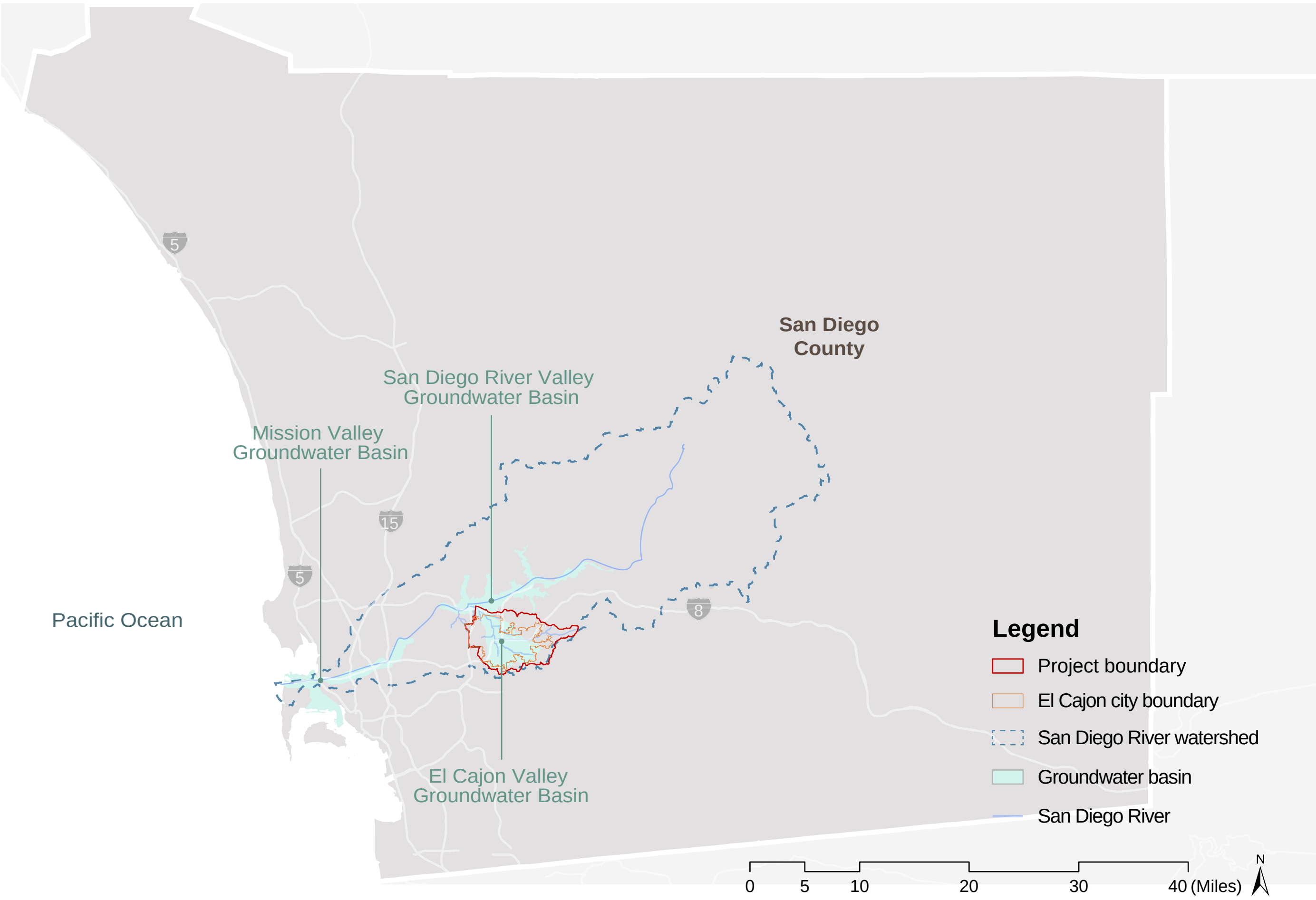


Figure 4.13 San Diego River Watershed groundwater basins



(California Department of Water Resources, 2013) (Figure 4.13).

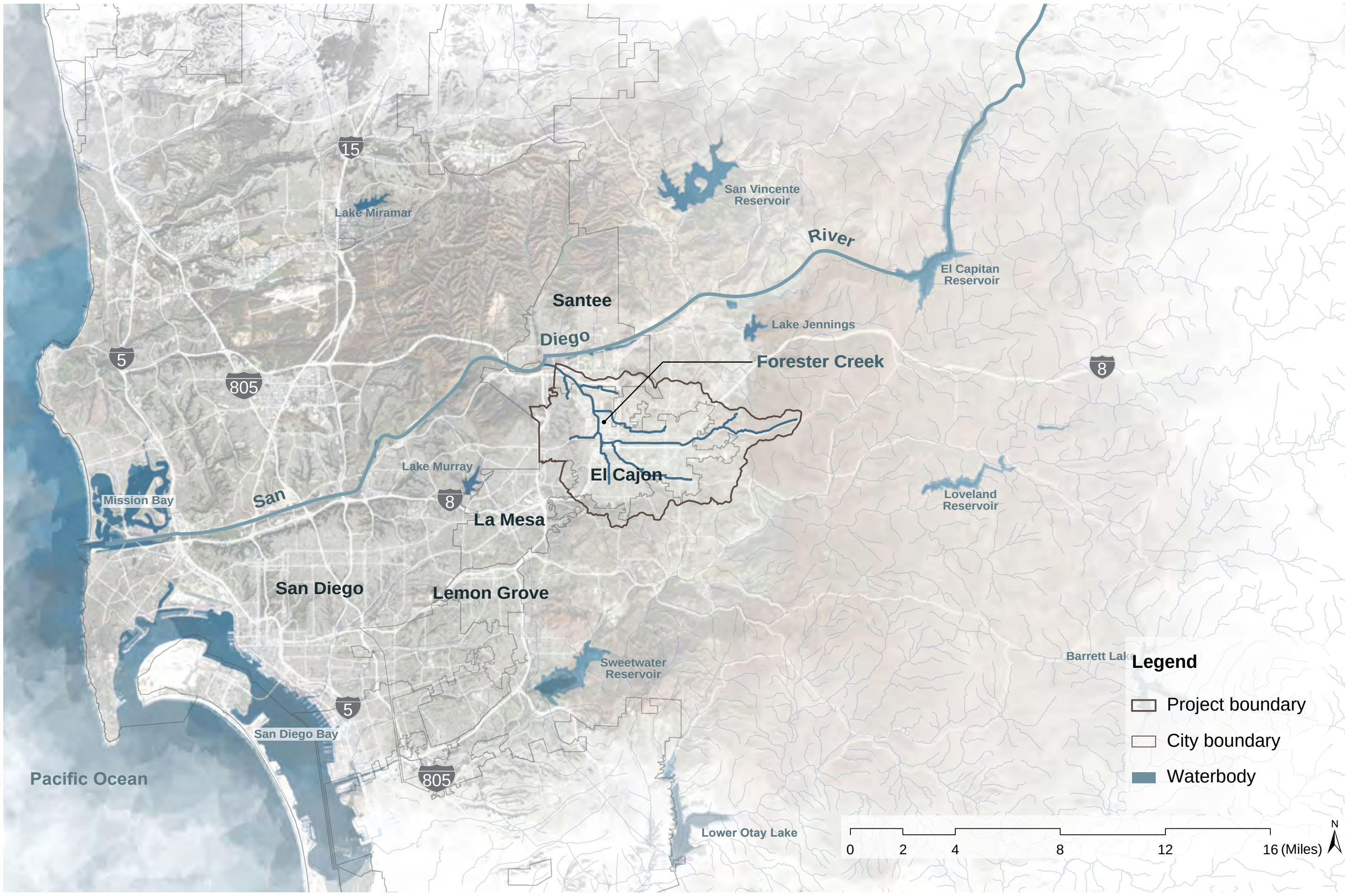
Many Southern California watersheds must manage increasing land development and urbanization, directly effecting the hydrology of the area. As with most other Southern California watersheds, the San Diego River Watershed manages densely urbanized lowlands with a mix of concrete-lined channels, dams, and natural areas (California Department of Water Resources, 2013), resulting in local water quality issues and the loss of riparian ecosystems.

The San Diego River Watershed is the second largest watershed in San Diego County, spanning approximately 440 square miles, extending from the Cuyamaca Mountains through urban areas of San Diego to the Pacific Ocean at Ocean Beach (TSDRPF, 2018; California Department of Water Resources, 2013) (Figure 4.13).

The 52-mile-long San Diego River and its major tributaries (including Forester Creek) provide drainage for the San Diego River Watershed. The river has numerous other tributaries including Cedar Creek, Sycamore Creek, Boulder Creek, Oak Creek, Alvarado Creek, Murphy Creek, and San Vicente Creek, which also provide drainage for the region.

Most groundwater resources in the South Coast Hydraulic Region are supplied by alluvial aquifers. Alluvial aquifers are composed of sand, gravel, or finer sediments, allowing groundwater to be stored within the pore spaces between the sediments (California Department of Water Resources, 2013). The San Diego River Watershed includes three groundwater basins. Among them the San Diego River Valley Groundwater Basin and the El Cajon Valley Groundwater Basin (California Department of Water Resources, 2013) are completely within

Figure 4.14 Study area waterbodies



its boundary. In addition, part of the Mission Valley Groundwater Basin is also inside the San Diego River Watershed boundary (California Department of Water Resources, 2013).

The El Cajon Valley Groundwater Basin is an 11.2 square mile basin made up of permeable alluvial material, sand, gravel, and fine sediments that help with storing and recharging groundwater. The main source of natural recharge for this basin is the percolation of precipitation that falls in the area, with additional recharge from urban runoff and irrigation overflow (California Department of Water Resources, 2004). The El Cajon Valley Groundwater Basin is surrounded by impermeable crystalline rock on the south and east sides, semi-permeable rock on the west, and the San Diego River Valley Groundwater Basin on the north (California Department of Water Resources, 2004) (Figure 4.14).

As observed in the field, dry season urban flows can include excess irrigation runoff as well as other sources being drained into the Forester Creek System. Only in areas where the creeks' channels are surrounded by urban development is there constant dry season flow. As such, the water level in the creek appears to be more dependent on the urban context than on the character of the creek channel itself (Figure 4.16).

Figure 4.17 shows examples of the current stormwater infrastructure in the Forester Creek System. Roads, gutters, storm drains, parking lots, residential properties, and other drain pipe systems flow directly into Forester Creek and its three tributaries. Few drains have visible screens or grates over them.

Within El Cajon's city limits, 100% of Forester Creek and its tributaries' approximately 11-mile-

Figure 4.15 Forester Creek System: channelized section through industrial area

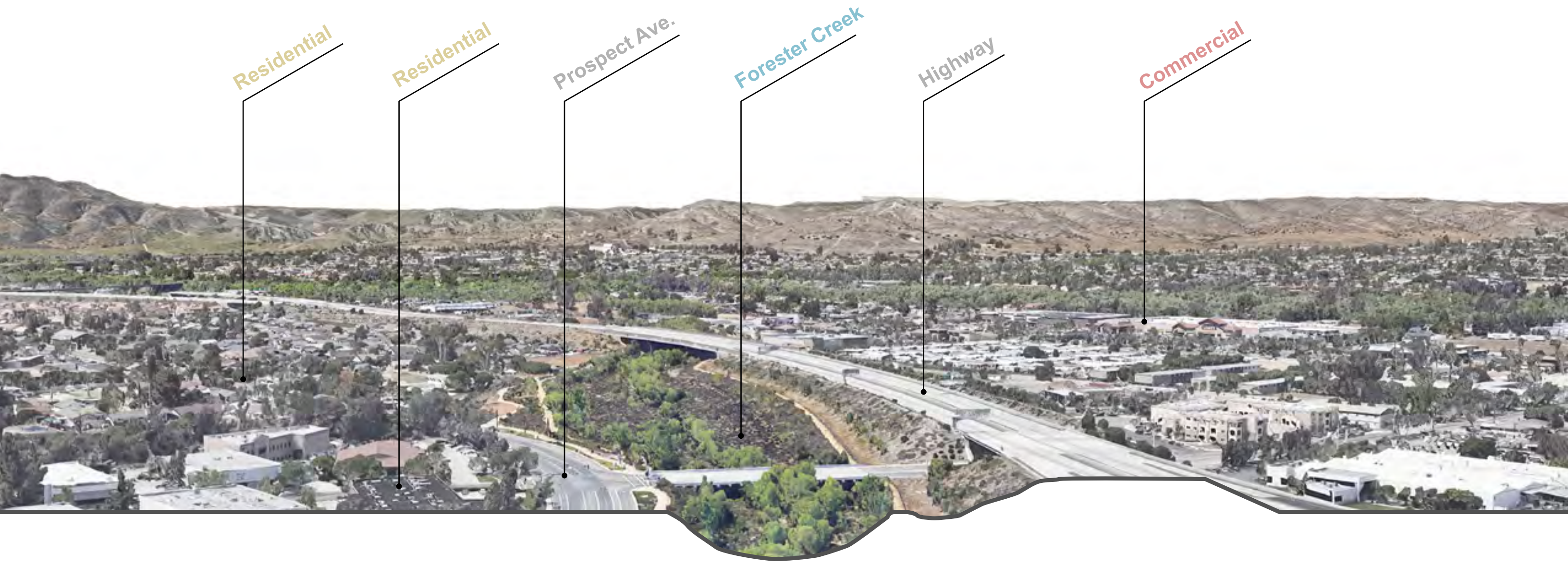


Figure 4.16 Forester Creek System: natural section through developed area

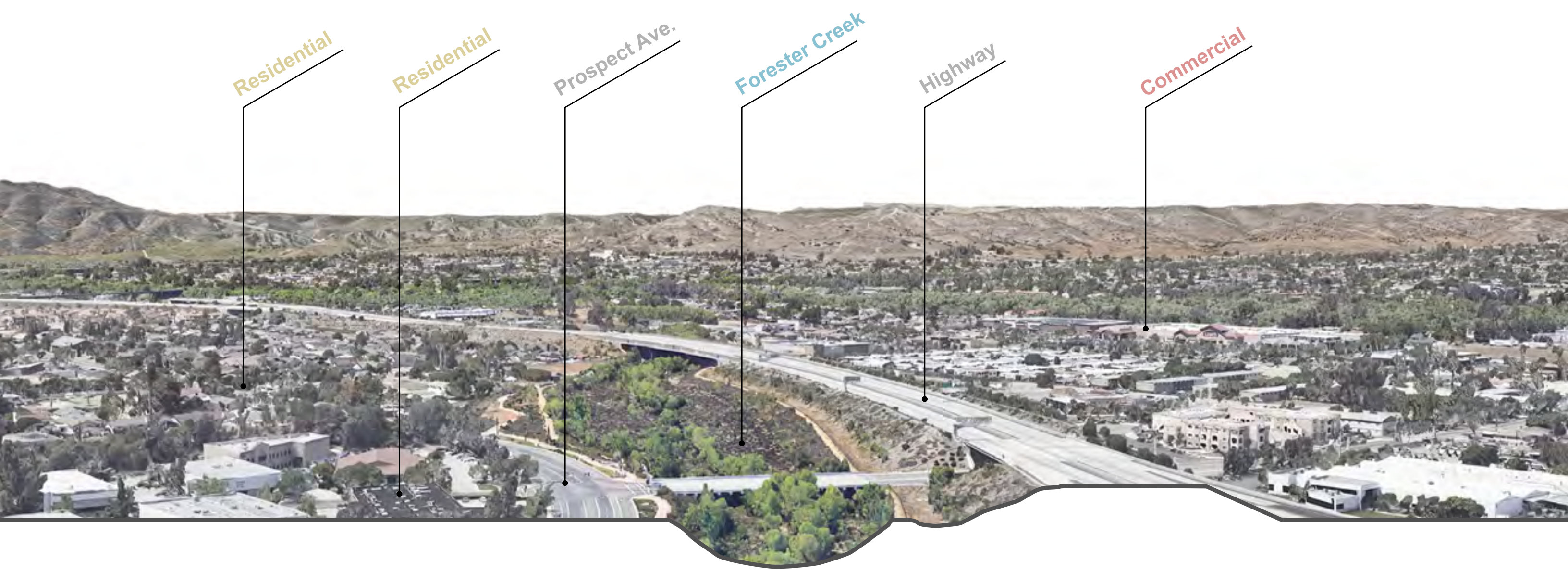
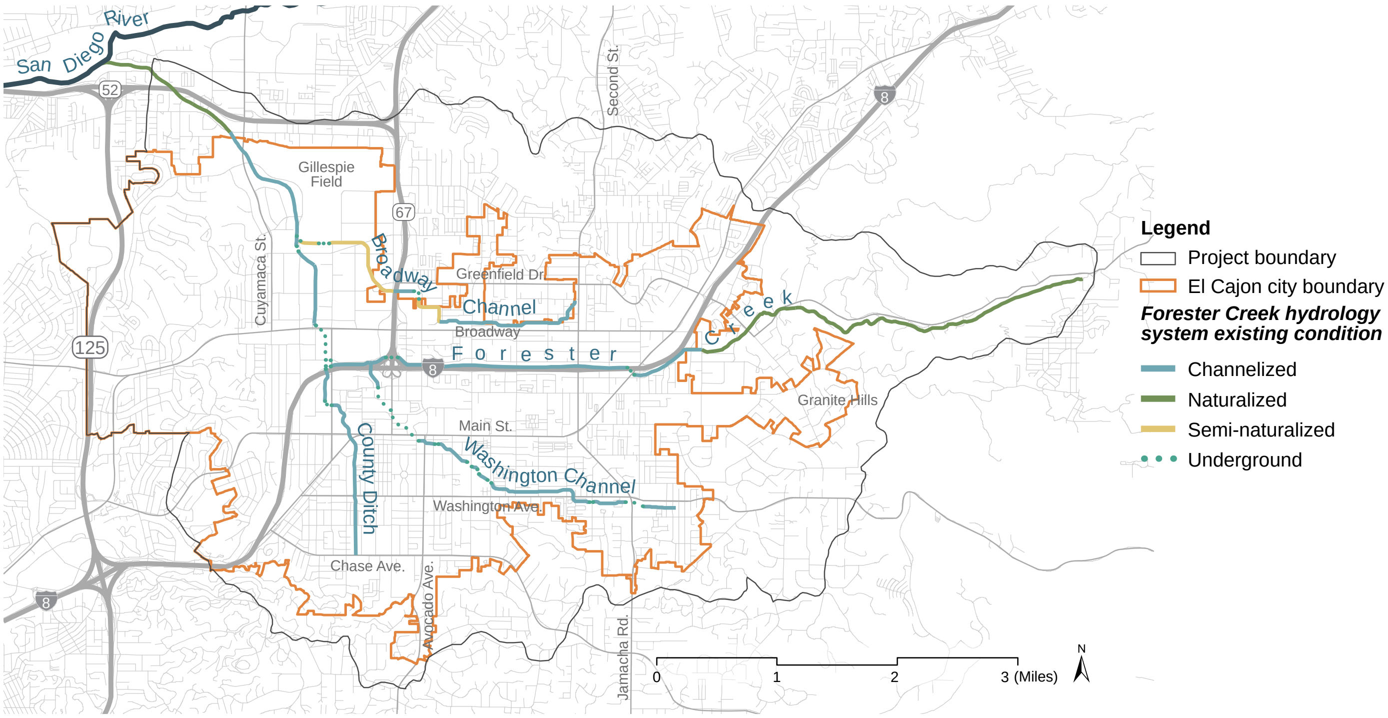


Figure 4.17 Current stormwater infrastructure in the Forester Creek System (Top Left: Forester Creek at Greenfield Drive; Top Right: County Ditch at Grant Avenue; Bottom Left: Drain to Broadway Channel at Oro Street; Bottom Right: County Ditch from Majestic Apartments on Madison Avenue)

Figure 4.18 Forester Creek System (Forester Creek, Washington Channel, County Ditch, and Broadway Channel)



long waterways are channelized, with over 95% flowing in concrete culverts. The change back to a "natural" course occurs at the city border with Santee (Figure 4.18). Figure 4.16 & 4.20 illustrate two areas where Forester Creek has a naturalized bottom that is not concrete-lined. The two areas depicted are at the headwaters of the creek and a restored portion of Forester Creek located in the City of Santee, near the confluence with the San Diego River. While it is easy to imagine Forester Creek originating in the relatively "natural" hills to the east of the City of El Cajon, the headwaters of the creek are actually quite diverse and impacted (Figure 4.24, 4.25 & 4.26). The creek starts in a junk yard (Figure 4.23) set on the ridge line in the town of Crest. It slowly develops over a thousand foot distance as it runs behind several homes until it is dammed for a pond (Figure 4.24). From there the creek enters a relatively undeveloped and natural section as it winds into the upscale community of Granite Hills. This picturesque section ends when the Creek enters a concrete culvert at the El Cajon city line.

In the field, the Forester Creek System within the City of El Cajon is defined by its invisibility and inaccessibility. It is 100% incised below grade in engineered channels, 95% of which are lined with concrete. The creeks are not visible from any locations except standing at the edge of the bank-top fence. In fact, as project team members walked, cycled, and drove the neighborhoods of the study area, they learned to look for six-foot chain link fencing as the tell-tale sign of the presence of a creek. Almost without exception, residences, commercial, and public buildings face away from the creeks, defining them as back alleys for water.

Unlike many of California's urban creeks, Forester Creek and its tributaries have no parallel service roads or access ways, limiting the options for making them accessible. In most locations, there is less than two feet between the top of the bank and the fence. In many locations, development goes right up to the lip of the concrete channel, leaving zero potential for creek-side recreation unless it is cantilevered over the creek. In some locations, apartment buildings, businesses, and even parking lots are individually bridged over the creeks.

Vacant parcels of land along the creeks are extremely rare. In the field, less than ten full parcels of land were apparent along Forester

Figure 4.19 Concrete channelized section of the Forester Creek System: Broadway Channel at Oro Street

Figure 4.20 Forester Creek System naturalized bottom area: Wing Avenue and West Bradley Avenue, south of Gillespie Field

Figure 4.21 Urbanized areas around the Forester Creek System: Broadway Channel near Crosby Street and Clarendon Street

Figure 4.22 Urbanized areas around the Forester Creek System: Washington Channel at Filbert Street

Figure 4.23 Headwaters of Forester Creek

Figure 4.24 Headwaters of Forester Creek

Figure 4.25 Headwaters of Forester Creek

Figure 4.26 Headwaters of Forester Creek

Creek and its tributaries. A follow-up review of satellite images showed there are approximately 12 vacant parcels adjacent to the Forester Creek System.

Small remnants of lots or public right-of-ways are more common. Where creeks cross streets and intersect with the urban parcel grid at an angle, small, often triangular, pieces of land are left vacant and unused.

Within the city limits of El Cajon, all four waterways share the above noted characteristics, but each also have distinct features as described below. In contrast, just outside the City boundaries, Forester Creek becomes a significant natural resource. East of the city limits in Granite Hills, Forester Creek is defined by a relatively lush ravine dotted with custom homes and ranchettes. Northwest of the city limits (200 feet south of Prospect Avenue), the creeks and their surrounding riparian landscape have been restored as the centerpiece of a natural recreation corridor that leads to the San Diego River.

The four components of the Forester Creek System (Forester Creek, Washington Channel, County Ditch, and Broadway Channel) are surrounded by residential, institutional, and industrial land uses (Figure 4.27 to 4.34). The four waterways have many similarities, but some notable differences. In the following sections, Forester Creek is described at length, and Washington Channel, County Ditch, and Broadway Channel are discussed in terms of how they differ from Forester Creek to minimize repetition. Both qualitative and quantitative information are presented; data is predominantly the result of on-the-ground field work by the 606 Studio because of a lack of detailed information available from other sources.

4.1.2.1/Water Flow Information per the City of El Cajon

Flow in the Forester Creek System varies greatly by location and seasonally. The engineered transformation of the creek system into a concrete channel was intended to move water away as quickly as possible to avoid flooding. This means that, during storm events, flows in the creek system are extremely high for a short duration and then subside significantly to near base flow (Figure 4.35 & 4.36).

Near the downstream end of Forester Creek between Billy Mitchell Drive and North Marshall a 10-year storm may range from 3,712 to 4,313 cubic feet per second (CFS) and a 100-year storm may range from 3,820 to 22,033 CFS (City Drainage Master Plan, 2015; Phillips, 2019). Dry weather flows are much lower, ranging from 10 to 102.5 CFS (Phillips, 2019) according to the City of El Cajon’s Dry Weather Monitoring Data (2016-2017).

4.1.2.2/Water Quality in the Forester Creek System

Experienced in the field, the sight and smell of the water in the creeks also presents challenges for developing the waterways as recreational resources. Except during and immediately after rain events, the creeks have, at most, several inches of water, leaving the trash strewn concrete bottom visible and exposing an overgrowth of algae. This low flow and high proportion of algae to water leads to a pungent odor of algae baking in the sun wafting up from the creek bed, making many creek-side locations less attractive as places to sit and relax or actively recreate (TSDRPF, 2019b).

Forester Creek and the San Diego River are designated as impaired water bodies by the Regional Water Quality Control Board and the US Environmental Protection Agency pursuant to the Clean Water Act Section 303(d). The creek’s listed contaminants include fecal coliform, pH, selenium and total dissolved solids. The sources of these contaminants include urban runoff, industrial spills, and agriculture (TSDRPF, 2019b).

While trash is not listed as a Clean Water Act Section 303(d) impairment, it is important to acknowledge that Forester Creek and its tributaries convey a significant volume of trash downstream to the lower Forester Creek enhancement area and the San Diego River (TSDRPF, 2019b).

The vast majority of this trash likely comes from within the City of El Cajon and includes the following sources: litter, illegal dumping, and debris associated with in-creek (or creek-adjacent) homeless encampments. Annually, The San Diego River Park Foundation volunteers remove over 10 tons of trash from the re-vegetated section of creek in Santee. The trash

Figure 4.27 Aerial of Forester Creek System: Highway 67 and 8 interchange at Parkway Plaza

Figure 4.28 Aerial of Forester Creek System: industrial area in El Cajon, Forester Creek in foreground with view to Gillespie Field

Figure 4.29 Aerial of Forester Creek System: headwaters of Forester Creek looking west

Figure 4.30 Aerial of Forester Creek System: restored area

Figure 4.31 Aerial of Forester Creek System: airport and adjacent industrial area

Figure 4.32 Aerial of Forester Creek System: industrial area

Figure 4.33 Aerial of Forester Creek System: start of underground section

Figure 4.34 Aerial of Forester Creek System: Walmart Parkway Plaza

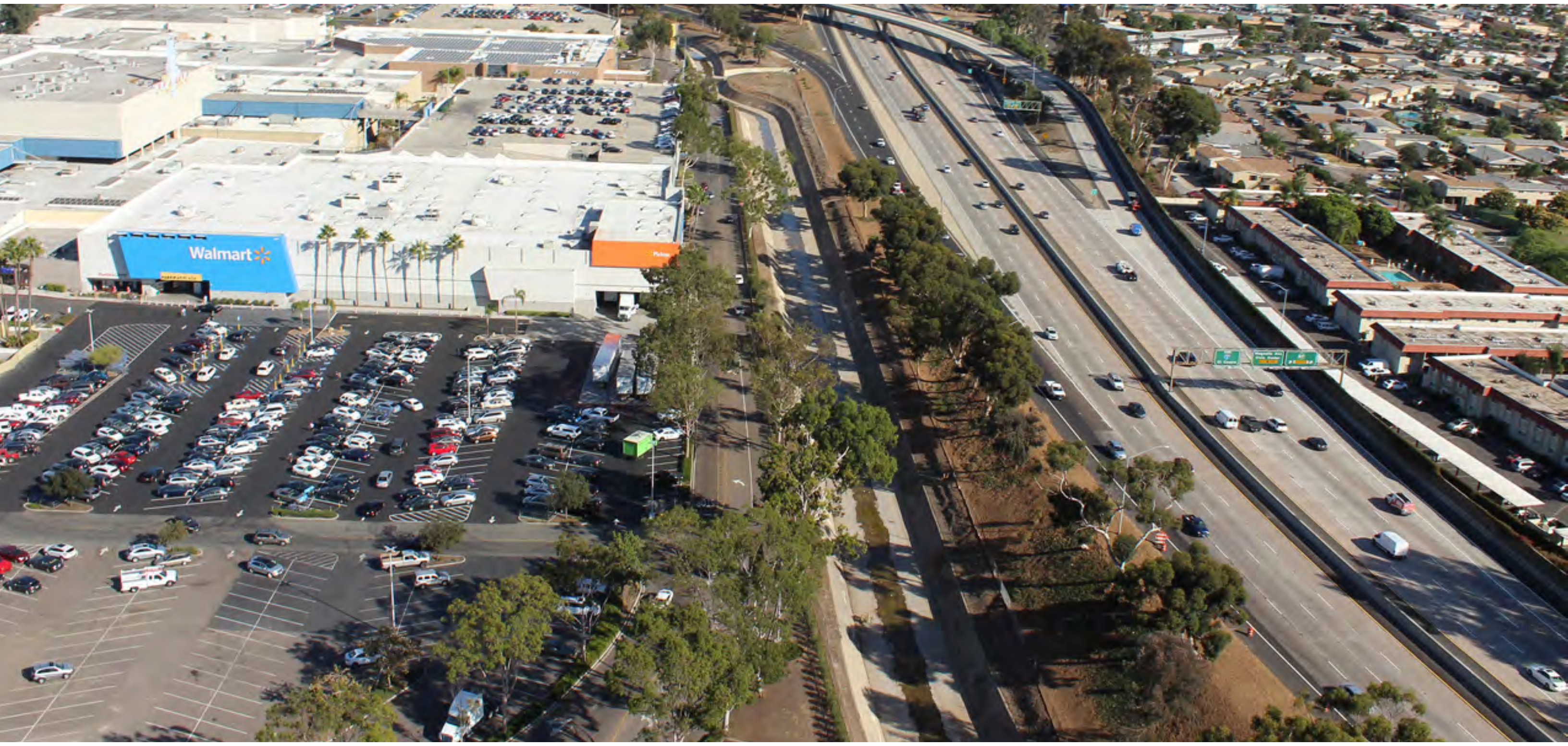
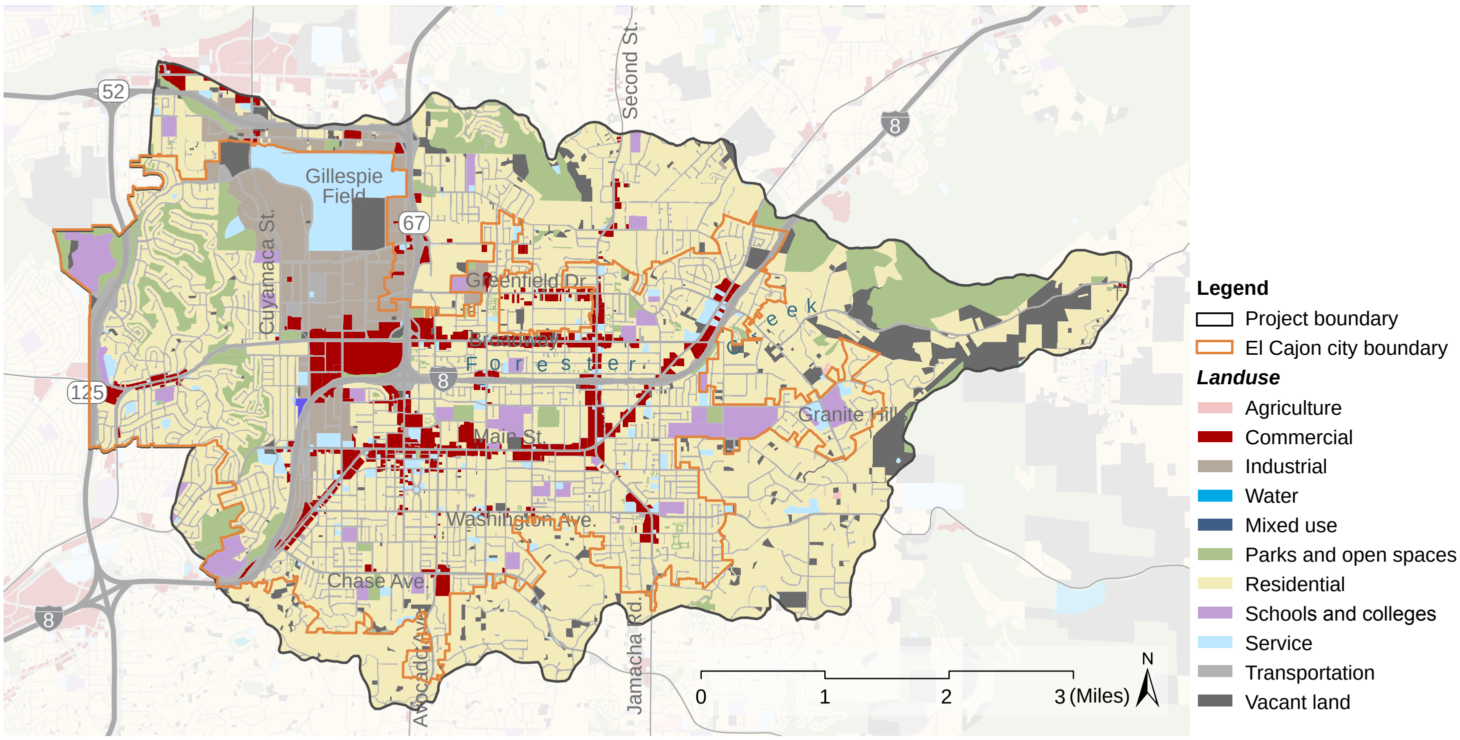


Figure 4.35 Forester Creek after a storm

Figure 4.36 Restored area of Forester Creek after a storm

Figure 4.37 Land use in the study area



not only contributes negatively to the creek's aesthetics and, therefore, public perception, but it can also breed bacteria, harbor disease vector species such as mosquitoes, leach contaminants into the water, and harm wildlife (TSDRPF, 2019b).

A trash capture mechanism—a floating boom with netting underneath—was installed in the channel downstream of Vernon Way to help control trash in the creeks. The boom functions at low flow to capture trash, sediment, and vegetation. At high flow, the boom breaks away, effectively releasing all trash to be discharged downstream.

In 2017, the Regional Water Quality Control Board issued an Executive Order (Order R9-2017-0077) known as the Trash Order. This Order prohibits regulated entities (including the City of El Cajon) from discharging waste, including trash, from locations within their jurisdiction to ocean waters, inland surface waters, enclosed bays, and estuaries in the San Diego Region. Full compliance with the Order is expected by 2030 (TSDRPF, 2019b).

In order to comply with the Order, the City of El Cajon is installing mechanized full trash capture devices in high priority areas in their stormwater infrastructure (TSDRPF, 2019b).

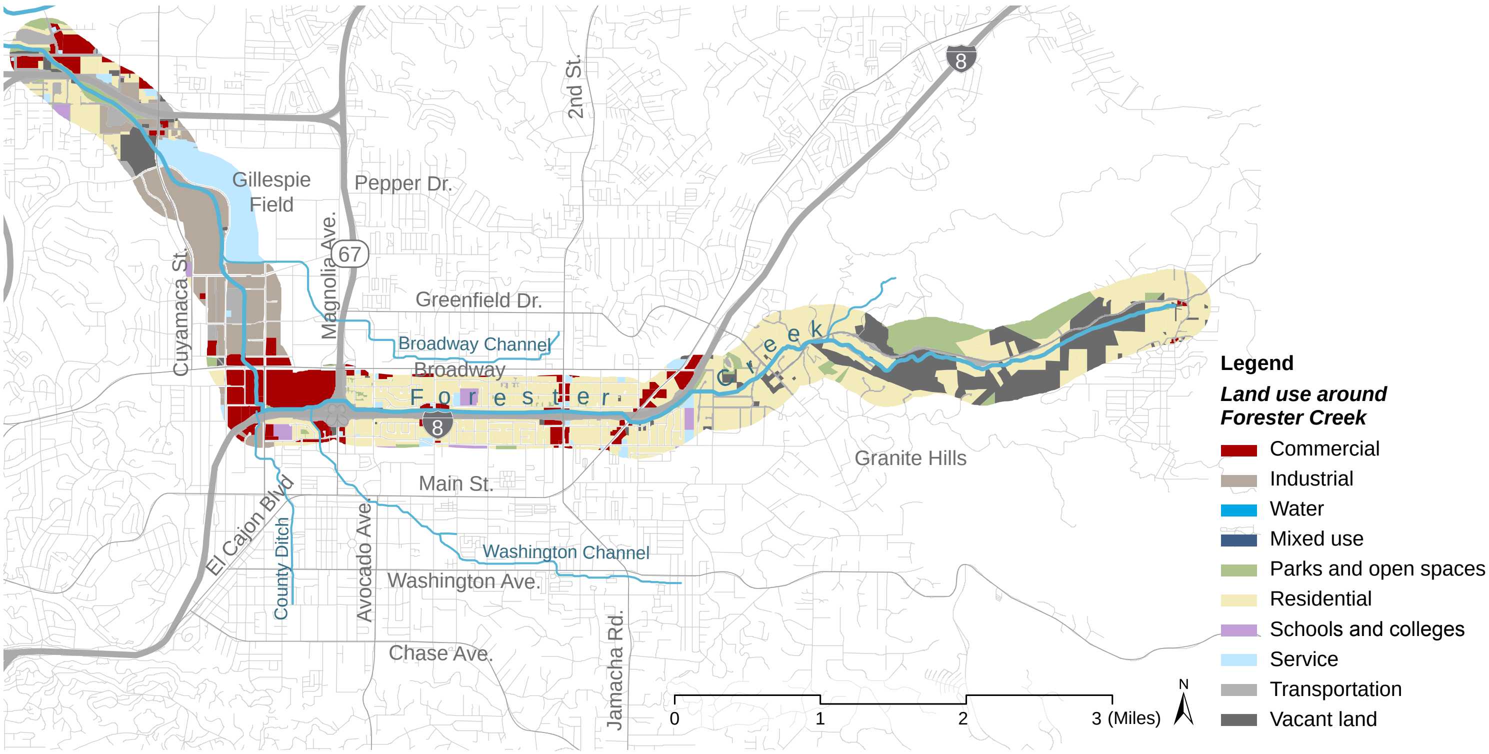
While the Order should help to eliminate trash flow from stormwater infrastructure, it will not address behavior that contributes to trash in the creek system, such as littering and illegal dumping. Additionally, it will not prevent trash from entering the creek system overland via wind and water (TSDRPF, 2019b).

4.1.2.3/Forester Creek

Groundwater flow for the City of El Cajon moves northwest toward the San Diego River, with Forester Creek being the main drainage. Forester Creek is similar to many rivers and creeks in Southern California watersheds as it passes through densely urbanized areas: it is concrete-lined. However, its headwaters are located in foothills that are less developed (California Department of Water Resources, 2013).

Forester Creek is considered the main drainage flow for the City of El Cajon, flowing northwest and converging with the San Diego River in

Figure 4.38 Current land use extending ¼ mile from Forester Creek



Santee, northwest of the City of El Cajon. The three tributaries converge with Forester Creek combining drainage from the study area. During dry seasons water flowing within the creek is first seen once the creek has been channelized, illustrating that urbanization is responsible for runoff during dry periods.

Forester Creek originates in the hills east of the City of El Cajon and moves through predominantly residential single-family detached housing with scattered undeveloped land near the headwaters in Crest. Moving west, Forester Creek passes under the 8 Freeway and runs adjacent to the freeway (Figure 4.38). On the other side of the creek is a combination of single-family detached houses as well as single family multiple unit residential housing, providing views of Forester Creek, but no physical access. Forester Creek remains this way until passing under the 67 Freeway, where it runs adjacent to Parkway Plaza, a commercial destination providing shopping, dining, and entertainment. Moving underground, Forester Creek passes under other neighborhood shopping centers until it resurfaces in the industrial area of the city. Running north, land use around Forester Creek remains predominantly industrial, with small areas of light commercial land uses until Santee and the confluence of Forester Creek and the San Diego River.

Observed in the field, Forester Creek creates four distinct experiences as it runs through the study area. The creek is first channelized when it enters the city limits as it crosses under Fourth Street (see Figure 4.40). On the east side of Fourth Street, the creek has a natural channel with some vegetation and fencing on one side. On the west side of Fourth Street, the creek is channelized in concrete with fencing and development right up to the top of the bank. On the west side, the fencing has been covered with vines, so the creek is not visible at all. This condition—channelized in concrete with development and fencing up to the top of the bank—is the predominant experience of Forester Creek and its tributaries throughout the study area.

Interestingly, not far from the Fourth Street crossing is the most visible and accessible reach of Forester Creek in the city. Between Sycamore Lane and Fourth Street, the creek meanders in a relatively natural course between properties

Figure 4.39 Visual access points to Forester Creek

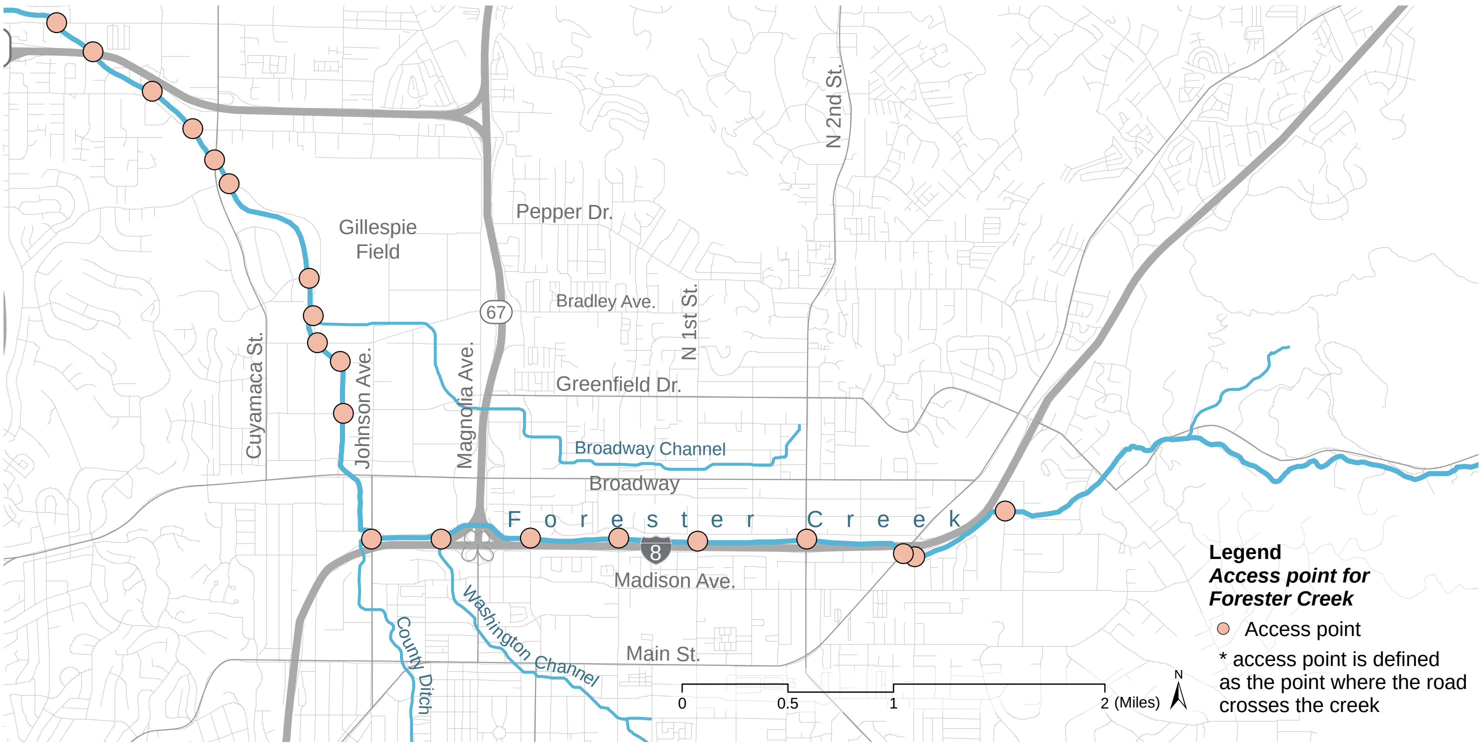
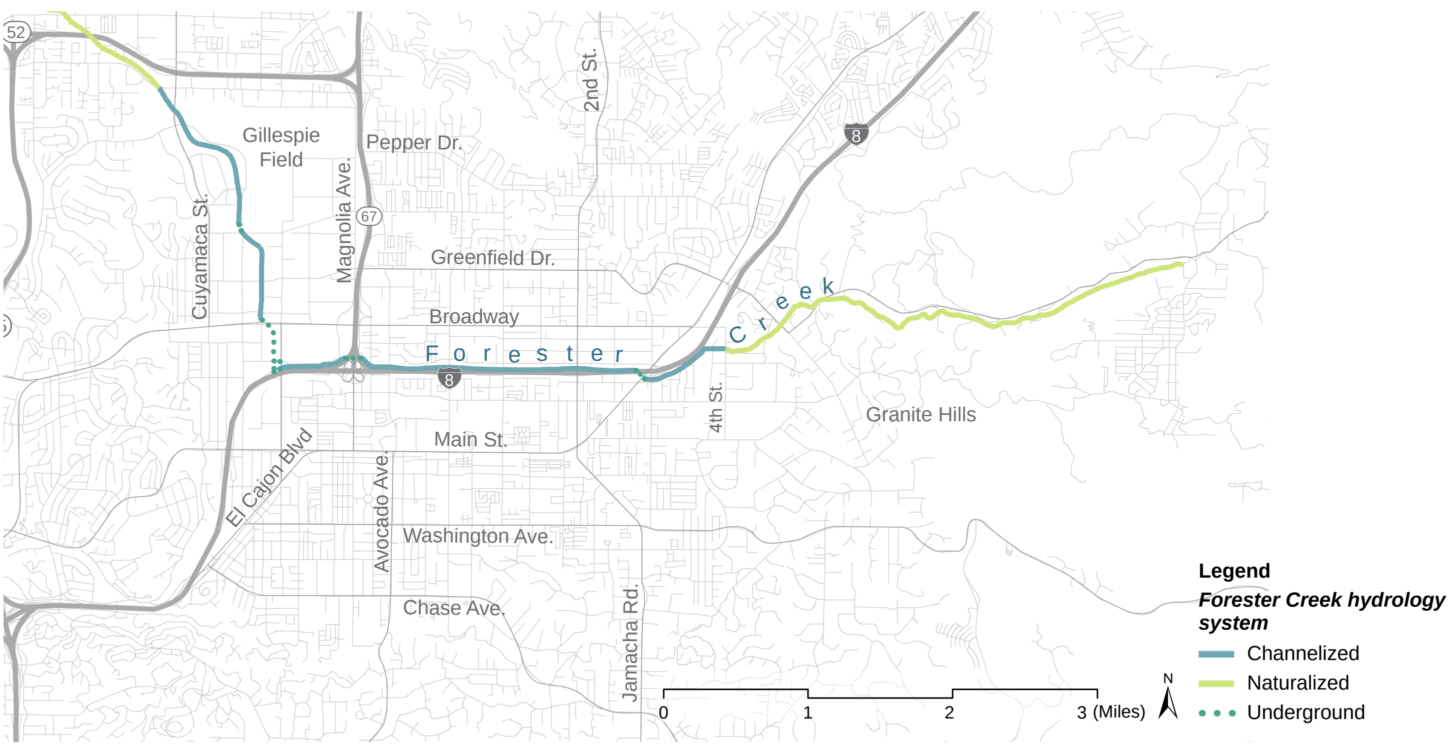


Figure 4.40 Channelized, naturalized, and/or buried sections of Forester Creek



without clear boundaries. The banks are shaded by mature oaks, laurel and eucalyptus trees. Walking these sections, the team recognized creative potential for recreational access, but also uncertainty as to the boundaries of the adjacent properties and whether pubic use would be welcomed in the viewshed of such high-end homes.

At Fourth Street, Forester Creek enters a concrete channel in which it remains until leaving the City of El Cajon. For the next 17,029 feet (approximately 3 miles), the creek is a large storm drain associated with the 8 Freeway, rather than a natural feature. The creek is only visible where north-south streets cross under the freeway or dead end into the combined freeway and creek (Figure 4.39). Otherwise, it is hidden behind residential and commercial properties with fences on the top of the bank (Figure 4.21 & 4.22). In the field, the team observed that these intersections held significant potential as places to engage the creek, if the noise and particulate matter from the freeway could be overcome. The limited under-crossings of the freeway concentrate pedestrian traffic, exposing more people to the creek at these locations than anywhere else in the study area (Figure 4.39).

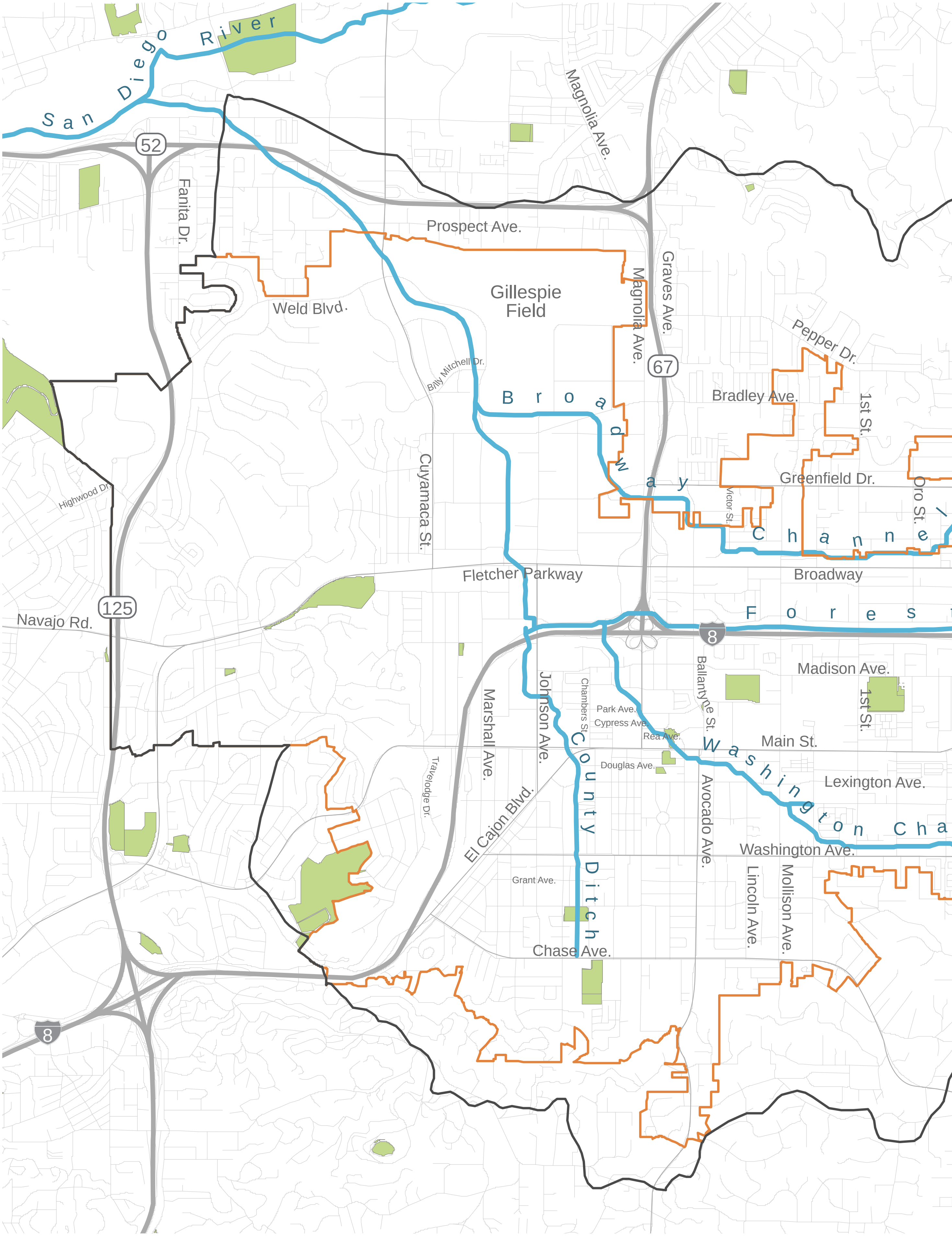
At North Johnson Avenue, the creek enters a buried box culvert until it emerges at Fletcher Parkway (Figure 4.40 & 4.41). When it emerges, it is running in a wider concrete channel surrounded by low industrial buildings, commercial yards, and parking lots. The larger scale of the channel, the low-slung character of the surrounding buildings, and the ample undeveloped land in this area make the creek feel more accessible and visible. The creek's intersections with Bradley Avenue and Marshall Avenue (see Figure 4.41 for street locations) appear to provide opportunities for creek-side recreation, assuming sufficient demand from people in the surrounding industrial buildings. From Billy Mitchell Drive to the El Cajon border the creek is paralleled by long curvaceous areas of land that are undeveloped or under development. These areas appear to have great potential as creek-side open space, either in their entireties or as remnants of land left after architectural construction.

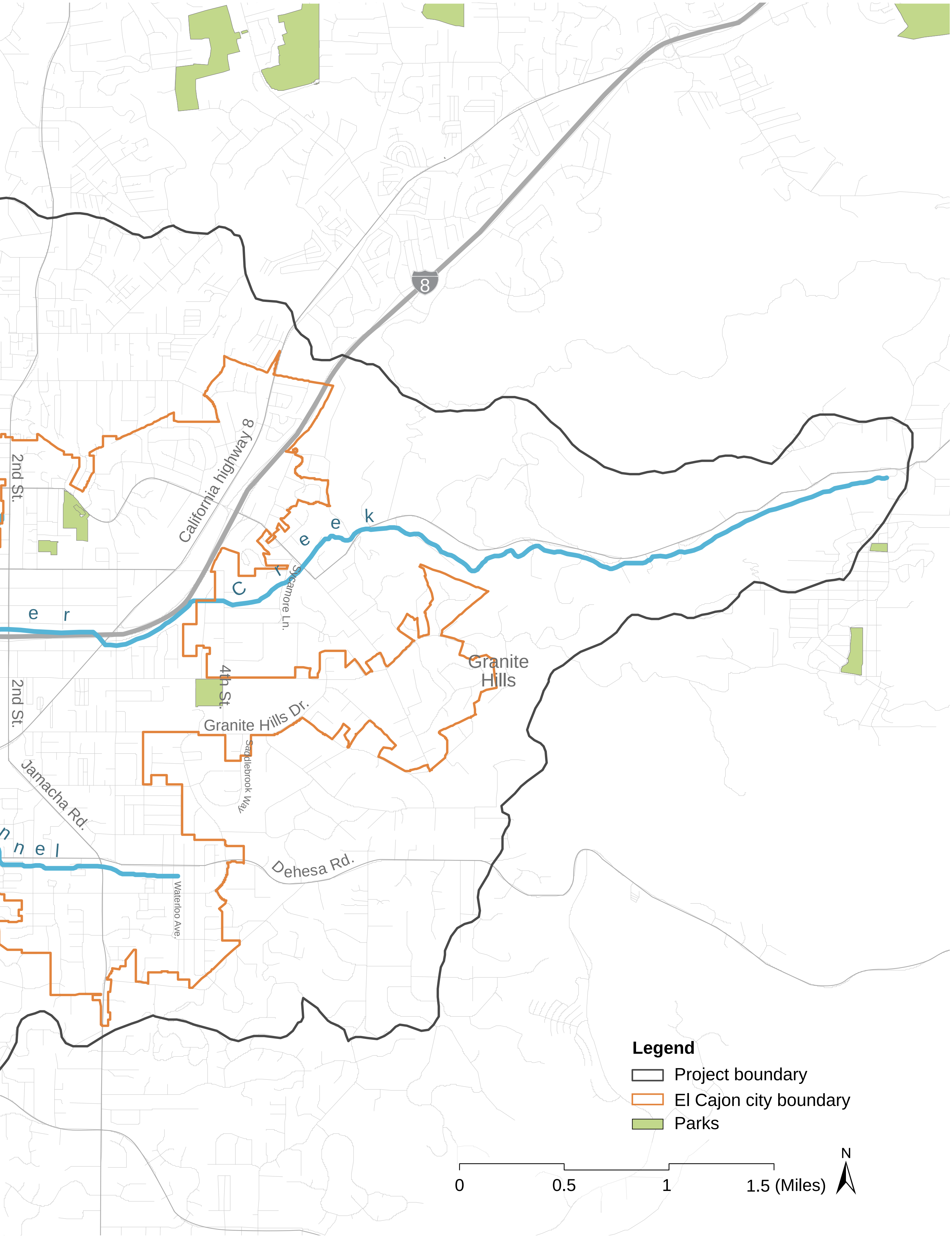
At Prospect Avenue (Figure 4.40), Forester Creek exits the City of El Cajon in the same way it entered the City at Fourth Street. On the south (El Cajon) side of Prospect Avenue, a wide concrete channel with no vegetation runs 15 feet below the roadway. On the north (Santee) side of Prospect Avenue, a willow and cottonwood thicket rises 15 feet above the roadway, signaling the re-naturalized creek below.

Just as Forester Creek is a tributary of the San Diego River, Forester Creek has three tributaries associated with it: Washington Channel, County Ditch, and Broadway Channel. Washington Channel and County Ditch originate in the south part of the City of El Cajon, flowing northwest until converging with Forester Creek along the Interstate 8 Freeway. Broadway Channel runs east and west, converging with Forester Creek just south of Gillespie Field (TSDRPF, 2018), a local airfield (Figure 4.31).

Land use configurations are varied along Forester Creek and its tributaries: Washington Channel, Broadway Channel, and County Ditch present different characteristics.

Figure 4.41 City of El Cajon street map




California highway 8
8
2nd St.
2nd St.
4th St.
Sycamore Ln.
C r e e k
e r
n e l
Granite Hills
Granite Hills Dr.
Saddlebrook Way
Jamacha Rd.
Dehesa Rd.
Waterloo Ave.
Legend
Project boundary
El Cajon city boundary
Parks
0
0.5
1
1.5 (Miles)
N

4.1.2.4/Broadway Channel

Broadway Channel is north of the 8 Freeway running east-west, parallel to Forester Creek. It also runs parallel to Broadway, a main east-west connector street in the City of El Cajon. One side of Broadway Channel consists of multi-family residential homes and single-family multi-unit homes and the other is strip mall shopping centers. After crossing under the 67 Freeway, Broadway Channel moves through an industrial land use area and converges with Forester Creek just south of Gillespie Field (Figure 4.42).

Observed in the field, Broadway Channel creates two distinct experiences, both more accessible than most of Forester Creek. Its smaller, more human scale makes Broadway Channel more visible and accessible from its headwaters at Second Street to its transition to a natural bottom channel at Victor Street (Figure 4.43). Only 12 feet wide and 8 feet deep in this section, Broadway Channel feels (and is) much closer to passing pedestrians, who can see the ripples in the water and watch individual leaves float by. Like sections of Forester Creek, residences and residential fences go right up to the top of the Broadway Channel bank, but the creek feels less hidden because it is running along the side of residential lots, rather than across the back. For much of this reach, the south bank of the channel is bordered by commercial establishments that face Broadway. This adjacency creates more visibility as the waterway can be seen from restaurant parking lots. It is not a giant leap to imagine outdoor seating facing the creek.

From Victor Street to the confluence with Forester Creek at Marshall Avenue, Broadway Channel is free from concrete and presents as a “creek”, rather than a storm drain (Figure 4.44; see Figure 4.41 for street locations). From Victor Street to Gillespie Field, the potential of this earthen channel is unrealized as it has been kept clear of vegetation and mostly hidden behind homes and industrial buildings. When the channel reaches Gillespie Field it blossoms into a verdant waterway covered with willows, pampas grass and other volunteer plants, illustrating the potential of the entire Channel (Figure 4.49). The City of El Cajon is currently planning a stormwater improvement project along a section of Broadway Channel.

Figure 4.42 Current land use extending ¼ mile from Broadway Channel

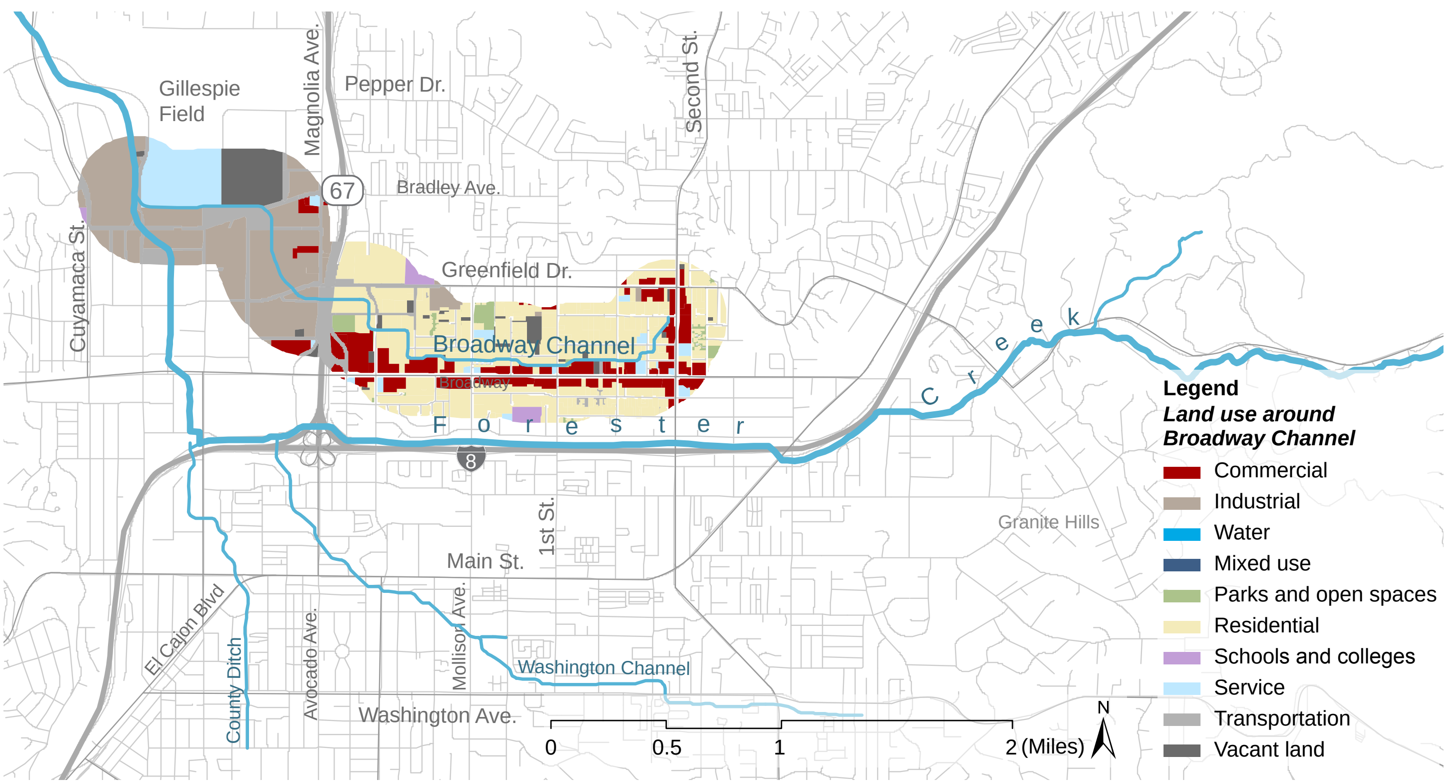


Figure 4.43 Visual access points to Broadway Channel

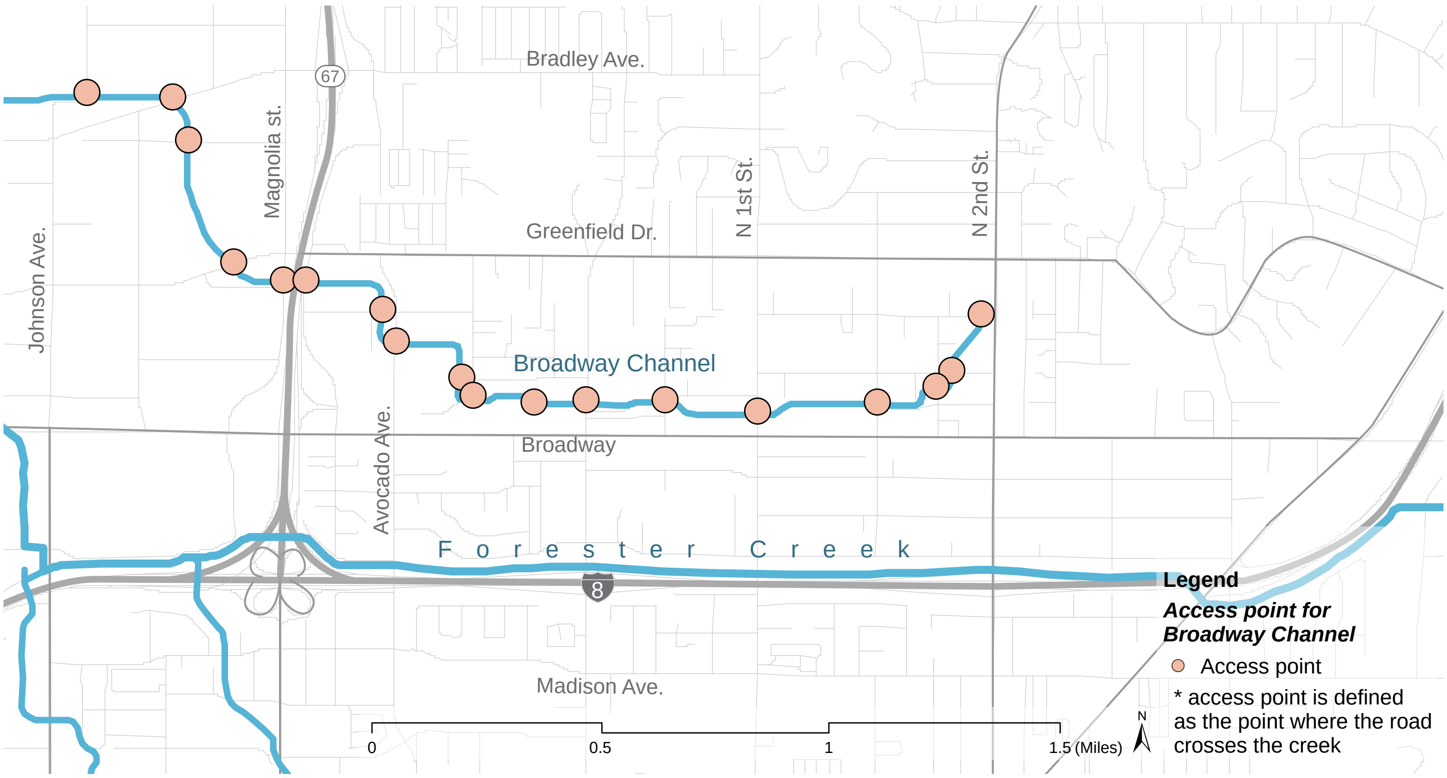
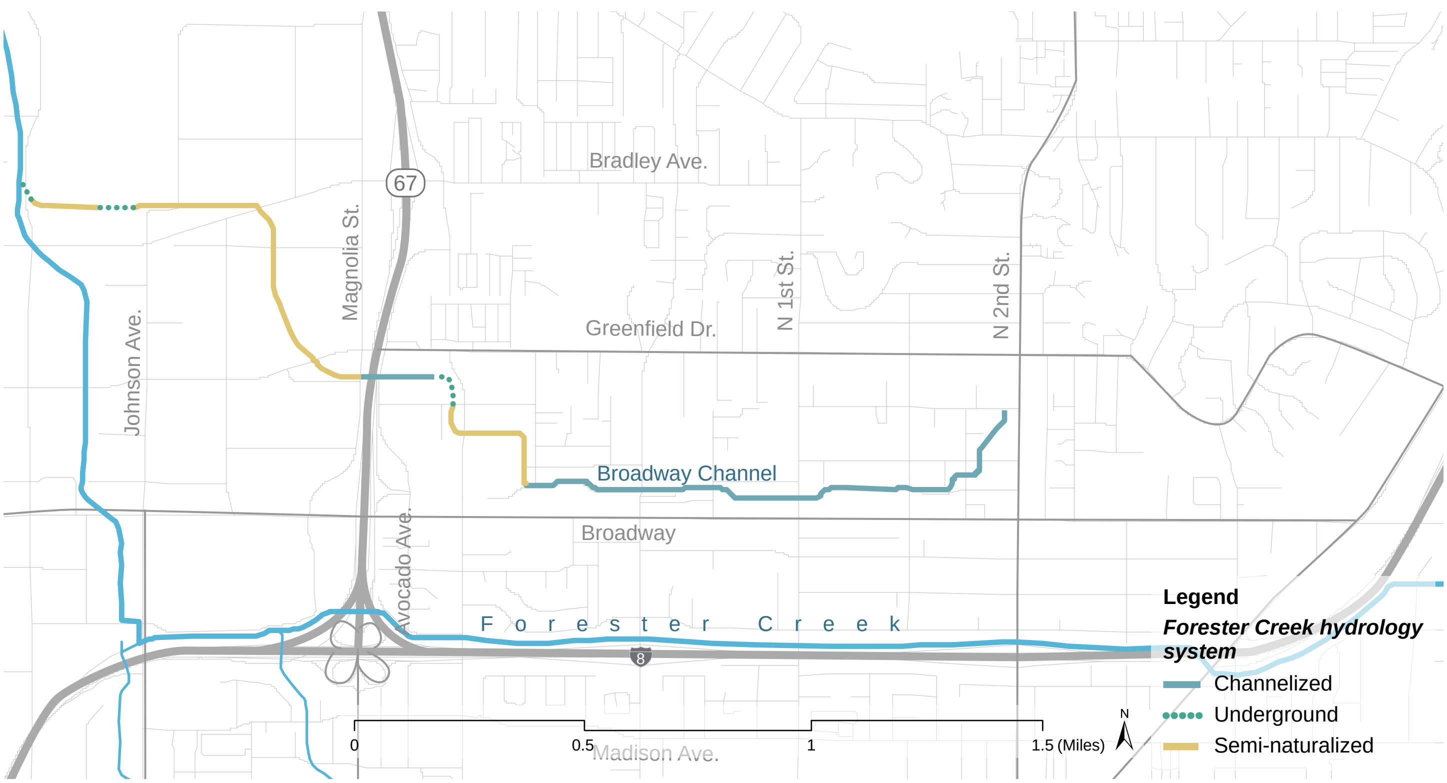


Figure 4.44 Channelized, naturalized, and/or buried sections of Broadway Channel



4.1.2.5/County Ditch

County Ditch first begins in a residential neighborhood in the south part of the City of El Cajon which is mainly single-family detached houses. The tributary passes directly under Renette Park before moving through another residential neighborhood with multi-family residential units. Closer to the center of the City of El Cajon, County Ditch passes though commercial and light industrial areas that include auto shops and dealerships before converging with Forester Creek near the 8 Freeway and Parkway Plaza (Figure 4.47).

County Ditch is a concrete channel devoid of vegetation from its headwaters to its confluence with Forester Creek. County Ditch is distinguished by its potential to support adjacent recreational opportunities in this more densely populated southern section of the City of El Cajon (Figure 4.45 & 4.46). Just after it begins at Chase Avenue, County Ditch flows under Renette Park, presenting an opportunity for a daylighting and restoration project. Even now, the creek is part of the background for birthday parties and skateboarding sessions. Farther north, County Ditch intersects the four-point crossing of West Main Street, El Cajon Boulevard and Douglas Avenue where the complex road geometry leaves several highly visible creek-adjacent triangles of land that could become public spaces (Figure 4.48). Finally, County Ditch runs alongside the largest piece of vacant creek-side land in the residential neighborhoods of the study area. This 1.5-acre parcel, located between where Park Avenue and Cypress Avenue dead end at County Ditch, is surrounded by large multi-family apartment complexes on three sides, making it a prime location for active, creek-side recreation. Land ownership would require resolution prior to design and development.

Figure 4.45 Land uses adjacent to County Ditch

Figure 4.46 Channelized section of County Ditch at Madison Avenue

Figure 4.47 Current land use extending ¼ mile from County Ditch

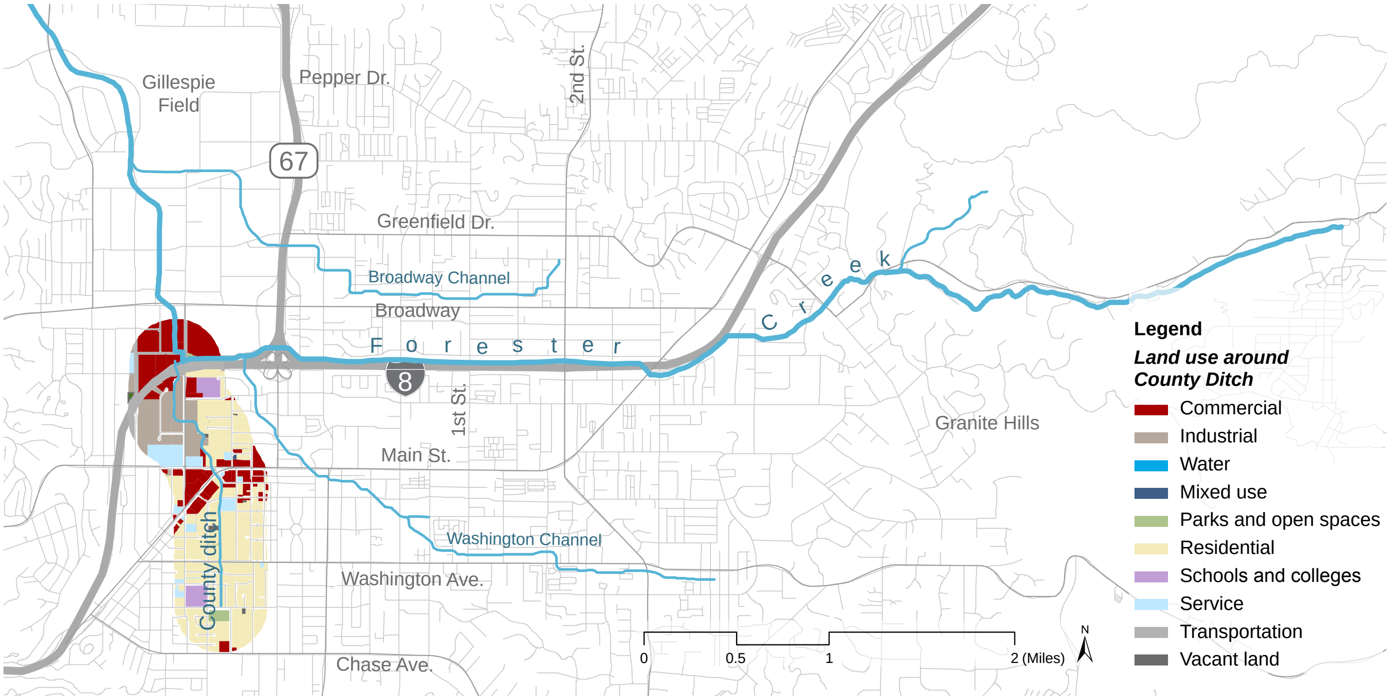
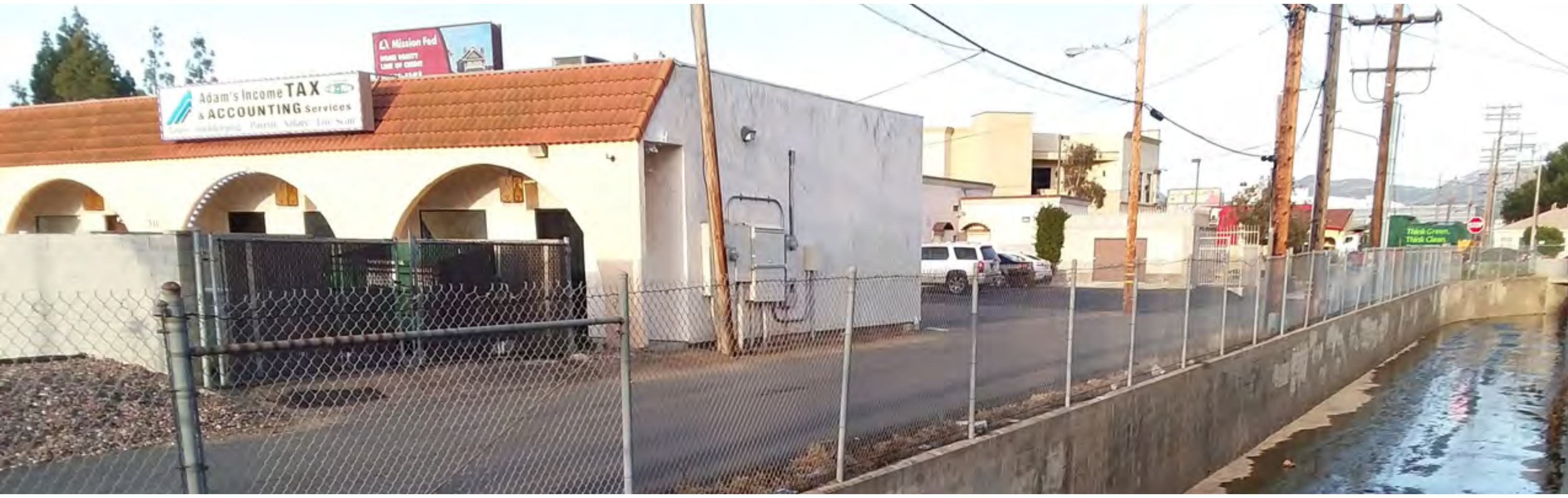


Figure 4.48 Visual access points to County Ditch

Figure 4.49 Naturalized section of Broadway Channel

Figure 4.50 Urbanized areas around County Ditch

Figure 4.51 Urbanized areas around Washington Channel



4.1.2.6/Washington Channel

Washington Channel begins in the southeastern part of the City of El Cajon and runs through a predominantly residential neighborhood consisting of multi-family residential housing units along with single family detached homes. Moving west, land use around Washington Channel remains the same until the tributary turns northwest where Washington Channel passes directly under the City of El Cajon Civic Center and the land use changes to residential commercial businesses until converging with Forester Creek at Parkway Plaza (Figure 4.52).

Washington Channel, like County Ditch, is a concrete channel devoid of vegetation from its headwaters at Waterloo Avenue to its confluence with Forester Creek at the edge of the Parkway Plaza Mall (Figure 4.53 & 4.54).

Washington Channel has the potential to accommodate recreational uses because of the way the channel interacts with adjacent land uses (Figure 4.55 & 4.56). The first half of Washington Channel runs west, parallel to the street grid and mostly behind residential development, creating few opportunities for access and recreation (Figure 4.53, 4.54 & 4.59).

Between First Street and its confluence with Forester Creek, Washington Channel runs northwest diagonally across the city grid, creating triangles of undevelopable land that have potential as open space. For example, as the Channel crosses Lincoln Avenue at a 45-degree angle, it leaves two 1500 square foot triangles of creek-side land isolated from the rest of their legal parcels. These lots are too small for building, but perfectly sized and located for mini-parks. Farther north, Washington Channel is buried as it cuts diagonally across the landscape of the City of El Cajon Civic Center (Figure 4.57 & 4.58). Ironically, on top of the creek the City has constructed a large watercourse resembling a high Sierra stream. This cooling, active landscape attracts many passersby and groups of senior citizens who come to socialize and play board games alongside the water. There is no interpretation of the location or the relationship between the fountain and the water that runs beneath.

Figure 4.52 Current land use extending ¼ mile from Washington Channel

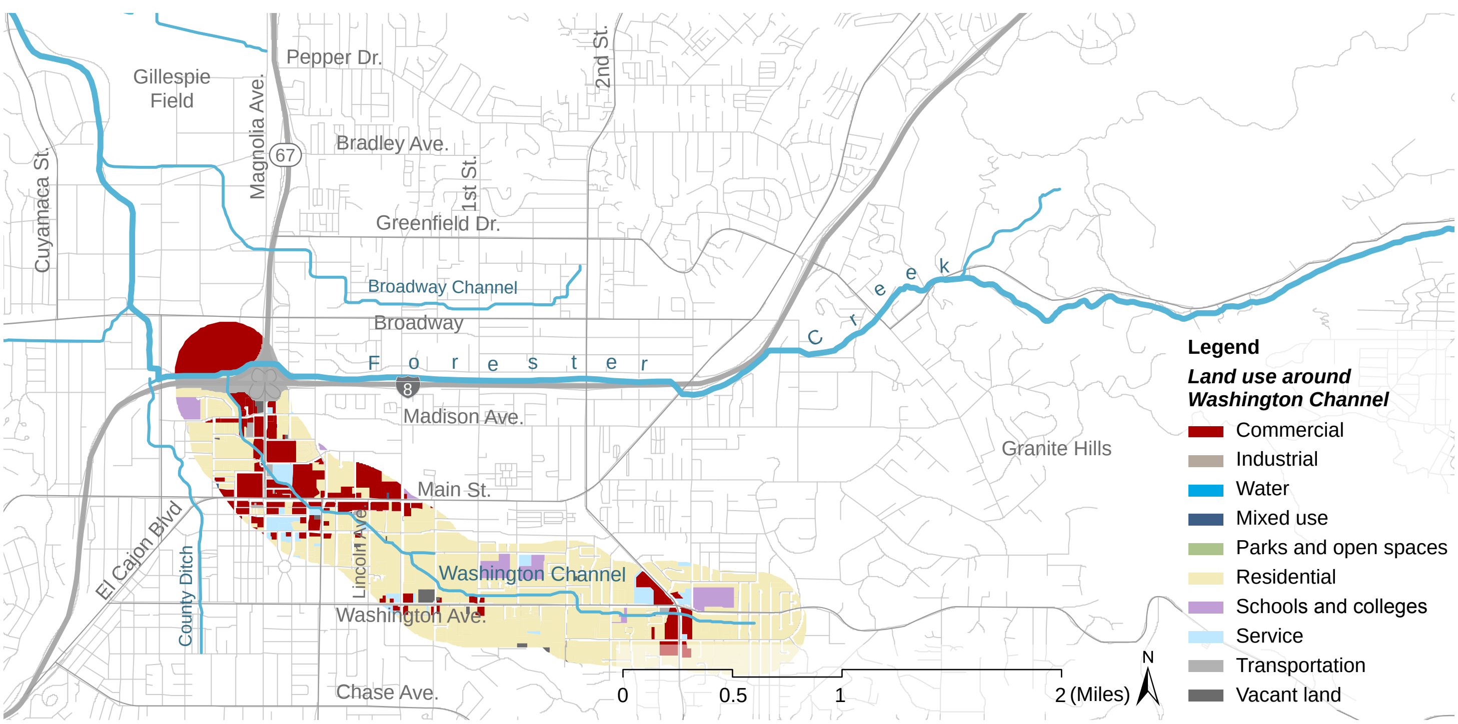


Figure 4.53 Urbanized areas around Washington Channel

Figure 4.54 Urbanized areas around Washington Channel

Figure 4.55 Visual access points to Washington Channel

Figure 4.56 Channelized, naturalized, and/or buried sections of Washington Channel

Figure 4.57 Underground/buried section of Washington Channel

Figure 4.58 Land uses on top of the underground/buried section of Washington Channel

Figure 4.59 Land uses adjacent to Washington Channel

4.2/Demographics of the City of El Cajon

The study area includes the City of El Cajon, Forester Creek, its tributaries, and their watersheds, which extend into several neighboring cities and the county. However, demographic data is generally available by census tract and/or city, and as such, the demographics used to describe the study area are, by necessity, those of the City of El Cajon. There should be little difference between the metrics of the City of El Cajon and the study area in general, which, in addition to the City of El Cajon, also includes portions of the County of San Diego, and small sections of the City of Santee, the community of Crest, and the City of La Mesa. Data that was available for the study area is specified. Other data presented is for the City of El Cajon.

Demographic data is useful in assessing the needs of the community, planning for them, and also for assessing the impact of a project on its users (SRF Consulting Group, Inc., 2003). This type of analysis identifies current users, potential users, and the future users of the park or open space (SRF Consulting Group, Inc., 2003).

In North America, certain personal characteristics have been shown to influence landscape preferences including:

- Age – preferences linked to evolutionary factors seem strongest in childhood and are modified with age and experience (Balling & Falk, 1982). These include preferences for landscapes with trees and water and minimum under-story, maintained landscapes, landscapes with “prospect and refuge” (that allow views outwards from a protected vantage point), open “savannah”-style landscapes, and landscapes with evidence of human intervention through maintenance, design, or construction. Kaplan and Kaplan (1989) suggest that seniors may prefer landscapes with greater evidence of human impact.

- Gender – men and women pay attention to different landscape elements, though there is conflict in the literature on this point (Balling & Falk, 1982; Hull & Stewart, 1995; Kaplan & Kaplan, 1989; Lyons, 1983; Mohai, 1992; Schahn & Holzer, 1990; Strumse, 1996).

- Ethnicity – cross-cultural differences seem to be inconsistent (Bourassa, 1991; Kaplan & Kaplan, 1989): it is difficult to predict landscape preferences by ethnicity alone, though the preferences listed under “Age” above are consistent across cultural groups. The more natural a landscape is, the more it encourages feelings of fear or pleasure, depending on the viewer’s perspective: these feelings become stronger as evidence of human impact decreases (Dearden, 1989).

- Education – higher education is related to positive attitudes to wilderness, concern about environmental issues, and a reduced need for order and neatness in natural areas (Kaplan & Kaplan, 1989; Lyons, 1983).

- Membership or involvement with environmental organizations – those people involved with environmental groups tend to view natural areas positively (Schahn & Holzer, 1990), with higher than average awareness of native vegetation (Kaplan & Kaplan, 1989) and shrub areas (Ribe, 1989).

- Location of residence – urban residents prefer landscapes which support recreational activities such as hiking and walking (Williams & Cary, 2002).

- Familiarity - people prefer landscapes which are from their regional biome (Keane, 1992; Lyons, 1983).

- Involvement in outdoor activities – higher levels of involvement encourage a preference for natural areas (Lyons, 1983).

- Amount of time in natural areas – as time spent in natural areas decreases, so do preferences for those areas (Lyons, 1983).

In the aggregate, research suggests that the most significant factor which determines the use level, activities, and facilities needed at local parks is age (More, Echelberger & Koenemann, 1990). Other less significant factors include gender, level of education, number of children, ethnicity, and employment status.

According to the 2010 U.S. Census Data, there are 135,999 people living in the study area with 56,811 people living within a quarter-mile of the Forester Creek System. The data suggests that approximately 42% of people in the area

Figure 4.60 City of El Cajon demographics: age

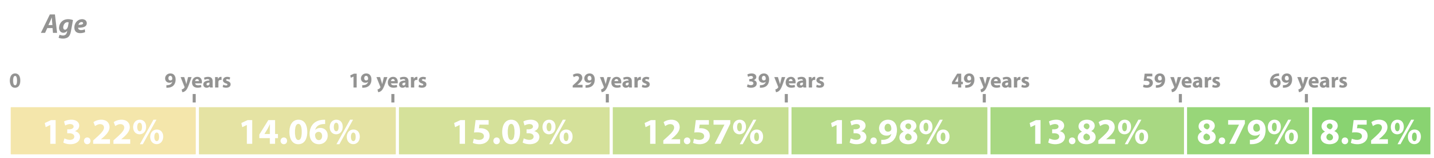


Figure 4.61 City of El Cajon demographics: gender

Figure 4.62 City of El Cajon demographics: education

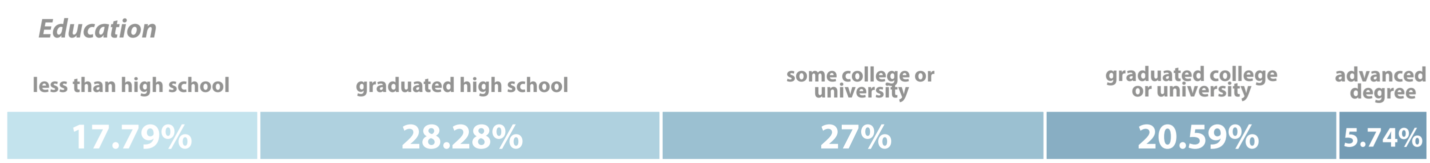


Figure 4.63 City of El Cajon demographics: percentage of children in the City of El Cajon by age group (of all the children aged 0 to 14 in the City, the percent that falls into each age group: 0 to 4 years old, 4 to 9 years old, and 9 to 14 years old)

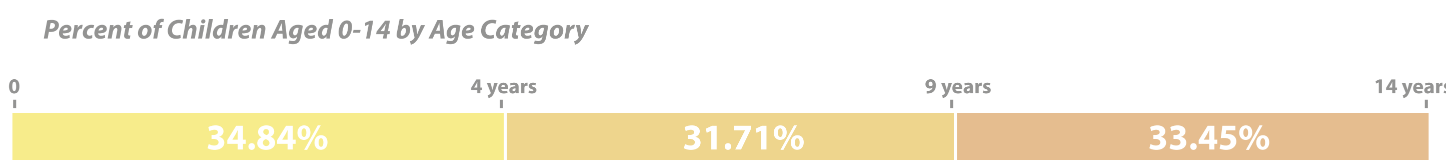


Figure 4.64 City of El Cajon demographics: race

Figure 4.65 City of El Cajon demographics: employment status

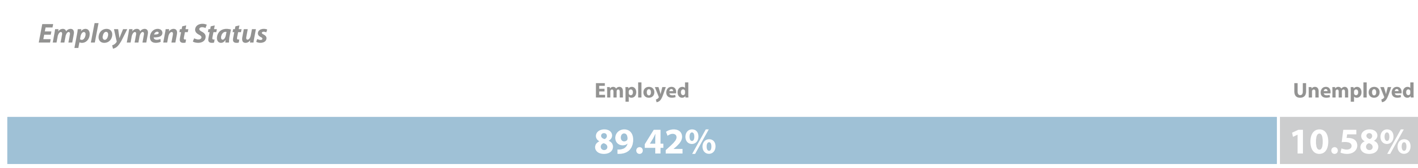


Table 4.05 City of El Cajon and surrounding areas demographic profile

Total Population: 103,314 (data source: American Community Survey 2017, 5 year estimate 2013-2017)			San Diego County Total population: 3,093,782	
	Percentage	**Cumulative Percentage**	**Percentage**	**Cumulative Percentage**
Gender				
Male	50.7		50.3	
Female	49.3		49.7	
Age				
0-4	7.7	7.7	6.5	6.5
0-9	7.5	15.2	6.1	12.6
10-14	6.5	21.7	6.0	18.6
15-19	6.2	27.9	6.4	25.0
20-24	7.5	35.4	8.1	33.1
25-34	16.3	51.7	16.3	49.4
35-44	12.2	63.9	13.2	62.6
45-54	12.8	76.7	12.9	75.5
55-59	6.3	83.0	6.1	81.6
60-64	5.2	88.2	5.5	87.1
65-74	6.3	94.5	7.3	94.4
Over 75	5.5	100.0	5.6	100.0
Median age	33.8		35.4	
Mean (average age)	36.7		36.03	
Race/Ethnicity				
White*	72.8		70.8	
Black	5.7		5.0	
American Indian	0.5		0.6	
Asian	3.4		11.7	
Pacific	0.8		0.4	
Others	9.9		6.3	
2 or more races	6.9		5.1	
Race/Hispanic Origin				
Hispanic	29.2		33.4	
-Mexican	25.4		29.8	
-Puerto Rican	0.6		0.7	
-Cuban	0.1		0.2	
-Other Hispanic	3.0		2.7	

Non-Hispanic or Latino	70.8		66.6	
-White alone	56.4		46.2	
-Black alone	5.4		4.7	
-American Indian alone	0.2		0.4	
-Asian alone	3.3		11.5	
-Pacific alone	0.7		0.4	
-Others	0.3		0.2	
-2 or more races	4.5		3.3	
Level of Education (education attainment of population older than 25)				
Less than high school	17.8	17.8	13.3	13.3
Graduated high school	28.3	46.1	18.6	31.9
Some college or university	27.0	73.1	22.4	54.3
Graduated college or university	20.6	93.7	23.0	77.3
Advanced degree	5.7	99.4	14.4	91.7

**Note that "white" category can include various ethnic groups*

live within walking distance of the Forester Creek System, illustrating a great opportunity to connect peoples' daily lives and the creek.

The Forester Creek System flows through the center of the City of El Cajon, where there are higher population density levels than in the rest of the city. For the purposes of this report, the center of El Cajon is defined as the area bound by Third Street on the east, Johnson Avenue on the west, Broadway on the north and Washington Avenue on the south. These boundaries correspond to the colloquial understanding of the "center of town" as it was introduced to the project team by community stakeholders. Sixty percent of the residents of the City of El Cajon live near Forester Creek, Washington Channel, Broadway Channel, or County Ditch, and 70% of those residents live in the downtown and surrounding populous areas, within a quarter mile of the Forester Creek System. As such, the Forester Creek System can serve the recreational needs of a large number residents in the study area.

4.2.1/Age

Overall, the City of El Cajon's population is slightly older than that of San Diego County – the average age in El Cajon is 37, while in San Diego County it is 36 (Figure 4.60; Table 4.05). However, El Cajon has 2.6% more residents under the age of 9 than San Diego County as a whole. The relative youth of the population in the area will tend to lead to a higher demand for recreational facilities such as playgrounds, water play, skate parks, and sports fields such as soccer.

4.2.2/Gender

El Cajon has a split of 51% male to 49% female, largely reflecting the population as a whole (Figure 4.61; Table 4.05).

4.2.3/Level of Education

El Cajon is notably different from San Diego County in terms of education. 46% of residents have high school as their highest level of education. Another 27% have some college or university and above education level, for a total of 73% that have less than a college or university diploma. By comparison, only 54.3% of San Diego County residents have less than a college or university diploma. In another words, only 26.9% of residents of El Cajon have a college degree or higher level of educational attainment, while San Diego County's figure is 45.7%. Long-term, this has significant repercussions for the income level of residents, their capacity to financially support recreation resources, and their need for supportive government infrastructure (Figure 4.62; Table 4.05).

4.2.4/Income

The median household income in the City of El Cajon is $49,500, whereas the median in San Diego County is almost $71,000. El Cajon's median income is only 70% of the County's. This has significant repercussions for the resources available to the residents of the city: they will have less resources for travel, recreation, and leisure activities outside their community. They are also more likely to need resources to help provide recreation and leisure services for their children, especially those key to health and welfare. This presents an opportunity as well: residents of El Cajon would have their quality of life significantly improved through the provision of additional park space, recreational paths and trails, and infrastructure to support alternative transportation to work and school.

4.2.5/Number of Children

The number of children between 0 and 14 years of age in El Cajon is 36,000, roughly 20% of the population. San Diego County's population is 19% young people. As such, while El Cajon has the same number of children and similar size households, families have lower levels of education and less financial resources (Figure 4.63).

4.2.6/Race and Ethnicity

The following series of maps shows the distribution of ethnic groups throughout the study area. Compared to the entire study area, the downtown El Cajon area has the lowest density of White people. The surrounding area beyond downtown has a higher percentage (up to 90%) of White people (Table 4.05). It should be noted that the demographic descriptor "White" likely includes various ethnic groups, including Middle Eastern and Latino.

The study area is traditionally Kumeyaay land and many members of indigenous groups live here. Though this group makes up a relatively small percentage of the local demographics, their important role in the El Cajon Valley cannot be overlooked.

Fewer residents of the study area are Black. However, up to 15% of the people living near the center of El Cajon are black. In those areas, it is particularly important to consider this user group in recreation planning.

Asian people make up a relatively small percentage (3%) of the total population. The highest concentration of these individuals occurs in the light industry area in Northwest El Cajon and in the neighborhoods around County Ditch.

According to American Community Survey (2013-2017) data, El Cajon has lower racial and ethnic diversity than the County of San Diego.

In order to understand the diversity status of El Cajon, it is important to distinguish race from ethnicity. Including other races of Hispanic origin, the Hispanic population composes up to 29.2% of the City's population. In the non-Hispanic population, El Cajon has 56.4% White, 5.4% Black or African American, 3.3% Asian and less than 1% of American Indian, Alaska Native, Native Hawaiian, and other Pacific Islander. The "White" category may also include individuals of Middle Eastern origin.

4.2.7/Employment Status

The employment status of the El Cajon population 16 years of age and older provides insight into the impact of education level and the resulting income discrepancy between El Cajon and San Diego. In El Cajon, 10.6% of the population is unemployed, while in San Diego County, 7% of the population is unemployed. Beyond financial resources, these numbers suggest that the population may have more time to spend on leisure and recreation activities (More, Echelberger & Koenemann, 1990), while at the same time having less money to spend on these activities. It should be noted that research shows that employment status is a factor in recreational facility use (More, Echelberger & Koenemann, 1990) (Figure 4.65; Table 4.05).

4.2.8/Population Density

In terms of population density, the downtown El Cajon area has the densest population (Figure 4.66 & 4.67): an average density of 13,000 people per square mile. Determining where people live and where the most densely populated areas are is key to identifying major future users of the *Forester Creek System Recreation Access Plan*.

Figure 4.66 Population density by race

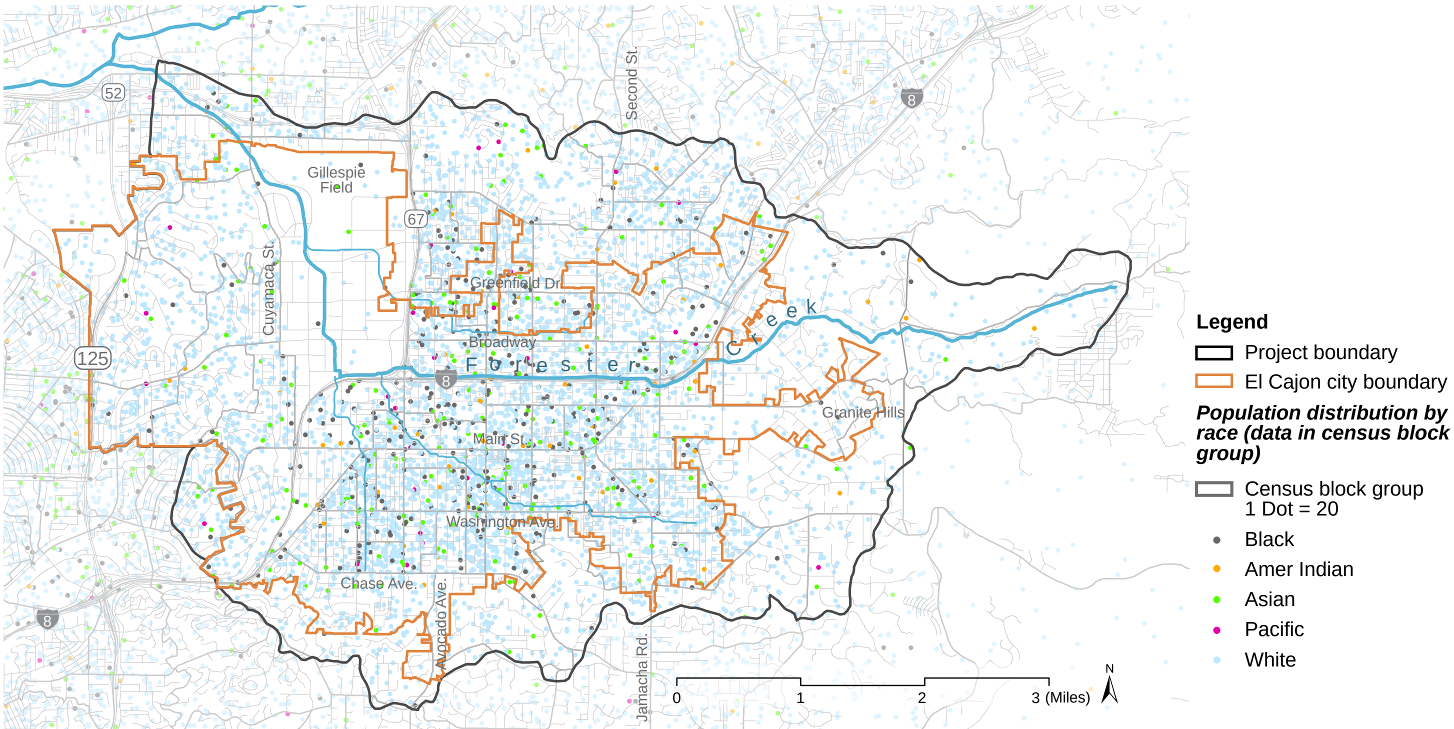
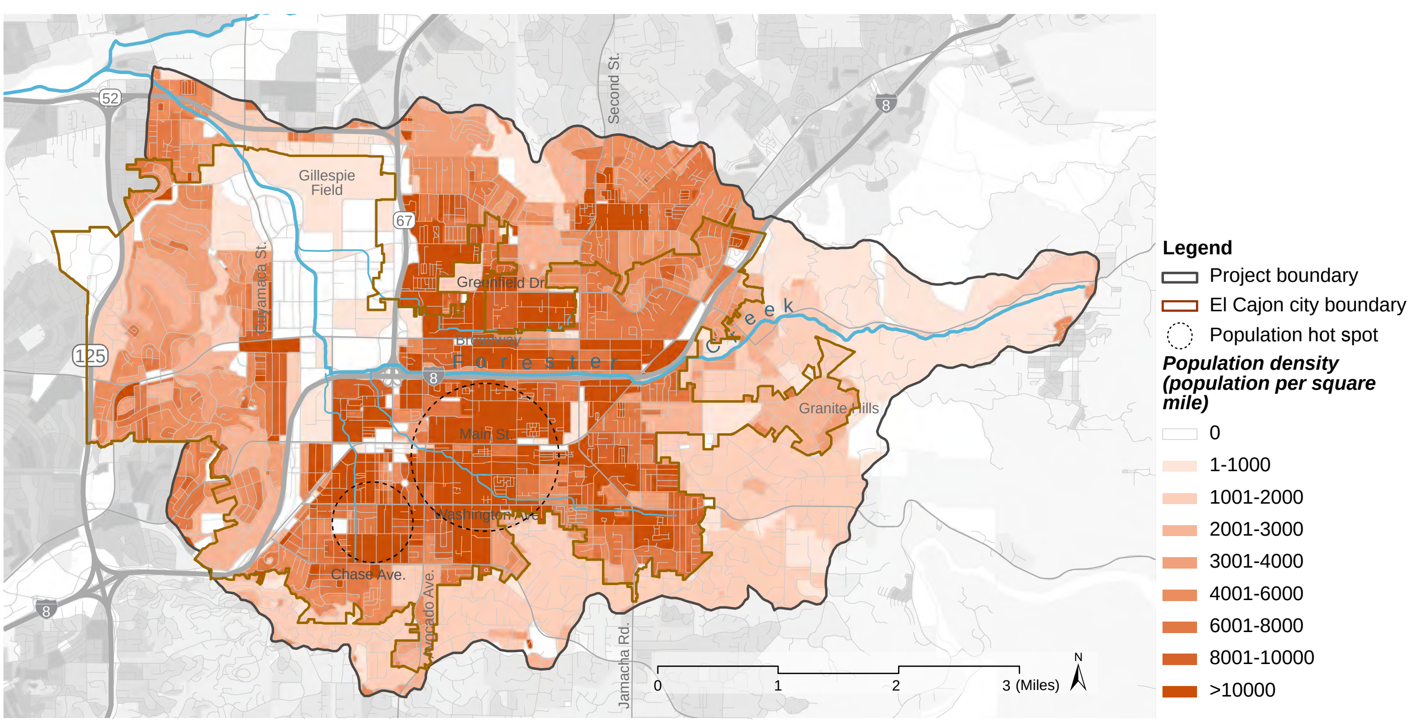


Figure 4.67 Population density



4.3/Existing Outdoor Recreational Resources, Activities, and Facilities

4.3.1/Existing Outdoor Recreational Facilities in the Study Area

The City of El Cajon and the rest of the study area are located in Southern California. This area has a Mediterranean climate which is very supportive of outdoor activities, including sports and recreation. However, California's development pattern and historic land use allocation and zoning have left many areas, including the City of El Cajon, park-poor. As of 2017, El Cajon has less than one acre of parkland per 1000 people (1:1000), significantly lower than both the California and national park provision standards of 3:1000 and 10:1000. As a result, residents of the study area lack access to sufficient programmed sports facilities such as soccer or baseball, unprogrammed youth facilities such as skateboard parks, and general mobility resources such as trails and cycling facilities (Table 4.06 & Figure 4.68).

According to the *City of El Cajon General Plan* (2000):

"El Cajon has 10 developed park sites totaling some 68.75 acres and owns a 9-acre undeveloped site on West Main Street…The City has four multipurpose recreation centers, one in each quadrant of the city: Bostonia Park, Kennedy Park, Renette Park and Hillside Park. Wells Park serves as a senior activity center as well as the location of the El Cajon Boys and Girls Club and other multiple-use activities… The City participated in the joint development of Harry Griffen Park, a 53-acre regional park site on the very western boundary of El Cajon in the City of La Mesa."

Different facilities are provided in different parks. Common park facilities include sports fields, children's playgrounds, paths for walking or cycling, fitness equipment, water features, and built structures such as community centers. Fortunately, the City of El Cajon has twice the number of recreation centers than the national average, though not all are located on park properties. Spatial distribution of facilities and local preference for particular facilities play an important role in the pattern of people using the parks.

It is important to note that there are several parks outside the boundary of the City of El Cajon but within the study area.

According to the City of El Cajon website (https://www.cityofelcajon.us/your-government/departments/recreation/parks-playgrounds-sports-fields), the following are the park facilities in the city (City of El Cajon, n.d.) (Figure 4.68; Table 4.06):

1/Albert Van Zanten Park
1495 Greenfield Drive

This 15-acre park offers three baseball/softball fields (one lighted), that are available for community use. The complex also has playing fields for soccer or football practice and games, a 440-yard track, as well as a concession stand, restrooms, and score booths. Outdoor basketball courts are also available after school hours.

2/Bill Beck Park
543 North Pierce Street

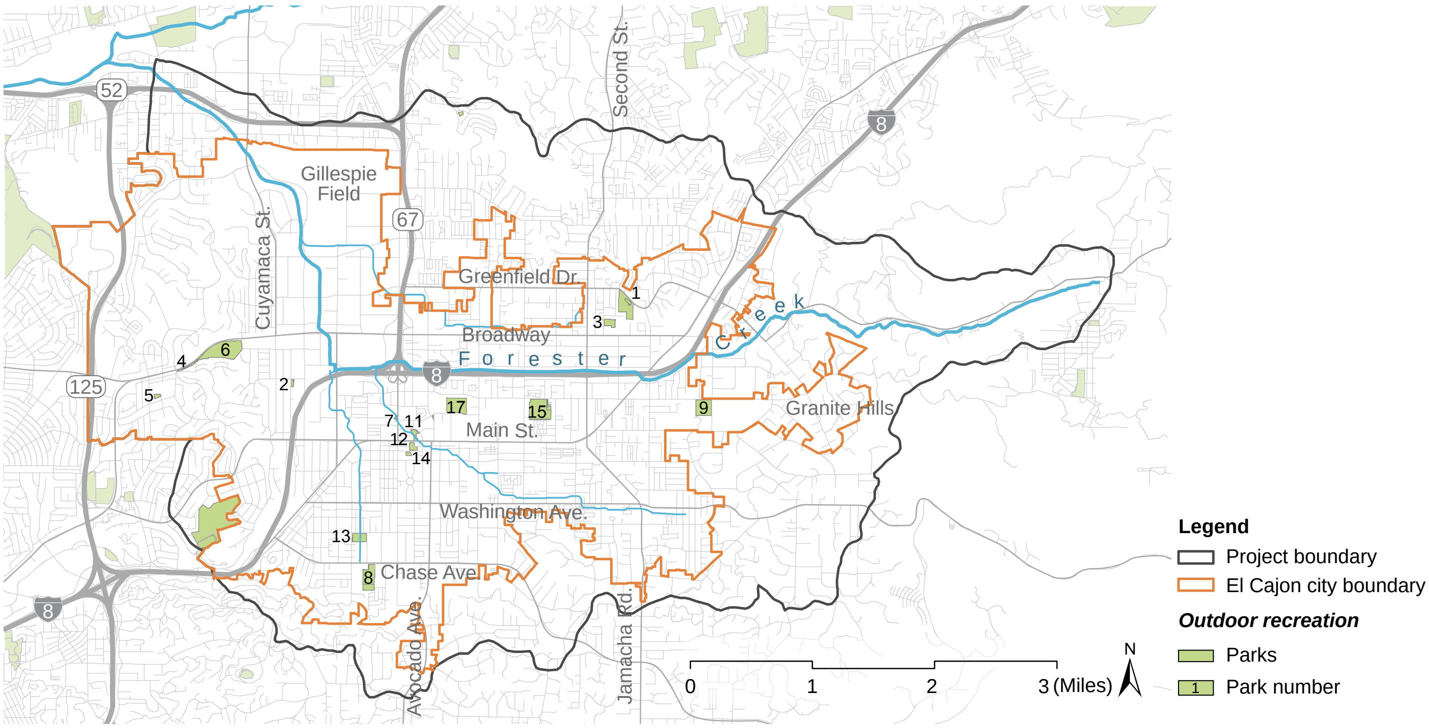
Located off Marshall Avenue, Bill Beck Park includes basketball and a playground.

Table 4.06 Park facilities in the City of El Cajon

Facility	Number provided in City of El Cajon	Provision standard*	Required number per provision level standard
Soccer fields	4	1 field per 4500 residents	23
Baseball/softball	25	1 field per 7000 residents	15
Trails	1.3 miles	0.4 miles per 1000 residents	46 miles
Bike lanes/routes	19.2 miles		
Pools	1	Unknown	unknown
Playgrounds	17	1 playground per 4000 residents	26

**Standard provision level per National Recreation and Parks Association; also as adopted by the City of Santee*

Figure 4.68 Parks in the study area



3/Bostonia Park
1049 Bostonia Street

Bostonia Park, adjacent to the Bostonia Recreation Center and Bostonia Elementary School, is a small two-acre park with rolling grassy knolls and playground equipment that includes three slides and climbing areas.

4/Fire Station Park
695 Tyrone Street and North Westwind Drive

Fire Station Park is a "mini-park" with a small grassy pad and a picnic table adjacent to the Fletcher Hills Fire Station. It has trail access to Hillside Park.

5/Fletcher Hills Center and Pool
2345 Center Place

The Fletcher Hills Center and Pool is centrally located in the Fletcher Hills area, across the street from Fletcher Hills Elementary School. This park includes a picnic area.

6/Hillside Park
840 Buena Terrace

This park on the western hillside along Fletcher Parkway features over 19 acres of mostly natural multi-level terrain. The upper park offers picnicking and walking trails. The lower park has a large grassy playing field and restrooms.

7/Judson Park (also known as Red Cross Park)
Magnolia and Park Avenue

This grassy, shady park is well-known for its white gazebo surrounded by roses.

8/Karl Tuttle Park
379 Chase Avenue

Tuttle Park is a 9-acre complex with ballfields, a concession stand, score booth, and restrooms. A path encircles the ball fields.

9/Kennedy Park
1675 East Madison Avenue

This neighborhood park (Figure 4.68 & 4.70) at the corner of Madison Avenue and Fourth Street provides a sports field, lighted ball diamond, a playground, walkways, and picnicking areas under mature trees. The park is home to the annual Fourth of July picnic and fireworks display.

Figure 4.69 Renette Park

Figure 4.70 John F. Kennedy Park

10/Kennedy Skate Park (part of Kennedy Park)
1675 East Madison Avenue

This skateboard park includes approximately 11,000 square feet of concrete bowls, ramps, grinds, jumps, and "street" features for skateboards, in-line skates, scooters, and BMX bikes.

11/Centennial Plaza
200 Civic Center Way

This outdoor plaza is next to the City of El Cajon Civic Center and the East County Performing Arts Center. Its grassy areas and walkways surround a pond and stream with ducks. An amphitheater is also part of the plaza and can be reserved for special events or performances.

12/Prescott Promenade
201 Main Street

Prescott Promenade (Figure 4.68 & 4.71) is a park venue available for special events, art shows, and community activities. The Promenade features a small stage area surrounded by trees, bench seating, and grassy knolls.

13/Renette Park
935 South Emerald Avenue

Renette Park (Figure 4.68, 4.69, & 4.73) includes a lighted outdoor basketball court, large grassy playing field, mature shade trees, picnic areas, a multi-purpose play court known as the "Plaza" which features skateable surfaces, and a small stage. Also featured in the park is a playground with modern equipment sections for preschool and school-aged youth which is fully accessible. The recreation center offers meeting rooms, a game room, gymnasium, and supervised recreation activities.

14/Stoney's Neighborhood Park (beside Ronald Reagan Community Center)
195 East Douglas Avenue

Stoney's Neighborhood Park was named in honor of the late Buell "Stoney" Stone who was well-known for his philanthropy and community involvement in the City of El Cajon.

15/Wells Park
1153 East Madison Avenue

This 18-acre park (Figure 4.68 & 4.76) features one lighted ball field, one lighted soccer field, large trees, picnic tables, and two "tot lot" play areas. Wells Park is popular with walkers and joggers who take advantage of the walkway that encircles the park and the fitness court that offers a self-guided program of exercises from stretching to resistance training.

15/Wells "Off Leash Dog Area" (part of Wells Park)
1153 East Madison Avenue

This 1.4-acre facility provides an area for local residents to exercise their dogs in a safe controlled environment. This accessible area has many special features including two separate zones: one for larger dogs and one for smaller/shyer breeds. The dog park includes shade trees, a shelter area with picnic tables, a specially designed water fountain for dogs, and lighting.

Another popular park is **El Cajon City Park (17)** (Figure 4.68, 4.72, 4.74, & 4.75), which is next to Cajon Valley Middle School. According to the City of El Cajon, it is not an official city park.

The City of El Cajon does not collect park impact fees, and does not use municipal tax dollars for park construction. Any new park construction would require grant funding. According to the Department of Planning, no new parks are currently planned in the City.

The San Diego Foundation's "Parks for Everyone" report highlighted several key factors associated with the provision of parks, including that the "…region's most park-poor communities are also the areas in our region with the highest childhood obesity rates" (The City Project, 2015, p. 9). One of the purposes of the report was to highlight how, while San Diego has 45% of its total land dedicated to green space, "not all San Diegans have equal access to green space" (The City Project, 2015, p. 7).

While residents of the City of San Diego have a good level of access to recreational opportunities, the City of El Cajon suffers from park poverty. "The history of San Diego is relevant to understand how disparities in green access within the region came to be and what opportunities exist for making green access

Figure 4.71 Prescott Promenade

Figure 4.72 City Park

Figure 4.73 Renette Park

Figure 4.74 City Park

Figure 4.75 City Park

Figure 4.76 Wells Park

Table 4.07 El Cajon outdoor parks and recreation facilities by park (City-owned)

	Size (acres)	Soccer (large)	Soccer (small)	Football	Playground	Picnic shelter	Picnic (no shelter)	Dog park	Skate park (skateboard, BMX)	Basketball	Tennis	Volleyball	Baseball/softball (adult)	Baseball/soft ball (youth)	Multipurpose field	Stage/special events venue	Water play	Four square
City parks																		
Albert Van Zanten Park	12.05	1	0	0	0	0	0	0	0	6	0	0	3	0	0	0	0	0
Bill Beck Park	0.75	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bostonia Park	3.24	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire Station Park	0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fletcher Hills Center and Pool	0.86	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Hillside Park	23.66	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Judson Park	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Karl Tuttle Park	12.16	0	0	0	0	0	0	0	0	8	0	0	0	4	0	0	0	4
Kennedy Park	10.36	0	0	0	1	1	0	0	0	0	6	0	0	1	1	0	0	0
Kennedy Skate Park		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Centennial Plaza	1.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Prescott Promenade	2.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Renette Park	4.84	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	0	1
Stoney's Neighborhood Park	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wells Park	17.74	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
Wells "Off Leash Dog Area"		0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
El Cajon City Park*	10.72	0	0	0	0	0	0	0	0	6	0	0	2	0	0	0	0	0
TOTAL CITY PARKS	**101.6**	**2**	**0**	**0**	**7**	**4**	**1**	**1**	**2**	**21**	**6**	**0**	**6**	**5**	**3**	**3**	**0**	**5**

**El Cajon City Park is not actually owned or managed by the City of El Cajon according to city staff, but is extensively used as parkland by city residents.*

Table 4.08 El Cajon outdoor parks and recreation facilities resources (totals)

	Size (acres)	Soccer (large)	Soccer (small)	Football	Playground	Picnic shelter	Picnic (no shelter)	Dog park	Skatepark (skateboard, BMX)	Basketball	Tennis	Volleyball	Baseball/softball (adult)	Baseball/soft ball (youth)	Multipurpose field	Stage/special events venue	Water play	Four square
TOTAL CITY PARKS	101.6	2	0	0	7	4	1	1	2	21	6	0	6	5	3	3	0	5
TOTAL PARTNER SCHOOL FACILITIES	N/A	1	2	0	0	0	0	0	0	22	12	0	5	3	0	0	0	24
TOTAL OUTDOOR RECREATION FACILITIES (CITY OF EL CAJON)	**N/A**	**3**	**2**	**0**	**7**	**4**	**1**	**1**	**2**	**43**	**18**	**0**	**11**	**8**	**3**	**3**	**0**	**29**

See Table 4.11 for information on partner school facilities more equitable. The reality that low income people of color disproportionately lack equal access to parks, beaches, trails, and forests is not an accident of unplanned growth, and not the result of an efficient free market distribution of land, but the continuing legacy of a history and pattern of discriminatory land use, housing and economic policies and practices" (The City Project, 2015).

Park access can be measured several ways, but the most common is The Trust for Public Land's (TPL) national recommendation of 10 acres of parks per 1000 residents in urban areas (known as park population density ratio). Park acreage per thousand residents is a commonly used method to determine whether an area is park-poor or not as it considers both quantity of parks and the people living within a certain distance of the parks (Lau, 2015).

The City of El Cajon has 14 city-owned parks (plus City Park) with a total park acreage of 102 acres not including schools. "Even including the school sites, only 1.3% of El Cajon's total land area within the city is parkland. El Cajon provides far less parkland than many high density or low-density cities" (TPL, 2019). The total population of the study area is 136,000 (US Census Bureau, 2010). El Cajon residents have less than 1/3 the recommended level of parks per the State of California standard, and 1/10 the national standard. The disparity between El Cajon and its neighboring cities is evident in Figure 4.77. An additional 207 acres of parkland would be needed to bring El Cajon up to the State of California standard of 3:1000 (Table 4.09).

Park proximity can also be defined as the parks located within a ten minute walk (1/2 mile) of a person's residence. According to the GIS data and this analysis (see Chapter 5), around 25% of people live a quarter mile (5 minute walk) from a park and 60% of people live within half a mile (10 minute walk) (Figure 4.79).

Finally, the density of the population and the ability of the area's parks to serve a population's needs (including a lack of crowding and avoiding damage to the resource) are also park poverty issues.

The provision of city services including parks, recreation facilities, and programming is governed by the city's General Plan and related documents (see Appendix E) (Table 4.09). According to the *City of El Cajon General Plan* (2000):

"Not indicated on the General Plan map, but of great importance, are the smaller urban open spaces which occur as part of the city scene: spaces between buildings, street parkways and median strips, green belts, and common open space areas in residential developments, etc. These highly desirable, but smaller open space areas cannot be shown on a General Plan map but they can be obtained through policy statements contained within the text of the General Plan and carried forward to the City's ordinances, policies and design standards…The plan recognizes some 900 acres of open space."

Figure 4.77 Park provision comparison of El Cajon, neighboring cities, and San Diego County in acres per 1000 persons (U.S. Census, 2010)

National standard 10:1000; California standard 3:1000. San Diego County includes large state parks such as Anza Borego State Park, which affects the average.

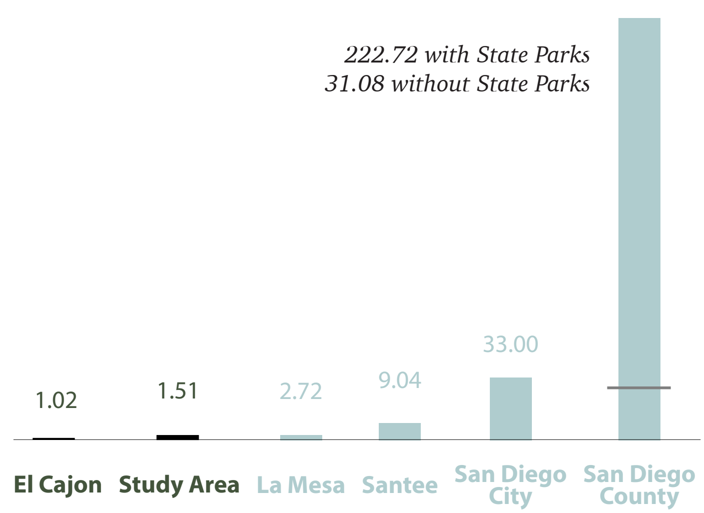


Figure 4.78 Park poverty measured by park/population ratio

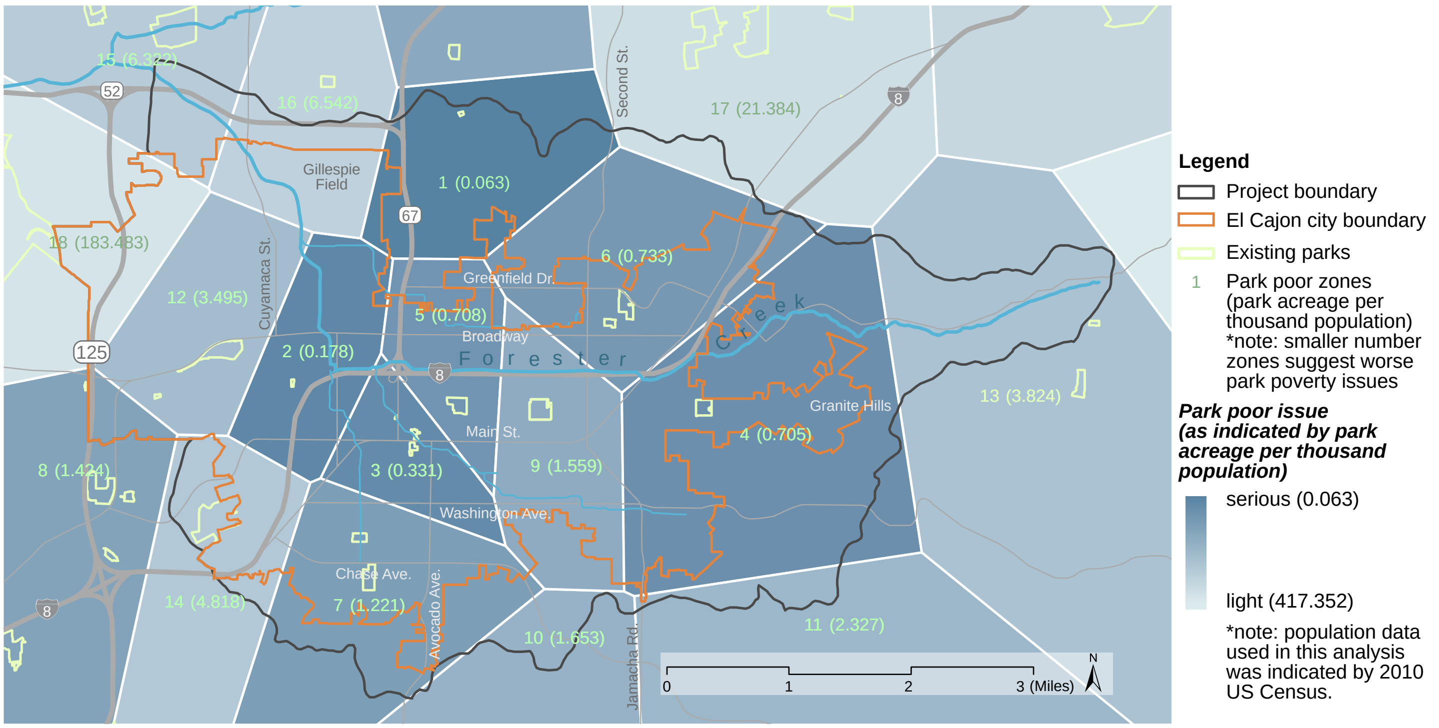


Figure 4.79 Park proximity in El Cajon (buffer indicates the neighborhood area that is within a "walkable" distance of a park)

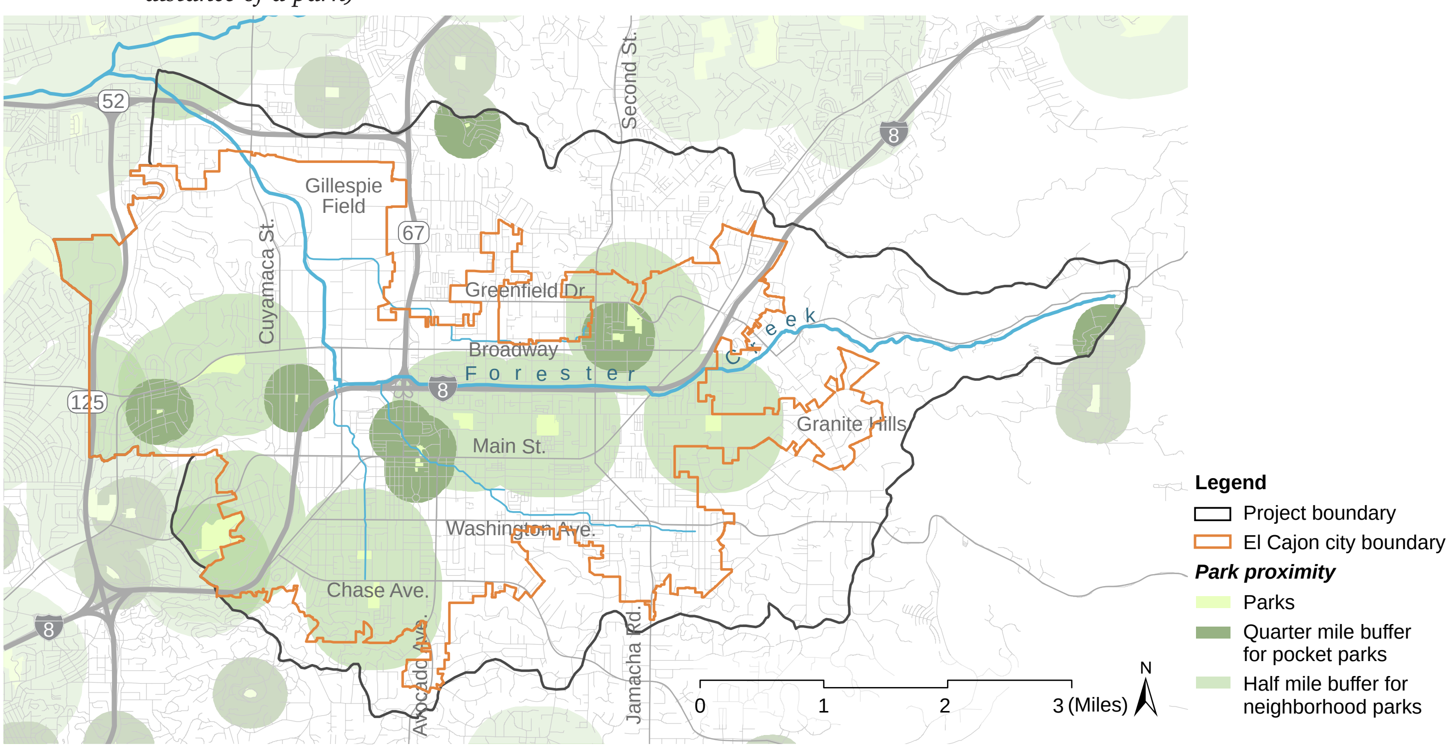


Table 4.09 Existing El Cajon outdoor parks and recreation assets (2019)

	City Parks	Partnership School Facilities	TOTAL
Assets listed in acres			
Acres of parks	101.6	N/A	101.6
Acres of open space	0	N/A	N/A
Assets listed in linear distances			
Class I – Paths/trails	1.3	0	1.3
Class II – Lanes	13.8	0	13.8
Class III – Routes	5.4	0	5.4
Class IV – unpaved	unknown	0	N/A
Assets listed in quantities			
Soccer (large)	2	1	3
Soccer (small)	0	2	2
Football	0	0	0
Playground	7	0	7
Picnic shelter (large)	4	0	4
Picnic shelter (small)	0	0	0
Dog park	1	0	1
Skate park (in-line, skateboard, BMX)	2	0	2
Outdoor basketball	21	22	43
Tennis	6	12	18
Baseball/softball (adult)	6	5	11
Baseball/softball (youth)	5	3	8
Multipurpose field	3	0	3
Stage/performance venue	3	0	3
Water play	0	0	0
Four-square	5	24	29

**There were no volleyball, pickleball, or disc golf facilities.*

4.3.2/Schools in the Study Area

In small cities such as El Cajon, schools play an important role in providing recreational resources for the community, especially the children.

According to the City of El Cajon General Plan (2000):

"Available park potential in the city has been expanded appreciably by use of a joint school district/city playfield concept. The six-acre playfield portion of El Cajon Valley Junior High School, the ten-acre playfield at Greenfield Junior High School and the 5.5-acre playfield at Emerald Junior High School have all been developed into joint-use facilities with turf, landscaping, ball diamonds, field access, restrooms, lights and improved parking. During school hours, these facilities are used by the Junior High School. During scheduled non-school hours, the future joint-use development may include Montgomery Middle School, Johnson Avenue Elementary, Flying Hills Elementary, El Cajon High School, Naranca Elementary and Fletcher Hills Elementary."

There are six school districts in the project boundary and its surrounding area: Santee School District, Lakeside Union School District, Cajon Valley Union School District, La Mesa-Spring Valley School District, Grossmont Union High School District, and Dehesa School District. In the City of El Cajon, over half of the schools are within a quarter mile of the Forester Creek System (Figure 4.80; Table 4.10 & 4.11).

There is a significant opportunity to create a recreation access plan in the city that also serves the needs of students and education. Providing safe routes to school, ecological or environmental education programs, sports fields, and playgrounds are possible by developing or taking advantage of opportunity sites near the schools.

Figure 4.80 El Cajon and surrounding area schools

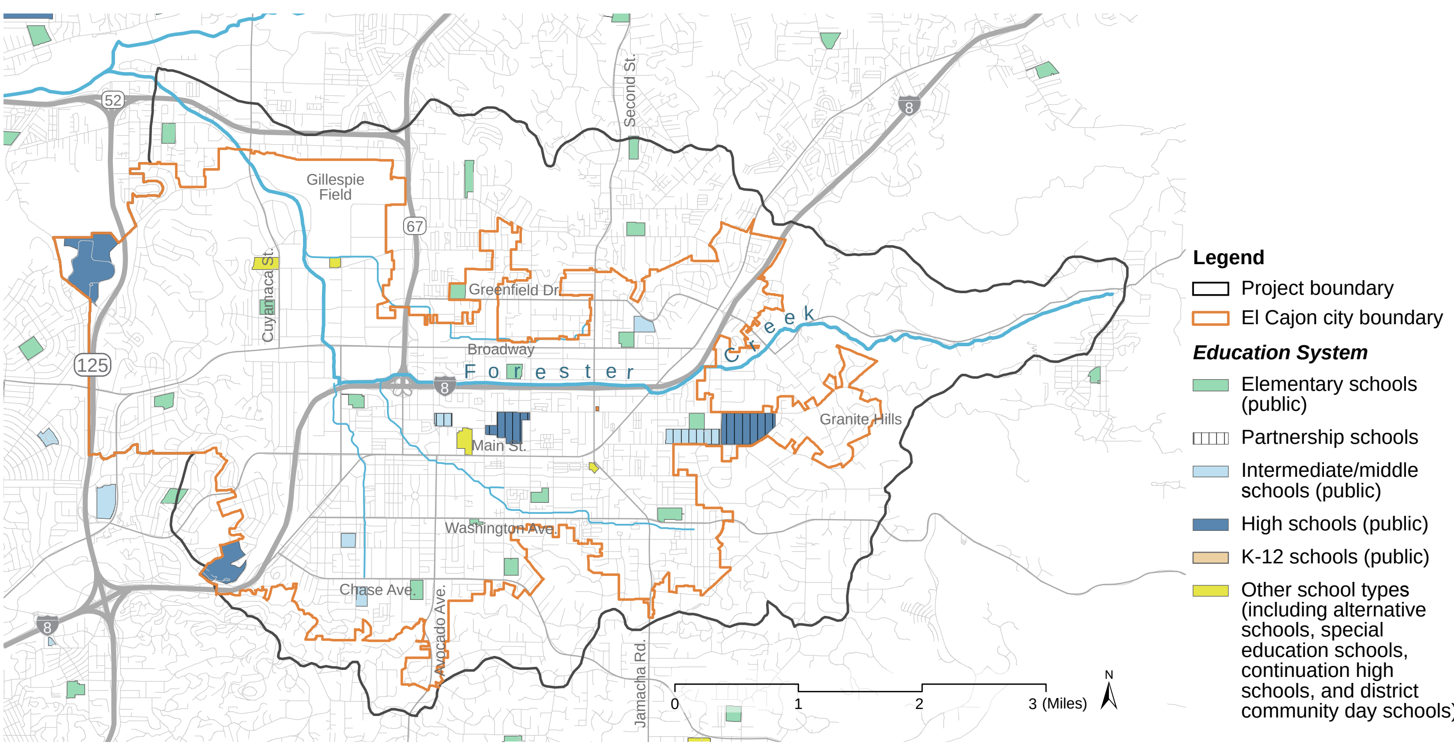


Table 4.10 City of El Cajon school facilities

	Soccer (small)	Playground	Picnic shelter	Basketball	Tennis	Baseball/softball (adult)	Baseball/softball (youth)	Four square
Anza Elementary School	0	0	0	7	0	0	0	0
Blossom Valley Elementary School	0	1	0	1	2	0	3	7
Bostonia Language Academy	0	2	1	2	0	0	0	12
Cajon Valley Home School	0	0	0	2	0	0	0	7
Cajon Valley Middle School	0	0	0	7	0	0	0	12
Chaparral High School	1	0	0	2	0	0	0	0
Chase Avenue Elementary School	0	1	0	2	0	0	0	8
Crest Elementary School	0	1	0	2	0	0	1	9
Cuyamaca Elementary School	1	0	0	2	0	0	0	6
EJE Elementary School	1	0	0	2	0	0	0	6
El Cajon Valley High School	1	0	0	4	0	0	2	0
Emerald Steam Magnet Middle School	0	0	0	10	0	0	0	4
Empower Academy	0	0	0	0	0	0	0	0
Fletcher Hills Elementary School	0	2	0	1	0	0	1	7
Flying Hills Elementary School	0	2	0	3	0	0	0	4
Fuerte Elementary School	0	0	0	3	0	0	1	15
Granite Hills High School	1	0	0	6	12	4	1	0
Greenfield Middle School	1	0	0	0	0	0	0	0
Grossmont High School	1	0	0	0	6	0	4	0
Grossmont Middle College High School	1	0	0	0	10	0	2	0
Hillsdale Middle School	0	0	0	0	0	0	0	0
IDEA Center High School	0	0	0	0	0	0	0	0
Johnson Elementary School	0	0	0	2	0	0	0	6
Lexington Elementary School	0	0	0	1	0	0	0	2
Los Coches Creek Middle School	1	0	0	8	0	0	1	0
Madison Avenue Elementary School	0	0	0	6	0	0	0	12
Magnolia Elementary School	0	0	4	0	0	0	2	7
Meridian Elementary School	0	1	0	2	0	0	2	6
Montgomery Middle School	0	0	0	5	0	1	0	12
Naranca Elementary School	0	1	0	2	0	0	1	12

	Soccer (small)	Playground	Picnic shelter	Basketball	Tennis	Baseball/softball (adult)	Baseball/softball (youth)	Four square
Pepper Drive Elementary School (County of San Diego)	0	2	0	1	0	0	0	11
Rancho San Diego Elementary School	0	1	0	2	0	0	3	9
Rios Elementary School	0	1	0	2	0	0	0	10
Reach Academy	0	0	0	1	0	0	0	0
Valhalla High School	1	0	0	0	12	0	3	0
Vista Grande Elementary School	0	1	0	2	0	0	1	12
W. D. Hall Elementary School	0	0	3	2	0	0	0	8
TOTAL SCHOOL FACILITIES	10	16	8	92	42	5	28	204

**No schools have large soccer fields, football, picnic, dog parks, skate parks, volleyball, multipurpose fields, special events venues, and water play facilities.*

Table 4.11 Partnership school facilities

	Soccer (large)	Soccer (small)	Football	Playground	Picnic shelter	Picnic (no shelter)	Dog park	Skate park (in-line, skateboard, BMX	Basketball	Tennis	Volleyball	Baseball/softball (adult)	Baseball/softball (youth)	Multipurpose field	Stage/special events venue	Water play	Four square
Partnership school facilities																	
El Cajon Valley High School	0	1	0	0	0	0	0	0	4	0	0	0	2	0	0	0	0
Montgomery Middle School	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	12
Cajon Valley Middle School Park	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	12
Granite Hills High School	0	1	0	0	0	0	0	0	6	12	0	4	1	0	0	0	0
TOTAL PARTNERSHIP FACILITIES	1	2	0	0	0	0	0	0	22	12	0	5	3	0	0	0	24

**Partners had no: football, dog parks, skate parks, volleyball, multipurpose fields, or special events venues*

4.3.3/Existing Transportation Nodes and Corridors in the Study Area

4.3.3.1/Existing Pedestrian Facilities within a 1/4 mile of the Forester Creek System

Sidewalks are a critical aspect of recreation access (Figure 4.84 & 4.85). Due to a lack of sidewalk data for the study area, sidewalks were digitized in GIS using a high-resolution orthoimage for the ¼ mile buffered area of the Forester Creek System.

Sidewalk density was calculated within this buffered area. To map the sidewalk density, the number of sidewalks within ¼ mile from each parcel was calculated. The number of sidewalks was later ranked from low to high and classified using the quantile method, i.e., dividing all the samples into 10 categories, each of which has 10% of the samples. Where the number of sidewalks associated with a parcel exceeded the 60% quantile (had a number of sidewalks higher than 60% of parcels), the parcels were given a higher ranking (see Figure 4.81 & 4.82). This approach does not address whether sidewalks are well-connected. Nonetheless, the results allow the identification of locations with a higher density of sidewalks. Areas with higher sidewalk density are prioritized to introduce new recreation opportunities in parcels, better connect existing corridors, and improve recreation activities along such corridors (as discussed in Chapter 5).

The areas with the greatest sidewalk density include the City of El Cajon's downtown area, some areas along Washington Channel, and parts of County Ditch. The industrial and rural areas have low sidewalk density.

Walkability index is the measure of how walkable a place is or how much people would enjoy walking there according to employment density, population density, and access to transit. Mapping the walkability of the study area highlights the most walkable areas. A walkability index can also be used to identify which areas within a quarter mile of the creek system better support walking and other types of outdoor exercise. There are several factors used to measure walkability including: employment density, population, and access to transit. The most accurate walkability index resulted from dividing the walkability data from the digitized dataset by population density (Figure 4.83).

4.3.3.2/Pedestrian and Cyclist Collisions

According to the University of California Berkeley's *Transportation Injury Mapping System*, the most dangerous intersections in El Cajon (Figure 4.86) or the intersections with the highest number of recorded collisions between cars and pedestrians/cyclists (2007 to 2017) are:

1/Broadway and Ballantyne Street

2/Broadway and Graves Avenue

3/Broadway and Mollison Avenue

4/Fletcher Parkway and Johnson Avenue

5/Jamacha Road and Lexington Avenue

(Safe Transportation Research and Education Center (SafeTREC)/TIMS - Transportation Injury Mapping System, 2019).

Additional study is needed prior to the implementation of pedestrian or cyclist paths, trails, or lanes to identify the causes of collisions in these areas. Once the causes are identified, remedies can be prescribed to increase pedestrian and cyclist safety. For example, if inattentive or speeding vehicles are the cause of many accidents, curb extensions or bulb-outs can be installed to calm traffic and increase the visibility of cyclists and pedestrians.

4.3.3.3/Existing Cycling Facilities

Existing cycling facilities are defined by the County of San Diego *Active Transportation Plan* (Michael Baker International, 2018) as Class I, Class II, and Class III (Figure 4.87). A Class I Path is a facility fully separated from the roadway. Class II Lanes are dedicated lanes on the roadway with pavement markings and signs for bicycle travel. Class III Routes are shared road areas with bicycles allowed to use the full lane (Michael Baker International, 2018) (Figure 4.84, 4.85, 4.88, 4.89, & 4.90).

In the study area, 78.6% of the population lives within ¼ mile of Class I, II or III cycling facilities, as compared to San Diego County at 74%. The *San Diego Regional Bicycle Plan* indicates regional corridors throughout San Diego County. The three north-south corridors that travel through

Figure 4.81 Sidewalk density analysis for the Forester Creek System corridor (1/4 mile from the creek) (higher scores indicate a higher density of sidewalks)

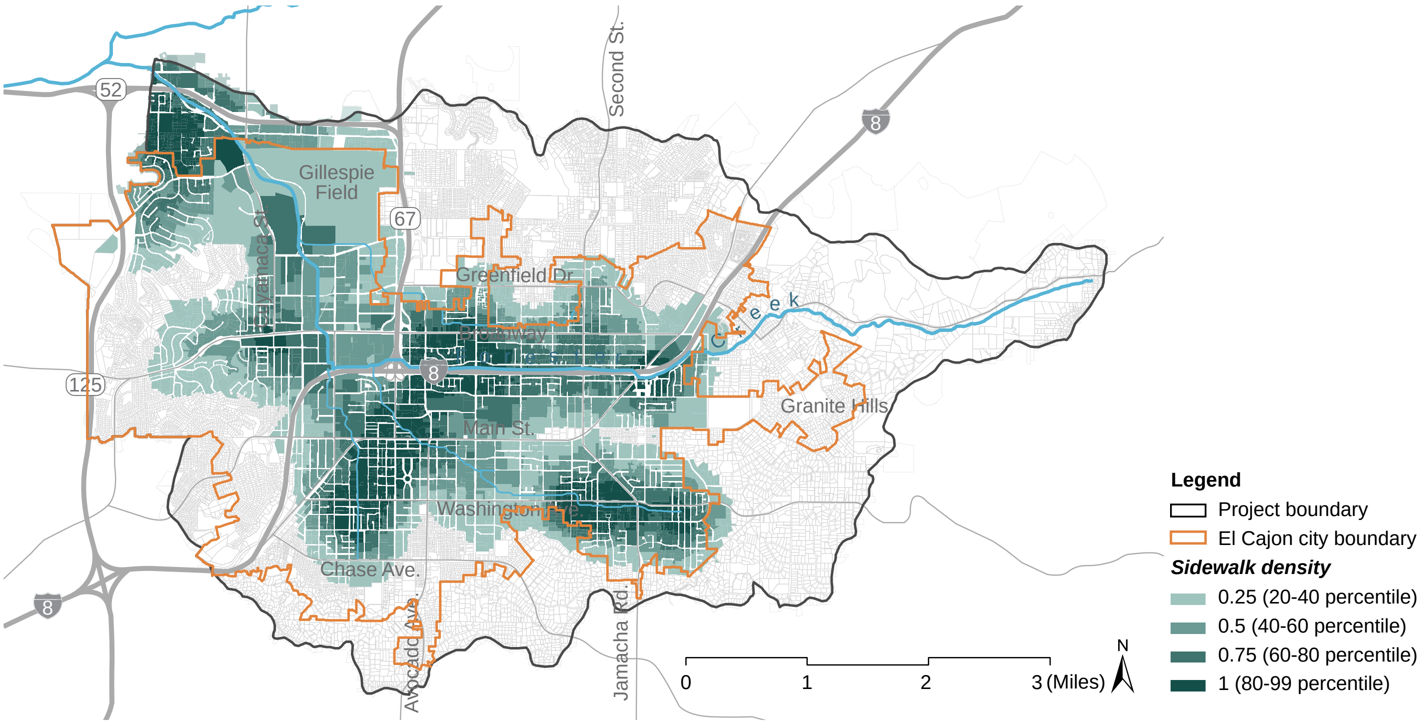


Figure 4.82 Walking and hiking paths and trails (see Figure 4.87 for cycling facilities)

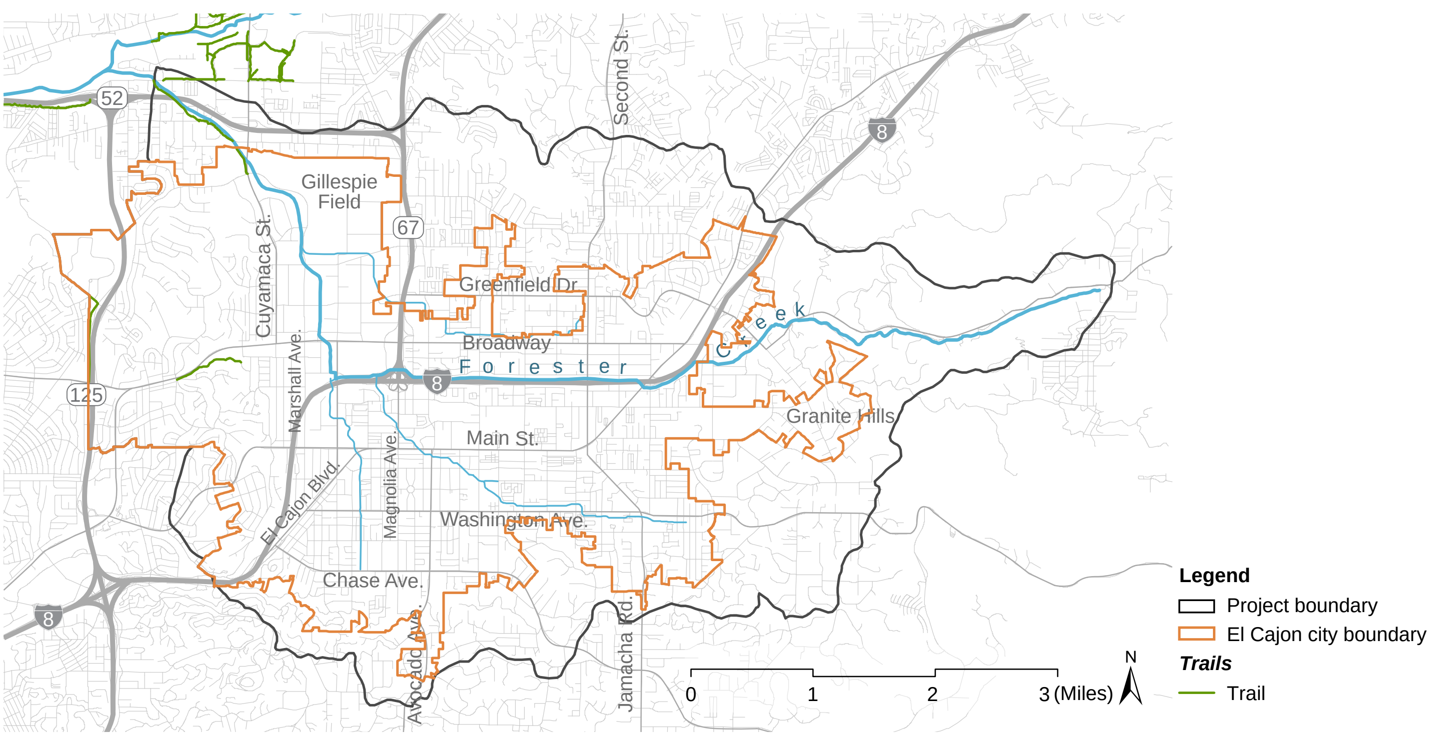
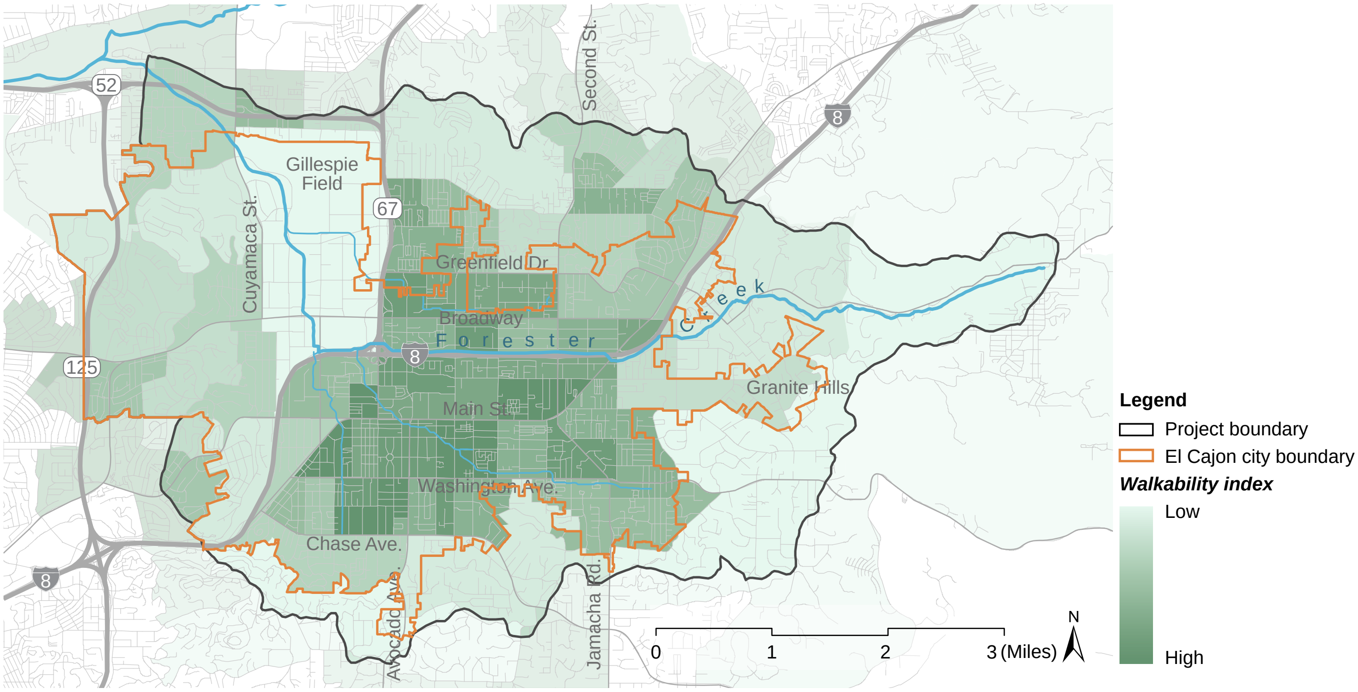


Figure 4.83 Walkability index (high walkability indicates areas people would enjoy walking)



the study area are the SR-125 Corridor, the El Cajon-Santee Connector, and the SR-54 Bikeway. The restored portion of the creek in this area has two adjacent paths: one path is gravel or decomposed granite, while the other is poured concrete; both are wide enough for two-way pedestrian traffic (Figure 4.90).

SR-125 Corridor

The SR-125 corridor primarily travels parallel to SR-125 utilizing Fanita Drive, Grossmont College Drive, Seattle Drive, Medford Street, Navajo Road, and Fletcher Parkway. This connects the cities of Santee, El Cajon, and San Diego. This corridor begins in Santee (north) and ends at the Otay/Mesa border crossing (south) with a mix of Class I (10.7 miles), Class II (16.3 miles), and Class III (8.8 miles) facilities, for a total of 35.8 miles.

El Cajon-Santee Connector

This connector begins at the Cuyamaca Street bike path and primarily uses Marshall Avenue and El Cajon Boulevard to travel through the City. The full corridor begins on Main Street in the City of El Cajon and ends at the SR-52 Corridor in Santee. The full length is 3.7 miles and composed of 1.1 miles of Class I and 2.6 miles of Class II facilities.

SR-54 Bikeway

The SR-54 bikeway uses Second Street and Jamacha Road through the City of El Cajon. It connects with Lakeside to the north and Valle De Oro to the south.

According to the 2011 *El Cajon Bicycle Master Plan (*KTU&A Planning and Landscape Architecture & Fehr Peers, 2011*)*, as of 2010, there were 1.3 miles of Class I Paths, 13.8 miles of Class II Lanes, and 5.4 miles of Class III Routes in the City of El Cajon, for a total system length of 20.4 miles (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011, p. 8). Adjacent municipalities and the County of San Diego link to the City of El Cajon in the following locations:

- Class II into the City of El Cajon on Navajo Road
- Class III Route on Highwood Drive connects to Grossmont College and SR-125

Figure 4.84 Existing pedestrian facilities adjacent to County Ditch

Figure 4.85 Existing pedestrian facilities adjacent to Broadway Channel

Figure 4.86 Most dangerous intersection locations

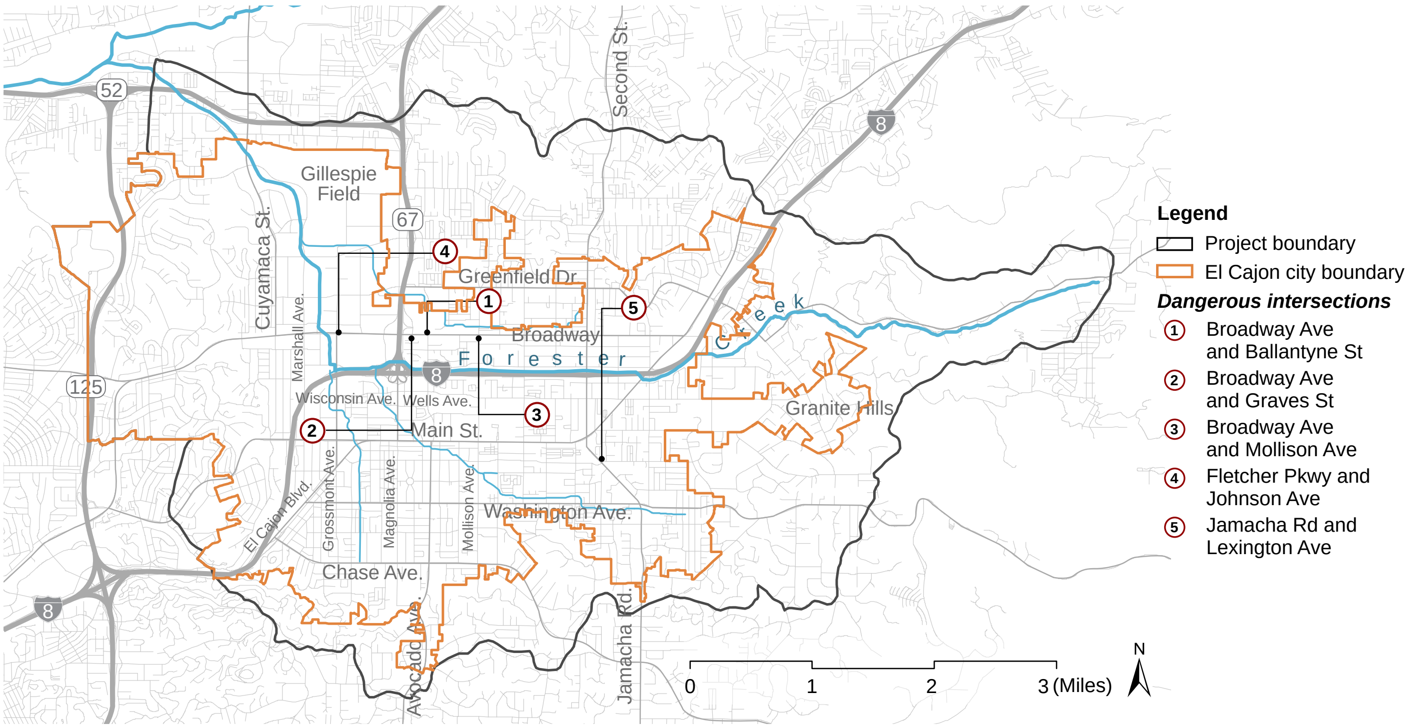


Figure 4.87 Cycling facility classes (Class I, II, and III) per County of San Diego (see Figure 4.82 for walking and hiking facilities)

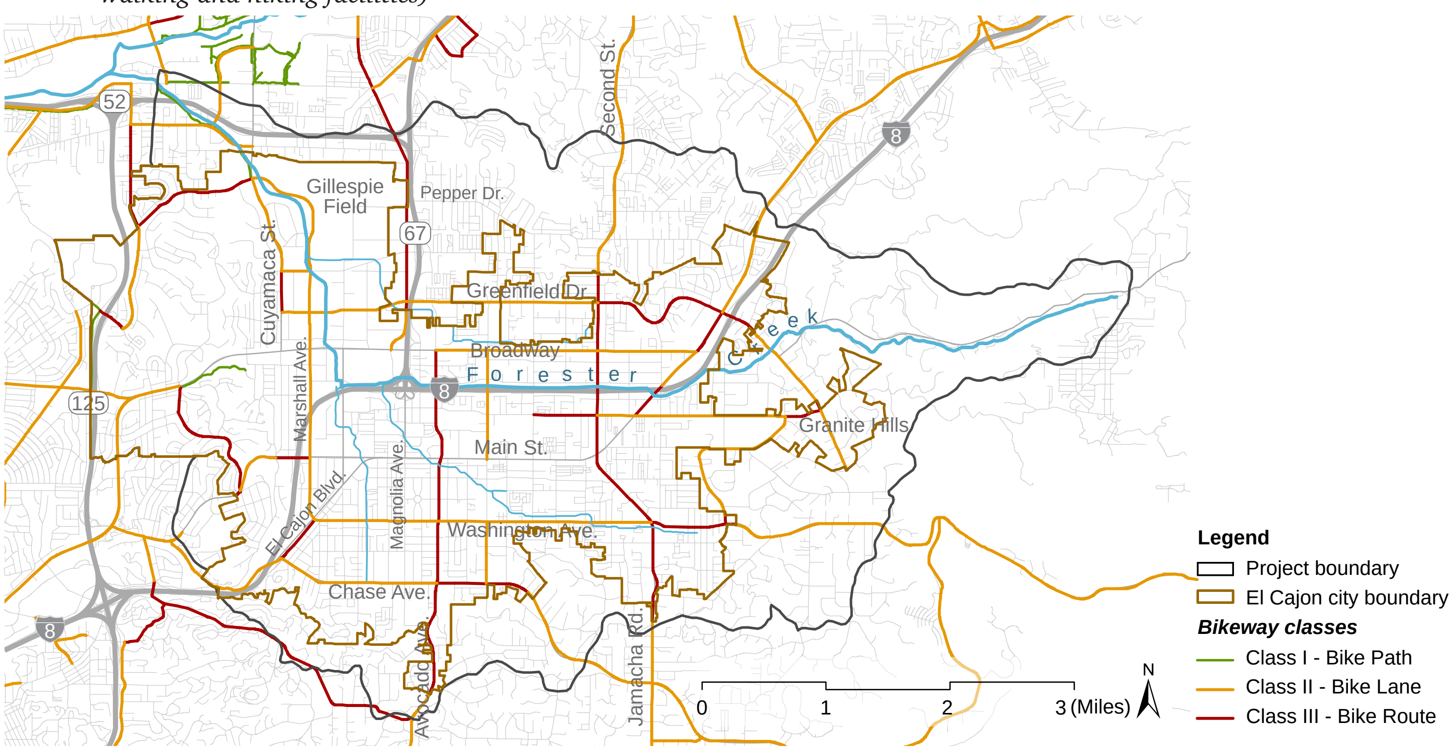


Figure 4.88 Existing cycling facilities adjacent to naturalized area of Forester Creek

Figure 4.89 Existing cycling facilities on Main Street

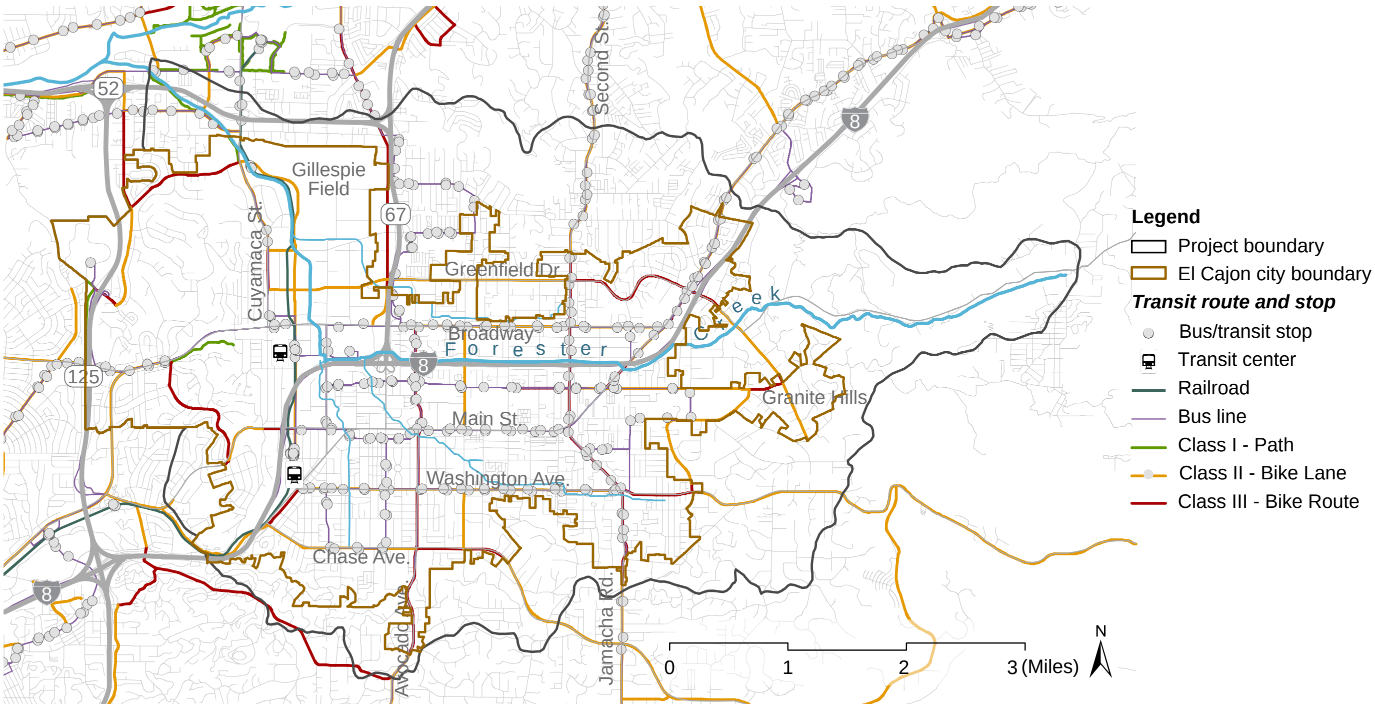
Figure 4.90 Forester Creek Restoration Project in Santee parallel pathways: decomposed granite (top) and earth-toned concrete (bottom)

- Crest-Dehesa-Granite Hills-Harbison Canyon - Class II Lane on Dehesa Road
- Crest-Dehesa-Granite Hills-Harbison Canyon – Class II Lane on Granite Hills Drive
- Crest-Dehesa-Granite Hills-Harbison Canyon - Class II Lane on Greenfield Drive
- Lakeside-Pepper Drive-Bostonia - Class II Lane on Second Street
- Lakeside-Pepper Drive-Bostonia - Class II Lane on East Main Street/I-8 Business Route
- Lakeside-Pepper Drive-Bostonia - Class II Lane on Greenfield Drive
- Valle De Oro - Class II Lane on Avocado Boulevard
- Valle De Oro - Class II Lane on Chase Avenue
- Valle De Oro - Class II Lane on Jamacha Road
- Cuyamaca Street - Class I Path connects Santee to the City of El Cajon

The analysis of bicycle trip destination points are required for cycling facility master plans. "The standard Caltrans list includes residential neighborhoods, schools, shopping centers, public buildings, and major employment centers ("Bicycle Transportation Account Compliance - Code Section 891.2", n.d.; KTU&A Planning and Landscape Architecture & Fehr Peers, 2011). Additional types of origin and destination points such as City Hall, hospitals, park and ride lots, train stations, transportation centers, parks and other recreation destinations, community or visitor centers, and libraries should be added to the analysis.

The City of El Cajon is significantly under-served by pedestrian/cycling facilities. At 20.5 miles of trails, lanes, and routes, it is providing about half of the facility standard of 40.8 miles for its population size per common municipal standards in Southern California, including the City of Santee. This number is even more significant in light of the study area's lower income levels, higher unemployment, and health indicators (see Table 4.06): a comprehensive connected alternative transportation system is a key component of a current and future healthy population, a high quality of life, improved air quality, and decreased costs associated with road infrastructure (Botkin, 2013).

Figure 4.91 Alternative transportation system (light rail, shuttle, bus, and bike lanes)



4.3.3.4/Other Existing Alternative Transportation Facilities (Bus, Train, etc.)

The study area is relatively accessible by public transportation: 72% of residents live within ¼ mile of a bus stop, as compared to San Diego County at 57%. The El Cajon Transit Center is a major transportation hub in the study area: it connects the light rail, bus, and shuttle system (Figure 4.91). The transit center is located in an industrial area adjacent to a residential area consisting mostly of single-family homes. The study area is connected to the City of San Diego by the light rail transportation system's green and orange lines. These lines also provide connections to Amtrak (Figure 4.91).

According to the El Cajon *Transit District Specific Plan* (2018), there has not been a complete evaluation of the study area for improvements to support walking or cycling to the transit station. The area around the transit station lacks the infrastructure and public amenities needed for the area to be a complete neighborhood, such as safe and convenient access to quality schools, frequent transit, public open spaces, and recreational facilities (City of Portland, 2013) (Figure 4.92 to 4.96). A significant portion of Forester Creek lies adjacent to the trolley line, and the Forester Creek System corridor could provide many of the public amenities needed for this area to function as a complete neighborhood.

The Gillespie Field Station stop along the green line is adjacent to Forester Creek and could provide a way for users to easily travel to and access the creek. Just south of Gillespie Field Station is the Arnele Avenue Station, located near Parkway Plaza and Forester Creek.

The study area also has an extensive bus line system which runs through the City of El Cajon and connects to the greater San Diego region (Figure 4.91).

4.3.4/Popular Destinations in the Study Area

An effective transportation system links residents with desired destinations and activities. Traditionally these services have been provided by the road system, but additional utilitarian and recreational infrastructure supportive of pedestrians and cycling can link local destinations and encourage active transportation to work and school, as well as shopping and leisure activities (Figure 4.92 to 4.96). As identified by the City of El Cajon website (2019), local cultural destinations include:

- St. Madeleine Sophie's Center and Garden, 2119 East Madison Avenue
- Wieghorst Museum, 131 Rea Avenue
- Knox House Museum, 280 North Magnolia Avenue
- Magnolia Performing Arts Center, 210 East Main Street

Other key destinations that should be linked by pedestrian/cycling facilities to maximize alternative transportation use (United States Green Building Council (USGBC), 2019) include:

- Government services destinations including libraries, community centers, senior centers, post offices, City Hall, etc.
- Recreational destinations including parks, trails, theaters, health clubs, art galleries, museums, etc.
- Institutional destinations including schools and colleges, churches/religious institutions, and social services centers.
- Commercial destinations including shopping, restaurants, grocery stores, markets, pharmacies, etc.
- Other destinations such as banks, dry cleaners, and medical clinics (Figure 4.92 to 4.96).

Figure 4.92 Government services destinations

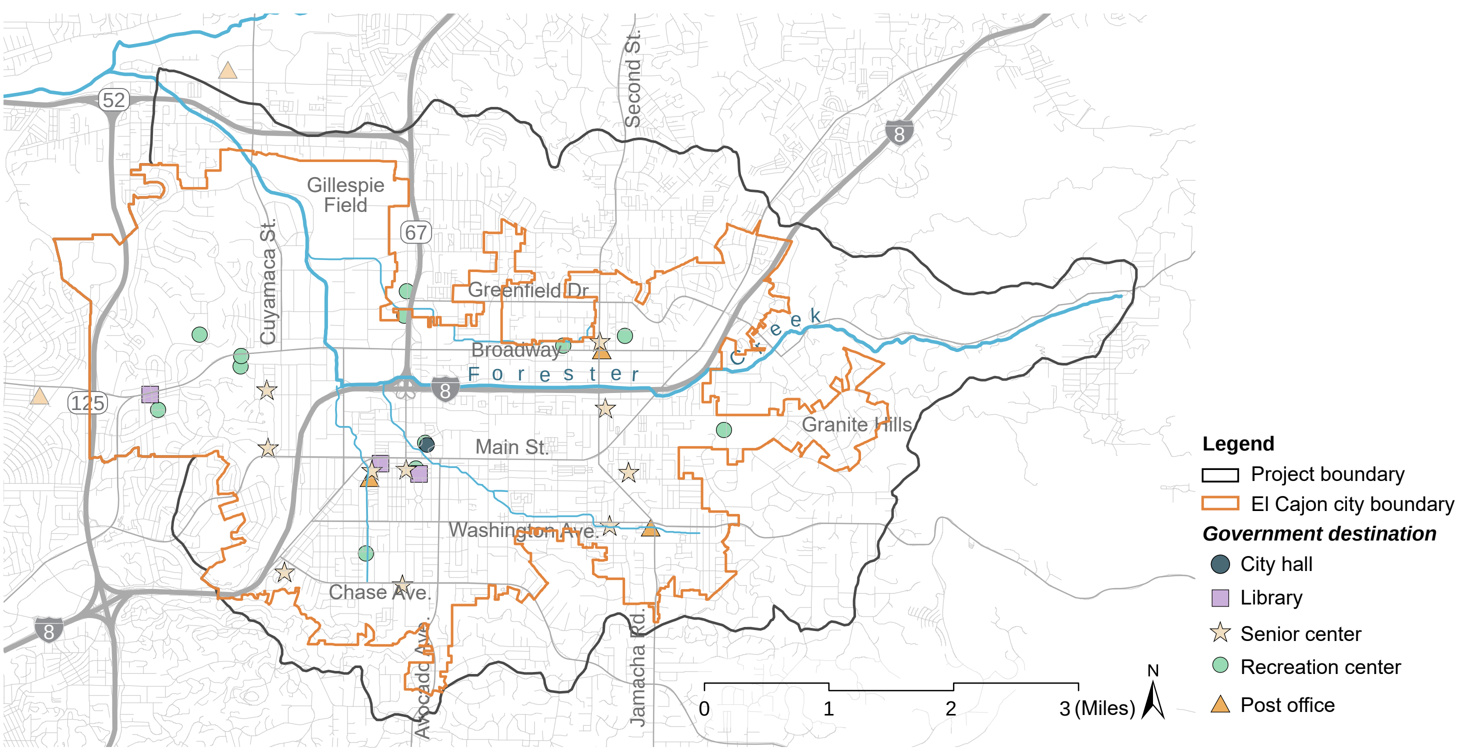


Figure 4.93 Recreational services destinations

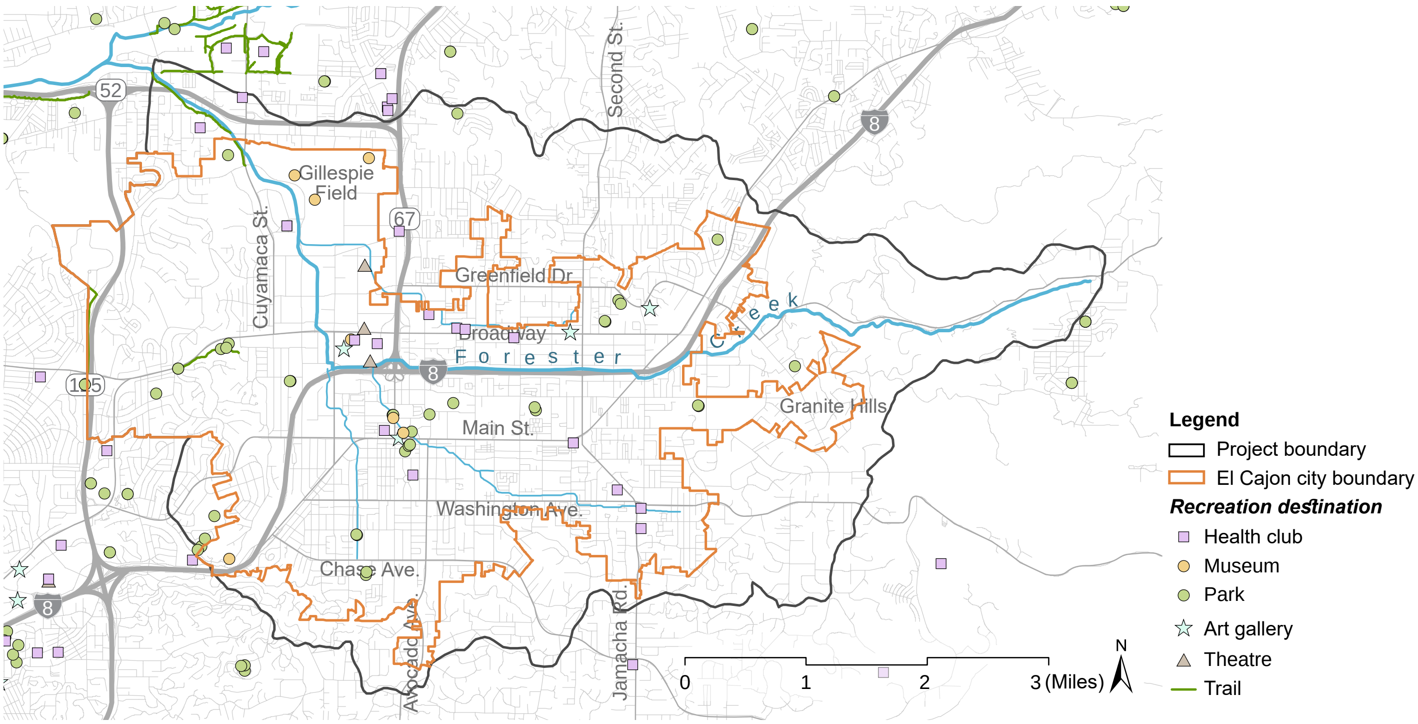


Figure 4.94 Institutional services destinations

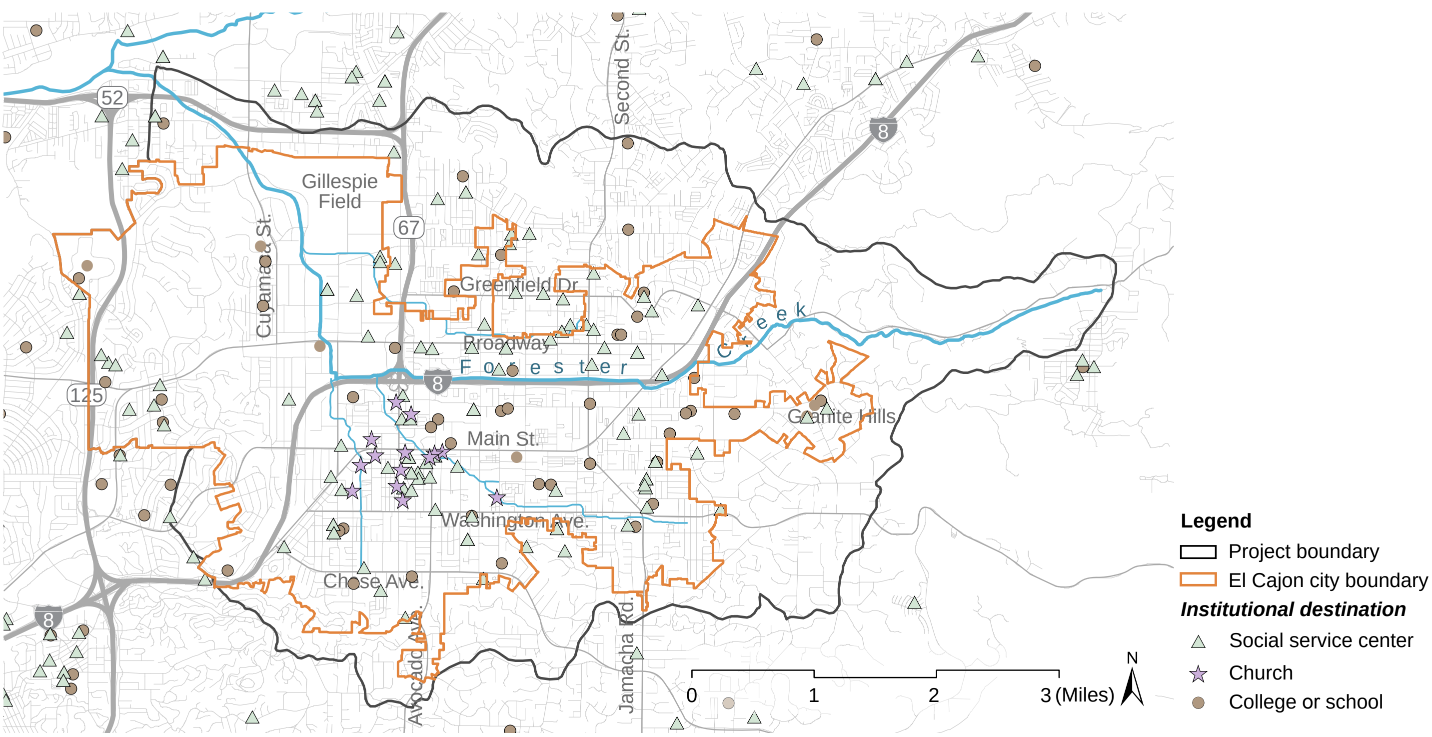


Figure 4.95 Commercial services destinations

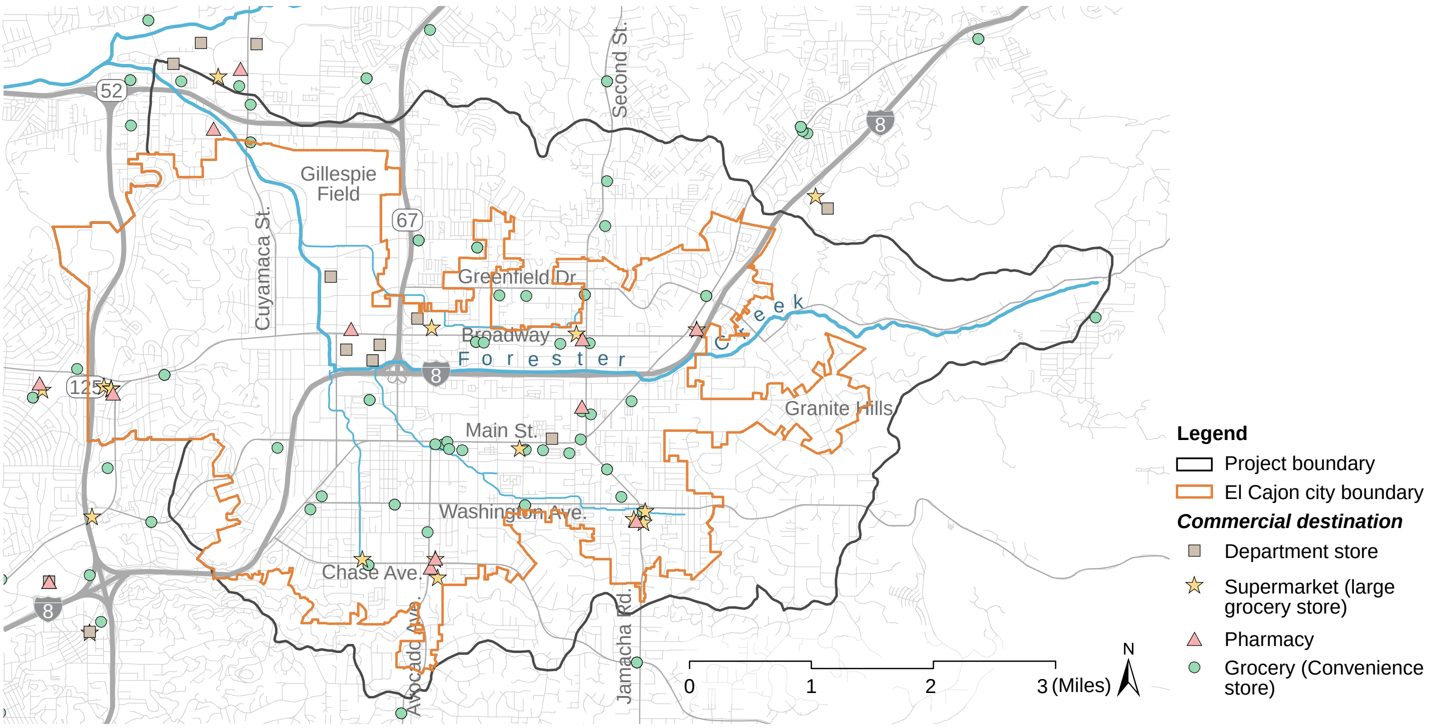
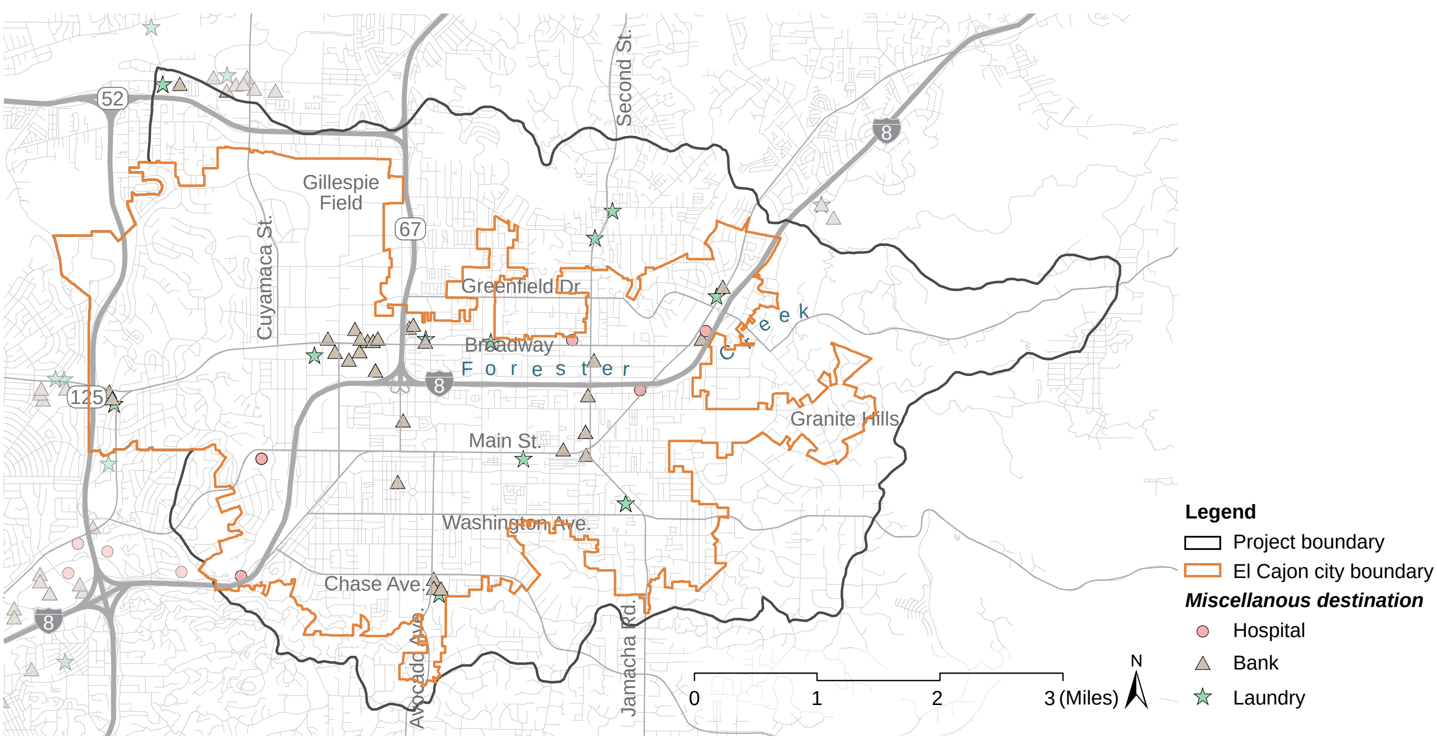


Figure 4.96 Other destinations



4.3.5/Employment Destinations and Density

According to the 2011 *El Cajon Bicycle Master Plan*, the analysis of bicycle trip destination points are required for cycling facility master plans, including major employment centers (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011).

The study area has several large employers, including the school districts, GKN Aerospace, the community colleges, and the City of El Cajon (Table 4.12). Gross employment density is developed by mapping the locations and numbers of employment centers (jobs). Locations with high gross employment density in the study area are consistent with areas of high population density. The major difference is that there is a high employment density in the light industry and Gillespie Field airport area. Gross employment density suggests locations where people work (Table 4.12). The combination of gross employment density and population density or housing density establishes the daily patterns of where people travel (from the center of El Cajon to the job centers). Along these work routes there is potential to offer recreation opportunities and alternative transportation options.

Table 4.12 Top employers in the study area (2014)

Employer		# Employees
1	Cajon Valley Union School District	1412
2	GKN Aerospace Chem-tronics	859
3	Grossmont-Cuyamaca Community College District	712
4	City of El Cajon	450
5	Grossmont Union High School District	431
6	Taylor Guitars	400
7	Country Hills Health Care & Rehabilitation Center	357
8	University Mechanical and Engineering Contractors	353
9	The Home Depot	339
10	Walmart	260

4.3.6/Historic and Cultural Resources in the Study Area

What this report calls Forester Creek and the study area fall within the aboriginal territory of the Kumeyaay Diegueno nation. For more than 12,000 years before Western Europeans arrived in this region, the Kumeyaay people inhabited their traditional territory (https://sycuantribe.com/about-sycuan/history-and-heritage/; TSDRPF, 2019c)

The Kumeyaay aboriginal territory spans seventy-five miles north and south of today's international border, including much of California's San Diego and Imperial counties as well as portions of Baja California. Before Spanish and American colonization, the Kumeyaay governed their territory under a complicated system of alliances and overlapping territories through their shamull (clan) system (TSDRPF, 2019c) (Figure 4.98).

Extensive trading trails traversed the Kumeyaay territory and extended far into neighboring lands of the Cahuilla, Cupeño, Quechan, Cocopah, Chemehuevi, Pai Pai, and Kiliwa. Direct political control of the Kumeyaay lands has been reduced to twelve small reservations in the U.S. and four Ejidos in Mexico. However, Kumeyaay continue to live throughout the traditional territory and exercise direct involvement in land use issues, environmental management, and cultural and repatriation concerns (http://www.kdlc.org/html/kumeyaay-people.html; TSDRPF, 2019c).

In the study area, the Sycuan Band of the Kumeyaay Nation continues to be an influential part of the community. The Sycuan reservation is located near the City of El Cajon, as is the Sycuan Casino and Resort. In 2005, the Sycuan Tribal Council founded the Kumeyaay Community College in El Cajon to promote a quality education for the Kumeyaay / Diegueño Nation, California Native American Indians, and other individuals interested in a unique and supportive educational experience (https://sycuantribe.com/tribal-timeline/;http://kumeyaaycommunitycollege.com/; TSDRPF, 2019c).

In 2016, the Sycuan Band of the Kumeyaay Nation opened the Sycuan Cultural Center, located on the prehistoric site known as the Village of Matamo, which is part of Dehesa Valley (https://sycuantribe.com/tribal-timeline/; Sycuan Cultural Center, n.d.; TSDRPF, 2019c). The Cultural Center displays hundreds of artifacts and collections that showcase the history of the Kumeyaay people in the area.

During the early nineteenth century following the arrival of European settlers, the El Cajon Valley was used by the mission padres for pasture

Figure 4.97 Study area post-colonial history timeline

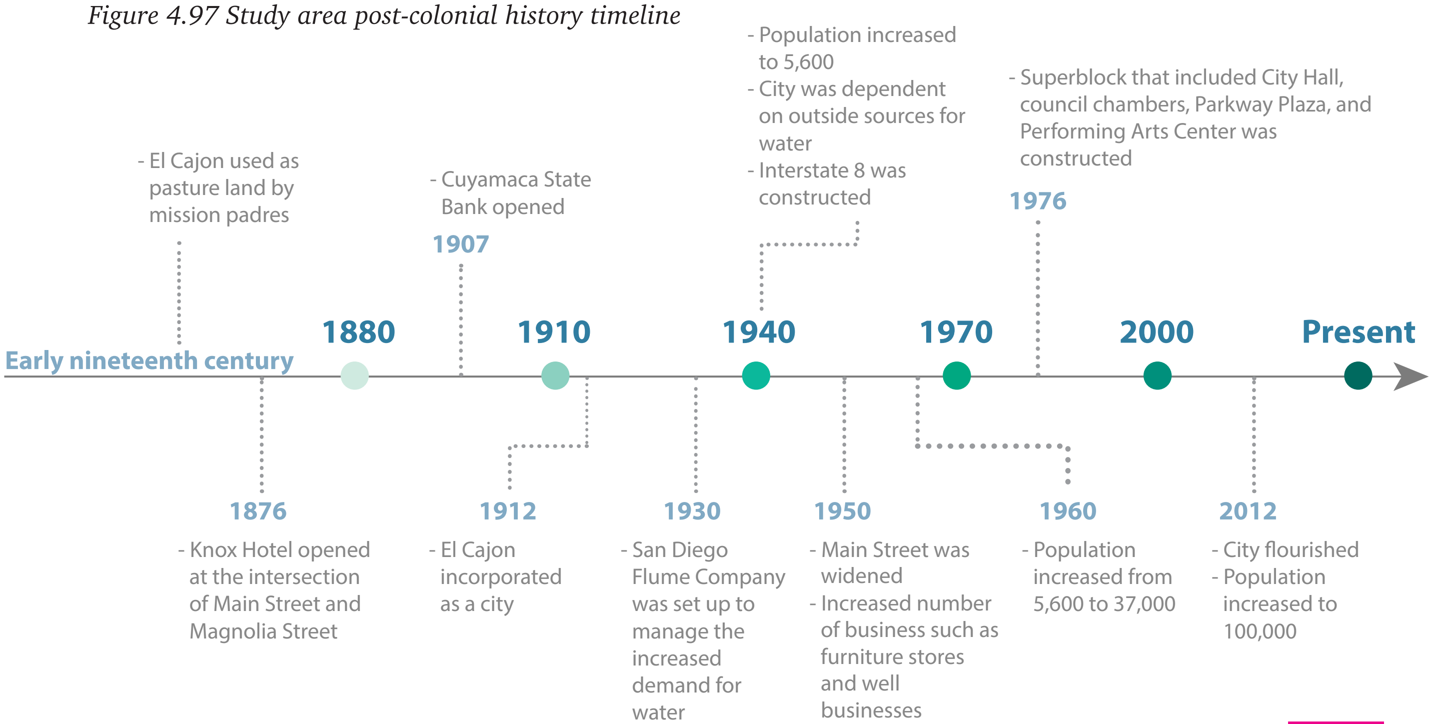
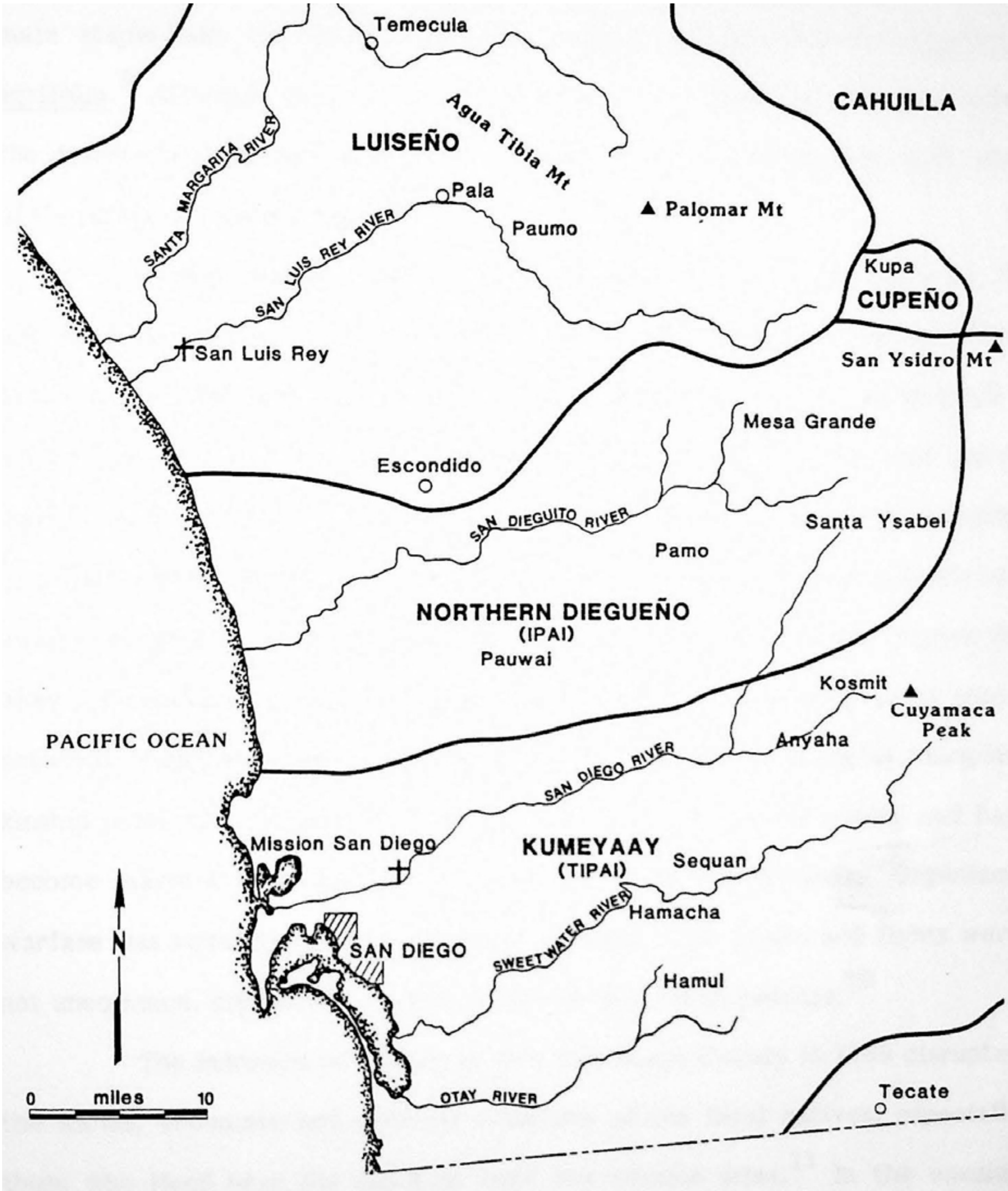


Figure 4.98 Native American settlements and territory in Western San Diego County (c. 1876) (Carrico, 1985)



land. The surrounding foothills provided grazing areas for cattle until it was planted with beans, corn, grapes, wheat, and acres of wildflowers (Lay & Brockett, 1987). The current agricultural industry in the study area includes these crops as well as avocados, Christmas trees, macadamia nuts, and greenhouses with landscape plants.

With the discovery of gold in the mountains northeast of El Cajon, people began traveling from San Diego along the San Diego River to the El Cajon Valley (Figure 4.97) and the mountains. Others came to the area from what is now National City through Paradise Hills, Spring Valley, Jamul Rancho, and Campo

Figure 4.99 1893 topographic map

Figure 4.100 1967 topographic map

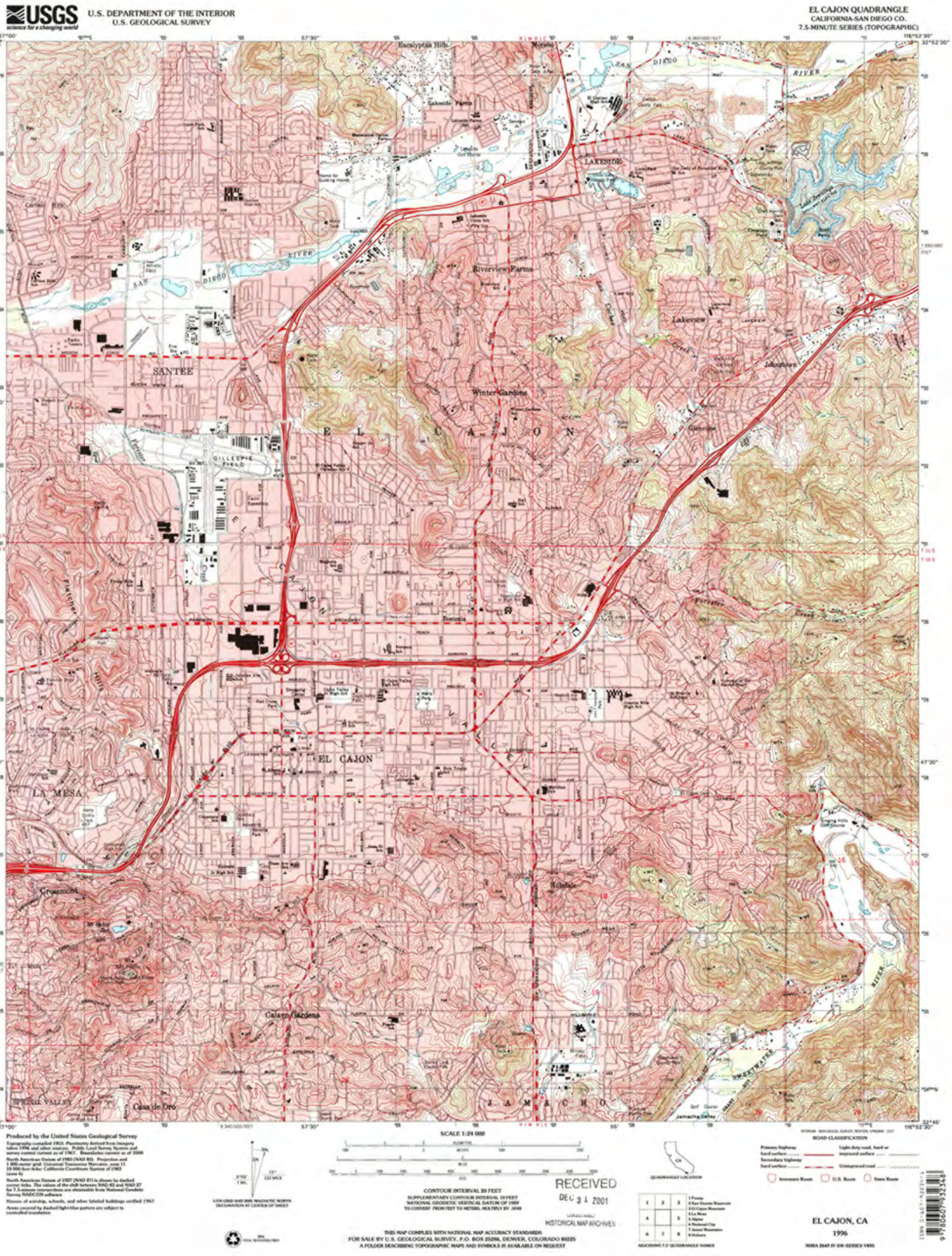
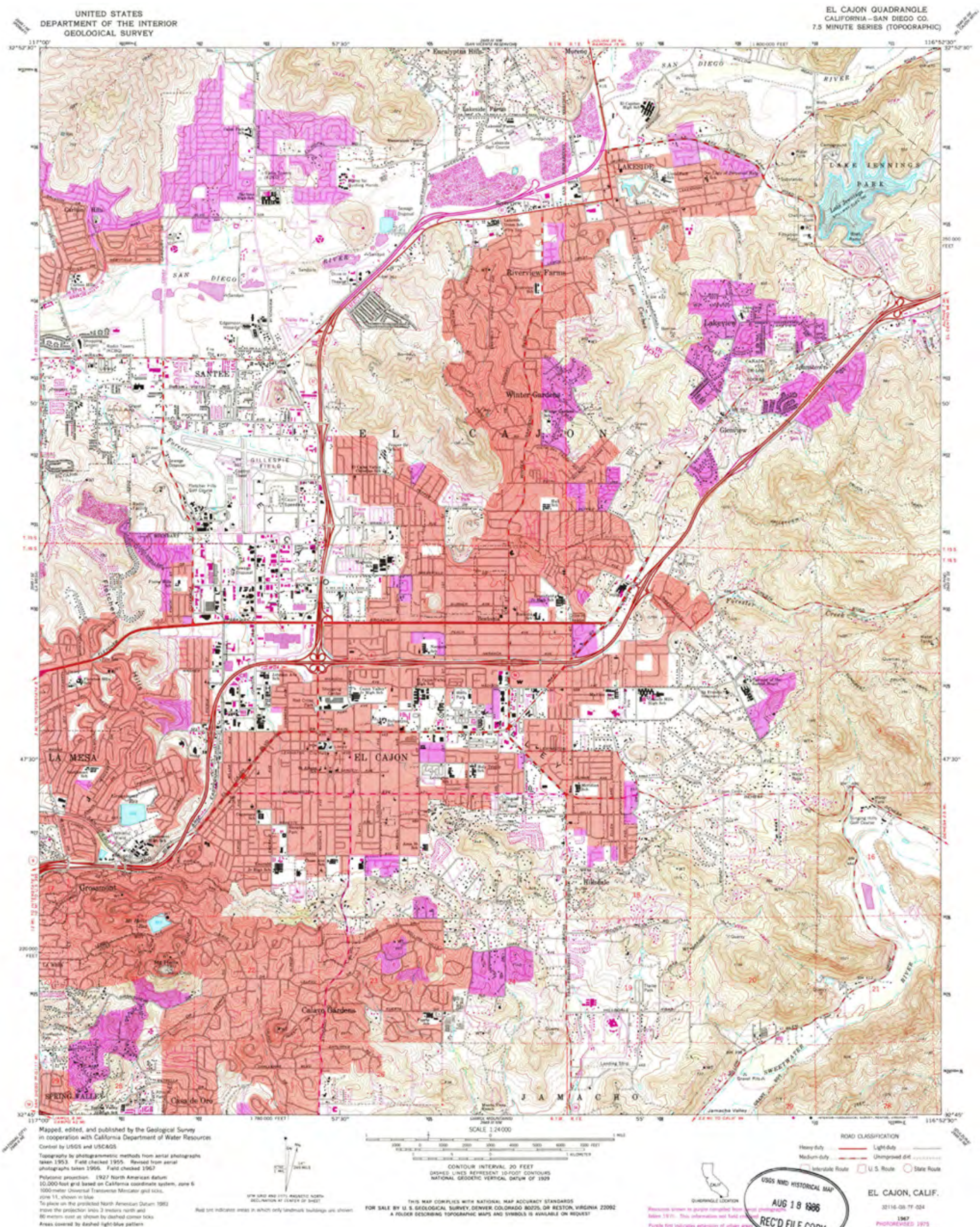


Figure 4.101 1996 topographic map



(Lay & Brockett, 1987). The City of El Cajon retains some of the historic architecture and infrastructure from the 19th Century, as identified in Table 4.13 below (Figure 4.102 to 4.105).

According to local historian Eldonna Lay (2019):

> *[T]he spilling over of the stream or river may be why the original ancient Indian trail down into and through the valley cut diagonally across the valley…[This Indian trail connected to] one of two trails through and over a rock and boulder-strewn hillock, allowing entry to the Cuyamaca Mountain range. The same trail(s) would be used upon discovery of gold by horses, mules, stagecoaches and heavy wagons. Today, three separate Historic Highways (67, 78 and 79) …continue to carr[y] modern traffic along the original trails...*
>
> *…Forester Creek wound its diagonal way from…the current cement channel behind [the] stores on Magnolia and Park Streets and east along East Main Street until 1987…There, some of it was harnessed into a tiny wading lake beloved by seasonal birds … and around which mother ducks laid their eggs…A narrow stream ran south alongside the East County Performing Arts Center and was pumped up into a lovely little fountain. [At] the end of the one-block Rea Street, there [was] a view…looking across the pond to the Performing Arts Center.*

Table 4.13 El Cajon post-colonial cultural and historic resources

Name	Location	Date
Knox Hotel	Main Street and Magnolia Avenue	1876
Post office	Main Street and Magnolia Avenue	1877
School	Main Street and Magnolia Avenue	1877
Hotel #1	Main Street and Magnolia Avenue	Nineteenth century
Hotel #2	Along Main Street	Nineteenth century
Store	Along Main Street	Nineteenth century
Meat market	Along Main Street	Nineteenth century
Pharmacy	Along Main Street	Nineteenth century
Blacksmith	Along Main Street	Nineteenth century
Railroad	Grossmont Summit to El Cajon Heights	1889
Railroad extension	Cowlestown (Santee) to Gillespie Field	Nineteenth century
Reservoir	Cuyamaca mountains	Nineteenth century
Flume	El Cajon Valley through Lankershim tunnel near where the present Highway 80 leaves the east end of the Valley; continued at the seven-hundred-foot contour along the east and south side of the valley to the vicinity of the Grossmont Summit	1900
El Cajon Hotel	Main Street and Magnolia Avenue	1907
Cuyamaca State Bank	Main Street and Magnolia Avenue	1907
El Cajon High School	Third and Broadway	1908
Fletcher Parkway	Fletcher Parkway	1950
Gillespie Airfield	Magnolia Avenue and Prospect Avenue	1970

Figure 4.102 Railroad in El Cajon

Figure 4.103 Fletcher Parkway

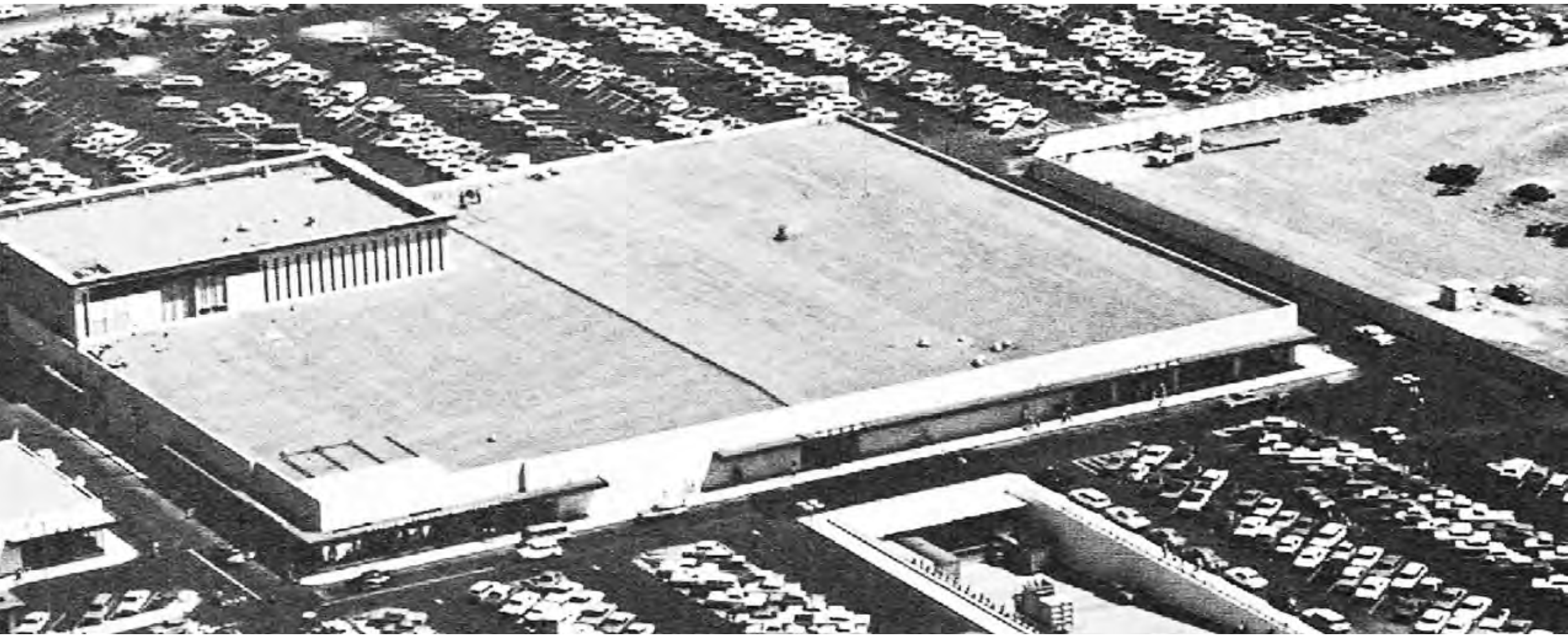


Figure 4.104 Gillespie Field

Figure 4.105 Main Street, El Cajon

4.4/Potential Outdoor Recreational Resources, Activities, and Facilities

One of the primary challenges associated with open space planning is anticipating likely future trends and demographic changes. Demographic projections are important for long-term facility planning and resource allocation. Open space planning has long timelines - from planning, to funding, to design, to construction, projects generally take at least 3 years, and more often, take 10, 20, or even 30 years or more.

An effective plan recognizes these challenges and integrates projections into the proposals. These projections include leisure trends (how are the activities and facilities identified by the plan going to change over time?) and demographics (how are the characteristics of the people being served by the plan going to change?).

The first consideration is addressed in Chapter 2 using research and industry projections. The latter is addressed below by projecting anticipated demographic changes in the study area over the next 10 to 30 years. Basic projections are used to revise a city's General Plan and associated documents (including the city park and recreation masterplan [PRM]), to plan for land use changes and development, and anticipate changing needs in the population. Census data is the foundation of the projections.

Without a park and recreation masterplan, it is difficult to identify a city's plans for their open space, new or revised facilities and open space, how the city plans to address deficiencies in their park inventory, and address changes in demographics, including additional population resulting from new residential development. A park and recreation masterplan provides the justification for new or revised open space resources.

The City of El Cajon does not have a park and recreation masterplan, and because this project addresses access to recreation resources, and provides long-term parks and recreation recommendations, it was necessary to prepare the basic components of a PRM:

- Current demographic profile of the City (Section 4.2);
- Current recreation and leisure resources (Section 4.3);
- Current recreation and leisure activities (Chapter 6);
- Projected demographic changes in the City (Section 4.4);
- Shortfalls in recreation and leisure resources based on current demographics and preferences; (Section 4.2 and 4.4) and,
- Shortfalls in recreation and leisure resources based on projected demographics and preferences (see below).

Information on the latter three aspects of a PRM are provided below.

4.4.1/Projected Future Demographic Profile of the City of El Cajon

Anticipating changes in recreational needs and trends help prevent resources being allocated to facilities that will not be in demand in the future and ensures that the resources are in place to address community needs as changes occur. Chapter 2 presents some of the key anticipated changes in recreation trends, based on demographic changes, changing technology, and social shifts.

Since 2000, user preferences for outdoor recreation have shifted towards more nature-based and passive activities. Nature-based recreation activities are activities that either take place in natural environments, or otherwise involve natural environmental elements such as terrain, plants, wildlife or waterbodies (Cordell, 2008). Passive recreation entails activities that involve observation (e.g. birdwatching), non-consumption behaviors (e.g., photography), and/or lower exertion or activity levels (e.g., tai chi, yoga, or walking). Passive recreation activities such as walking, birdwatching, and photography are popular among elderly populations. A more active aging population also commonly participates in sports, yoga, exercising, and gardening (Singh & Kiran, 2014).

The City of El Cajon can anticipate significant demographic changes which should influence recreation planning:

Table 4.14 Projected future demographic profile of the City of El Cajon (2017-2050) (totals may not add up to 100% due to rounding)

		2017 percentage	2050 percentage
Gender	Male	51	54
	Female	49	47
Age	0 to 14	22	20
	15 to 24	13	11
	25 to 34	16	18
	35 to 44	12	8
	45 to 54	13	16
	55 to 64	11	24
	65 to 74	6	17
	75 to 84	4	3
	Over 85	2	3
Race	White	73	71
	Black	6	7
	American Indian	0	0
	Asian	3	5
	Native Hawaiian/Pacific Islander	1	2
	Hispanic	29	44
Level of Education (residents over 25 years of age)	Less than high school	18	17
	Graduated high school	29	14
	Some college or university	34	43
	Graduated college or university	19	12
	Advanced degree	0	4
Percent of Children in Age Categories	0 to 4	35	37
	5 to 9	34	34
	10 to 14	30	30
Employment Status	Employed	89	85
	Unemployed	11	18

This projection is linear and based on the last 20 years of population trends.

- An aging population, with the cohort between 45 and 64 increasing from 24% of the population to 40%; and,
- A significant increase in the Hispanic population (Table 4.14).

In terms of recreation planning and design, these changes suggest:

- Additional need for unprogrammed and low impact activities, such as walking, birdwatching, swimming, cycling, and nature viewing;
- An increase in the need for park spaces designed for family-oriented and social activities, such as family gatherings, socials, and picnics; and,

Table 4.15 City of El Cajon outdoor parks and recreation provision level (2019) and need projection (2050) per proposed standard (negative numbers or short-falls in provision are in **bold red***)*

Based on population of 103,000 (2019) and 115,000 (2050)	Existing City of El Cajon + partner schools service level (number)	Proposed City of El Cajon standard** (# of facilities per # of residents)	Total City of El Cajon requirement (2019) (calculated per proposed standard)	City of El Cajon over/ under recommended standard (2019)	Total City of El Cajon requirement (2050) (calculated per proposed standard)	City of El Cajon over/under recommended standard (2050)
Assets listed in acres						
Acres of city parks	102	3/1000	306 acres	**204 acres**	345 acres	**241 acres**
Acres of county parks	0	10/1000	1020 acres	**1020 acres**	1150 acres	**1150 acres**
Acres of open space	0	0	0	0	0	0
Assets listed in linear distances						
Class I – Paths/trails	1.3*	0.4 miles/1000	40.8 miles	**20.3**	46 miles	**25.5**
Class II – Lanes	13.8*					
Class III – Routes	5.4*					
Class IV – unpaved	unknown	0.05 miles/1000	5.1 miles	**5.1**	5.8 miles	**5.8**
Assets listed in quantities						
Soccer (regular)	3	1/10,000	10	**7**	12	**9**
Soccer (small)	1	1/8000	13	**12**	14	**13**
Football	0	1/20,000	5	**5**	6	**6**
Playground	17	1/4000	26	**9**	29	**12**
Picnic shelter (large)	25	1/5000	20	5	23	2
Picnic	5	No standard		-	-	-
Dog park	1	1/50,000	2	**1**	2	**1**
Skate park (in-line, skateboard, BMX	2	1/50,000	2	0	2	0
Basketball	29	1/6000	17	12	19	10
Tennis	8	1/8000	13	**5**	14	**6**
Volleyball	0	1/25,000	4	**4**	5	**5**
Baseball/softball (adult)	11	1/17,000	6	5	7	4
Baseball/soft ball (youth)	6	1/11,000	9	**3**	10	**4**
Multipurpose field	3	1/20,000	5	**2**	6	**3**
Stage/performance venue	3	No standard	-	-	-	-
Water play	1	No standard	-	-	-	-
Four square	13	No standard	-	-	-	-

**As of 2011 Bicycle Master Plan* (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011)

***Proposed provision standard reflects common municipal standards in Southern California and is same as that of the City of Santee.*

**** Projection is based on population trend of the past 20 years and a simple growth rate /decline rate is applied to predict for 2050. The growth rate of each category is adjusted using the projected 2050 total population. Many other factors were not captured during this projection and the results can only be used as basic reference.*

- Additional demand for recreational resources and programs oriented to environmental concerns, conservation, and stewardship.

A provision standard approach can also be used to identify the type and number of needed recreation resources. Table 4.15 uses population data in combination with proposed provision level standards that reflect common municipal standards in Southern California, including those adopted by the City of Santee. The City of El Cajon's current and future provision level were evaluated using these provision level standards to provide a quantitative metric that describes the situation today and the anticipated challenges of the future if the current provision level does not change. Table 4.15 describes how much parkland/open space, facilities, and amenities are needed now and in the future.

As noted below, using this approach, the City of El Cajon is under-provisioned in:

- Park acreage
- Pedestrian/cycling facilities
- Soccer, football, volleyball, tennis, and multipurpose fields
- Playgrounds
- Dog parks

The city is over-provisioned in several areas as well:

- Basketball
- Baseball

4.4.2/Potential Transportation Nodes and Corridors in the Study Area

4.4.2.1/Planned Pedestrian Facilities

There are currently no planned pedestrian facilities.

4.4.2.2/Planned Bicycling Facilities

Connected and extensive cycling facilities are key to the effectiveness and impact of an alternative transportation system. Cycling facilities can be challenging to implement on existing roads because of potential conflicts with drivers and limited space. Concerns associated with the location of bicycling facilities include high volume streets, highway crossings, and collisions. According to the 2011 *El Cajon Bicycle Master Plan* (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011), high volume streets include Fletcher Parkway, Broadway, Main Street, Second Street, Jamacha Road, Mollison Avenue, Johnson Avenue, Magnolia Avenue, and El Cajon Boulevard. The three highways are Interstate 8 (an east-west connection), State Route 125, and State Route 67 (north-south connections) (see Appendix E for additional details on existing and planned cycling facilities).

Recommended Planning Actions of the 2011 *El Cajon Bicycle Master Plan* (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011) include:

- Improve access to public lands for mountain cyclists;
- Work with the mountain biking community to develop a plan for off-road access; and,
- Develop a bicycle skills park and/or BMX park.

Table 4.16 lists the report's specific routing recommendations.

See Figure 4.107 & 4.108 for system gaps and alternative transportation connections. The City of El Cajon *Downtown El Cajon Specific Plan 182* (2017) recommends Class II Lanes in the following locations (Figure 4.106):

- Madison Avenue between Johnson Avenue and Ballantyne Street
- Lexington Avenue between El Cajon Boulevard and Lincoln Avenue

- Chambers Street between Madison Avenue and Lexington Avenue
- Avocado Avenue between Lexington Avenue and Main Street
- Ballantyne Street between Main Street and Interstate 8
- Johnson Avenue between Washington Avenue and Madison Avenue
- El Cajon Boulevard between Chase Avenue and Main Street

The City of El Cajon *Downtown El Cajon Specific Plan 182* (2017) also recommends a Class III Route along Main Street between Lincoln Avenue and Mollison Avenue.

The County of San Diego plans on extending the Lakeside-Pepper Drive-Bostonia routes in the City of El Cajon with the following additions:

- Class II Lane on Magnolia Avenue between Vernon Way and Airport Drive
- Class III Route on First Street between Pepper Drive and the El Cajon city limit
- Class III Route on Pepper Drive between First Street and the El Cajon city limit

The City of Santee plans to add the following cycling facilities that connect to the City of El Cajon:

- Class II Lane on Fanita Drive
- Class II Lane on Cuyamaca Street
- Class II Lane on Magnolia Avenue

Figure 4.106 All planned cycling facilities

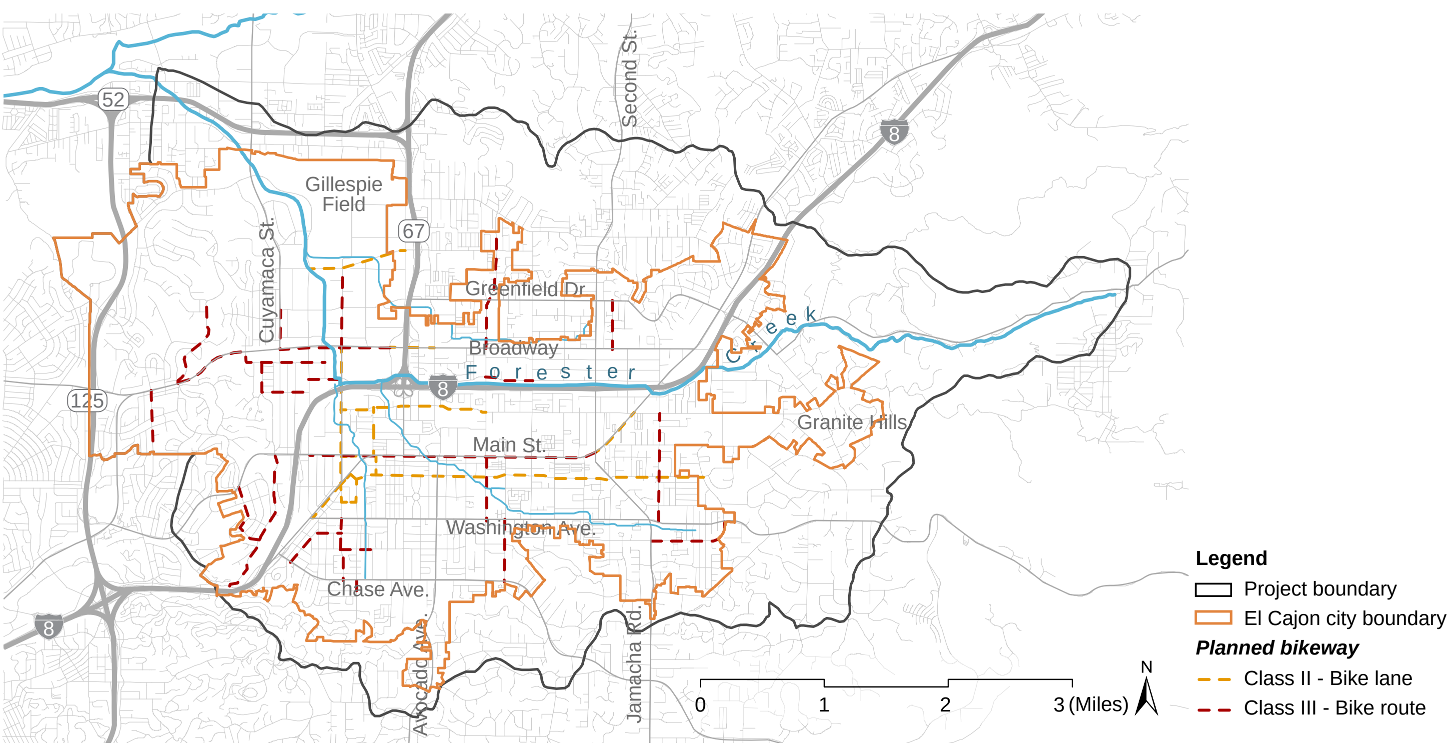


Table 4.16 El Cajon Bicycle Master Plan routing recommendations

CLASS	#	LOCATION	LIMITS
Class II (Bike Lanes)	1	Broadway	Between SR-67 and I-8
	2	East Main Street	Continue bike lanes from McDougal Terrace to North Second Street
	3	Lexington Avenue	Between El Cajon Boulevard and Jamacha Road
	4	Madison Avenue	Between Johnson Avenue and Greenfield Drive
	5	El Cajon Boulevard	Between I-8 and Main Street
	6	Fletcher Parkway	Between Navajo Road and SR-67
	7	North Second Street	Between city limit and Broadway
	8	South Mollison Avenue	Continue bike lanes from East Washington Avenue to Main Street
	9	North Mollison Avenue	Between Main Street and city limit
	10	South Johnson Avenue	Between Madison Avenue and West Chase Avenue
	11	Chambers Street	Between West Madison Avenue and Lexington Avenue
	12	Ballantyne Street	Between Lexington Avenue and Broadway
	13	South Magnolia Avenue	Between Chase Avenue and Lexington Avenue
	14	North Magnolia Avenue	Between Fletcher Parkway and city limit
	15	Granite Hills Drive	Between city limit and Madison Avenue
	16	West Bradley Avenue	Continue bike lanes between Marshall Avenue and the city limit
	17	North Magnolia Avenue	Between Airport Drive and city limit
Class III (Bike Routes)	1	Main Street	Between Lincoln Avenue and Second Street
	2	Avocado Avenue	Between city limit and Main Street
	3	Greenfield Drive	Between city limit and North Second Street
	4	Jamacha Road	Between Main Street and city limit
	5	Dehesa Road	Between Granite Hills Drive and city limit
	6	North Johnson Avenue	Between West Bradley Avenue and Madison Avenue
	7	North Second Street	Between Broadway and Main Street
	8	Van Houten Avenue	Between Lexington Avenue and West Washington Avenue
	9	Buena Terrace, Petree Street and Jackman Street	Between Fletcher Parkway and North Johnson Avenue

	10	Sandalwood Drive and Marline Avenue	Between Ballantyne Street and Third Street
	11	North First Street	Between East Madison Avenue and city limit
	12	Navajo Road	Between SR-125 to Fletcher Parkway
	13	Cuyamaca Street	Between city limit and Weld Boulevard
	14	Arnele Avenue	Between Marshall Avenue and North Johnson Avenue
	15	Bostonia Street	Between Greenfield Drive and Broadway
	16	East Chase Avenue	Between Avocado Avenue and Rancho Valle Court
	17	South Third Street	Between East Madison Avenue and East Washington Avenue
	18	East Lexington Avenue	Between Jamacha Road and city limit
	19	Granite Hills Drive	Continue bike facilities between the city limit and Jamacha Road
	20	Cuyamaca Street and Travelodge Drive	Between West Bradley Avenue and Dennstedt Place
	21	North Third Street	Between Greenfield Drive and Main Street
	22	West Renette Avenue	South Johnson Avenue and Avocado Avenue
	23	South Anza Street	Between East Main Street and East Chase Avenue
	24	Hacienda Drive, Swallow Drive and Finch Street	Between Windmill View Road and Cuyamaca Street
	25	Hacienda Drive and Windmill View Drive	Between Fletcher Parkway and Weld Boulevard
	26	Garfield Avenue	Between city limit and Fletcher Parkway
	27	Westwind Drive and Blackthorne Avenue	Between Fletcher Parkway and Murray Drive
	28	Greenfield Drive	Continue bike lanes between city limit and Madison Avenue
	29	Chatham Street	Between city limit and North Westwind Drive
	30	Weld Boulevard	Between Fanita Drive and Cuyamaca Street
	31	Emerald Avenue	Between West Chase Avenue and Skyview Street

Figure 4.107 Existing and planned pedestrian/cycling facilities highlighting gaps

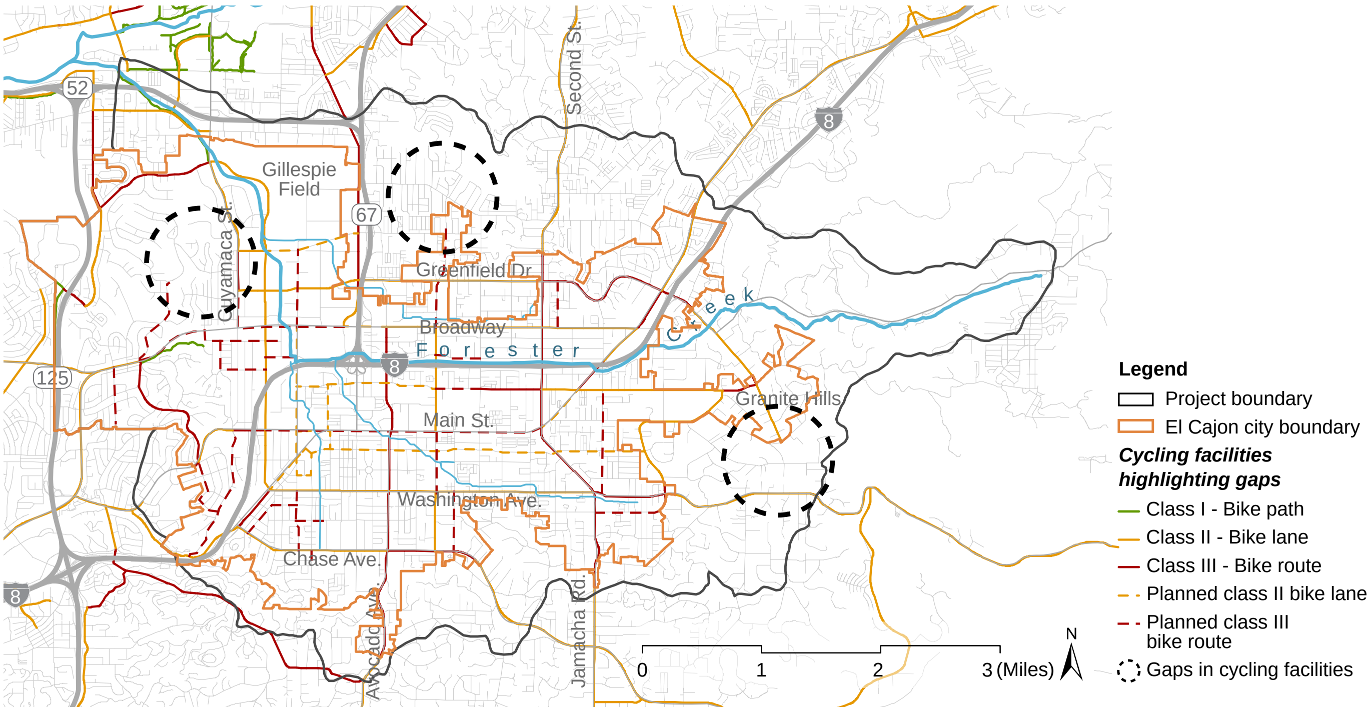
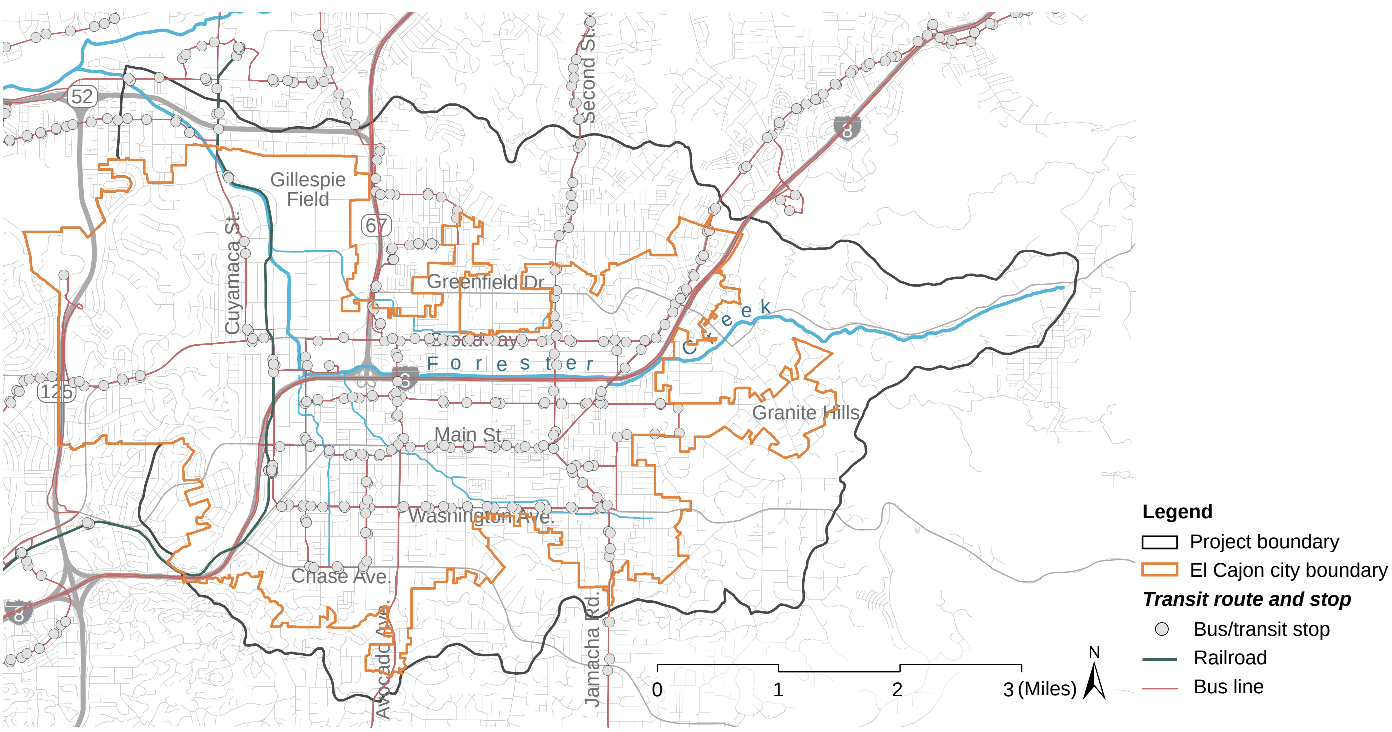


Figure 4.108 Connections to alternative transportation system (light rail, shuttle stops, buses)



4.5/Issues Mitigated by Outdoor Recreational Resources

4.5.1/Health Issues in the Study Area

Residents of El Cajon are significantly disadvantaged compared to other communities in Southern California (Valtierra & Felsen, 2014). As shown in Table 4.17, El Cajon residents are more likely to be obese, or suffer from asthma, diabetes, high blood pressure, cancer, high cholesterol, cardiovascular disease, and mental health problems than the general population in the County of San Diego (Table 4.17).

According to the *Parks for Everyone* report, in the San Diego Region, "The health implications from the lack of green spaces to play in are profound. Nearly one out of three children in San Diego (31 percent) are overweight or obese. The highest concentrations of overweight or obese children are in the most park-poor areas of the region, which also have the highest concentrations of low-income households and people of color" (The City Project, 2015, p. 8).

Furthermore, "More than half of the adults in San Diego County (age 18 and older) are overweight or obese, and the rates are higher among populations of color. Children are typically the ones who lose the most by not having access to green space, but inequities in access to parks and recreation adversely affect everyone" (The City Project, 2015, p. 8).

Indicators of disadvantage include income level below the poverty level, not being a homeowner, race, ethnicity, foreign-birth, language other than English spoken at home, and percent of graduation from high school (Valtierra & Felsen, 2014) (see Section 4.2; Table 4.05; Figure 4.60 to 4.65). According to Valtierra & Felsen (2014), 37% of El Cajon's 5th, 7th, and 9th graders are overweight. Exercise and time in the outdoors may decrease asthma (Maantay, 2007), reduce mental fatigue (Kuo & Sullivan, 2001; Nutsford et al., 2013), and reduce mental health and behavioral problems such as mood disorders, violence (Kuo, 2001; Nutsford et al., 2013), stress and depression (Babey et al., 2012). Outdoor recreation also reduces obesity (Valtierra & Felsen, 2014).

Mental health data for the study area was sourced from the Center for Disease Control and Prevention (CDC) as illustrated in Figure 4.109. The darker areas of the map have poorer mental health; the lighter areas have good mental health per the CDC data. The darker areas include downtown El Cajon. The lighter areas with good physical health indicators, include areas at the edge of the project boundary.

Physical health metrics are mapped in Figure 4.110. Six health factors were used to calculate a cumulative value for physical health: high blood pressure, asthma, cholesterol, diabetes, obesity and stroke (Figure 4.110).

Using Center for Disease Control and Prevention (CDC) data, each of the six factors was assigned a value ranging from 1 to 10, where 1 represents good health, and 10 represents poor health. The values were added to create a cumulative value for the overall physical health of each section of the study area.

Table 4.17 Comparison of health issues in the City of El Cajon versus the County of San Diego for persons over 18 years of age (average per census tract)

	Incidence in City of El Cajon	Incidence in San Diego County
Obesity	23%	21%
Asthma	47 visits per 10,000 people	41 visits per 10,000 people
Diabetes	10%	9%
High blood pressure	28%	26%
Cancer	6%	5%
High cholesterol	72%	73%
Cardiovascular disease	7%	6%
Mental health problems	14%	12%

Figure 4.109 Quality of mental health

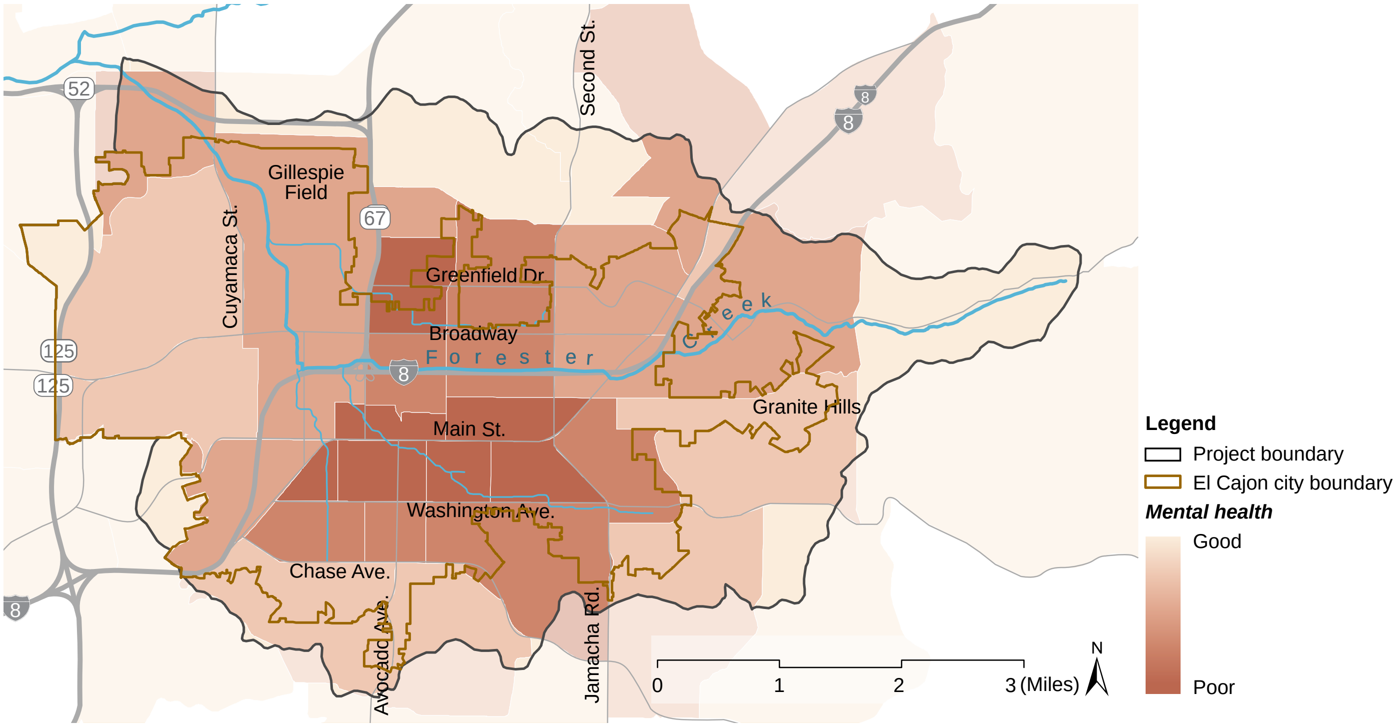
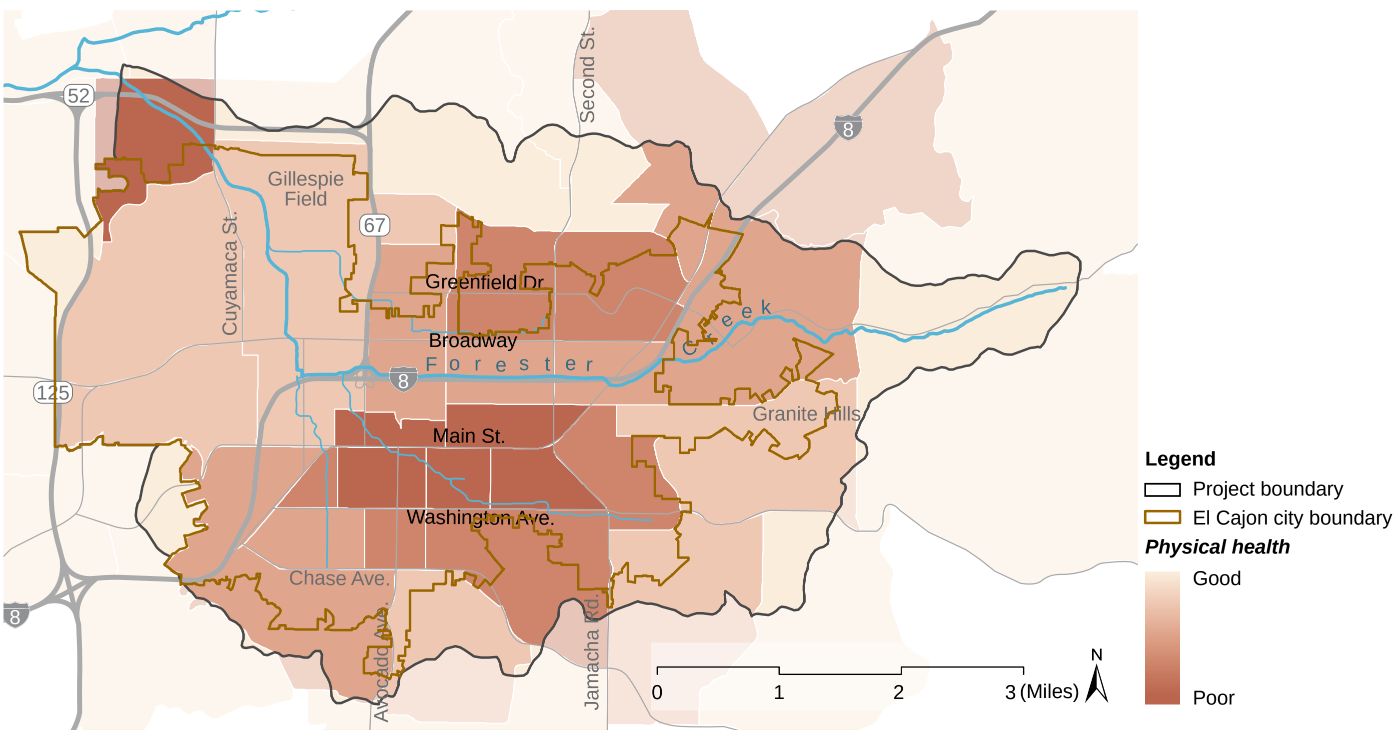


Figure 4.110 Quality physical health



4.5.1.1/Air Pollution and Environmental Quality

Particulate matter/pollution ($PM_{2.5}$) is a group of air borne pollutants small enough to travel deep into the recesses of the lungs and cause serious health risks when inhaled. The major contributors to $PM_{2.5}$ are automobiles, industry, and construction sites. El Cajon has high levels of $PM_{2.5}$ according to CalEnviroScreen 3.0 (2019).

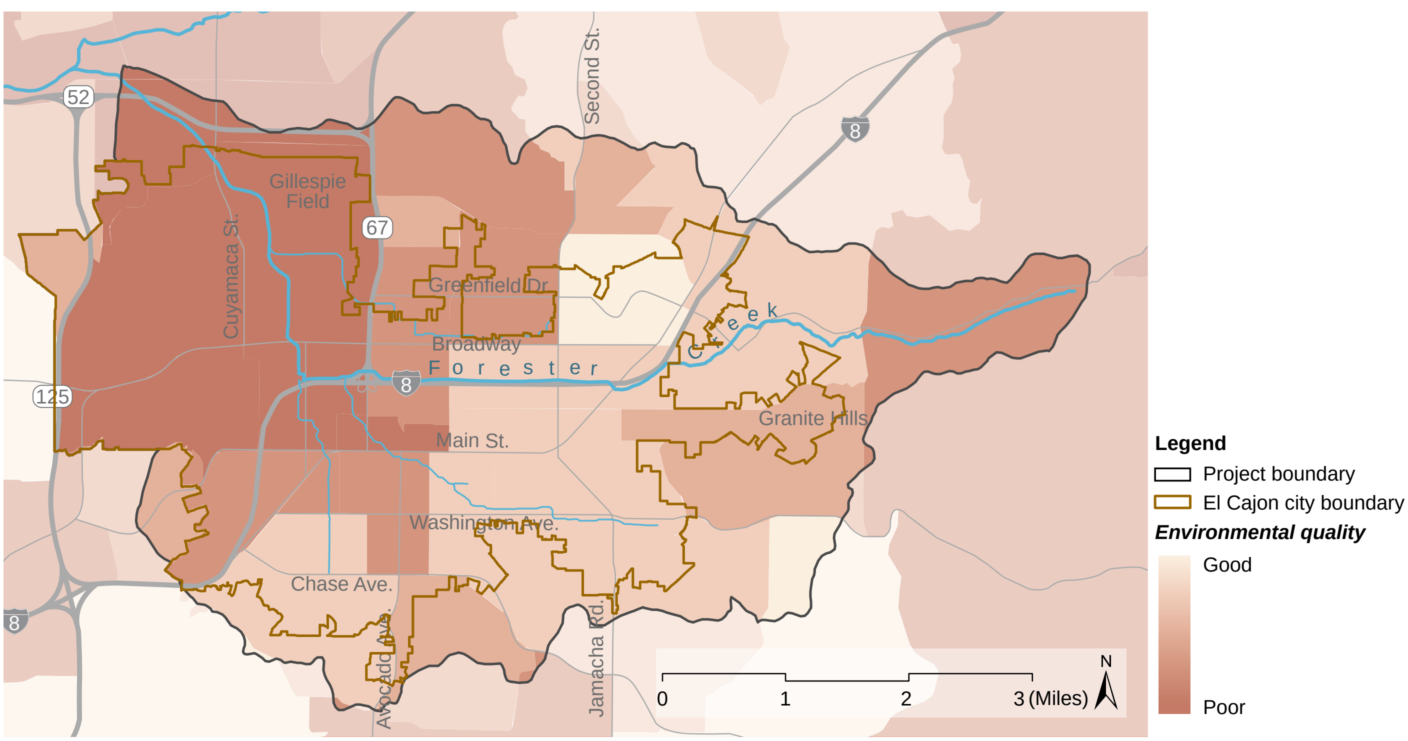
Pollution from diesel comes from cars, trucks, and other engines and is comprised of heavy metals and toxic gases along with microscopic particles. According to the Clean Air Task Force (2005), diesel is "…one of the nation's most pervasive sources of toxic air pollution…that lead to 21,000 premature deaths each year and creates a cancer risk that is seven times greater than the combined risk of all 181 other air toxins tracked by the EPA." An area with high levels of diesel pollution is located in the industrial area associated with the Forester Creek System according to County of San Diego data (Figure 4.111).

According to the *Parks for Everyone* report (The City Project, 2015, p. 16), "Local climate scientists from Scripps Institution of Oceanography have tracked rising temperatures in the San Diego region since the 1970s. Their climate projections for coming decades indicate a trend toward hotter and drier regional conditions. Other projections suggest that rising temperatures will contribute to dirtier air, as more hot and sunny days increase ozone air pollution. Public health researchers at the University of Southern California have found that low-income communities of color will be most significantly impacted by warmer weather and dirtier air. […] Green space can help to offset the adverse effects of a warming climate."

Several environmental factors were considered in the creation of the environmental quality map, such as ozone, particulate matter (PM), diesel, drinking water quality, pesticides, groundwater threats, and impaired water. This data was obtained from CalEnviroScreen 3.0 environmental quality data.

To create an overall map of environmental quality (Figure 4.111), each of these factors were assigned a value from ranging from 1 to 10 where 1 represents good environmental quality

Figure 4.111 Quality of physical environment (including air and water quality)



**Dark areas are areas of low environmental quality as determined by high CalEnviroScreen scores.*

and 10 represents poor environmental quality. Then values for each factor were added to create an overall environmental quality map.

The darker areas have poor environmental quality and the lighter areas have good environmental quality. The darker portion covers areas along Fletcher Parkway, Cuyamaca Street, and Gillespie Field. The east area of El Cajon has better environmental quality than the west.

4.6/Key Insights from Biophysical and Sociocultural Inventory

Considered together, all the factors in the preceding biophysical and sociocultural inventory lead to four insights with significant implications for developing a recreation access plan for the Forester Creek System in El Cajon.

- **The Forester Creek System is virtually invisible in El Cajon and the residential and commercial development of the City faces away from the creek system.** This suggests that several steps will need to be taken before El Cajon is ready to focus on the creeks as a place to develop their recreational resources. The creeks, in their current condition, are not attractive in many areas and will require physical improvements. First, positive awareness of the creeks will need to be raised; then, the potential of the creeks will need to be demonstrated at the few sites that can support direct access. Finally, new development—of buildings and open space—will need to be encouraged to turn toward the creeks.

- **There is no usable right-of-way along most of the Forester Creek System and few full parcels of vacant land adjacent to the creeks**. The lack of available land along the creeks makes creating a viable recreational system using only currently available land impractical. It also eliminates the most common and popular element of a waterway recreation access plan—the creek-side path. The viable alternative is to determine the areas where recreation facilities are needed and how these areas can relate to each other and the creeks, leaving the task of identifying specific areas for particular uses to the detailed design and implementation stages of the plan. While planning by zones can make communicating the vision more difficult, it is a more genuine and accurate representation of the intent of the plan to locate areas of demand and need, and identifying viable parcels as they come available for purchase.

- **The creek-adjacent land that is currently available for recreational use is predominantly very small, under-utilized remnants and edges of parcels, and designated public right-of-ways that range from 50 to 1000 square feet in size**. The most viable first stage of implementation may be a series of demonstration projects on these small remnants of land that will serve to provide evidence of the potential of creek-oriented recreational development.

- **El Cajon is severely park-poor, having less than 1/3 the state standard of acres of park per 1000 residents as of 2017.** This suggests that El Cajon residents need access to recreational resources in general. Until their basic needs for safe routes to school, playgrounds for children, and group sports facilities have been addressed, it will be difficult to build support for difficult-to-implement, unprogrammed natural areas, especially in inaccessible areas. It could well be that until El Cajon residents have a reasonable level of general recreation facilities, they will not feel free or motivated to focus on creating more specific facilities, such as creek visual access points.

- **El Cajon is deficient in the provision of pedestrian/cycling facilities, soccer, football, volleyball, tennis, and multipurpose fields, playgrounds, and dog parks according to both population projections and generally accepted provision standard levels.** These shortages will continue to exist in 2050 with anticipated changes in recreation and leisure trends. **El Cajon is under-parked by 200 acres today (2017) and is anticipated to be 240 acres short by 2050. El Cajon is also in need of 25 to 32 additional miles of trails/paths/lanes to address the needs of current (2017) and future (2050) residents.**

Chapter 4 Summary

In their current condition, the study area's creeks do not appear to be recreational resources.

They:

- Are concrete channels for 95% of their length;
- Are hidden behind buildings and fences, like back alleys for water;
- Emit foul odors and accumulate trash; and,
- Lack a typical parallel right-of-way that invites walkers, runners and cyclists.

But the study area's natural landscape does have great recreational potential. Features include:

- A network of four creeks in a small City that brings a waterway within easy walking distance of a majority of residents;
- The granite hills "boxing" in El Cajon that create distinct, constant evidence of the natural landscape; and,
- A surprising diversity of native wildlife and flora.

The study area's built landscape supports building an accessible park and creek recreation network.

There are dozens of locations where active pedestrian routes cross the creeks.

These access points are concentrated in the City of El Cajon's densest, most apartment-filled neighborhoods.

The City of El Cajon's major destinations—Main Street, the mall, the City Hall—are adjacent to, and literally on top of, the creeks.

At the same time, the study area's physical and social challenges highlight the need to realize this recreational potential.

- The City of El Cajon has 1/3 the state recommended amount of parkland and 1/10 the national standard.
- The City does not meet planning standards for soccer and football fields, playgrounds and dog parks.
- The City needs over 200 acres of parks and 25 miles of trails/paths/lanes to meet minimum accepted provision level standards.
- Study area residents disproportionately suffer from physical and mental health conditions associated with lack of open space and exercise.


Cuyamaca St.
2 (3.495)
2 (0.178)

CHAPTER 5. GEODESIGN ANALYSIS PROCESS AND RESULTS

5.1/Introduction

A major objective of this recreation access plan is to identify potential locations for recreation activities in the study area, especially along the corridors of the Forester Creek System. While Chapter 4 comprehensively describes the biophysical and sociocultural inventories pertinent to the condition of the Forester Creek System and the recreation resources in the City of El Cajon, Chapter 5 documents the critical factors used to identify land use areas and physical corridors with potential for future recreation use (Figure 5.02). The team targeted the most suitable zones for future park development based on this parcel-level analysis and most suitable corridors for future recreation using the corridor-based analysis.

The team took a geodesign approach which uses issue-driven geospatial analysis and modeling for this purpose. Through this process, the team generated a geodesign proposal addressing where new recreational areas and corridors should be located based on existing biophysical and sociocultural data obtained from different public sources (see the data mining section of Chapter 3). Recreational "corridors" are suitable rights-of-way for the development of paths, trails, lanes and other bicycle and pedestrian infrastructure and amenities. The geodesign proposal was an early stage of the decision-making process (see Figure 1.09). It provided an initial planning scenario (Figure 5.01 & 5.02) for The San Diego River Park Foundation (TSDRPF) and community to use to encourage discussion and debate during the participatory design process (described in Chapter 6).

5.2/Suitability Mapping Process

By definition, recreation suitability analysis is conducted to define and identify land areas and/or physical corridors that are appropriate for development as recreational resources. This chapter builds on the inventory presented in previous chapters and adopts an issue-driven geodesign approach to conduct a suitability analysis of potential land and corridors for recreation. The issue-driven geodesign analysis enables the identification of areas and corridors that have high suitability for improved or future recreation resources in the study area.

Figure 5.01 Issue-driven geodesign process for recreation planning and design

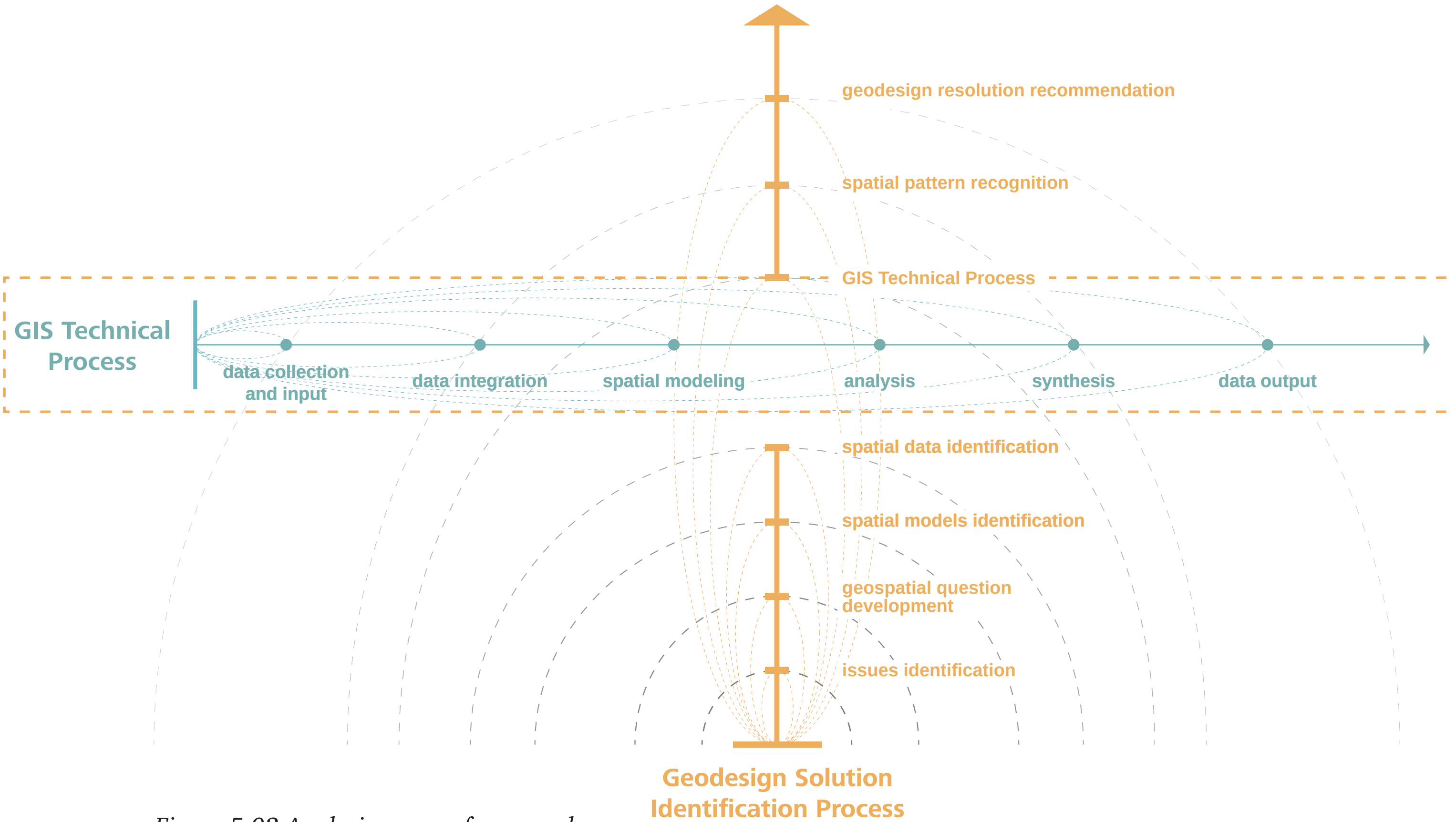
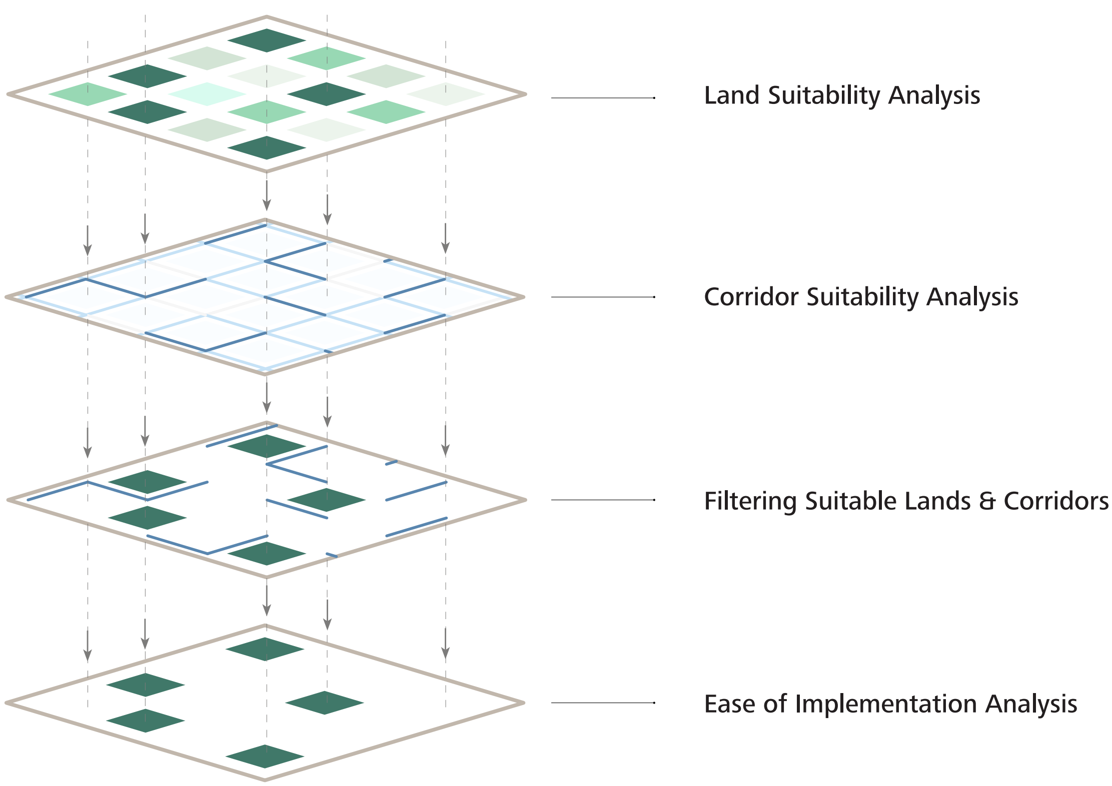


Figure 5.02 Analysis process framework



The team ranked all parcels in the study area regardless of current availability. It is impossible to anticipate future land availability, and parcels can be transformed from one land use to another over time.

While it is true that different sites will be most feasible for different purposes, until a detailed program (list of facilities and activities for a given project) is developed, it is difficult to evaluate a particular parcel's eventual suitability. For these reasons, the results of the geodesign suitability analysis are preliminary and need to be further refined at later stages of the design and development process.

The team's geodesign process was issue-driven and focused on evaluating the suitability of land areas and physical corridors as potential recreation opportunities for future development. The process had two dimensions, with GIS work flows on the x-axis and problem-solving on the y-axis (see Figure 5.01). This process began with the issues (or research questions) associated with the project. The issues were translated to geodesign questions through spatial thinking, so that the questions (see Table 5.01) could be answered technically by a GIS work flow process (the x-axis). For instance, one of the issues in El Cajon is uneven distribution of recreation resources. Such an issue must be translated into a geodesign question (e.g., *where are more parks needed in El Cajon?)* before applying the GIS work flow. The team then must identify appropriate geospatial models for answering the question. In order to successfully create the model, the team identified necessary geospatial data, e.g., parks or population, and applied them to the model.

After the GIS technical process, the project team examined the spatial pattern of the analysis results and discussed their planning and design implications (upper half of the y-axis on Figure 5.09). Lastly the team generated geodesign solutions and recommended them to the stakeholders and the general public during the participatory design process (see Chapter 6).

Once the bottom half of the y-axis had been articulated, the team launched the GIS work flow along the x-axis, which included information input, data integration, spatial modeling, analysis, synthesis and data output (see Figure 5.01). Data input, data integration, and data output are standard practice for every project in the 606 Studio.

During *data input*, the studio team either collected data through field work, obtained secondhand geospatial data from The San Diego River Park Foundation (TSDRPF) or another public data source (see data mining section in chapter 3), or created (digitized) new data using high-resolution remote sensing imagery.

During *data integration*, the team integrated data from multiple data sources, in different coordinate systems and projections, and in different data formats into a standard geodatabase using geospatial processing tools such as data conversion, projection, and database management in ArcGIS.

During *spatial modeling and analysis*, the team applied geospatial analysis tools such as geoprocessing and attribution calculation to baseline raw data to generate meaningful spatial distribution patterns of the inventories under investigation, and thus answered the geodesign question(s). An important part of the attribute calculation was to develop scoring and weighting criteria for the parcel-based and corridor-based suitability analysis. Scoring and weighting criteria are described in Table 5.02 & 5.03 and reflect community meeting results, research on similar past projects, industry best practices, and prior experience of the team members.

During the *synthesis* stage, findings were synthesized to obtain a final suitability analysis. In the case of this project, final suitability analyses were prepared for both the parcel-based and corridor-based questions.

Specific geospatial tools used in answering each question for the *Forester Creek System Recreation Access Plan* are listed in Table 5.01. During data output, the team used both ESRI ArcGIS and Adobe tools such as Illustrator to generate analytical thematic maps for use by the community to encourage discussion and debate.

For the *Forester Creek System Recreation Access Plan*, the team developed a list of geodesign questions pertinent to issues of recreation planning and design along local creek corridors (see Table 5.01). To answer each of the listed questions, the team undertook issue definition, spatial thinking, geodesign question

Table 5.01 Geodesign questions and applied geospatial models and tools

Geodesign Questions	Geospatial Models and Tools
Where are potential outdoor recreational facility (parks, open spaces, paths/trails, etc.) locations/sites in the study area? (Figure 5.18)	
a) as determined by land availability (see section 5.3.1)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
b) as determined by park/population proximity and provision standard (see section 5.3.2)*	Park Poverty (Provision and Accessibility) Analysis (Spatial Join, Selection by Location, Attribute Calculation, Park Amenity Distribution [Supply and Demand] Analysis [Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis (Thiessen Polygon), etc.], Proximity [Cartesian Distance] Analysis, etc.), and Hotspot Analysis.
c) as determined by physical resources (see section 5.3.3)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
d) as determined by potential to increase active transportation (see section 5.3.4)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
f) as determined by safety and other constraints (see section 5.3.5)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
g) as determined by all critical factors (see section 5.3.6)	Overlay-based Land Suitability Analysis (Overlay Analysis, Spatial Join, Table Join, Attribute Calculation, etc.)
Where are potential outdoor recreational corridors/loops (streets, paths/trails, etc.) in the study area? (Figure 5.30)	
h) as determined by park/population proximity and provision standard (see section 5.4.1)*	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
i) as determined by potential to increase active transportation city-wide (see section 5.4.2)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
k) as determined by potential to increase use of recreation resources and alternative transportation to school (ATS) (see section 5.4.3)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
l) as determined by potential to increase use of recreation resources around and alternative transportation to work places (see section 5.4.4)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
m) as determined by proximity to Forester Creek and its tributaries (see section 5.4.5)	
n) as determined by safety and other constraints (see section 5.4.6)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.
o) as determined by all critical factors (see section 5.4.7)	Spatial Join, Selection by Location, Attribute Calculation, Proximity Analysis, etc.

**Potential to increase equity of access for currently under-served demographicsdisadvantaged neighborhoods, and address park poverty*

Table 5.02 Parcel-based recreation suitability evaluation

Critical Factor Groups (I)	Ranking Tier	Weight (W)	Standard Score (S) (0 to 1)	Total Score (T)
Land Ownership	1	3	City (including easement) / School District: 1 County (including easement) / Districts: 0.75 State (including easement): 0.5 Federal: 0.25 Non-Public: 0	T=SW
Park Supply and Demand	1	3	Park poor zone*proximity to existing park Park poor zone 1-2: 1, 3-5: 0.75, 6-8: 0.5, 9-15: 0.25, 16-22: 0 Proximity to existing park	T=SW
Proximity to Population Center	1	3	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Existing Recreation and Leisure Resources	1	3	1 mile to Class A: 1 1 mile to Class B: 0.75 1 mile to Class C: 0.5 1 mile to Class D: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Public Transportation Stops/Terminals	1	3	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Employment Centers	1	3	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Cycling Facilities	2	2	Within 1 mile of Class I: 1 Within 1 mile of Class II: 0.75 Within 1 mile of Class III: 0.5 Within 1 mile of any class: 0.25 Less than 1 mile to any class: 0	T=SW
Existing Land Developability	2	2	Undeveloped/empty land: 1 Existing park or schoolyard: 0.75 Agriculture: 0.5 Residential (with backyard) along the creek: 0.25 Other/not vacant: 0	T=SW
Proximity to Existing/Potential Access Point to the Creek	2	2	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW

Critical Factor Groups (I)	Ranking Tier	Weight (W)	Standard Score (S) (0 to 1)	Total Score (T)
Proximity to Safe Route to School	2	2	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Existing Street Infrastructure (Density of Sidewalk or Existence of Sidewalk)	3	1	Top 20 Percentile 90/80: 1 20-40 70/60: 0.75 40-60 50/40: 0.5 60-80 30/20: 0.25 Others : 0	T=SW
Proximity to High Traffic Connection Area	3	1	Within 1/2 mile of road class A: 1 Within 1/2 mile of road class B: 0.75 Within 1/2 mile of road class C: 0.5 Within 1/2 mile of road class D: 0.25 Greater than 1/2 mile from high traffic volume road: 0	T=SW
Proximity to Use Conflict Areas	3	-1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Traffic Collision Hotspot	3	-1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
All Critical Factor (Total Suitability Score)	$T = \sum_{i=1}^{n} s_i w_i$			

**Note: Standard Score S is derived from raw score measured by the value of each of the inventory, e.g., proximity to existing recreation resources, within 1/8 mile (660 ft): 0, 1/8-1/4 mile (660-1320): 0.25, 1/4 mile-1/2 mile (1320-2640): 0.5, 1/2-1 mile : 0.75 (2640-5280), >1mile : 1. The higher the value of S, the more suitable for the land parcel to become new recreation resource.*

Table 5.03 Corridor-based recreation suitability evaluation

Critical Factors (I)	Ranking Tier	Weight (W)	Standard Score (S) (0 to 1)	Total Score (T)
Proximity to Existing Recreation and Leisure Opportunities	1	2	100 ft from A: 1 100 ft from B: 0.75 100 ft from C: 0.5 100 ft from D: 0.25 Greater than 100 feet: 0	T=SW
Availability of Existing Bikeways and Trails	1	2	within 100 ft = 1 <100 ft = 0	T=SW
Presence of Sidewalks	1	2	within 100 ft = 1 <100 ft = 0	T=SW

Critical Factors (I)	Ranking Tier	Weight (W)	Standard Score (S) (0 to 1)	Total Score (T)
Proximity to Creek Corridor	1	2	within 200 ft = 1 <200 ft = 0	T=SW
Proximity to Safe Route to Schools and Schools	1	2	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Population Center	2	1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Public Transportation Terminals and Stops	2	1	Transit Center Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 to 1/2: 0.5 1/2 to 2 mile: 0.25 Greater than 2 miles: 0 Bus Stop Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 to 1/2: 0.5 1/2 to 2 mile: 0.25 Greater than 2 miles: 0	T=SW
Proximity to Employment Centers	2	1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to Traffic Collision Hotspot	2	1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
Proximity to High Traffic Volume	2	1	Within 1/8 mile: 1 1/8 mile to 1/4 mile: 0.75 1/4 mile to 1/2 mile: 0.5 1/2 mile to 1 mile: 0.25 Greater than 1 mile: 0	T=SW
All Critical Factor (Total Suitability Score)	$T = \sum_{i=1}^{n} s_i w_i$			

**Note: Standard Score S is derived from raw score measured by the value of each of the inventory, e.g., proximity to existing recreation resources and destinations, within 100 feet from category A (schools and parks): 1; Category B (Restaurants): 0.75; Category C (Indoor Recreation): 0.5, and Category D (Churches): 0.25. The higher the value of S, the more suitable for the land parcel to become new recreation resource.*

Note that water quality in the Forester Creek System was not a variable in the calculations. Noise and air pollution were included in the traffic corridor analysis. Park poverty was addressed by "park supply and demand".

development, model and data identification, and a technical process of data input, data integration, spatial modeling, analysis, synthesis, and data output (see Figure 5.01).

The suitability analysis examined both the land areas and transit/circulation corridors in the study area, especially surrounding the Forester Creek System. The team identified a group of critical factors (see section 5.3) through a review of the literature and precedents and conducted geospatial analysis to evaluate how each factor affected the suitability of each parcel or street/ trail segment for future recreation development. The ranking of each of the factor and their weight were determined by the team through a dotmocracy voting process. The process built on the team's knowledge of the study area developed through communications with the client, field observation in the study area, as well as design precedents such as GRASS II (Greenways to Rivers Arterial Stormwater Systems II) (606 Studio, 2018).

It is important to note that the criteria developed during the geodesign stage was not intended to cover all possible criteria but rather to initiate a preliminary evaluation of the recreation potential of the study area with criteria deemed most important at that stage of analysis. This initial evaluation stage allowed the team to generate a preliminary analysis for the community (introduced in Chapter 6 and 7).

The team ranked the critical factors, grouped them into tiers, then classified them into different factor groups (see Table 5.02 and 5.03). First tier factors were most important and were weighted most heavily. Different raw measurement values such as land use ownership or proximity to existing recreation resources were translated into standard scores falling between 0 and 1, with 0 as least important and 1 as most important (or the highest value measured by each factor). The standard scores were then multiplied by the factor's weight to calculate the total suitability scores for each parcel or physical corridor segment.

Lastly the total integrated final suitability scores for all the parcels and corridors were calculated using equations for all critical factors in Table 5.02 and 5.03. Recreation suitability as determined by individual critical factors and all critical factors for both parcels and corridors are shown in Figure 5.03 to 5.18 for parcels and Figure 5.19 to 5.30 for corridors.

The following section addresses the results of the parcel-based and corridor-based suitability analysis for both individual critical factors and the critical factors as a group.

5.3/Locating Parcel-based Outdoor Recreation Resources, Activities, and Facilities

To identify the most suitable parcels and corridors for recreation opportunities, the project team proposed a group of prioritized factors to guide the suitability modeling. First, parcels were limited to those in the study area (within a quarter mile of Forester Creek and its tributaries) in order to ensure opportunities for interaction with the creek and its potential natural resources. Factors developed to guide the parcel-based suitability analysis (see Section 5.3) included land availability (land use type, use status and ownership), proximity to parks (and schools), population density, provision standard, demographic characteristics, environmental justice considerations, available physical and cultural resources, potential to increase use of active transportation for travel to school, potential to increase use of alternative transportation for travel to work, and potential for interaction with the Forester Creek System and other natural resources in the study area.

Visual and potential physical access points to the Forester Creek System were also considered. The suitability analysis and results for each factor are discussed in Section 5.3. Similar factors were applied to guide the corridor-based suitability analysis (see Section 5.4 for more details)

5.3.1/Locations by Land Availability

One of the project's objectives was to identify potential land adjacent to the Forester Creek System to improve existing recreation resources or create new recreation opportunities. New recreation facilities require either taking advantage of land that is currently available for development or transforming land that is currently being used for a different purpose, but that has the potential to integrate recreation as an additional or alternative use.

Figure 5.03 Parcel-based recreation suitability as determined by developable land

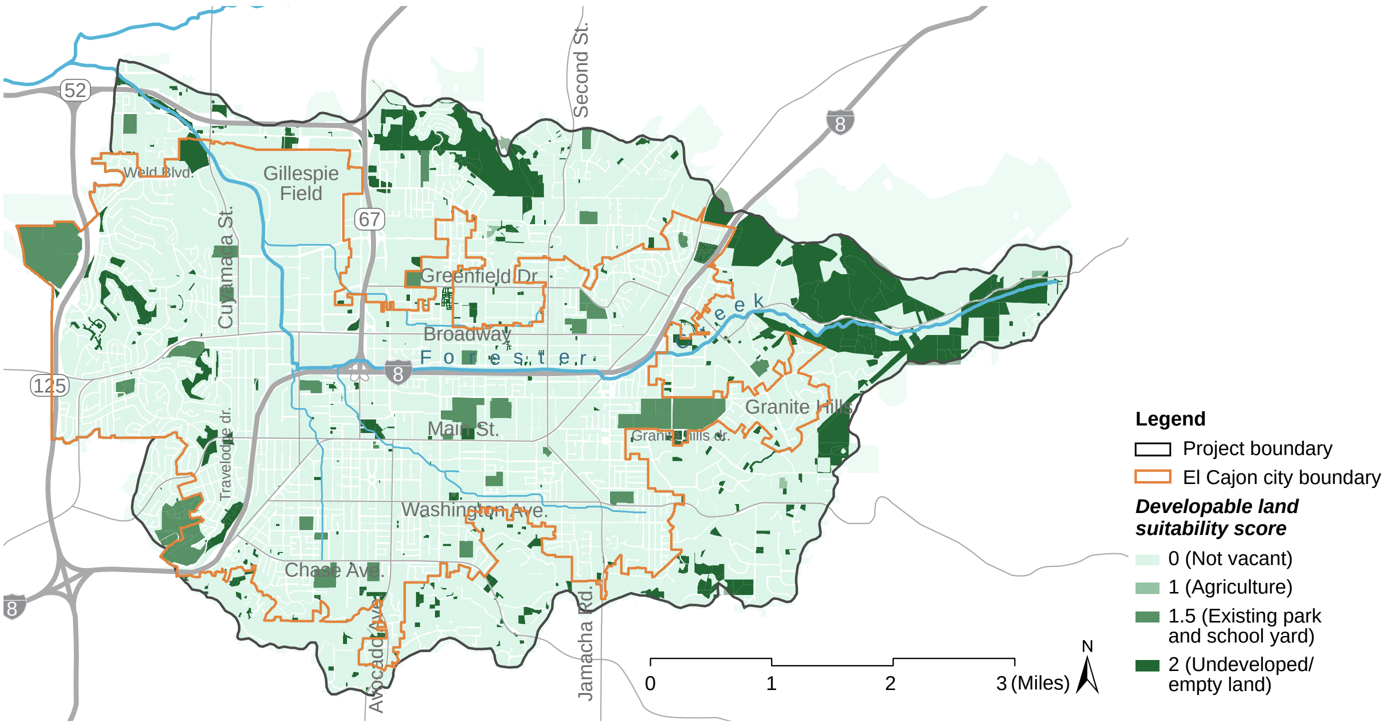
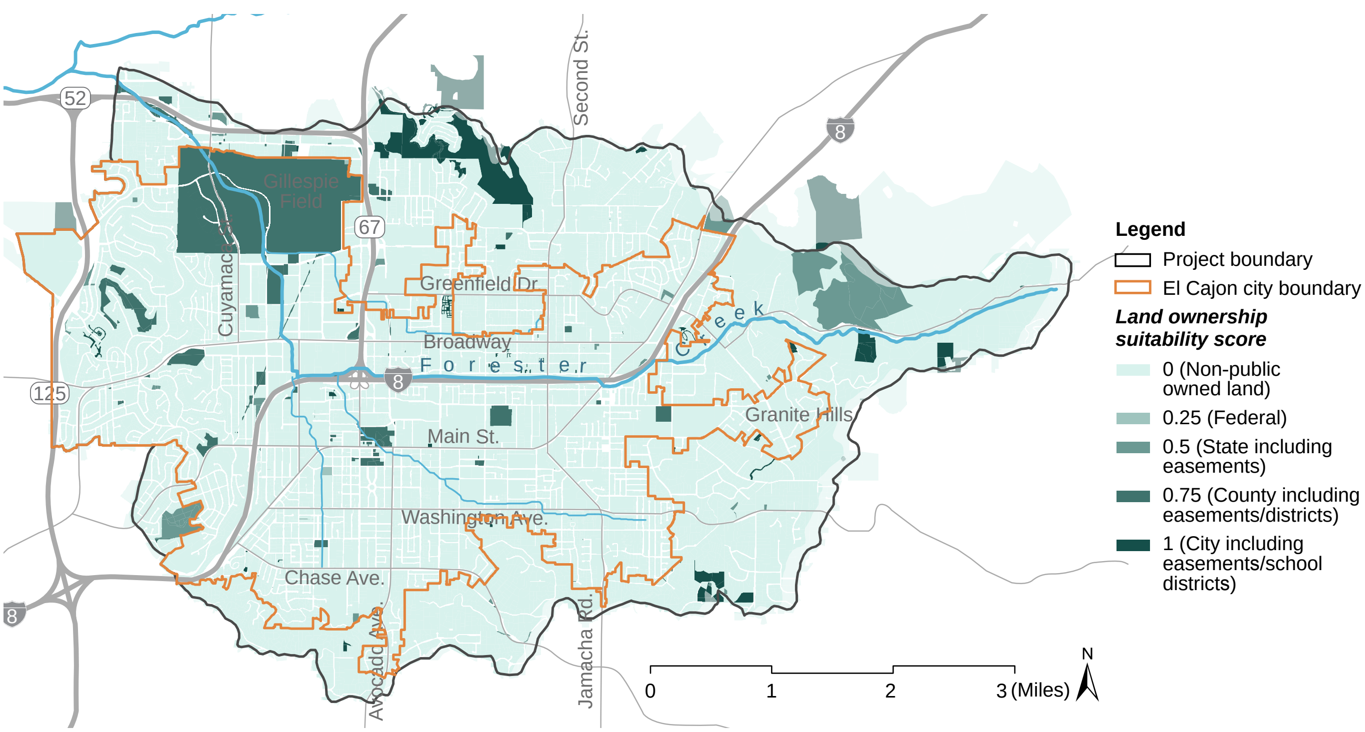


Figure 5.04 Parcel-based recreation suitability as determined by land ownership



The team looked at land use type and use status to identify parcels that were developable for recreation. The team gave priority to parcels with higher potential given their current use type and status.

5.3.1.1/Developable Land

Parcels that were considered developable by the team were vacant, undeveloped, or developed but suitable for the addition of recreation infrastructure (see Table 5.1; Figure 5.03). Scores listed on the map legends are total suitability scores for each mapped factor. Existing parks and schools are seen as secondary choices because, although previously developed, they can be enhanced to provide additional recreation opportunities. Other developed parcels were not considered as developable land at this time, although parcels may be purchased by and/or donated to the city for future recreation opportunities.

5.3.1.2/Land Ownership

The team examined the ownership of parcels to evaluate their suitability for future recreational development. City-owned lands and easements were considered the most suitable lands for recreation (see Figure 5.04; Table 5.02). Public land that is available for development or land that can be easily purchased is an asset as it minimizes project costs and complexity. Negotiating the use of land owned by other levels of government or other agencies can be complex and time intensive. Purchasing land owned privately is generally the most expensive approach, but may require less time.

As shown in Figure 5.04, in central El Cajon there are many small parcels owned by the city. These lands are the most suitable for recreation development as they can be easily transformed into a pocket park network. The County of San Diego also has available land in the study area. Those lands are generally larger parcels with potential to serve regional recreational needs. Except for Caltrans, minimal land is owned by state and federal agencies.

5.3.1.3/Summary

In the study area (see Figure 5.03), the large parcels of developable lands are around the perimeter of El Cajon, and are predominantly owned by the city, county, state and federal government. For example, the parcels at the corner of Weld Boulevard and Cuyamaca Street, Granite Hills Drive and Saddlebrook Way, and Main Street and Travelodge Drive have potential as rural or wilderness regional parks for the residents of El Cajon with the negotiation of a land use agreement.

In the center of El Cajon, there are few large parcels, but many small parcels suitable for pocket parks and mini-projects. In addition, improving or expanding the recreation functions of existing parks and schools would immediately improve recreation service.

According to the model, El Cajon can provide a comprehensive and functional recreation network in which a series of small and medium size parks are provided along the creek in the city center area, while larger parks with more space-intensive programming are located in the surrounding less developed areas. To deliver space-intensive programming within the city core, larger parcels would have to be purchased (see Section 5.4).

5.3.2/Locations by Need

5.3.2.1/Parks (and Schools), Population Proximity, and Provision Standards

A second factor group that helped identify suitable parcels for recreation was the spatial relationship between parks and population, i.e., how close people's homes and workplaces are to parks. The *Forester Creek System Recreation Access Plan* ranked current park/population proximity as a first tier factor and gave it the highest score (see Table 5.1). Addressing both the current and future need for recreation resources in El Cajon required information on the location of current recreation, housing, and areas with unmatched supply and demand for recreation resources. In this factor category, three analysis maps were generated to identify parcel zones that were in proximity to existing recreational opportunities (Figure 5.05), in proximity to existing population centers (Figure 5.06), and that addressed the park service supply and demand measured by park population density (Figure 5.07).

Figure 5.05 Parcel-based recreation suitability as determined by proximity to existing recreation and leisure opportunities

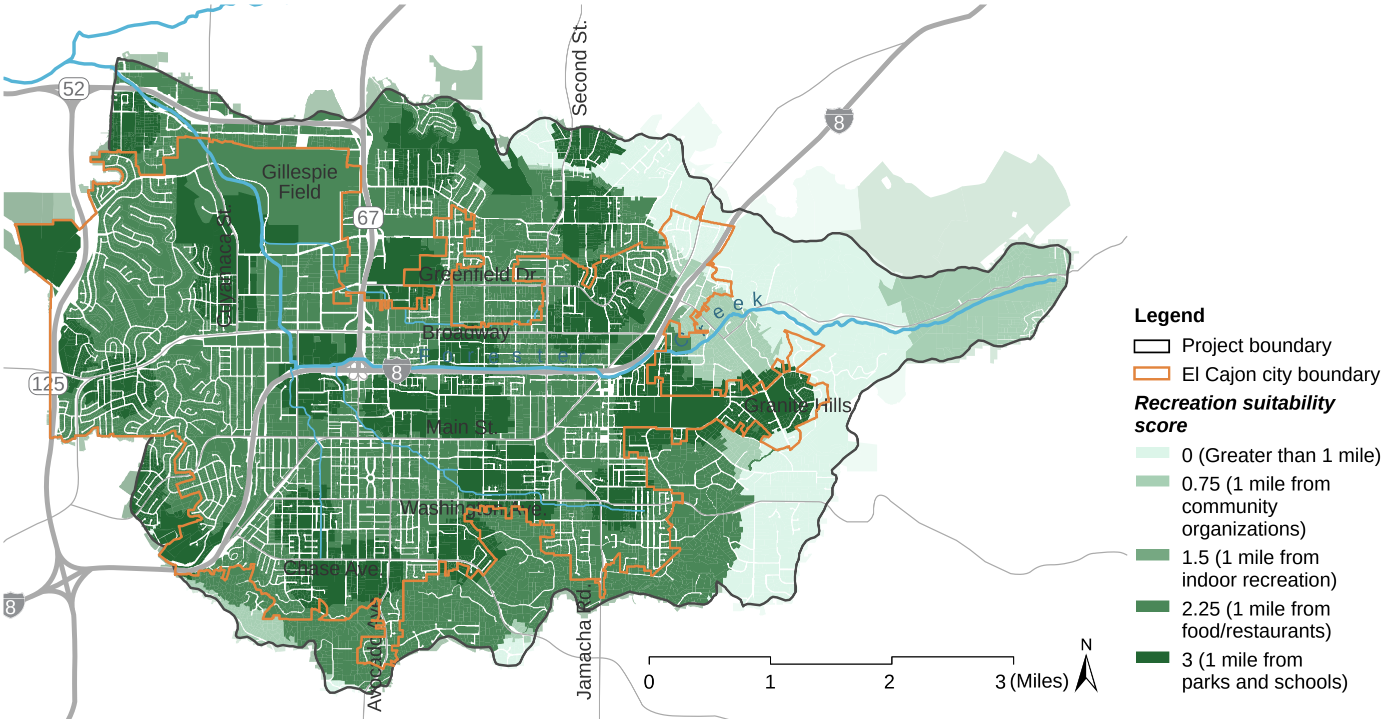
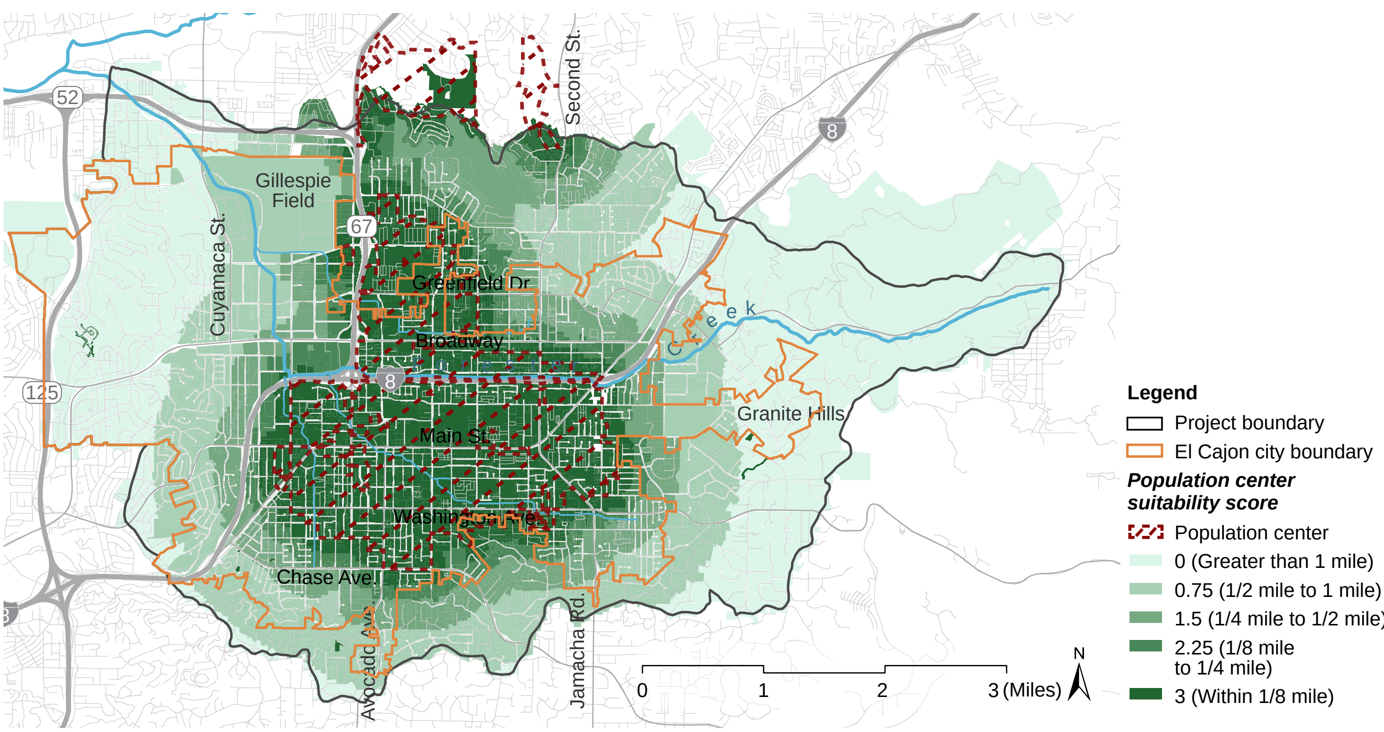


Figure 5.06 Parcel-based recreation suitability as determined by proximity to population centers



Proximity to Existing Recreation and Leisure Opportunities

The team assumed that recreation resources are similar to other business services in that clustering of services increases business for all services, as consumers are attracted by groups of services. Building recreation resources in proximity to existing ones, especially in areas that have high population density, helps promote use and address supply. Figure 5.05 highlights parcels that are in close proximity to Class A (parks and schools), Class B (restaurants), Class C (indoor recreation such as gaming centers) and Class D (religious organizations and community centers). The most suitable parcel zones around existing parks and schools are evenly distributed throughout El Cajon. The only exception is the eastern area including the headwaters of Forester Creek. While areas clustering around existing recreation resources were given higher priority, the team did not ignore areas that were less accessible to existing resources. Areas with low levels of recreation resources were addressed by the park service area analysis.

Proximity to Population Centers

Population centers are areas with higher population density. The project team generated a population center boundary for the study area by conducting a hotspot analysis on population density data obtained from Census 2010 data. A hotspot analysis involves assigning values to particular characteristics and analyzing them for clusters of high values versus clusters of low values. A hotspot analysis thereby illustrates where there is a high density of a particular factor, such as population or ethnicity.

The team then measured the distance from each parcel in the study area to the population center (see Figure 5.06). Lands within 1/8-mile distance of the population center were given the highest value. These parcels are the most suitable for open space as they are within one mile or 20 minutes of the homes of most people in the study area.

Proximity to population centers is significant because providing recreation opportunities in the most proximal areas means that newly developed or improved recreation resources can serve more people and thus better address park poverty issues.

The results of this analysis suggested the most efficient locations to provide parks, open space and other kinds of recreation facilities, and thereby serve the greatest number of future users.

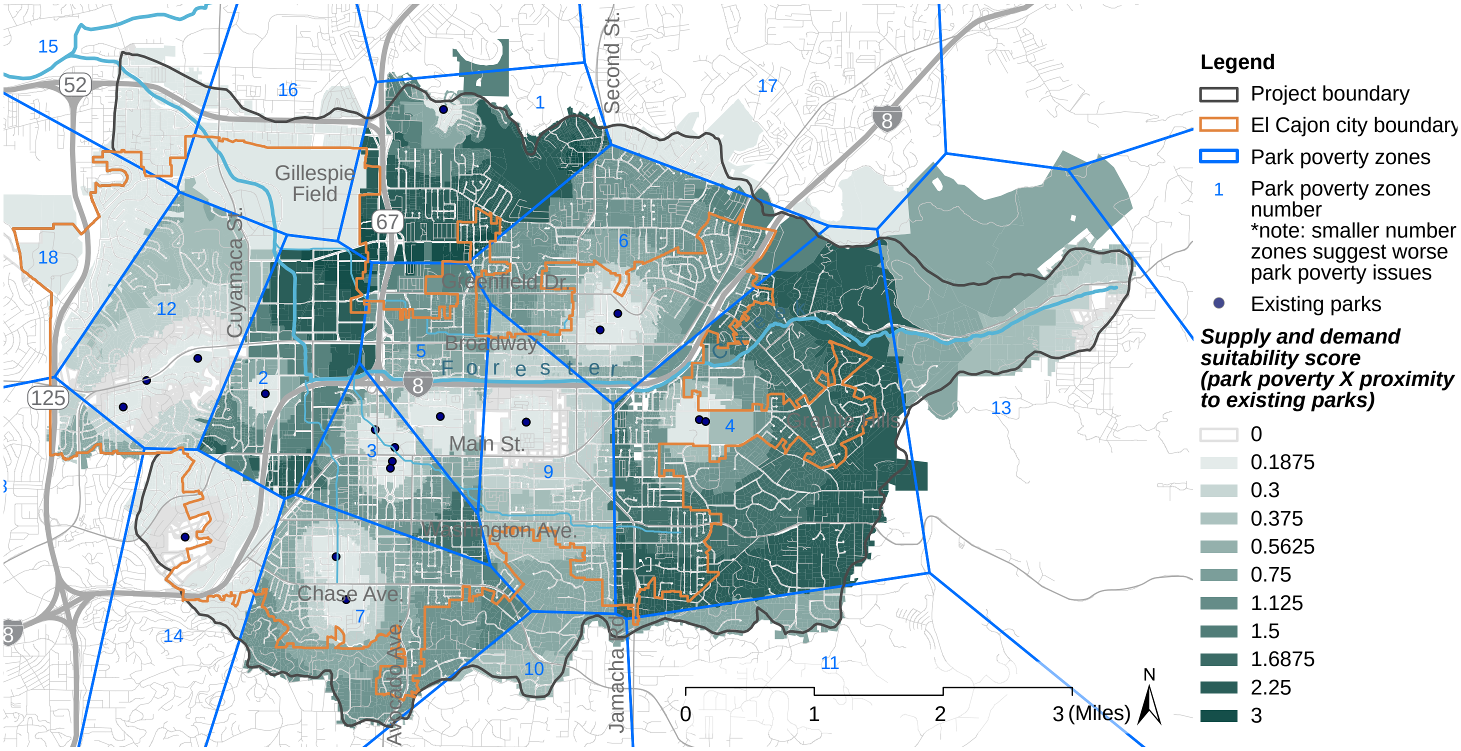
The resulting map (see Figure 5.06) identifies the population center of the study area, which includes most of the Forester Creek System.

Park Service Area with Park Population Density

While proximity to population centers identifies where most people live and indicates locations most likely to attract higher numbers of potential users, it does not address supply/demand ratios directly. To address areas of highest need, the team conducted a supply and demand analysis using Thiessen Polygon analysis (see Figure 5.07). Service areas for each park were defined by a Thiessen Polygon. Areas within a Thiessen Polygon are closer to the parks inside the specific polygon than any other parks in the study area. Once the service area was defined, the team calculated the park/population ratio (acres/thousand people) in each polygon (or park-poor zone).

As shown on Figure 5.07, El Cajon has a serious park poverty problem. According to the TPL (2019) *El Cajon 2030 Connecting People with Parks* study, “El Cajon has approximately 120 acres of parkland. Of that acreage, 17% is provided in joint use sites owned by local school districts. Even including the school sites, only 1.3% of El Cajon’s total land area within the city is parkland.” The overall park/population ratio for the entire city is just below 1 acre/thousand people (2017). Park poverty is most serious in the center of El Cajon (zone 1, 2, 3, 4, 5, 6) with less than 1 acre/1000 people. On the outskirts of the study area, parkland provision is generally higher than the County of San Diego (2.8:1000) and California standard (3:1000), though still significantly lower than the national standard of 10 acres/1000 people. The headwater area of Forester Creek is also park-poor (zone 12 with 2.31 areas/1000 people). This suggests, whenever possible, the central area of the Forester Creek System should be the focus of efforts to create future parks and recreation resources.

Figure 5.07 Parcel-based recreation suitability as determined by park service area with park population density



5.3.3/Locations by Opportunity: Available Resources

Other factors addressed opportunities offered by physical resources in the study area that would enrich the recreation experience. This factor was ranked at the secondary level and given medium weight (see Table 5.02). Factors in this category included proximity of parcels to existing and potential visual access points to the Forester Creek System (see Figure 5.08), proximity of parcels to nearby streets with sidewalks (see Figure 5.09), and proximity of parcels to high traffic connection areas (see Figure 5.10).

5.3.3.1/Proximity to Existing/Potential Visual Access Points to the Forester Creek System

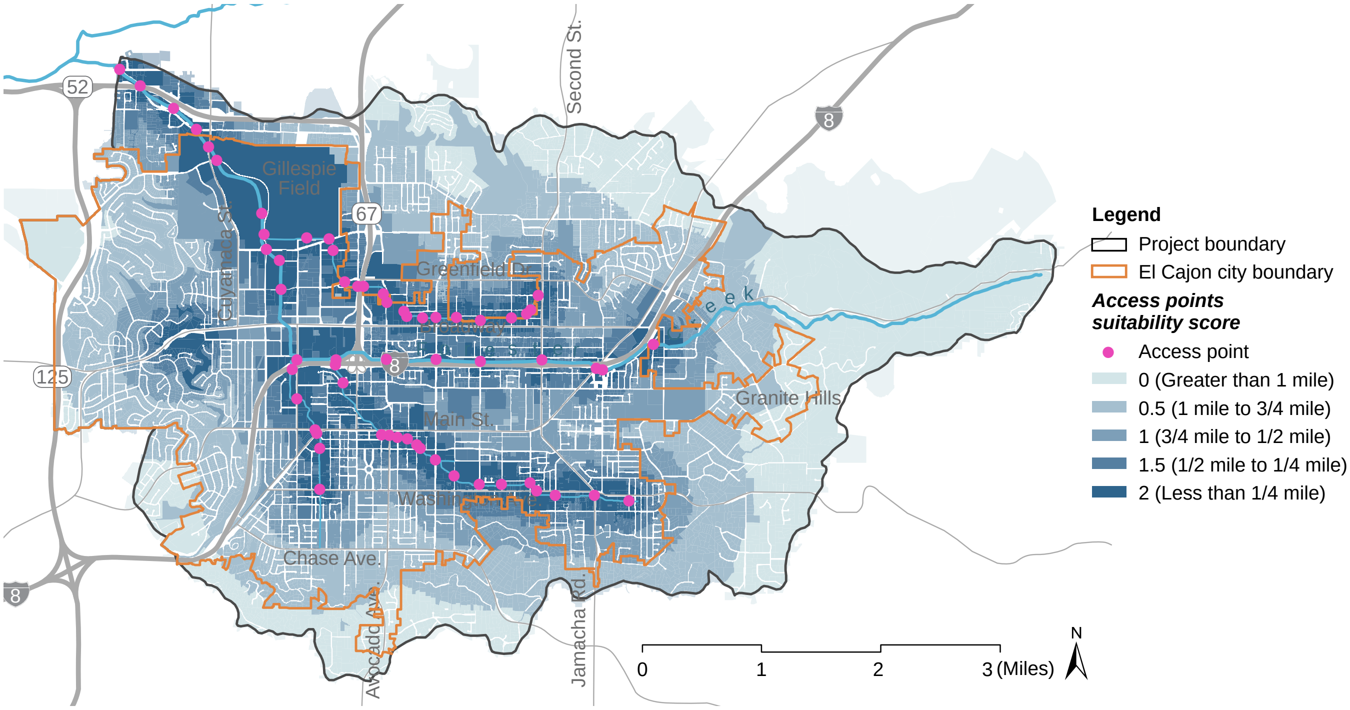
To embrace the Forester Creek System as a central part of the recreation vision for El Cajon, it is important to improve its visibility and accessibility. Introducing recreation resources in proximity to the creek would provide "stepping stones" to draw the flow of people from the city into the creek corridor (Figure 5.08). To select parcel zones that could best serve this role, the team first identified a group of existing and potential visual access points through field observation and participatory design, and then conducted spatial modeling to identify parcels in proximity to the visual access points (see Figure 5.08).

Most of the current and potential visual access points were located along the three tributaries with only a few along Forester Creek itself. As a result, parcels that can function as "stepping stones" are also clustered along the tributaries.

5.3.3.2/Availability of Sidewalk Infrastructure

Transportation and circulation facilities are also important to support efficient and safe access to recreation. Sidewalks provide a safe route for the elderly and children to walk to recreation facilities in their neighborhoods. Unfortunately, the sidewalks of El Cajon were not mapped in GIS. The team digitized the sidewalks in the Forester Creek System (a quarter mile from creek) and calculated the sidewalk density. A quarter mile buffer was created for all parcels in the area and the number of sidewalks in each buffer was calculated. After calculating the number of sidewalks within the buffer for each parcel, the parcels were classified according to the percentile of number of sidewalks within

Figure 5.08 Parcel-based recreation suitability as determined by proximity to existing and potential visual access points to the Forester Creek System



the quarter mile buffer. Parcels with a higher percentile were given a higher suitability score. The Forester Creek System has sidewalks along nearby streets which can connect pedestrian corridors to the creek, its tributaries, and nearby recreation opportunities (Figure 5.09).

5.3.3.3/Proximity to High Traffic Connection Areas

Easy access to recreation sites using a range of transportation modes including automotive is very important as people tend to go to places that are easy to locate and on their routine travel routes. More people use recreation facilities along transit corridors with high traffic volumes. The team mapped high traffic connection areas using traffic volume data from the San Diego Association of Governments and measured the proximity of parcels to street corridors with different traffic volume levels. Parcels in proximity to higher traffic volume corridors were given a higher weight and defined as more suitable for future recreation development. The result of this analysis was similar to, and highly overlapped with, the proximity to population centers analysis (see Figure 5.10).

Figure 5.09 Parcel-based recreation suitability as determined by availability of existing street infrastructure (sidewalks) within the Forester Creek System corridor

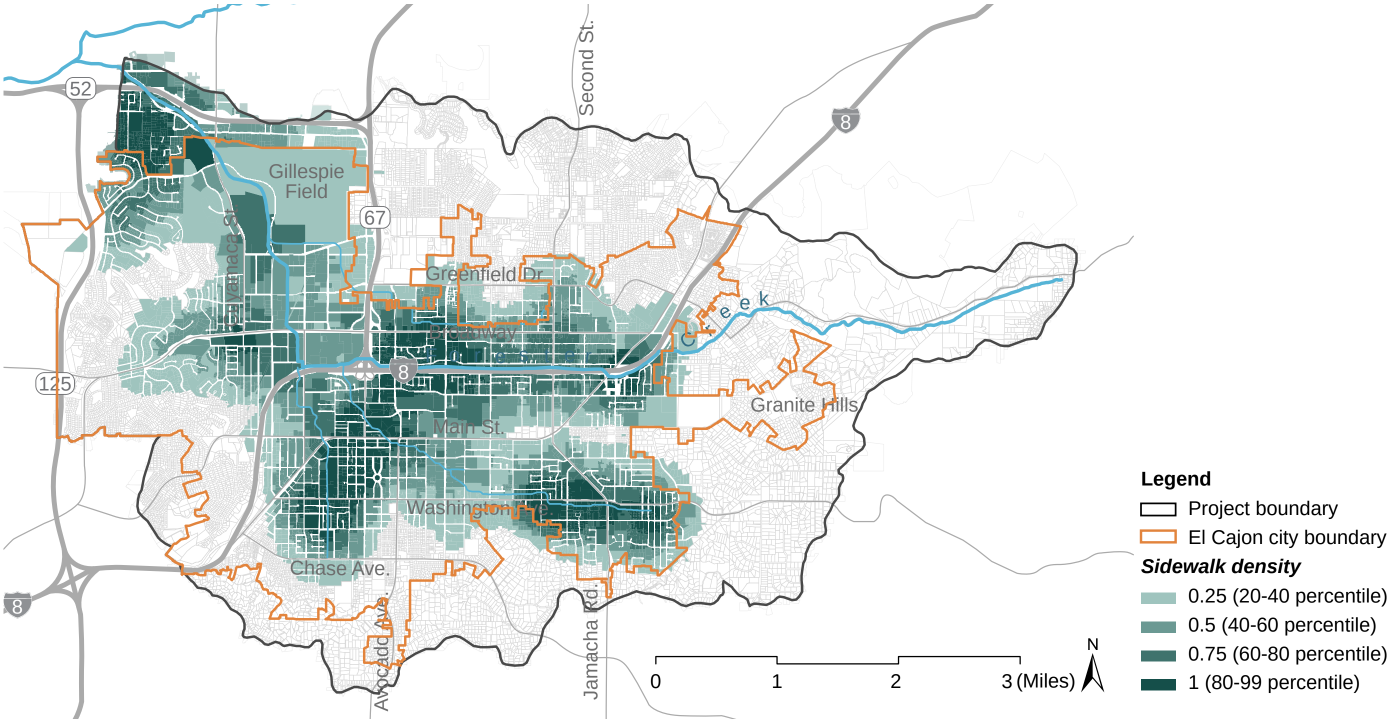


Figure 5.10 Parcel-based recreation suitability as determined by proximity to high traffic connection areas

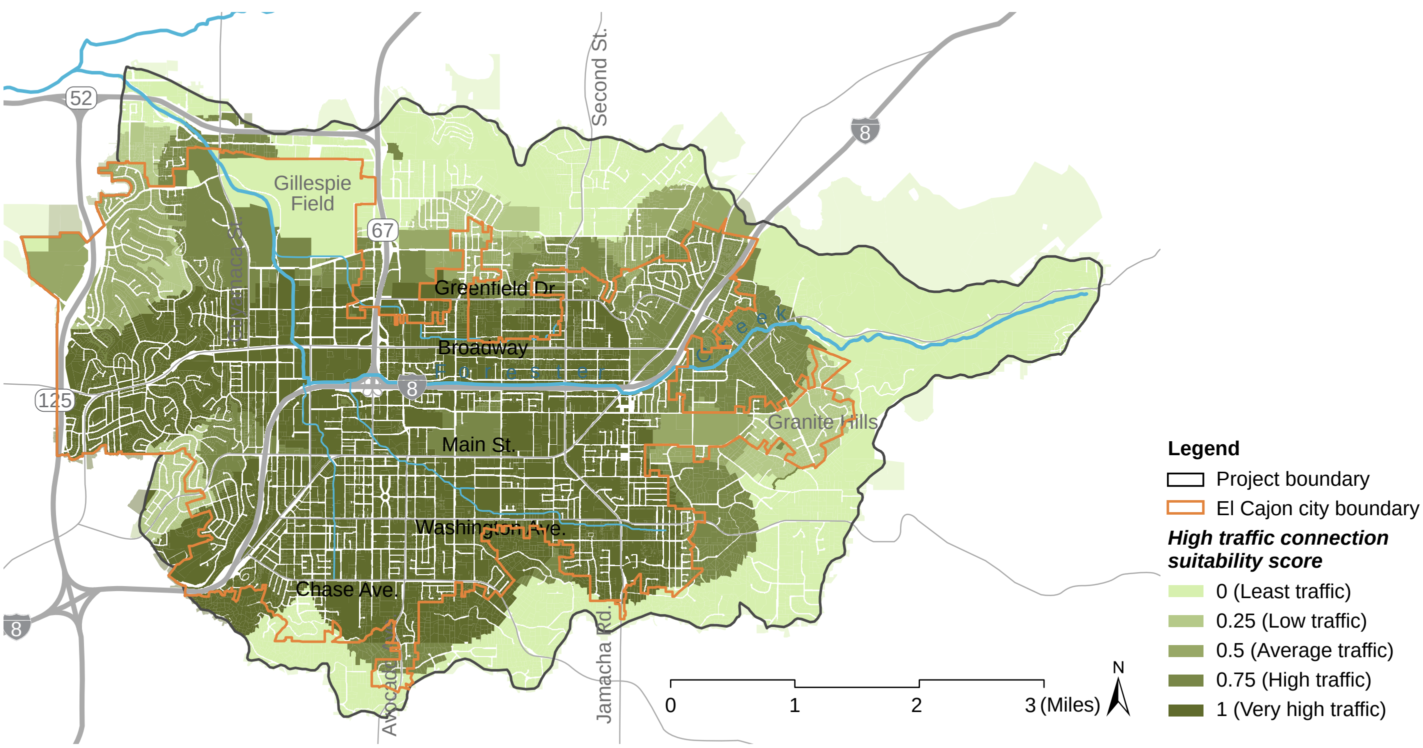
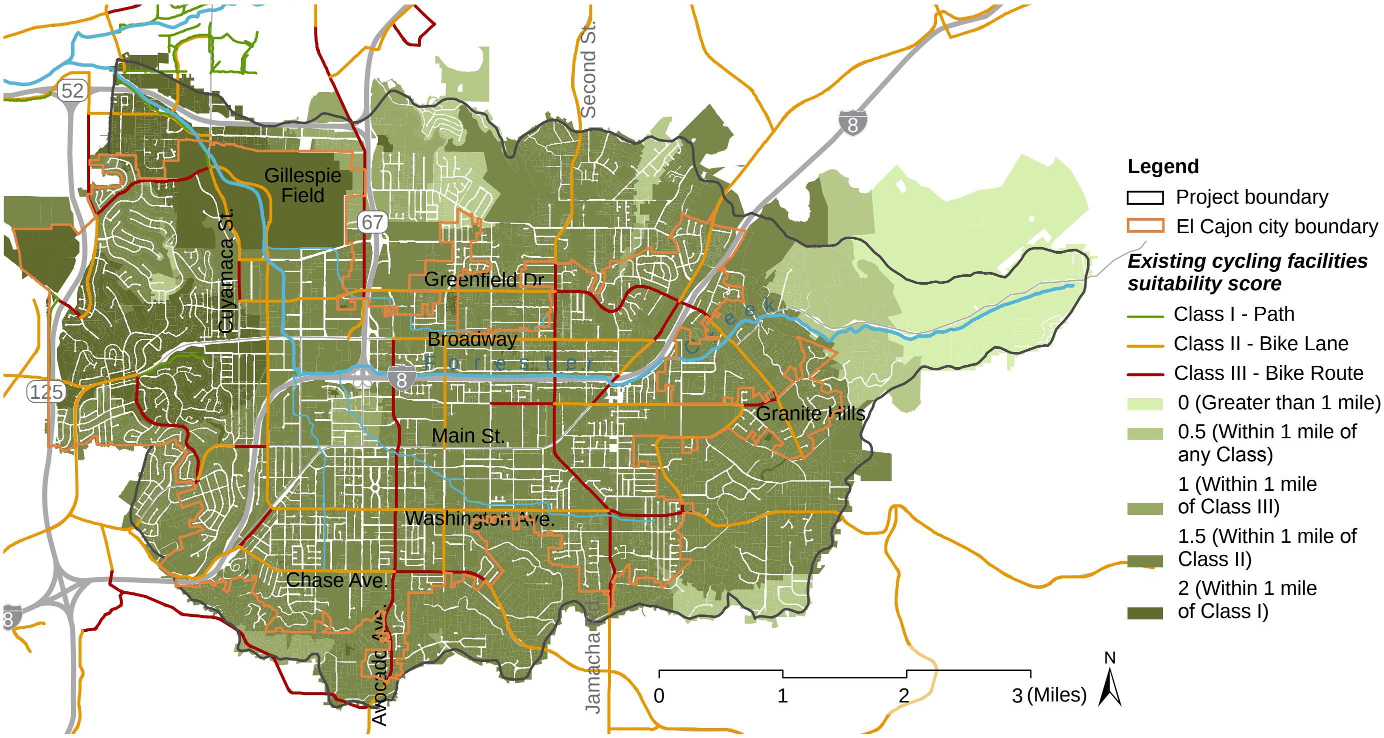


Figure 5.11 Parcel-based recreation suitability as determined by proximity to existing cycling facilities



5.3.4/Locations by Benefit: Potential to Increase Active Transportation

Another category of factors focused on identifying parcel zones that promote active transportation within the study area, especially active transportation to parks, schools, workplaces, and other recreation areas.

5.3.4.1/Proximity to Existing Cycling Facilities

Proximity to existing cycling facilities is important because a significant portion of the population cycles for recreation and/or transportation. It is estimated that up to 100 million Americans cycle each year (Breakaway Research Group, 2015), and 12.4% of Americans cycle on a regular basis (Gough, 2018). Mapping existing cycling facilities highlights opportunities to connect multiple resources into clusters (Figure 5.11).

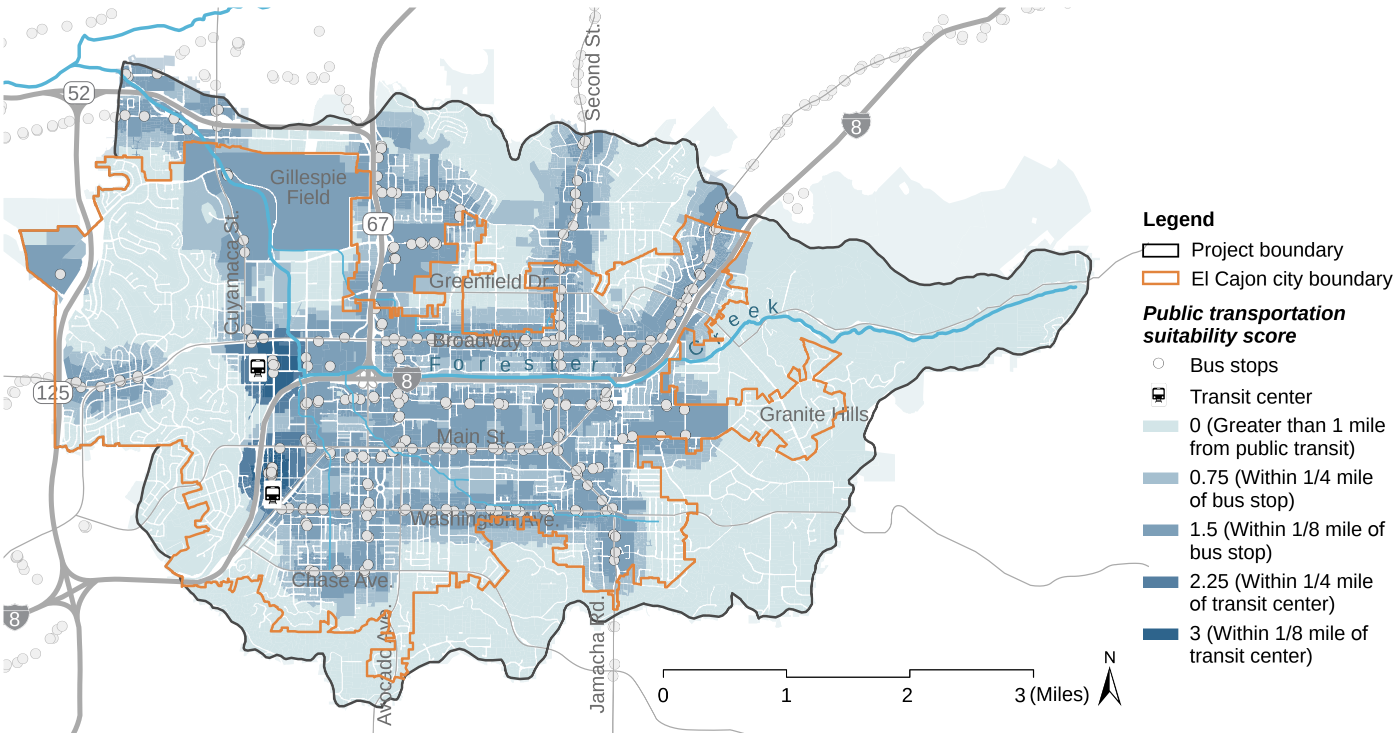
As shown in Figure 5.12, a one-mile proximity was used for each of the three pedestrian/cycling facility classes. Values were assigned to each facility.

The study area has existing cycling facilities so most of the study area received a favorable suitability rating for proximity to existing cycling resources. The lack of Class I Paths within El Cajon was an issue: Class I Paths are limited to the restored portion of Forester Creek in Santee and an area near Grossmont College, on the west side of El Cajon. The three areas that are least suitable as a result of their proximity to existing cycling facilities are east of El Cajon near the Forester Creek headwaters, east of Gillespie Field, and south of the Parkway Plaza Mall and the 8 Freeway along Washington Channel. Rural and industrial areas often lack cycling infrastructure (see Figure 5.11).

5.3.4.2/Proximity to Public Transit

Planning a recreation resources network according to the location of existing public transportation means that low-income populations can access recreation using public transportation. Planning recreation sites in locations that are accessible by public transportation can connect open space to a larger proportion of the population without negatively impacting traffic.

Figure 5.12 Parcel-based recreation suitability as determined by proximity to existing transportation

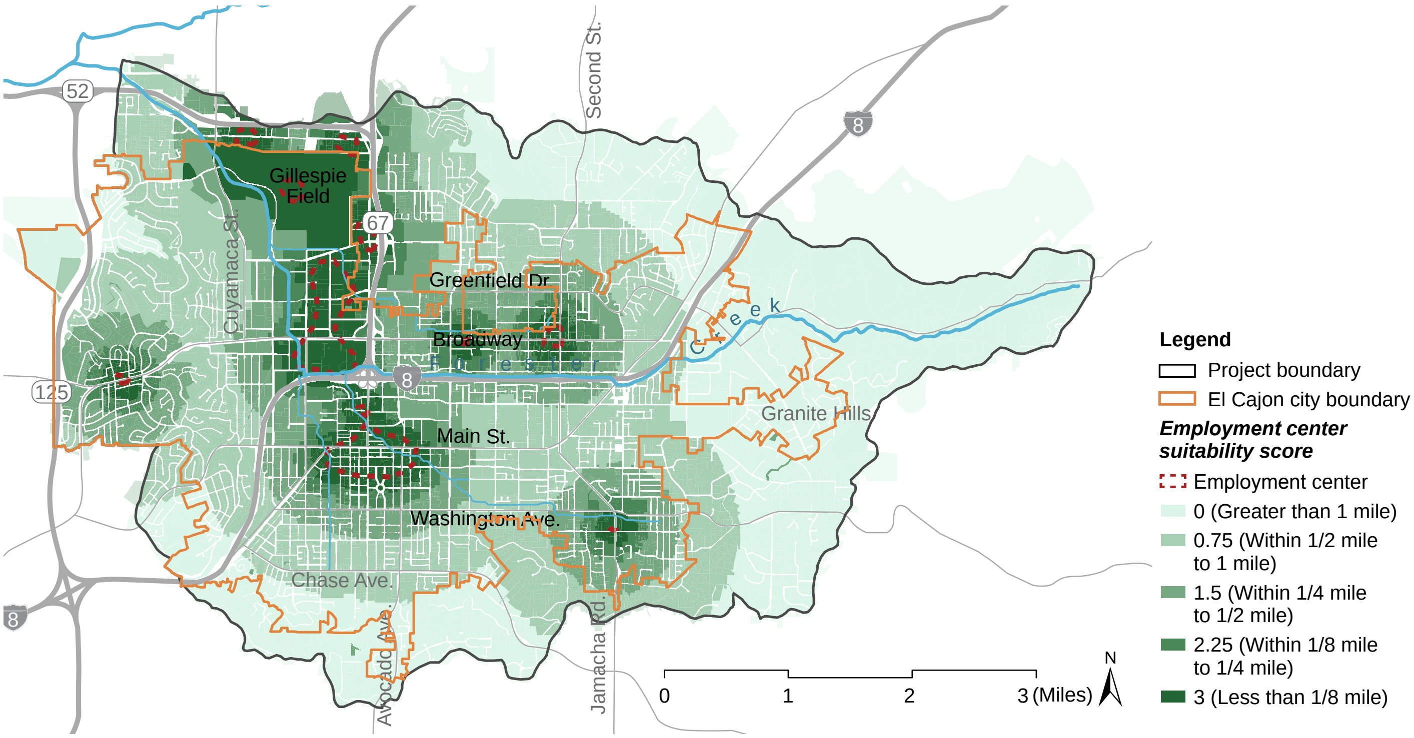


The *Forester Creek System Recreation Access Plan* examined the relationship between the public transportation system, transit center, bus network and recreation opportunity sites (see Figure 5.12). Transit centers in El Cajon connect to the metropolitan transportation system in the San Diego region, and the bus system connects local residents to potential recreation sites.

The project considered a quarter mile (5 minute walk) to the nearest public transportation stop as suitable. Land with proximity to a transit center was given higher suitability values than those with proximity to bus stops.

The resulting map (Figure 5.12) suggested that the land with the highest proximity to a transit center was at the corner of West Main Street and South Marshall Avenue to the west of the center of El Cajon. In this area, land that is close to the creek should be given the highest priority for recreation opportunities. Parcels with proximity to the bus stops cluster in central and central-north El Cajon (see Figure 5.12). Among these parcels, those that are located along the creek are the next best options. Also, the parcels closest to both the transit center and bus stops should be considered the most suitable areas for recreation.

Figure 5.13 Parcel-based recreation suitability as determined by proximity to employment centers



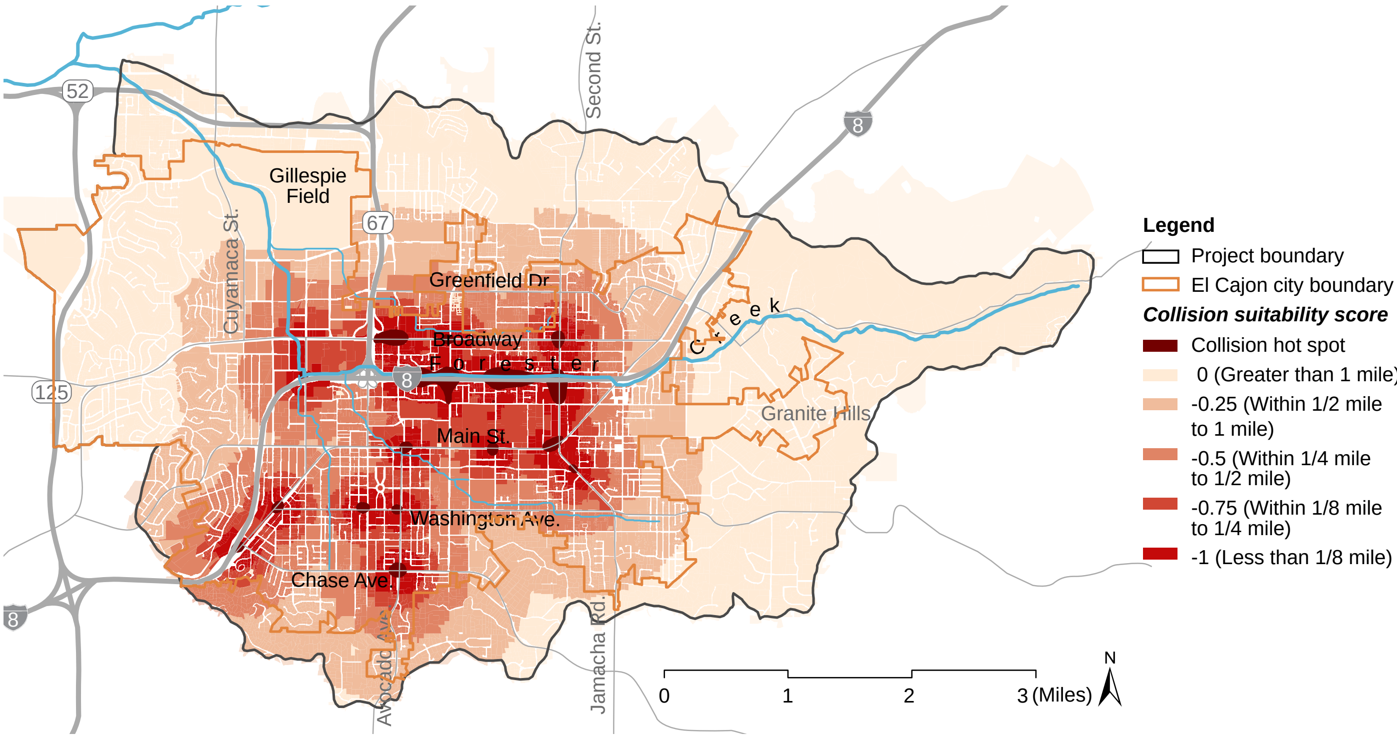
5.3.4.3/Potential to Increase Use of Alternative Transportation to Work and Recreation

Another category of factors focused on identifying parcels that would promote active transportation to work. Urban residents often find it hard to set aside time for recreation activities. Introducing new recreation opportunities near employment centers accompanied by alternative transportation resources would help maximize worker participation in active recreation activities (see Table 5.02).

5.3.4.4/Proximity to Employment Centers

Employment centers are locations with clusters of employers in a small geographic area. Figure 5.13 illustrates reecreation suitability as determined by proximity to employment centers. To identify business or job hot spots, all businesses in the study area were made into points, and a kernel density (the density of employment centers in each neighborhood) was calculated in GIS. The two largest employment center locations with the highest suitability scores are located in downtown El Cajon and west of the 67 Highway, near the industrial reach of the creek, south of Gillespie Field and north of Highway 8. There are also two employment centers with high suitability scores along Broadway Channel. Two smaller employment centers with high suitability scores are located at the intersection of Jamacha Road and East Washington Avenue, and located on the western border of the study area on Broadway.

Figure 5.14 Parcel-based recreation suitability as determined by proximity to collision hotspots



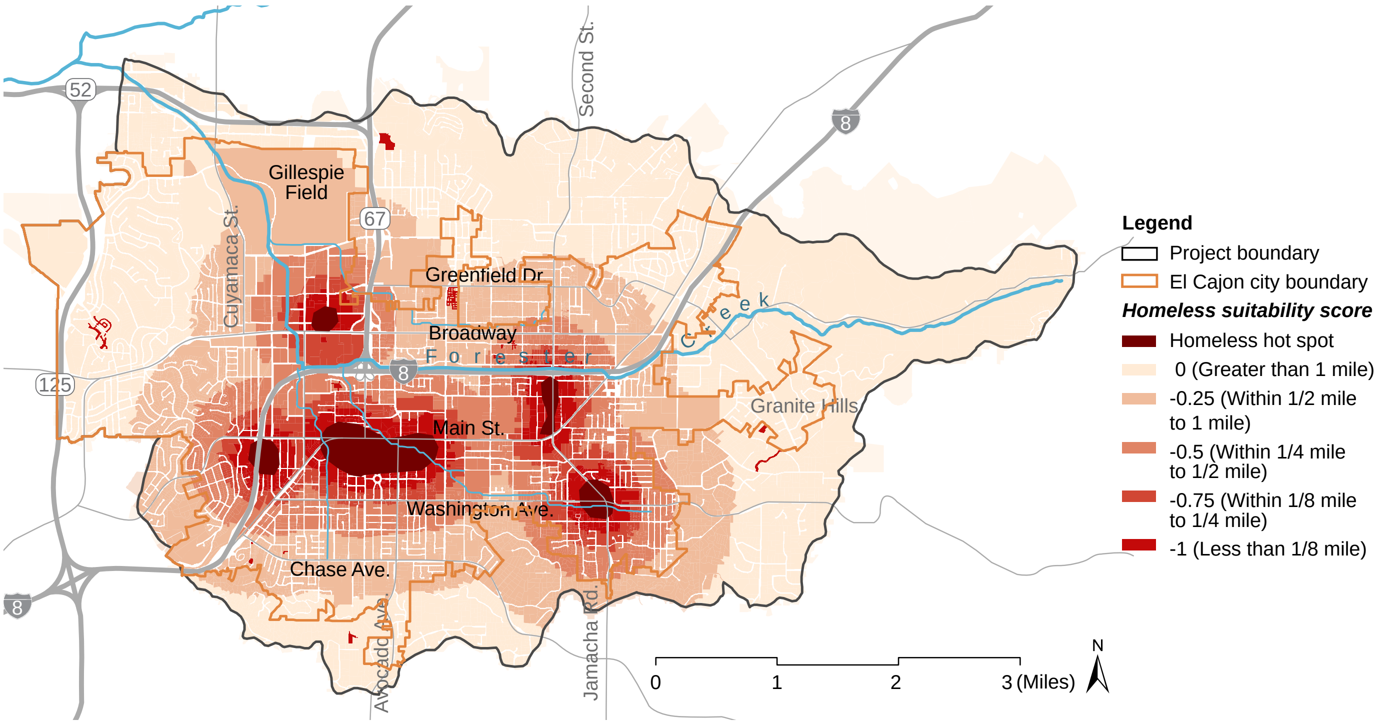
5.3.5/Locations by Constraints

In addition to the opportunity factors presented above, the team also considered constraint factors which might negatively affect the suitability of a parcel for recreation. Two major constraint factors were considered in the analyses: proximity to unsafe street corridors and proximity to locations that have high concentrations of individuals experiencing homelessness. The first factor involved identifying unsafe street corridors that currently had the highest number of pedestrian/cyclist collisions with automobiles (Figure 5.14). These streets and nearby parcels often have the potential to attract large numbers of visitors, and avoiding these parcels may prevent accidents but reduce recreational accessibility. This problem can be addressed by redesigning street crossings, corners, pedestrian paths, and wayfinding to reduce collisions.

5.3.5.1/Proximity to Unsafe Street Corridors (Collisions)

The team obtained pedestrian/cyclist/automobile collision data for El Cajon from the Transportation Injury Mapping System (TIMS). Using density analysis, the team mapped collision hotspots and then identified parcels in proximity (see Figure 5.14). Most of the areas of concern were clustered in the central and central-south areas of El Cajon. This area overlaps the center reach of Forester Creek and its three tributaries. The area falls between Cuyamaca Street and Jamacha Road, and south of Greenfield Drive.

Figure 5.15 Parcel-based recreation suitability as determined by proximity to potential user conflicts



5.3.5.2/Areas with High Concentrations of Individuals Experiencing Homelessness

Members of the public expressed concerns about locations with high concentrations of individuals experiencing homelessness. As a result, the team acquired data from the Regional Task Force on the Homeless to map these areas using a "hotspot analysis". All parcels in El Cajon were classified based on their proximity to these areas (see Figure 5.15). Parcels that were close to these hotspots were considered less suitable as a result of potential use conflicts.

Results indicated that most areas with high concentrations of individuals experiencing homelessness are located in central and central-south El Cajon. The central reach of Forester Creek and its three tributaries fall into this area.

5.3.6/Locations by All Critical Factors

By integrating all critical factors using the ranks and weights defined in Table 5.02, the team generated the first draft of the parcel-based suitability map (see Figure 5.16) in ArcGIS. The darker parcel zones have higher suitability for recreation development or improvement. The most suitable area is in the center of El Cajon, along Forester Creek. Other highly suitable areas include areas around the three tributaries and the Gillespie Field area. Narrowing the suitability results to the creek corridor (a quarter mile from creek), most of the creek corridors are of high suitability except for the headwater areas of Forester Creek located to the east of the study area (see Figure 5.16, 5.17, & 5.18).

Figure 5.16 Overall parcel-based recreation suitability for the study area (dark areas are highly suitable for recreation)

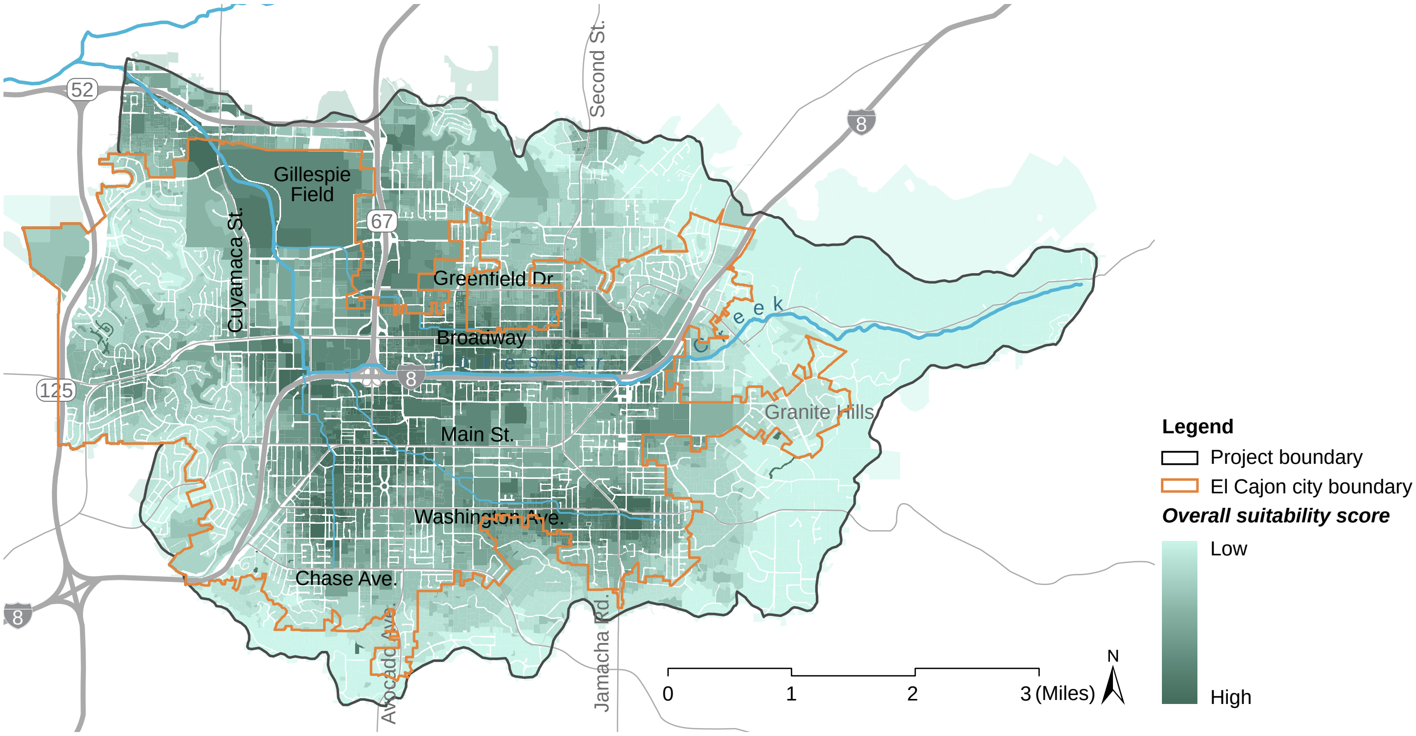


Figure 5.17 Overall parcel-based recreation suitability for the Forester Creek System (dark areas are highly suitable for recreation)

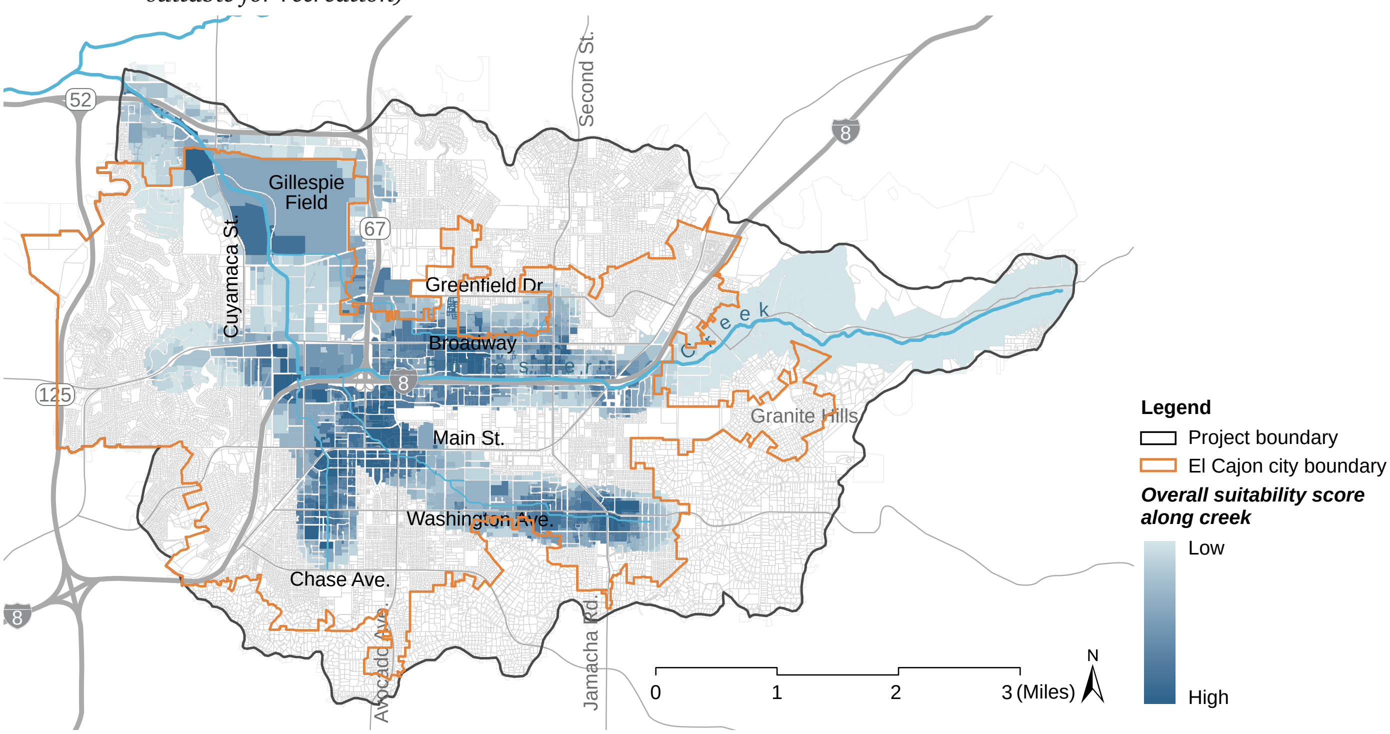
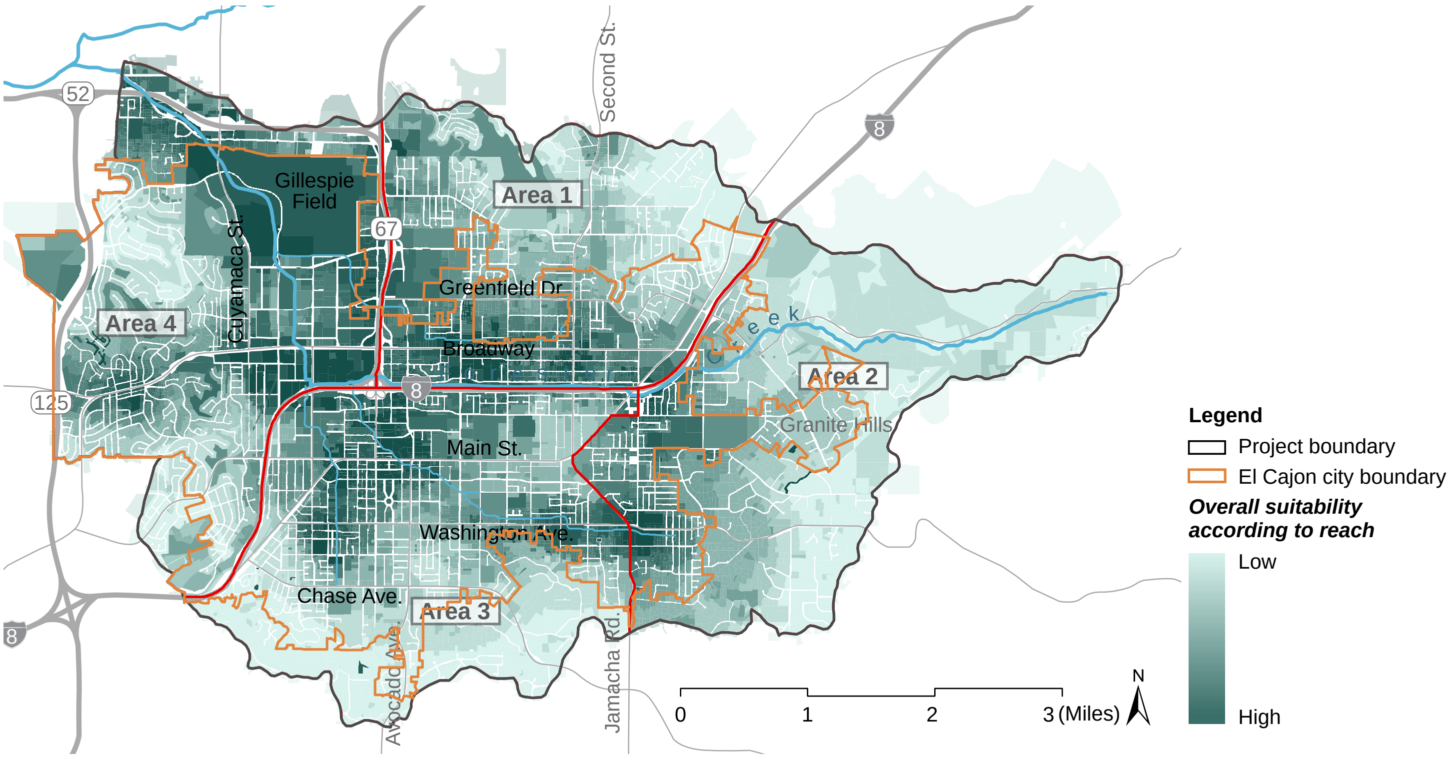


Figure 5.18 Overall parcel-based recreation suitability by sub-areas in study area (dark areas are highly suitable for recreation)



Cycling Corridor Classifications
(from SANDAG, 2010, p. 28)

Class I – Bike Path
Paths are bikeways that are physically separated from vehicular traffic. Also termed shared-use paths, paths accommodate bicycle, pedestrian, and other non-motorized travel. Paths can be constructed in the road right-of-way or independent right-of-way. Paths provide critical connections in the region where roadways are absent or are not conducive to bicycle travel.

Class II - Bike Lanes
Lanes are defined by pavement markings and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. ...[B]ike lanes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues. Such treatments include innovative signage, intersection treatments, and bicycle loop
detectors.

Class III - Bike Routes
Routes are located on shared roadways that accommodate vehicles and bicycles in the same travel lane. Established by signs, routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. ...[B]ike routes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues.

5.4/Locating Outdoor Physical Corridors for Recreation

Outdoor recreation corridors are linear recreational facilities such as paths, lanes and trails that are often of nominal width, but can be many miles in length. Physical corridors that facilitate safe cycling or pedestrian activities are often considered great potential recreation resources. These corridors often exist in the form of paths, lanes, or routes as well as pedestrian trails either separated from or integrated into the street and road systems in urban and rural areas.

According to the 2011 *El Cajon Bicycle Master Plan*, “routes [should be proposed to take advantage of opportunities to make connections between bicycle trip origin points and destination points in sections of the City that may not have an existing or convenient cycling facility. …Availability of right-of-way is the major constraint for building bicycle facilities in the City” (KTU&A Planning and Landscape Architecture 7 Fehr Peers, 2011, p. 18). The other important component of the recreation suitability analysis is identifying recreational corridors/routes that connect the greatest number of existing recreation sites or accommodate the highest quality recreation experiences.

This corridor-based analysis is based on the existing land use system and physical corridors and did not consider future land use and corridors. There are several reasons for doing so: first, both land use and the road system will not change dramatically in high density urban areas; second, introducing proposed land uses and corridors into the analysis increases the uncertainty dramatically as there is no guarantee that such proposed changes will ever be realized; third, the analysis is meant to generate baseline results so that future changes can be integrated. In other words, if new parcels and corridors are to be developed in the future, additional data about them can be integrated into the analysis to update the plan. Similar to the parcel-based suitability analysis, the corridor-based suitability analysis examined how different factors impacted the evaluation of streets and circulation trails/paths as new or improved recreational resources.

5.4.1/Corridors by Need: Park/Population Proximity and Provision Standard

As articulated in Section 5.3.2, parcels were evaluated based on current park and population proximity throughout the study area. The project team evaluated the suitability of transit and circulation corridors based on how close they are to population centers (see Figure 5.19) and existing recreation resources (see Figure 5.20).

5.4.1.1/Proximity to Population Centers

As shown in Figure 5.19, the closer the transit and circulation corridors were to the population center, the more suitable the corridors were for recreation purposes. Specifically, corridors within 1/8 mile from population centers are given the highest value of 1. Zero is assigned if a transit/circulation corridor segment is greater than 2 miles from the population center (see Table 5.03; Figure 5.19).

5.4.1.2/Proximity to Recreation and Leisure Resources

Similar logic was applied to map proximity to recreation and leisure resources including Class A (parks and schools), Class B (restaurants), Class C (indoor recreation such as gaming centers) and Class D (religious organizations and community centers). These locations often provide recreation facilities such as churches, community centers, recreation centers and senior centers. As shown in Figure 5.20, the closer transit and circulation corridors are to recreation resources, the higher the suitability of the corridors as recreation corridors. Zero standard value was assigned if a transit/circulation corridor segment is not in proximity to a recreation resource (see Table 5.03; Figure 5.20).

5.4.2/Corridors by Benefit: Potential to Increase Active Transportation City-Wide

The project team evaluated the suitability of transit and circulation corridors on proximity to public transit (see Figure 5.21) and whether the corridors were equipped with cycling (see Figure 5.22) or sidewalk facilities (see Figure 5.23; Table 5.03).

Figure 5.19 Corridor-based recreation suitability as determined by proximity to population centers

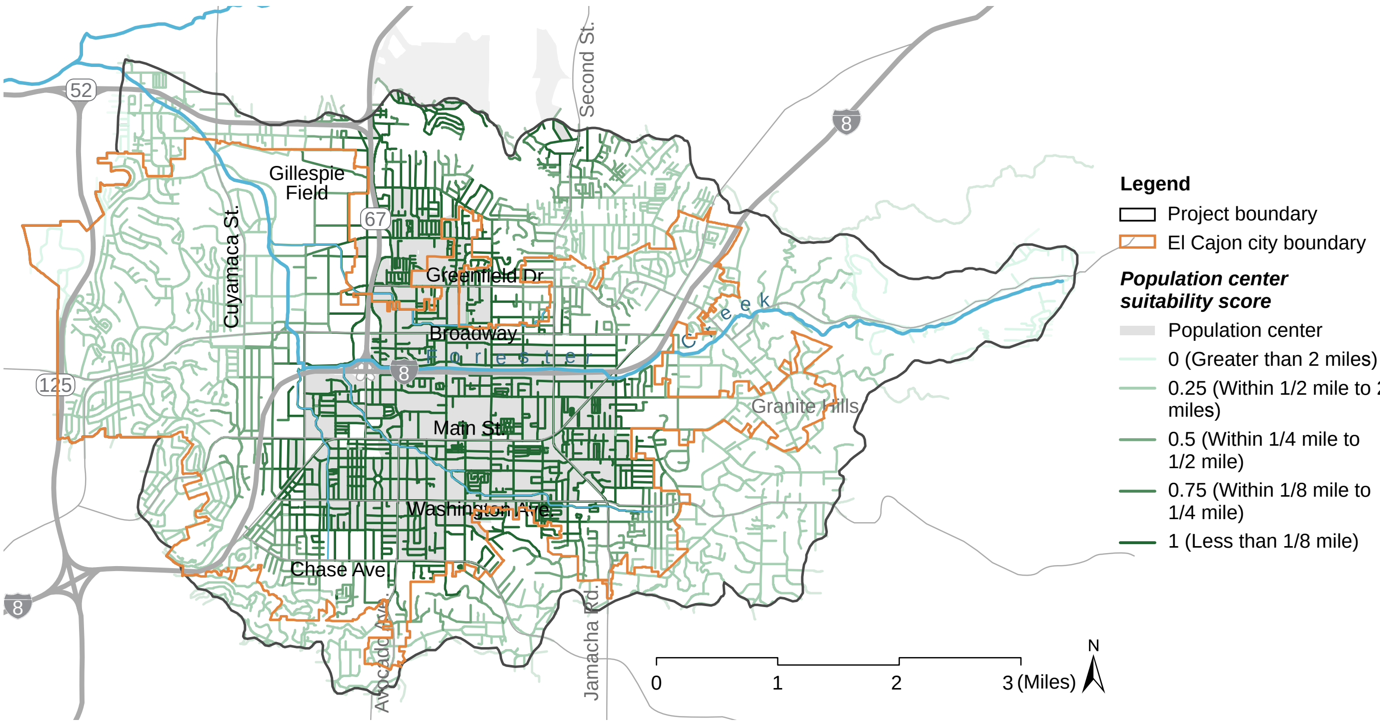


Figure 5.20 Corridor-based recreation suitability as determined by proximity to recreation and leisure resources

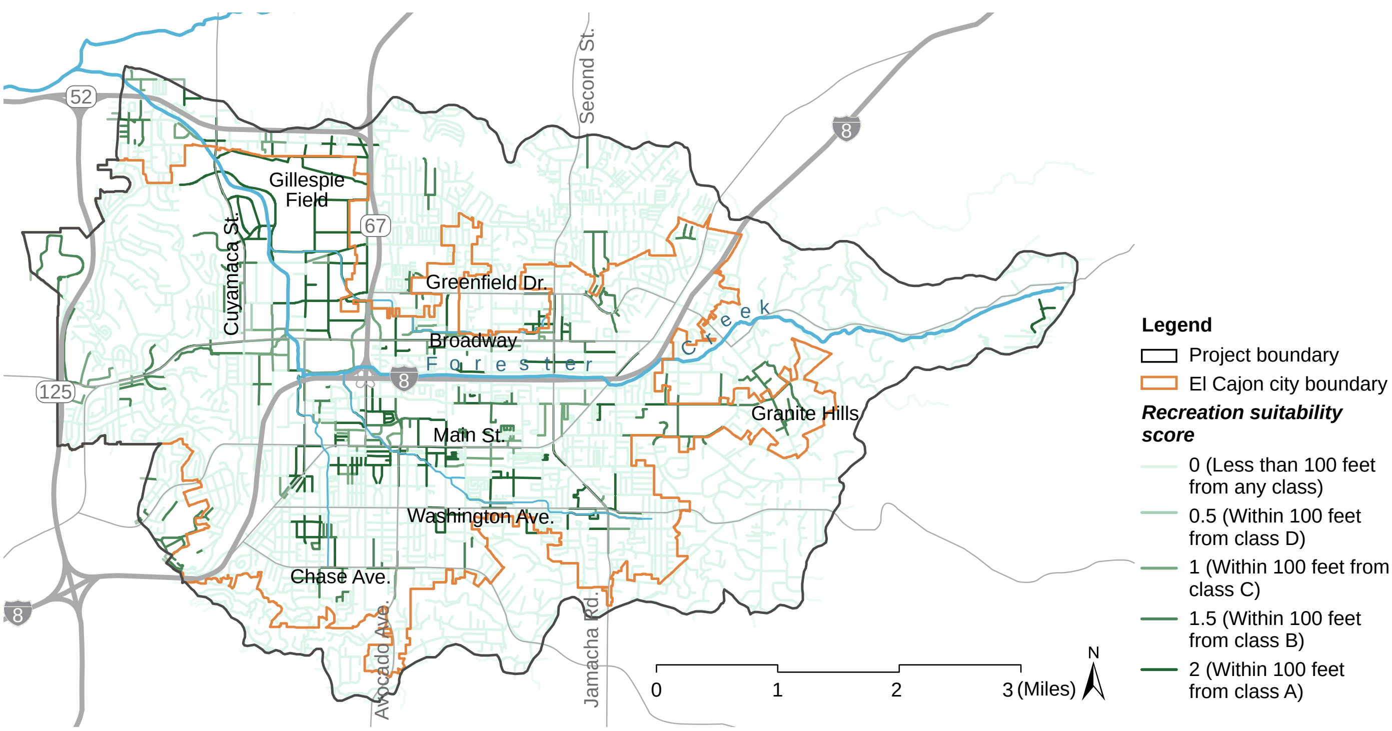


Figure 5.21 Corridor-based recreation suitability as determined by proximity to public transit centers and bus stops

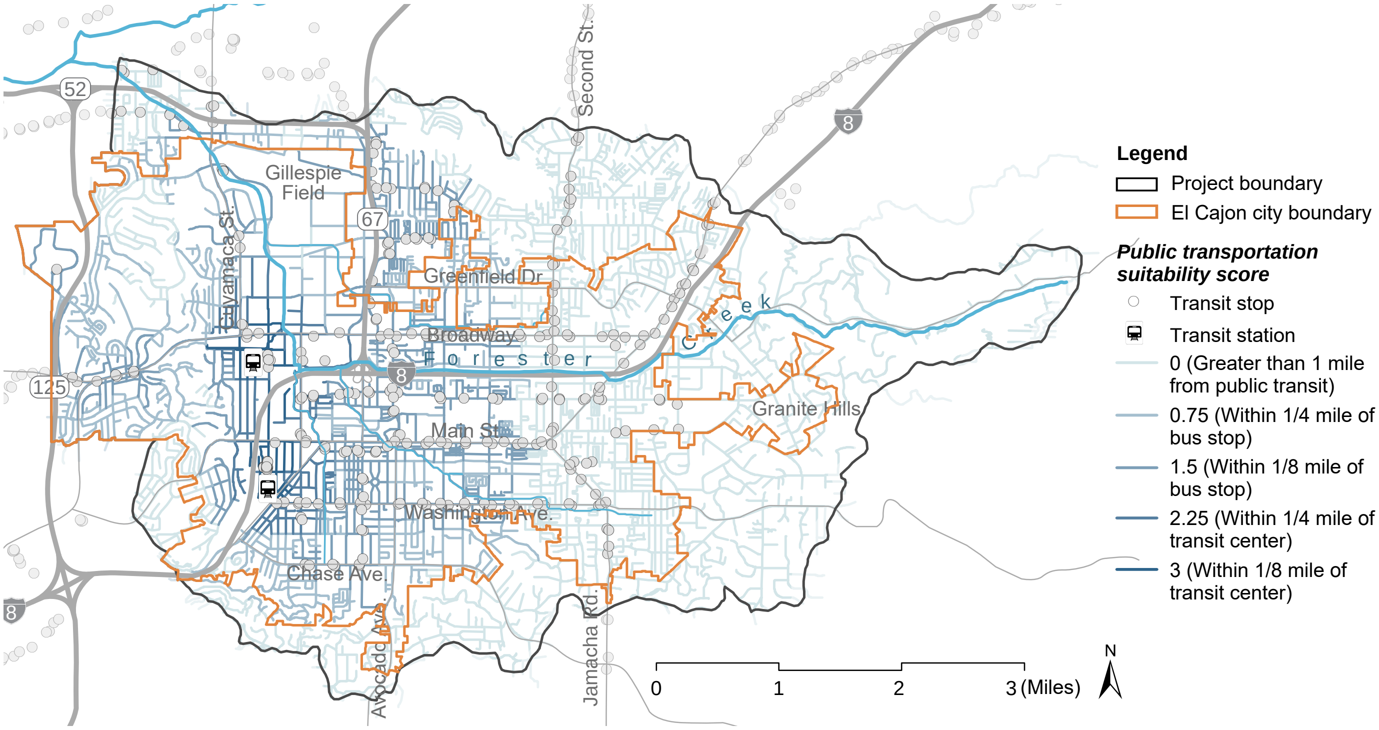


Figure 5.22 Corridor-based recreation suitability as determined by availability of cycling facilities (greater than or less than 100 feet to the closest cycling facility)

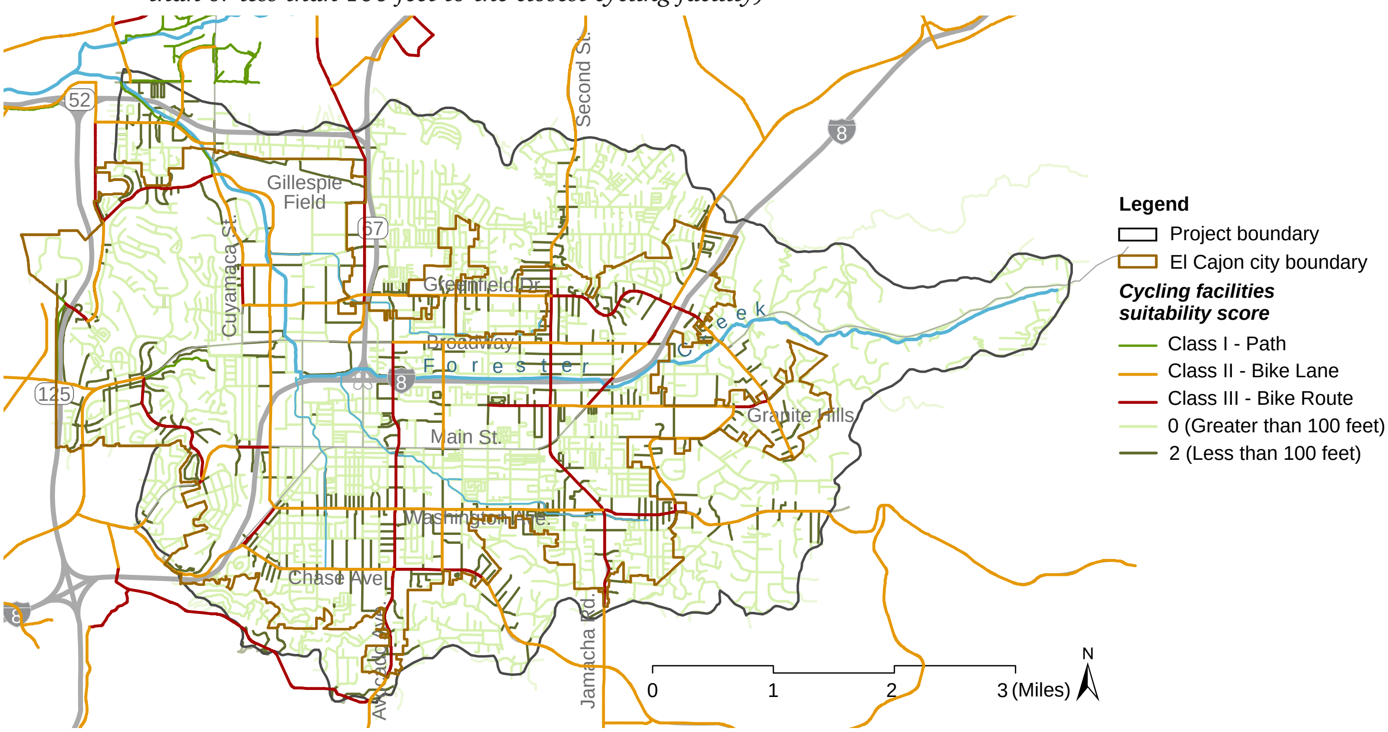
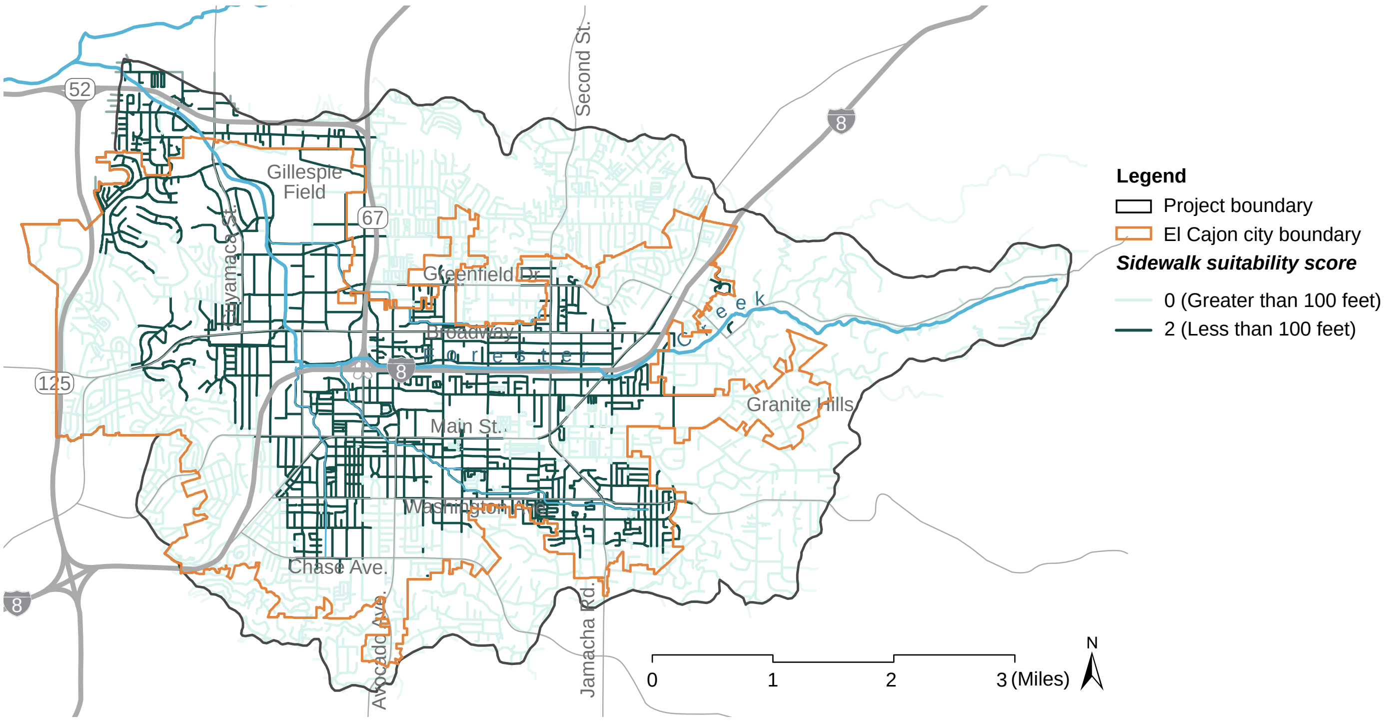


Figure 5.23 Corridor-based recreation suitability as determined by availability of sidewalks (greater than or less than 100 feet to the closest pedestrian facility) in the Forester Creek System corridor only (sidewalk data only available in the creek corridor [1/4 mile from center line of the creek system])



5.4.2.1/Proximity to Public Transit

As shown on Figure 5.21, the closer the transit and circulation corridors are to transit centers and bus stops, the higher the suitability of the corridors for future recreation. Specifically, corridors that are within 1/8 mile of transit centers are given the highest standard value of 1. Zero standard value is assigned if a transit/ circulation corridor segment is greater than one mile from either the transit center or a bus stop (see Table 5.3; Figure 5.21).

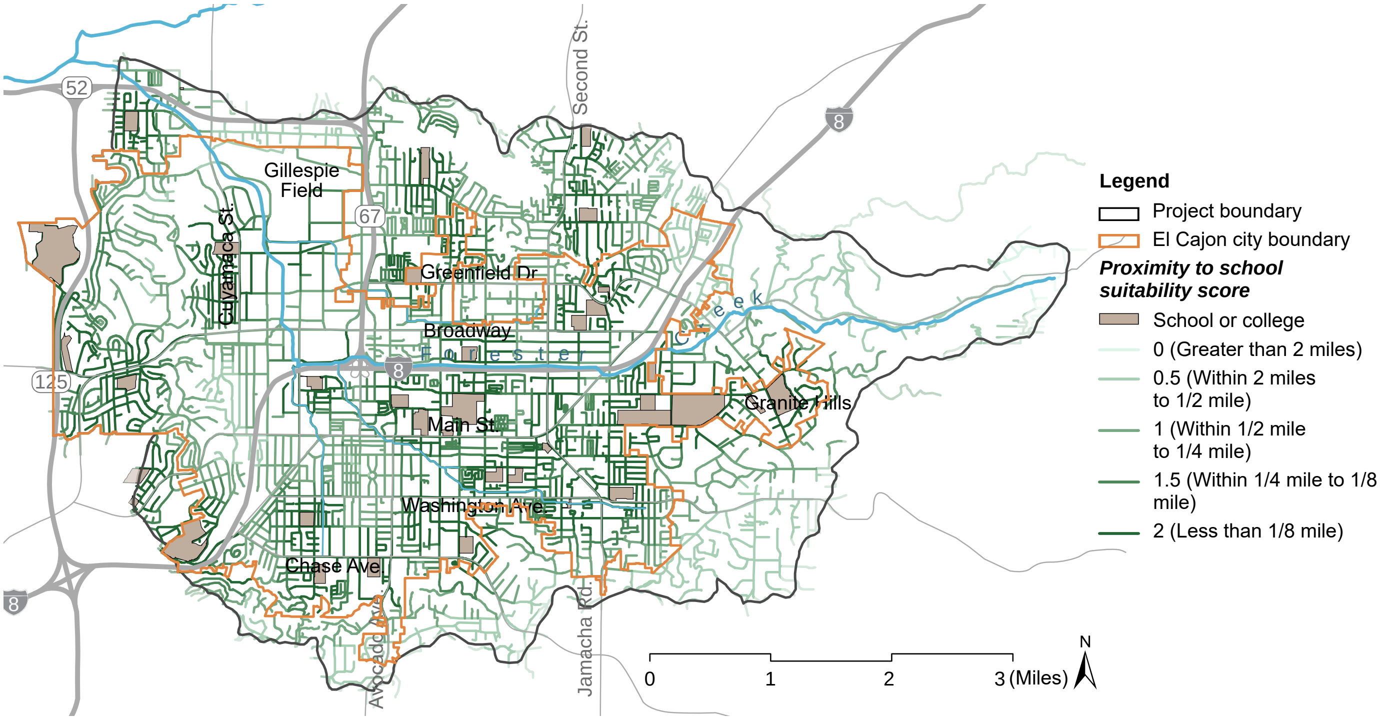
5.4.2.2/Availability of Cycling Facilities

As shown in Figure 5.22, the transit and circulation corridors within 100 feet of cycling facilities were given a standard value of 1 while those without cycling facilities were given a standard value of zero. This assignment of value identified future potential recreation corridors/ routes that could connect to existing cycling facilities.

5.4.2.3/Availability of Sidewalks

As shown in Figure 5.23, the transit and circulation corridors with sidewalks (within 100 feet) were given a standard value of 1 while those without sidewalks were given a standard value of zero.

Figure 5.24 Corridor-based recreation suitability as determined by proximity to schools and educational institutions



5.4.3/Corridors by Benefit: Potential to Increase Use of Recreation Resources around, and Alternative Transportation to, School (ATS)

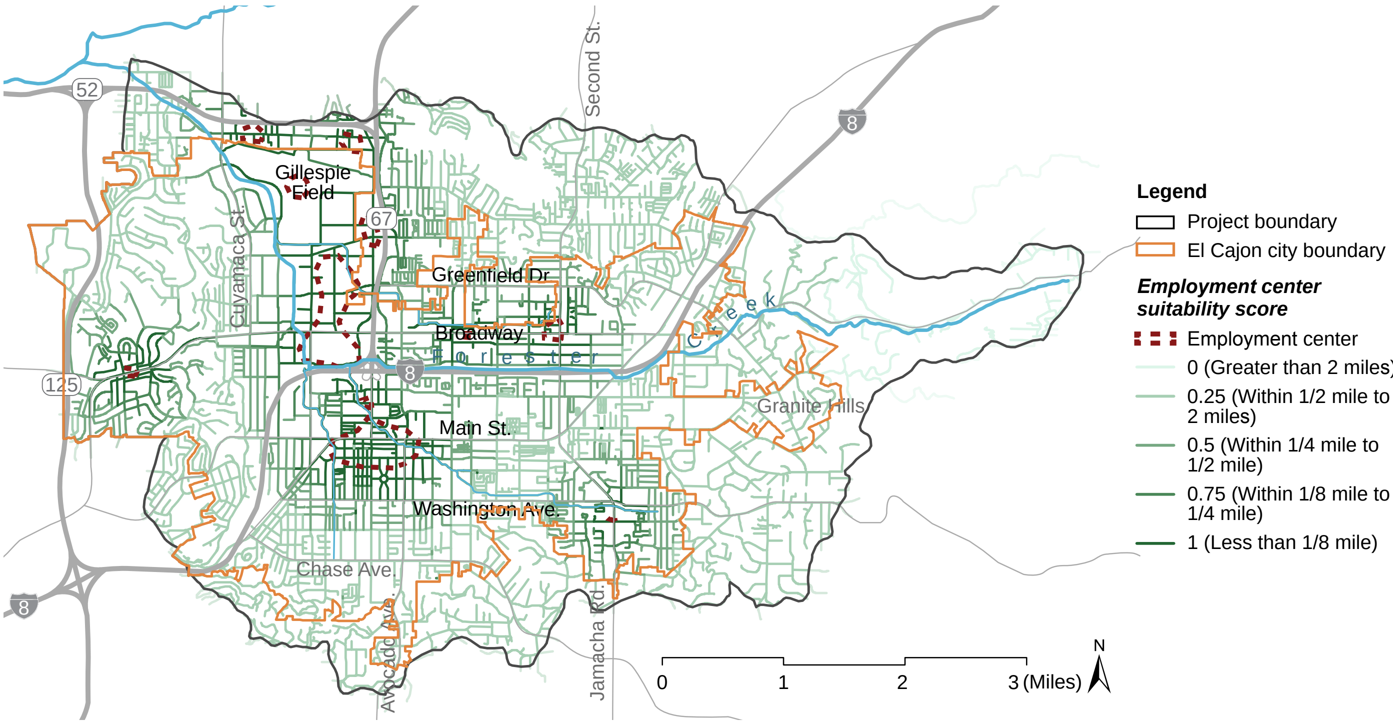
The project team evaluated the suitability of transit and circulation corridors based on how close they were to education institutions (Figure 5.24). Proximity to schools and educational institutions was given first-tier importance as a result of feedback from the community committee (Table 5.03).

As shown in Figure 5.24, the closer the transit and circulation corridors were to schools and education institutions, the higher the suitability of the corridors for recreation. Specifically, corridors that were within 1/8 mile of schools and educational institutions were given the highest standard value of 1 multiplied by the weight of the factor. Zero standard value was assigned when a transit/circulation corridor segment was greater than 2 miles from schools and educational institutions (see Table 5.03; Figure 5.24).

5.4.4/Corridors by Benefit: Potential to Increase Use of Recreation Resources Around Workplaces and Alternative Transportation to and from Work

The team evaluated the suitability of transit and circulation corridors based on their proximity to work and employment centers (see Figure 5.25). Proximity to an employment center was given second-tier importance (see Table 5.03).

Figure 5.25 Corridor-based recreation suitability as determined by proximity to employment centers



5.4.4.1/Proximity to Employment Center

As shown in Figure 5.25, the closer transit and circulation corridors are to employment centers, the higher their suitability for recreation corridors. Specifically, corridors that are within 1/8 mile of employment centers were given the highest standard value of 1. Zero standard value was assigned if a transit/circulation corridor segment was greater than 2 miles from an employment center (Table 5.03; Figure 5.25).

5.4.5/Corridors by Opportunity: Proximity to Forester Creek and Tributaries

To promote access to Forester Creek and its tributaries, it is critical to connect the creek to nearby recreation resources. As shown in Figure 5.26, the closer transit and circulation corridors are to the Forester Creek System, the higher their suitability for future recreation corridors. Specifically, corridors that are within 200 feet of the Forester Creek System were given the highest standard value of 1 and those more than one mile away were given a standard value of 0 (see Table 5.3; Figure 5.27)

5.4.6/Corridors by Safety Constraints

The project team evaluated the suitability of transit and circulation corridors based on their proximity to unsafe collision hotspots (see Figure 5.28), potential user conflicts (see Figure 5.29), and traffic corridors with high traffic volume (see Figure 5.27; Table 5.03).

Figure 5.26 Corridor-based recreation suitability as determined by proximity to the Forester Creek System (darker areas are corridors less than 200 feet from the Forester Creek System)

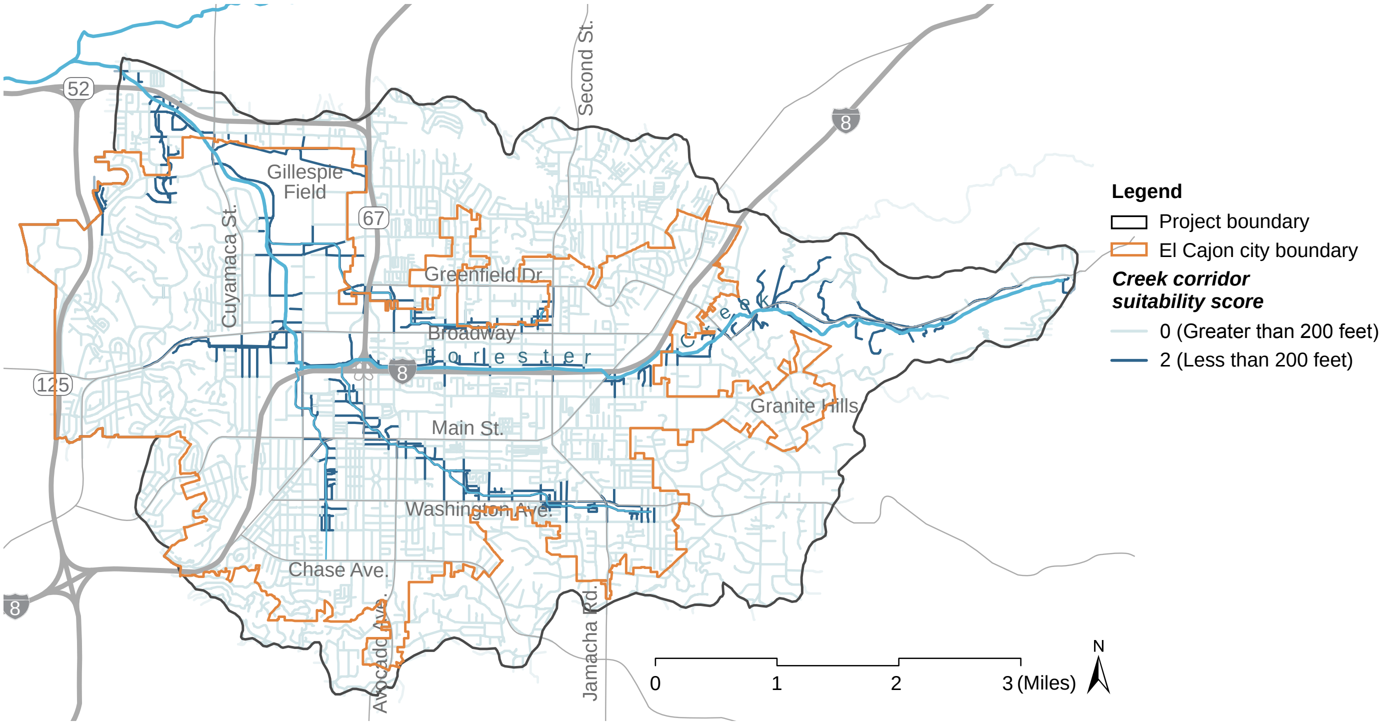


Figure 5.27 Corridor-based recreation suitability as determined by proximity to high traffic areas (darker areas are corridors closer to high traffic areas)

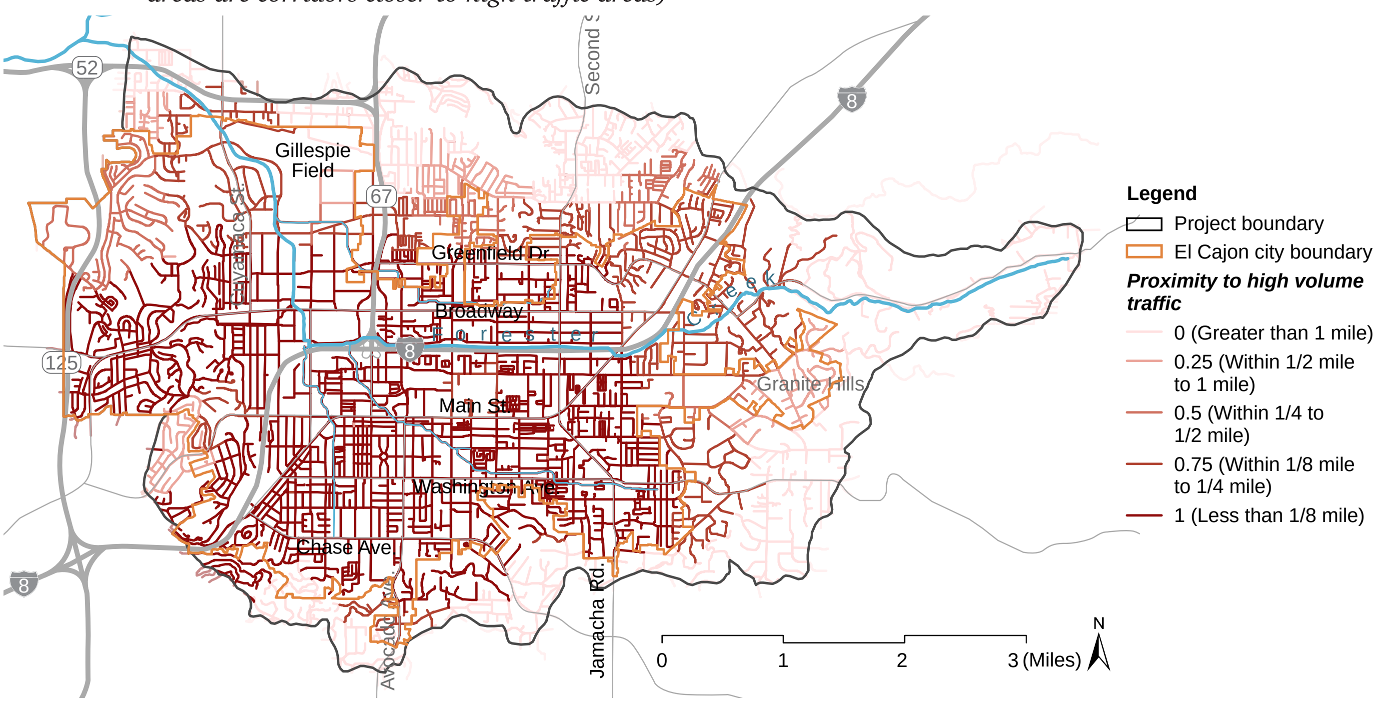


Figure 5.28 Corridor-based recreation suitability as determined by proximity to collision hotspots (darker areas are corridors closer to collision hotspots)

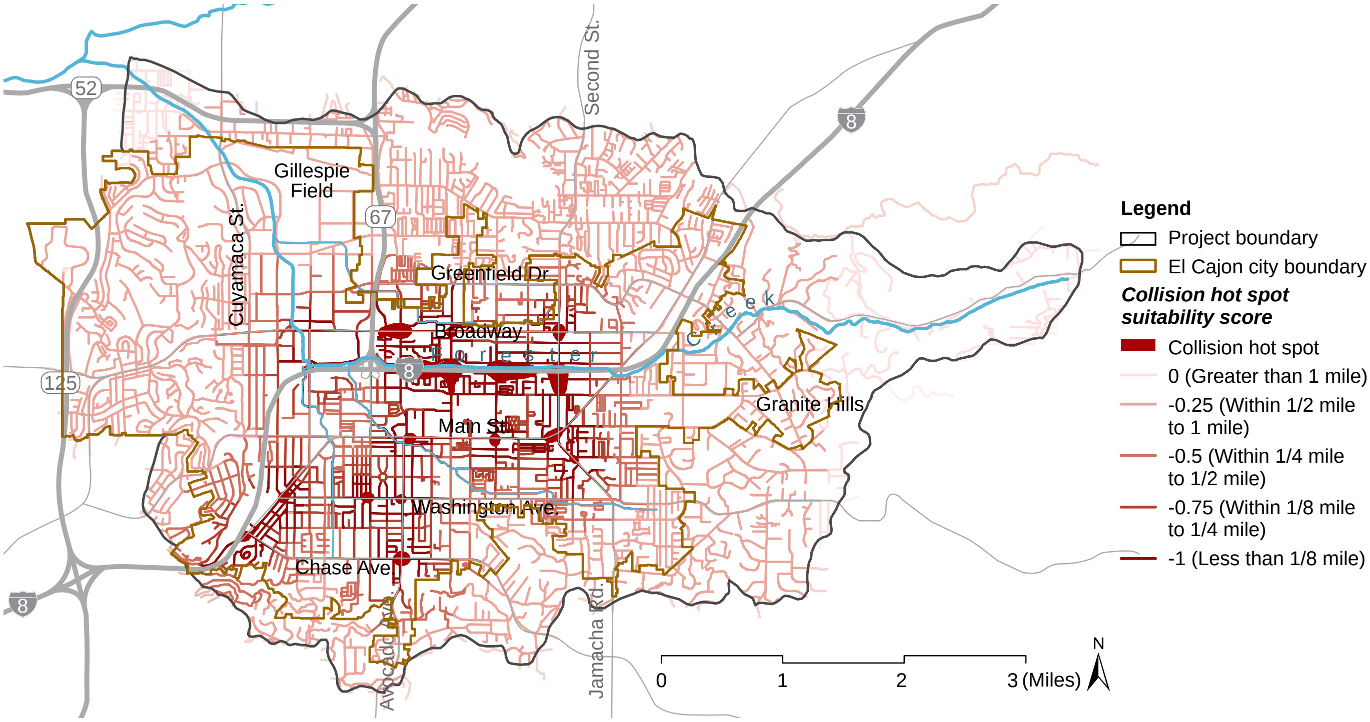
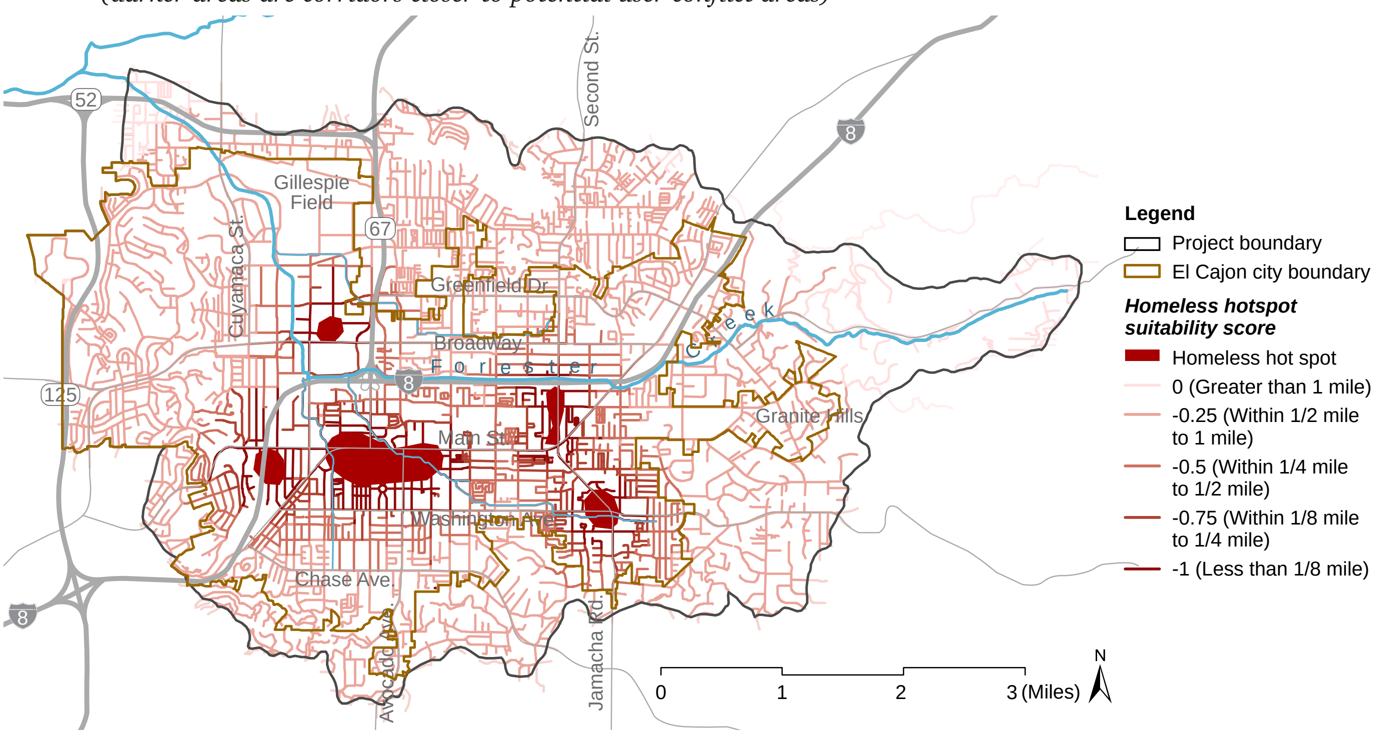


Figure 5.29 Corridor-based recreation suitability as determined by proximity to potential user conflicts (darker areas are corridors closer to potential user conflict areas)



5.4.6.1/Proximity to Collision Hotspots

As shown in Figure 5.28, the closer transit and circulation corridors were to collision hotspots, the lower their suitability for recreation. Specifically, corridors that were within 1/8 mile of collision hotspots were given the highest standard value of -1. Zero standard value was assigned if a transit/circulation corridor segment was greater than 1 mile from collision hotspots (see Table 5.03; Figure 5.28).

5.4.6.2/Proximity to High Traffic Volume Traffic Corridors

As shown in Figure 5.27, the closer transit and circulation corridors were to high volume automobile traffic corridors, the lower their suitability for recreation. Specifically, corridors that were within 1/8 mile of high volume traffic corridors were given the highest standard value of 1. Zero standard value was assigned if a transit/circulation corridor segment was greater than 2 miles from any high volume traffic corridor (see Table 5.03; Figure 5.27).

5.4.6.3/Proximity to Potential User Conflicts

As shown in Figure 5.29, the closer transit and circulation corridors were to areas with people suffering homelessness, the lower their suitability for recreation corridors. Specifically, corridors that were within 1/8 mile of homeless hotspots were given the highest standard value of -1. Zero standard value was assigned if a transit/circulation corridor segment was greater than 1 mile from these potential conflict areas (see Table 5.3; Figure 5.29).

5.4.7/Suitable Corridors by All Critical Factors

Through integrating all critical factors using ranks and weights as defined in Table 5.1, the team generated the first draft of the corridor-based suitability map (Figure 5.31) in ArcGIS. The darker the color of the corridors, the higher their suitability for recreation. As shown on the map, the most suitable corridors are in central and central-south El Cajon along the west and central reach of Forester Creek as well as tributary sections south of the downtown. Highly suitable areas also cluster around the Gillespie Field area.

Figure 5.30 Overall corridor-based recreation suitability for the study area (darker areas are more suitable for recreation corridors)

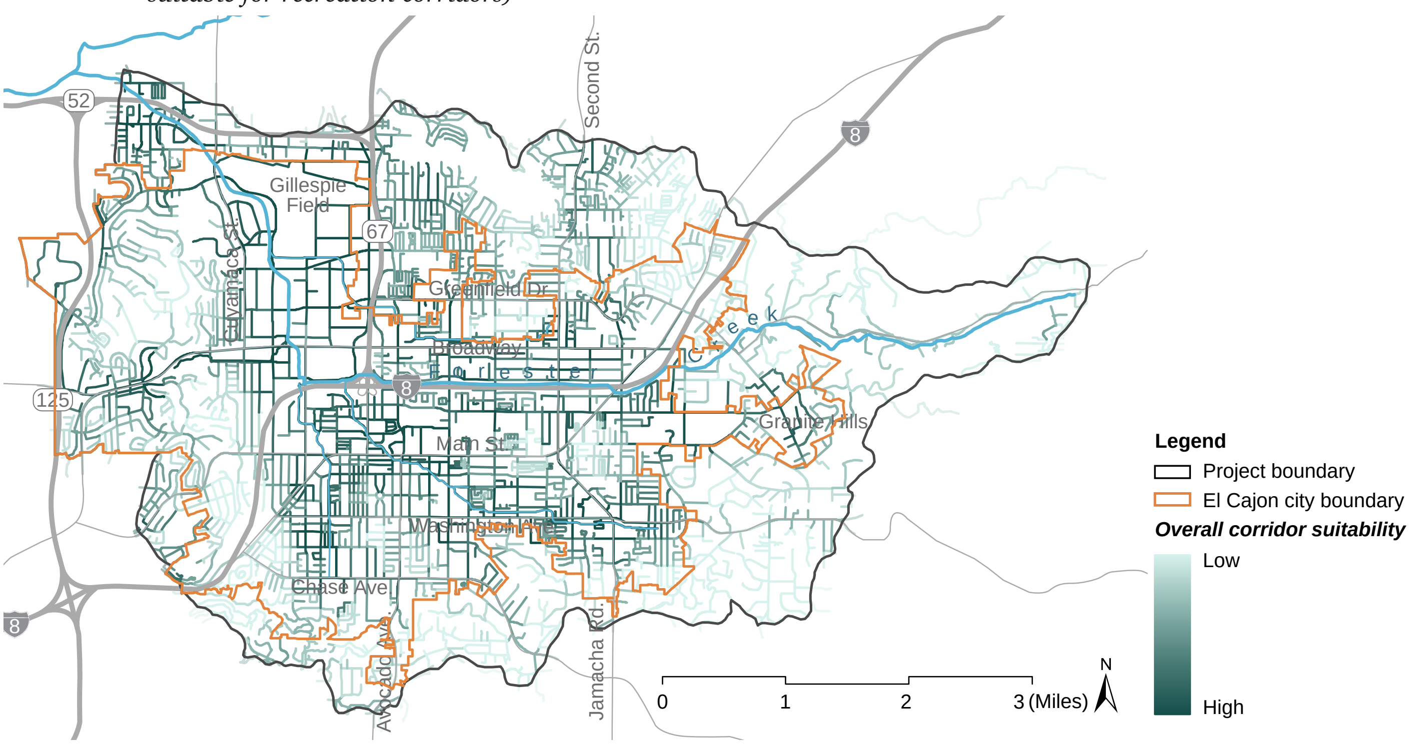


Figure 5.31 Overall corridor-based recreation suitability for the Forester Creek System (darker areas are more suitable for recreation corridors)

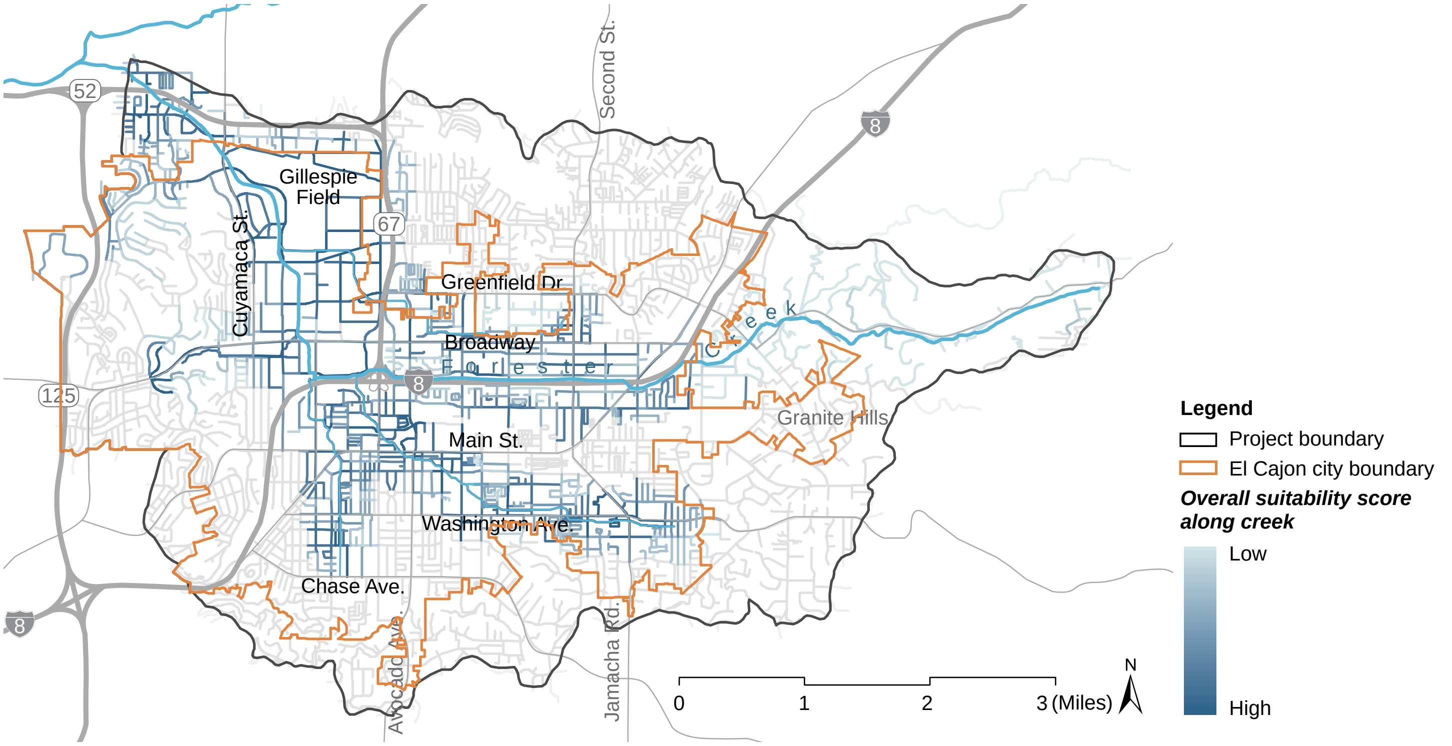
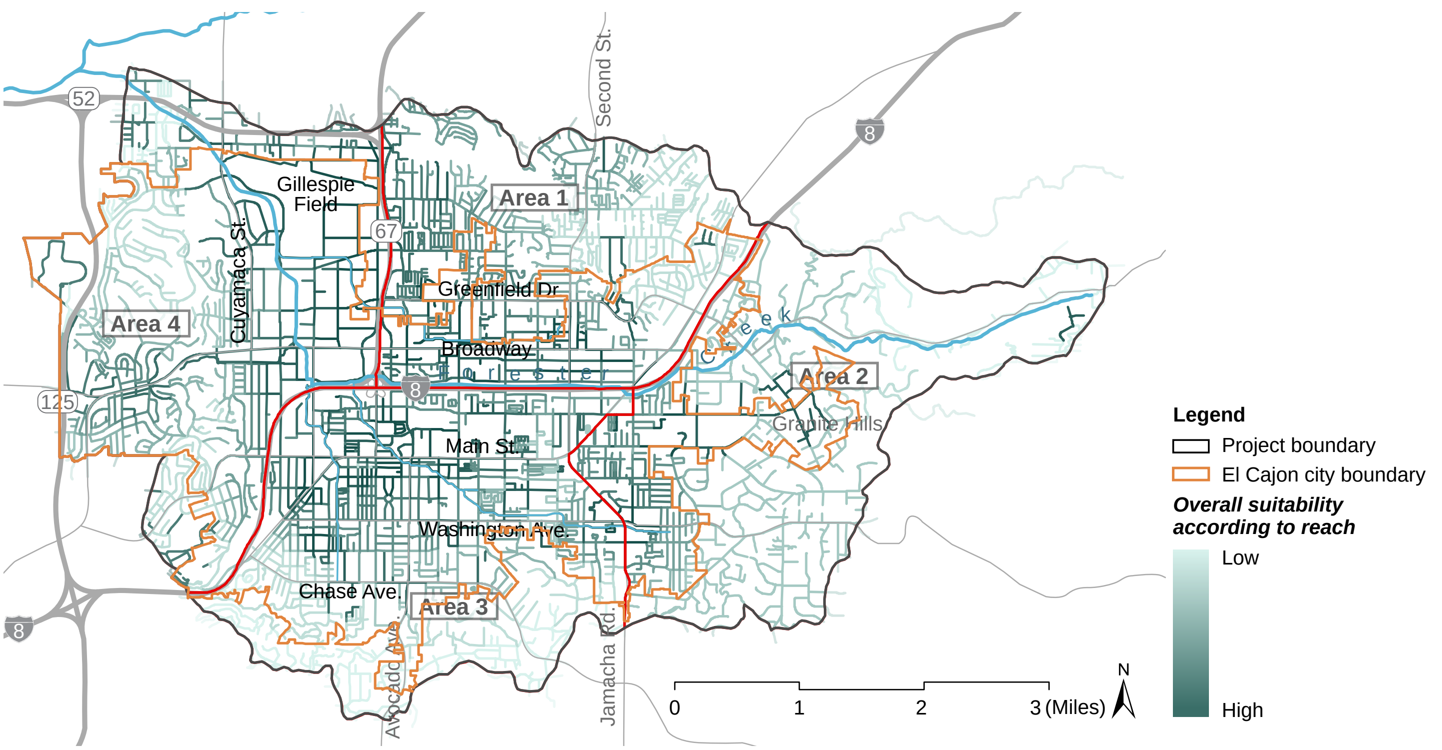


Figure 5.32 Overall corridor-based recreation suitability by sub-area (darker areas are more suitable for recreation corridors)



Narrowing the suitability results to the creek corridor (a quarter mile from the creek), most of the creek corridors are of high suitability except for the headwater areas of Forester Creek located to the east of the study area (see Figure 5.31). This result is consistent with the parcel-based suitability analysis in Section 5.3.10.

To facilitate participatory design exercises with the community and develop pedestrian/cycling loops to connect and accommodate additional recreation resources and activities, the team divided the study area into four sub-regions (see Figure 5.32). This allowed the Community Committee meeting participants to focus on different sub-regions while developing recreation loops around the creek corridors. More details on the participatory design exercises can be found in Chapter 6.

Chapter 5 Summary

The most suitable parcels, areas and corridors for future recreation development were identified by analyzing and weighing many factors.

Top tier factors used to identify land with potential for future recreational use included:

- Land availability;
- Accessibility of parks and recreational resources;
- Population density; and,
- Proximity to schools, recreation resources, public transportation, and employment centers.

Second tier factors used to identify land with potential for future recreational use included:

- Proximity to creeks, safe routes to schools, and cycling infrastructure;
- Pedestrian and vehicular access; and,
- Existing land use.

Factors that weighed against land being identified as having potential for future recreational use included:

- Proximity to user conflict areas; and,
- Proximity to traffic collision hotspots.

Top tier factors used to identify corridors with potential for future recreational use included:

- Proximity to existing recreation resources and creeks; and,
- Availability of bikeways, trails, sidewalks and safe routes to schools.

The maps on pages 199, 200, 209, and 210 show the results of these analyses.

These maps provided a starting point for the participatory planning process.

CHAPTER 6. COMMUNITY OUTREACH AND PARTICIPATORY DESIGN PROCESS AND RESULTS

The goal of the project's participatory design process was to collect the information and input needed to create a *Forester Creek System Recreation Access Plan* that truly embodied the needs, desires and preferences of area residents and stakeholders.

As stated in Chapters 1 and 3, the five primary objectives of the process were:

1. Understand the existing public consciousness and impression of the Forester Creek System;
2. Build awareness and educate local residents about the potential of the Forester Creek System;
3. Collect the public's insights into how the Forester Creek System could serve their communities;
4. Identify the public's preferences and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System; and,
5. Identify the public's perception of potential and preferred opportunity areas or zones and locate need areas or zones.

To fulfill these objectives, the team organized a series of Community Committee meetings, a city-wide open house and a city-wide questionnaire. The results of these participatory planning strategies were incorporated into the final *Forester Creek System Recreation Access Plan* (described in Chapter 7).

Figure 6.01 Relationship between data collection and decision-making tools: community outreach and participatory design

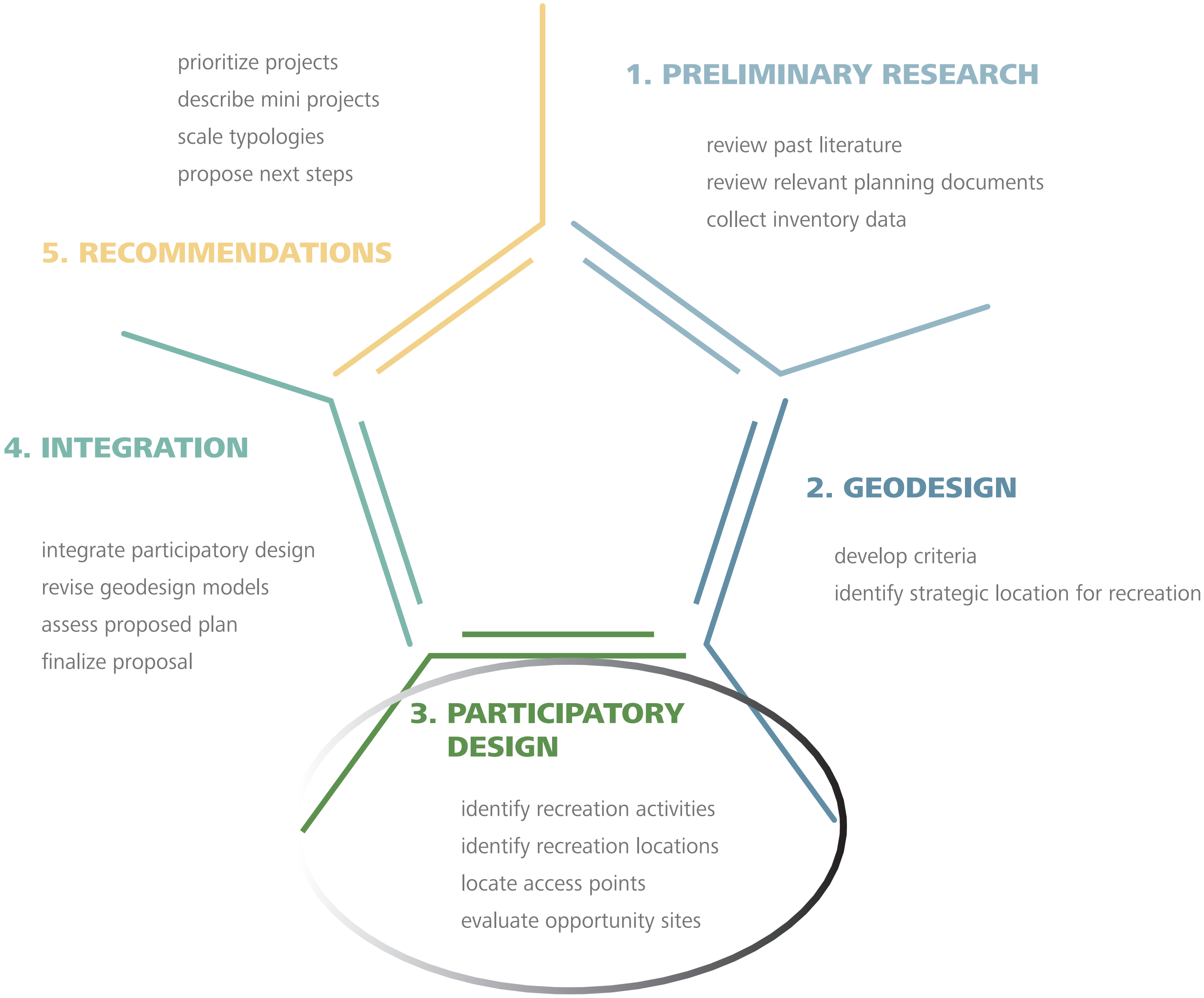


Figure 6.02 Stakeholder and Community Committee open house participants and volunteers

Figure 6.03 Community outreach 5 Community Committee meeting process

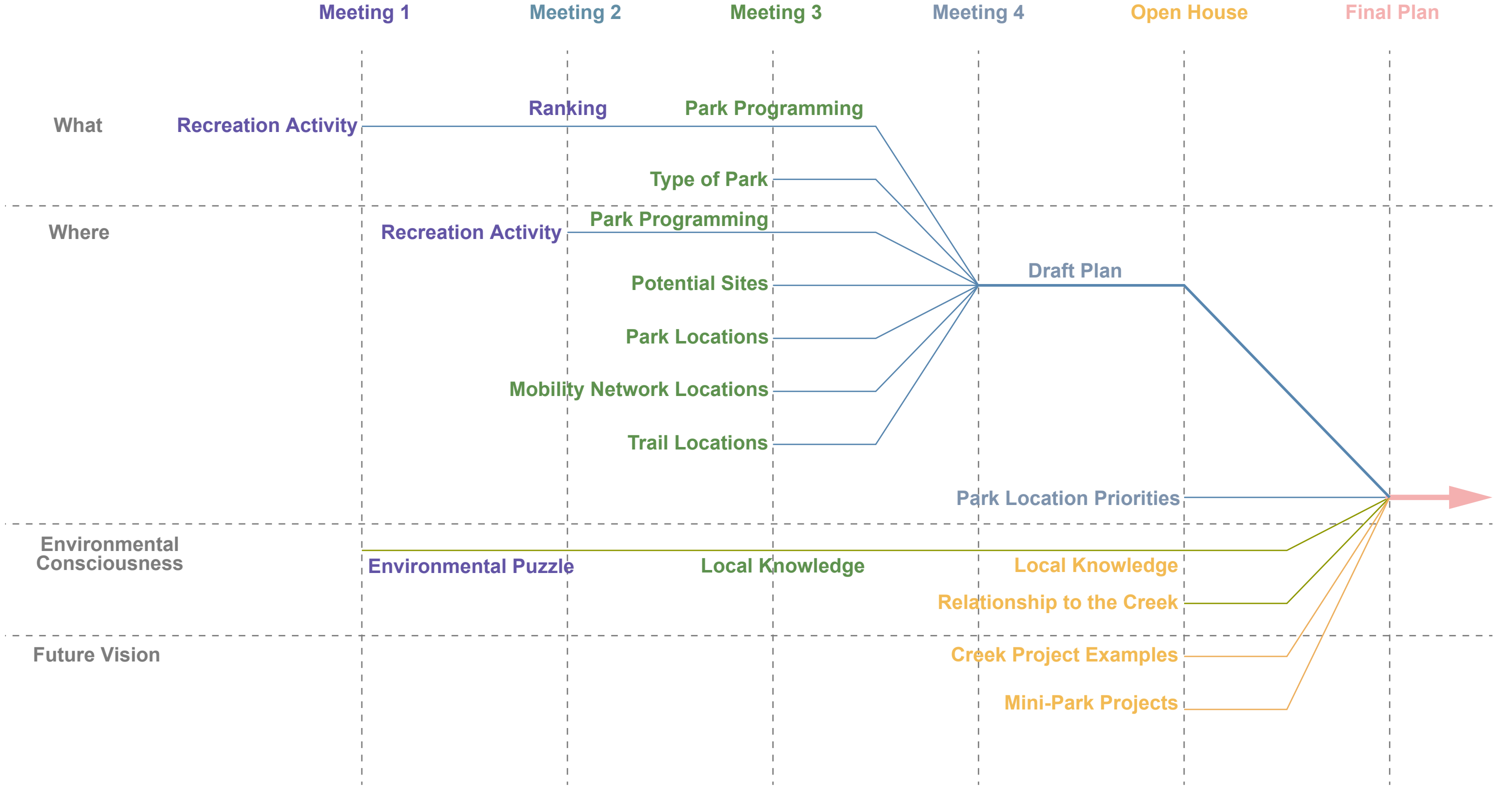
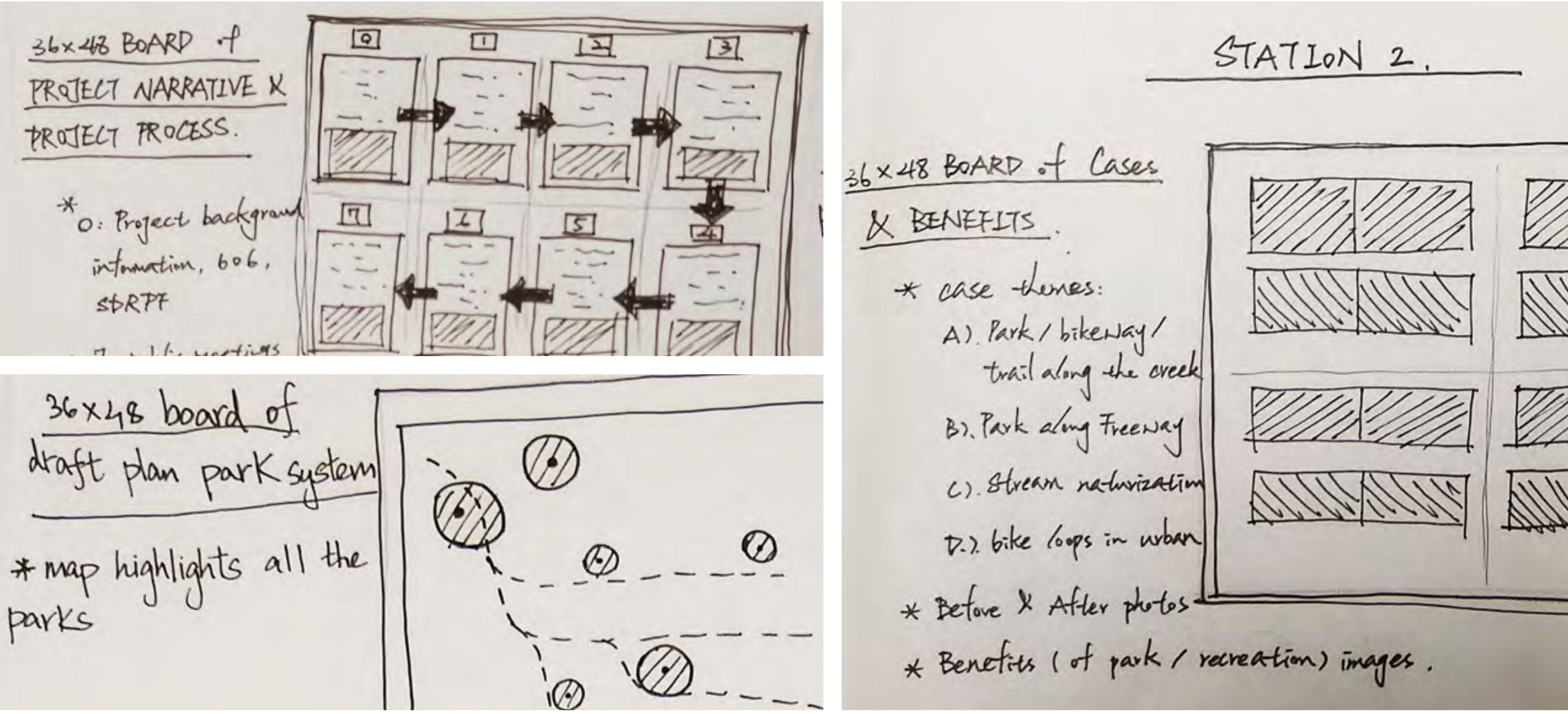


Figure 6.04 Planning drawings for open house content and organization



6.1/October Community Committee Meeting

The introductory Community Committee meeting was planned, organized and facilitated by The San Diego River Park Foundation (Table 6.01; Figure 6.05). The purpose of the meeting was to explain the project, the components of the outreach process, and the role of the Community Committee in representing the different communities of the study area.

The participatory planning exercise had the Community Committee rank recreational amenities/activities based on their individual preferences. The Community Committee were given photographs of recreational activities and were asked to list their top five on an index card.

The combined results of the ranked lists were:

1. Trail
2. Bike Path
3. Pocket Park
4. Education
5. River Cleaning
6. Garden
7. Picnicking
8. Game Playing
9. Walking to School
10. Art Mosaic
11. Birdwatching
12. River Gate

Table 6.01 Community Committee meeting details: October Community Committee meeting

Date and time	October 9, 2018, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in a circle
Number of participants	20
Role of TSDRPF	Introduction; project scope; update on other projects; role of Community Committee; paperwork; conduct icebreaker (designed by 606 Studio Team)
Primary question	Where is Forester Creek and what does it look like?
Secondary question	What activities would you most like to do along Forester Creek?
Activity 1 tool(s)	Icebreaker – map with photos to be matched to location
Activity 2 tool(s)	Cards with activity photos; index cards to record responses

**See Chapter 3 for information on how participants were selected, the role of the 606 Studio, and other specific details about each meeting.*

Figure 6.05 October Community Committee meeting

6.2/November Community Committee Meeting

The goal of the November Community Committee meeting was to explore what types of recreation activities the members like to participate in, and where along the creek they would like these activities to take place. The 606 Studio prepared three different exercises for the meeting (Table 6.02).

The first activity had participants discuss their favorite places in El Cajon as a group. This introductory question was intended to “break the ice” and get people talking.

The second activity was designed to brainstorm outdoor activities El Cajon residents are interested in and what they would like to do next to the creek (Table 6.03). The studio team introduced a three-part activity that asked Community Committee members to brainstorm a list of outdoor activities, highlight which activities were best along a creek, and select the top five outdoor activities to do along a creek.

Group members were given five plain stickers each, and voted on their top choices. Each sticker counted as one point. As such, the top ranked activities by all participants were:

1. Trail-related activities (walking, hiking, cycling, dog walking) (score: 25 points)
2. Water-related activities (water play, fishing, inner-tubing, swimming) (score: 13 points)
3. Gardening (score: 4 points)
4. Wildlife/birdwatching (score: 3 points)

Table 6.02 Community Committee meeting details: November Community Committee meeting

Date and time	November 13, 2018, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up with groups of two in rows
Number of participants	22
Role of TSDRPF	Introduction
Primary question	What outdoor recreational activities do you want to do along Forester Creek?
Secondary question	Where are the best locations for those activities? Why?
Activity 1 tool(s)	Brainstorm; vote on top 5
Activity 2 tool(s)	Map; stickers of top 5 activities; post-it notes

**See Chapter 3 for information on how participants were selected, the role of the 606 Studio, and other specific details about each meeting.*

Table 6.03 November Community Committee meeting results: top 5 activities

Group A	Group B	Group C	Group D
1/Biking 2/Visiting nature trail 3/Walking/running (trail) 4/Gardening 5/Wildlife/birdwatching	1/Inner-tubing 2/Swimming 3/Fishing 4/Birdwatching 5/Walking	1/Soccer 2/Dog walking 3/Biking	1/Biking (bike trail/loop) 2/Special events (outdoor wedding/music venue) 3/Mural painting 4/Gardening (community garden) 5/Water activities (water play/fishing)

The third activity identified the best place along the creek for each group's top 5 recreational activities (see Table 6.04). The Community Committee members mapped recreation locations in four small groups (Figure 6.07).

Each group was given five stickers printed with images of their top five outdoor activities and asked to place them on a map of the Forester Creek System (Figure 6.06).

Group A recorded why they chose to locate their activities in certain areas (see Figure 6.07):

- Locate cycling in 5 areas on the map: on the east side north of Granite Hills High School, on Greenfield Drive north of the Broadway Channel, a location just south of Gillespie Field, near Parkway Plaza, and, lastly, south of downtown near Washington Channel;
- Locate birdwatching on the restored section of Forester Creek and near City Hall;
- Locate river cleaning near Broadway Channel because of pollution and trash;
- Locate gardening north of City Hall;
- Locate hiking on the restored section of Forester Creek, just north of where birdwatching was placed;
- Locate a cycling corridor throughout El Cajon linking multiple destinations and activities, connecting new and existing parks and green spaces, and connecting to the cycling trail in Santee.

Group B chose to place all their activities along the main branch of Forester Creek. They chose to locate their activities in the following areas (see Figure 6.08):

- Locate tubing and birdwatching near the headwaters;
- Locate swimming and fishing just west of the headwaters;

Figure 6.06 November Community Committee meeting: composite results from activity two

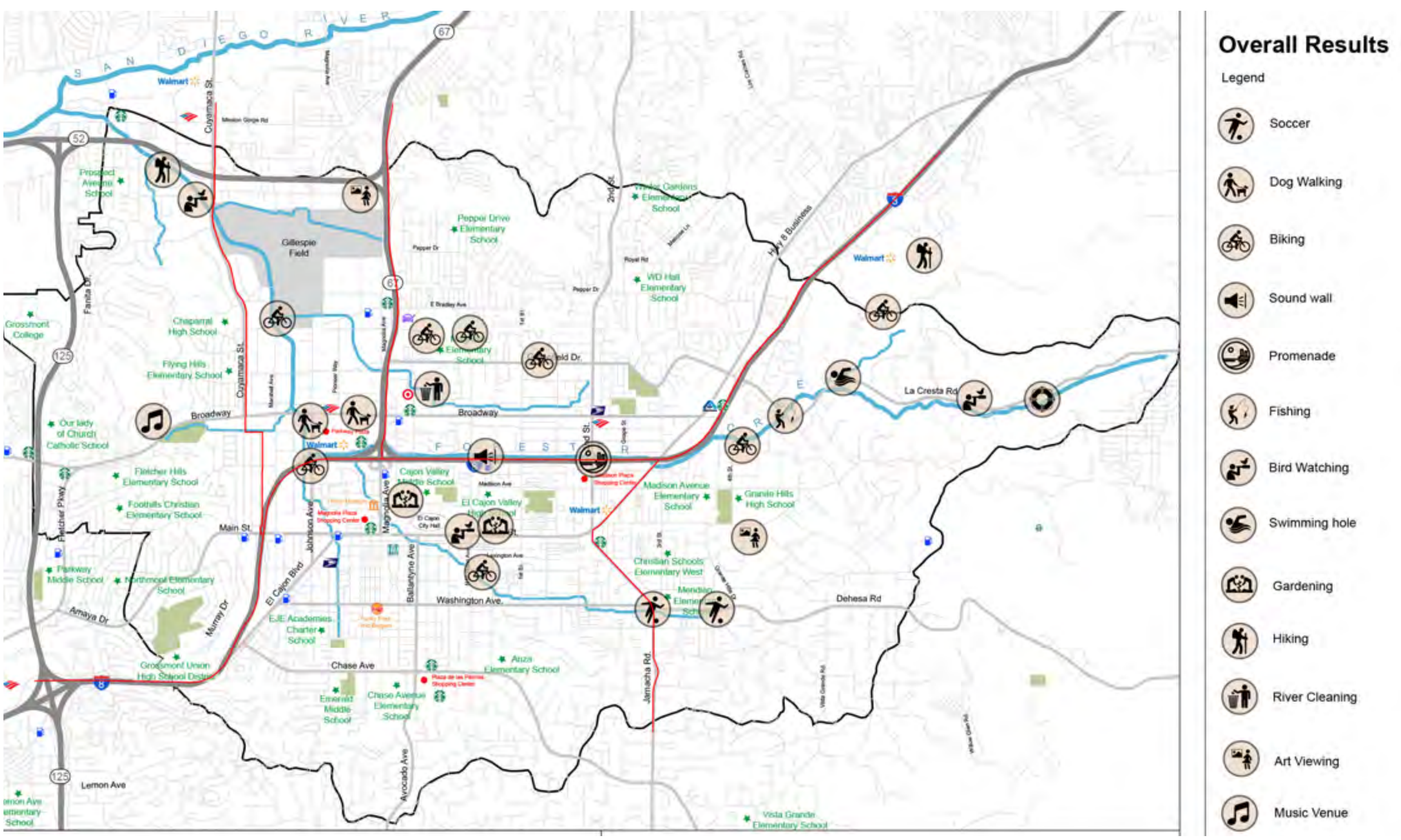


Table 6.04 November Community Committee meeting: activity brainstorm

Group A	Group B	Group D
Biking	Hiking	Outdoor gym (fitness/exercise equipment)
Skateboarding	Biking	Soccer (indoor)
Clean ups	Soccer	Biking (bike trail/loop)
Work out (circuit)	Outdoor sports (mini ping-pong)	Gardening (community garden)
Family education	Walking	Mural painting
Wild open space	Outdoor art	Fishing
Frisbee golf	Picnicking	Water play (kid's splash pad)
Gaming (tables or courts)	Inner-tubing	Special events (outdoor wedding/ music venue)
Fishing	Swimming	
Walking/running (trail)	Birdwatching	
Gardening	Fishing	
Wildlife/birdwatching		

**Note that many responses were facilities rather than activities. The facilities have been converted to activities where possible.*

**Group C arrived late and did not participate in this exercise*

Figure 6.07 November Community Committee meeting: group A activity locations

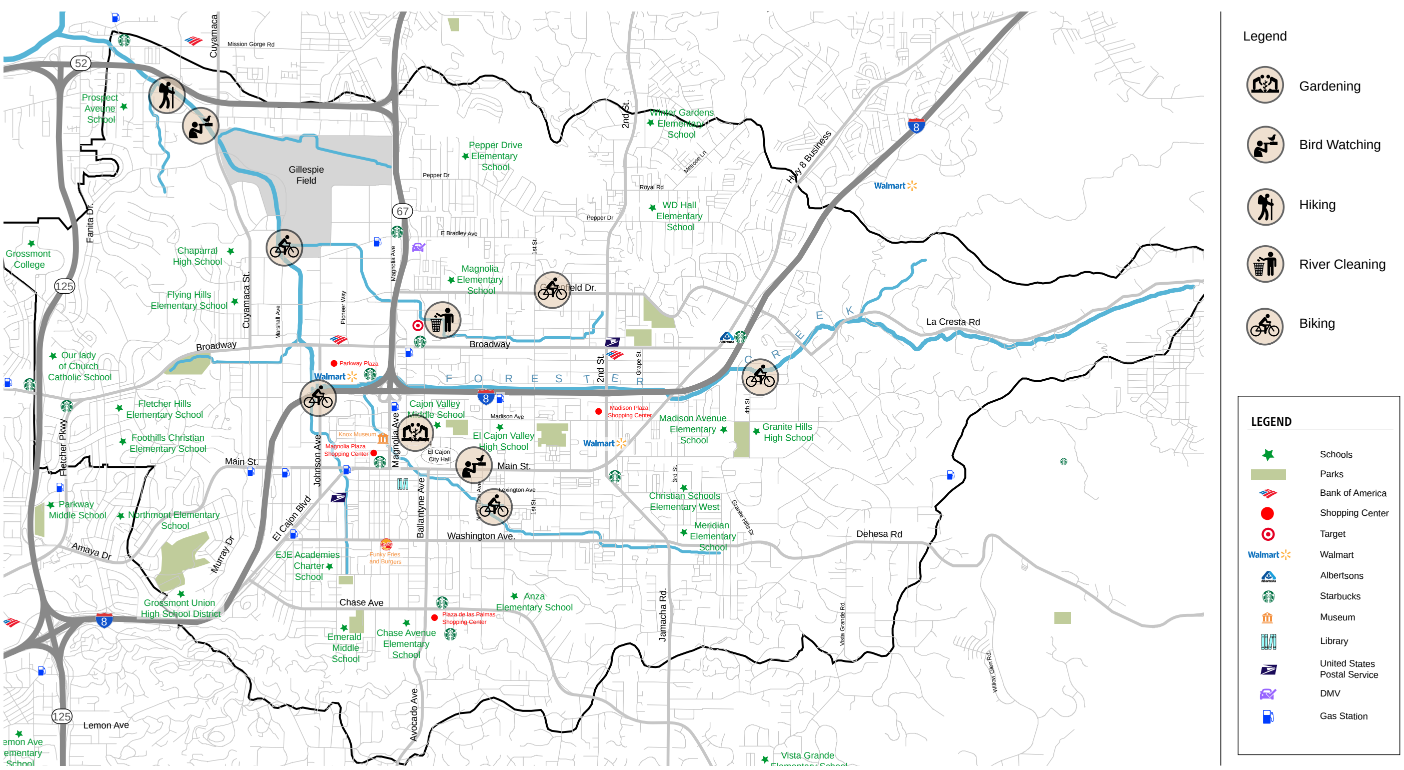


Figure 6.08 November Community Committee meeting: group B activity locations

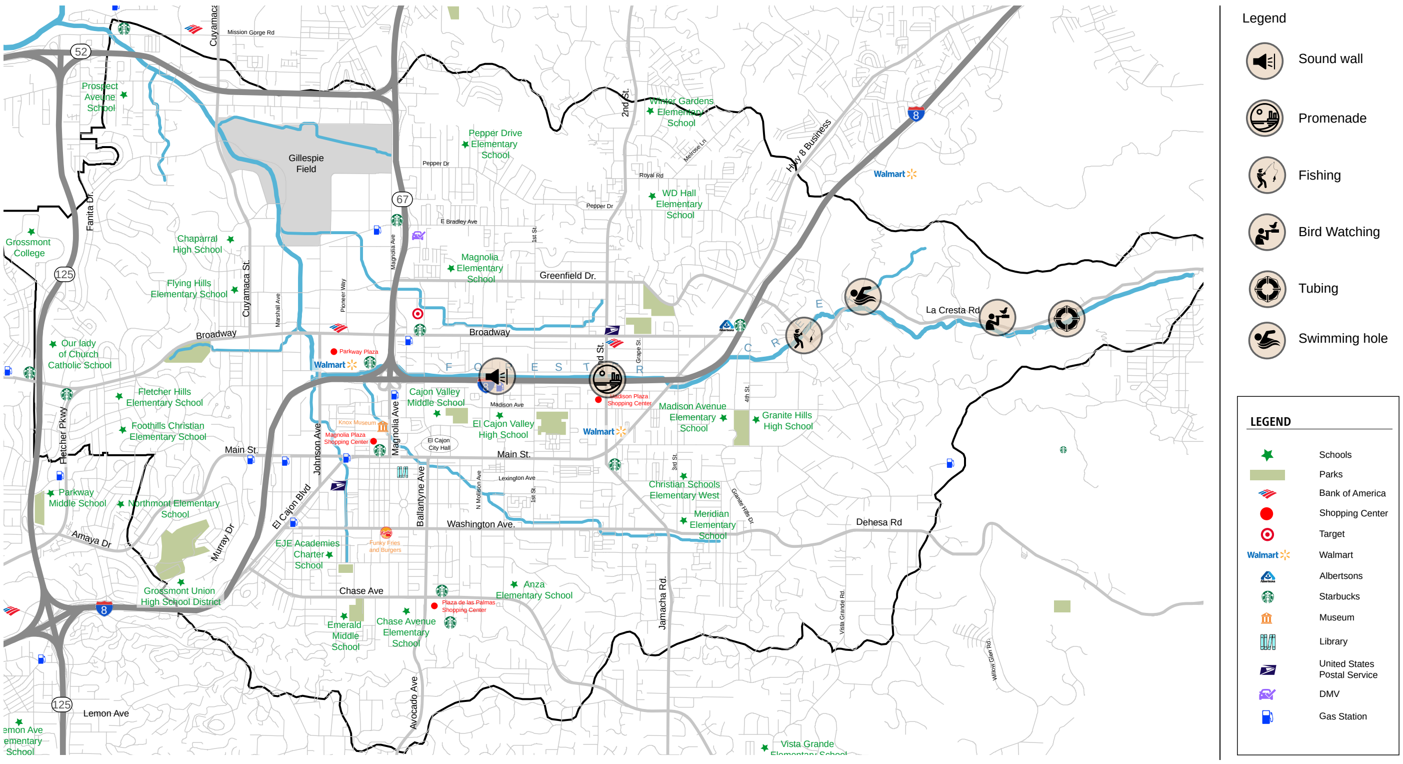
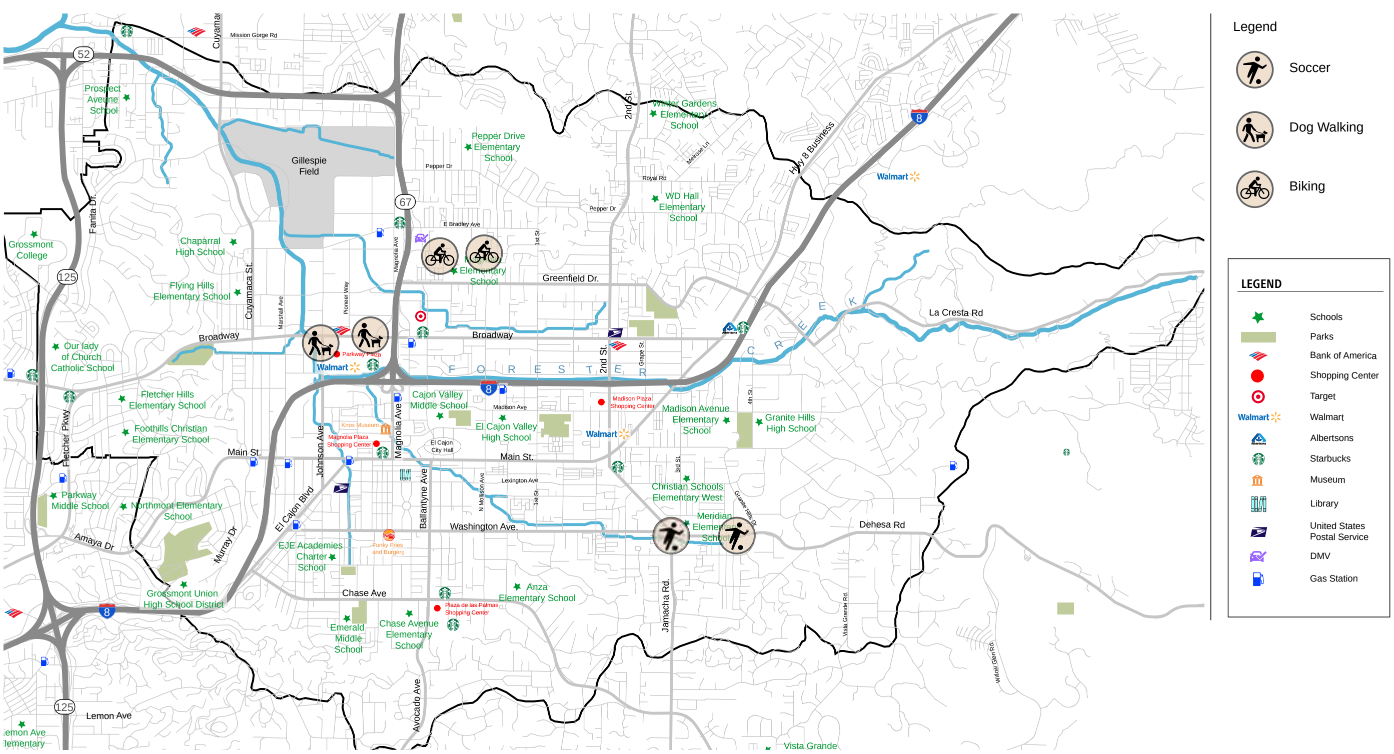


Figure 6.09 November Community Committee meeting: group D activity locations



- Locate promenad[ing] north of Madison Plaza Shopping Center, near Second Street;
- Locate a walking trail in the center of downtown near Second Street in order to improve pedestrian access and make downtown more walkable;
- Locate pocket parks near downtown along Second Street and the Freeway to increase green space in the downtown areas;
- Locate more soccer fields and dog parks near Parkway Plaza as it attracts a large percent of the population in El Cajon.

Group C was a group of two children who joined the meeting and did not participate in the brainstorming activity. They located their activities as follows (see Figure 6.09):

- Locate soccer near Meridian Elementary School;
- Locate dog walking near Parkway Plaza;
- Locate cycling north of Broadway Channel near Magnolia Elementary School.

Only 3 groups located their activities on a map. The final group recorded why they preferred activities in certain areas:

- Locate cycling and hiking on the east side near the headwaters and Highway 8 because of the topography, being away from a busy area, good scenery, and a larger amount of open space;
- Locate art north of Gillespie Field because it could help beautify the area;
- Locate art south of Granite Hills High School because of its location near other schools and families and to help an area they described as under-served;
- Locate gardening and a splash pad near downtown because of the high-density population, to motivate the population, to serve the large number of families nearby, and to increase pedestrian traffic in the downtown area; and,
- Locate the special event venue on the west side near Hillside Park because of its proximity to schools and because the area "seems open."

6.3/December Community Committee Meeting

The December Community Committee meeting began with a review of the results from the previous Community Committee meetings. The Community Committee members were asked to complete a follow-up questionnaire aimed at clarifying stakeholder responses about cycling and facilities associated with walking and hiking (Table 6.05).

The December Community Committee meeting focused on identifying the best areas for potential parks/open spaces (Table 6.05). As described in Chapter 5, the team prepared a suitability map with green areas identifying suitable land for recreational development using a wide range of criteria. The results were simplified for ease of communication. Participants were provided a copy of the suitability map of the Forester Creek System with recreation opportunity sites highlighted, color-coded foam core parks in 3 sizes/colors (large or regional, medium or neighborhood, and small or pocket), sticky string (wikki stix), and push pins.

First, the Community Committee members were asked to map potential areas for parks/open spaces within the suitable area along Forester Creek and its tributaries. During the second part of the activity, Community Committee members connected the parks/open spaces with trails/paths. El Cajon was divided into five areas (see Figure 6.08, 6.09, & 6.10), and the participants completed multiple rounds of the activity working in three small groups, in order to cover the study area. In some cases, group members focused on geographic areas they were most familiar with. The groups were asked to complete a response form to explain their rationale for park/open space and trail/path location.

Groups A and D designed areas 1, 4 and 5. Group B designed areas 2, 3, and 4.

Each group was given 5 of each size of park (small, medium, and large). The groups were invited to locate up to 5 of each size of park in their preferred locations (Figure 6.14). According to the Mapping Activity Response Form, the groups located 9 small parks, 11 medium parks, and 5 large parks (Figure 6.08, 6.09, & 6.10).

Locations were selected for the following reasons:

- Available land – either vacant or undeveloped
- Existing natural or recreational resource or proximity to creek
- Adjacency or proximity to a school
- Community need or area suffers from park poverty
- Key cultural location or a local destination

Table 6.05 Community Committee meeting details: December Community Committee meeting

Date and time	December 4, 2018, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in clusters
Number of participants	15
Role of TSDRPF	Introduction
Primary question	Where should new parks/open spaces be located in El Cajon and what size should they be?
Secondary question	Where should trails/paths be located in El Cajon and how should they relate to one another?
Activity 1 tool(s)	Map; stick pins; color-coded foam core parks; explanatory forms
Activity 2 tool(s)	Map; sticky string

**See Chapter 3 for information on how participants were selected, the role of the 606 Studio, and other specific details about each meeting.*

Figure 6.10 December Community Committee meeting: group A park/open space and trail/path locations

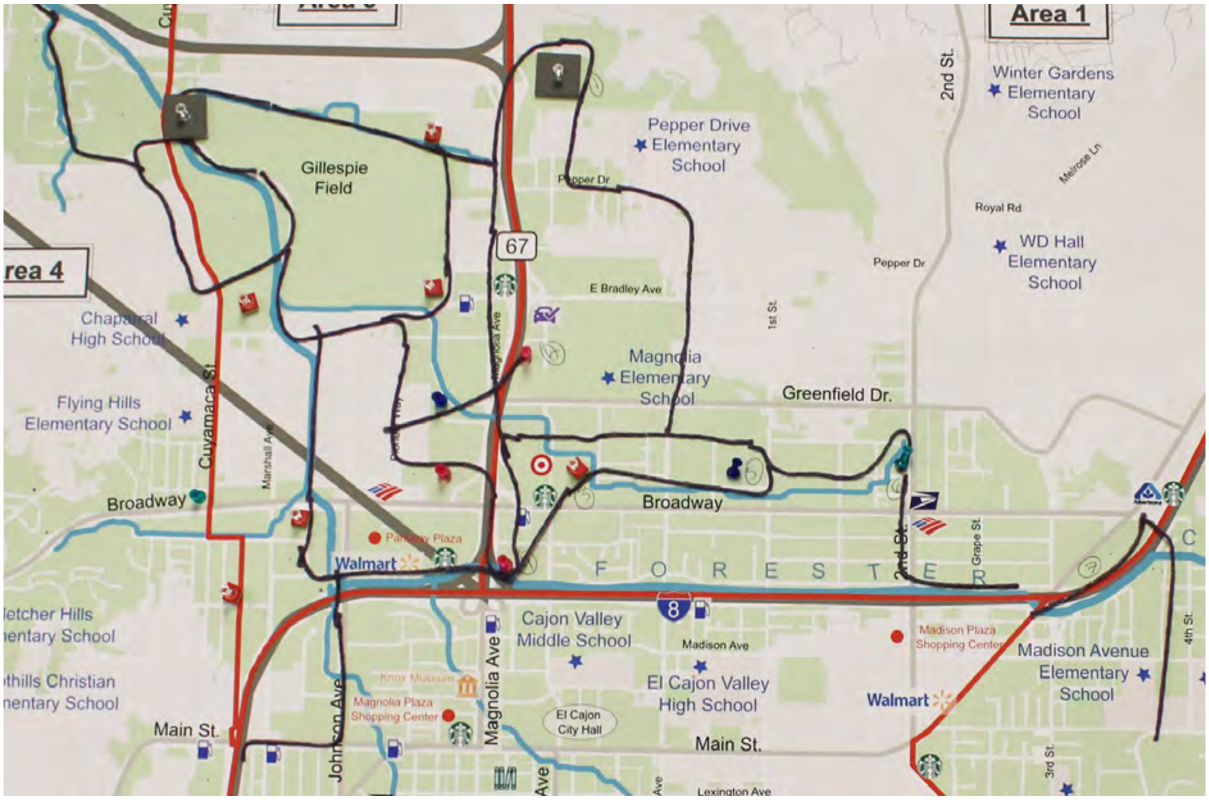


Figure 6.11 December Community Committee meeting: group B park/open space and trail/path locations

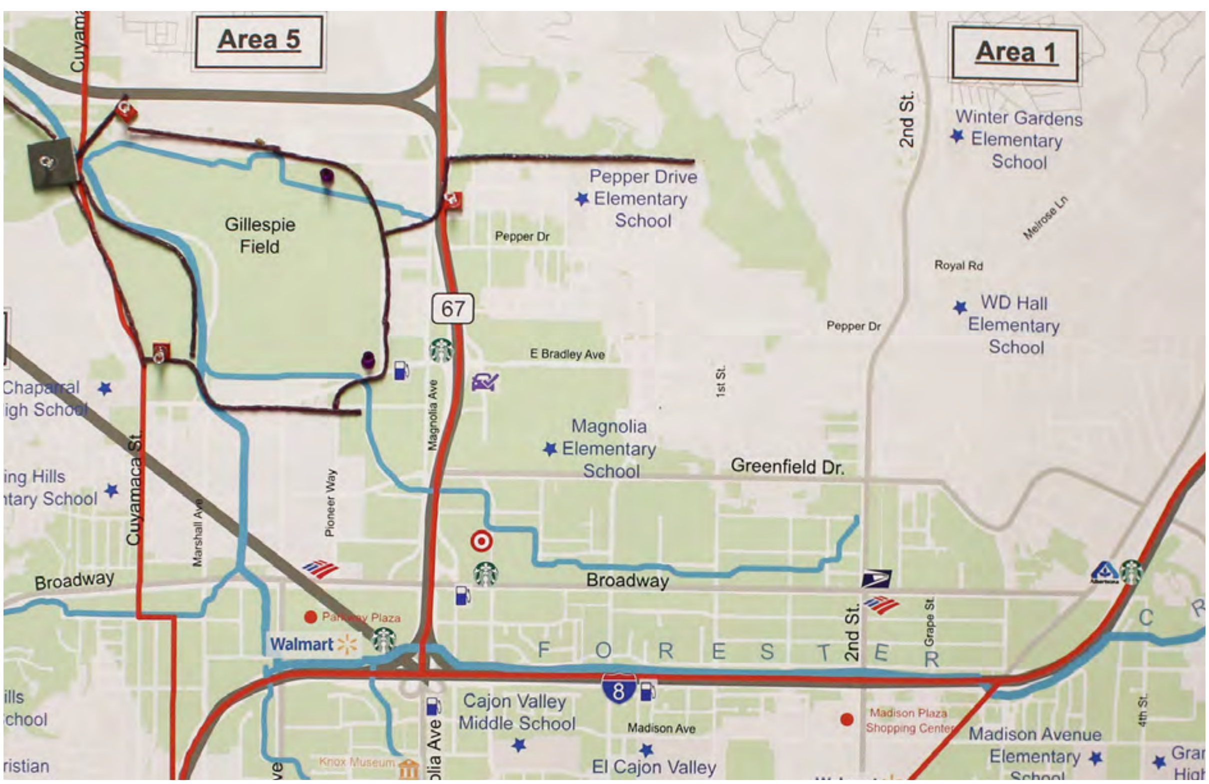
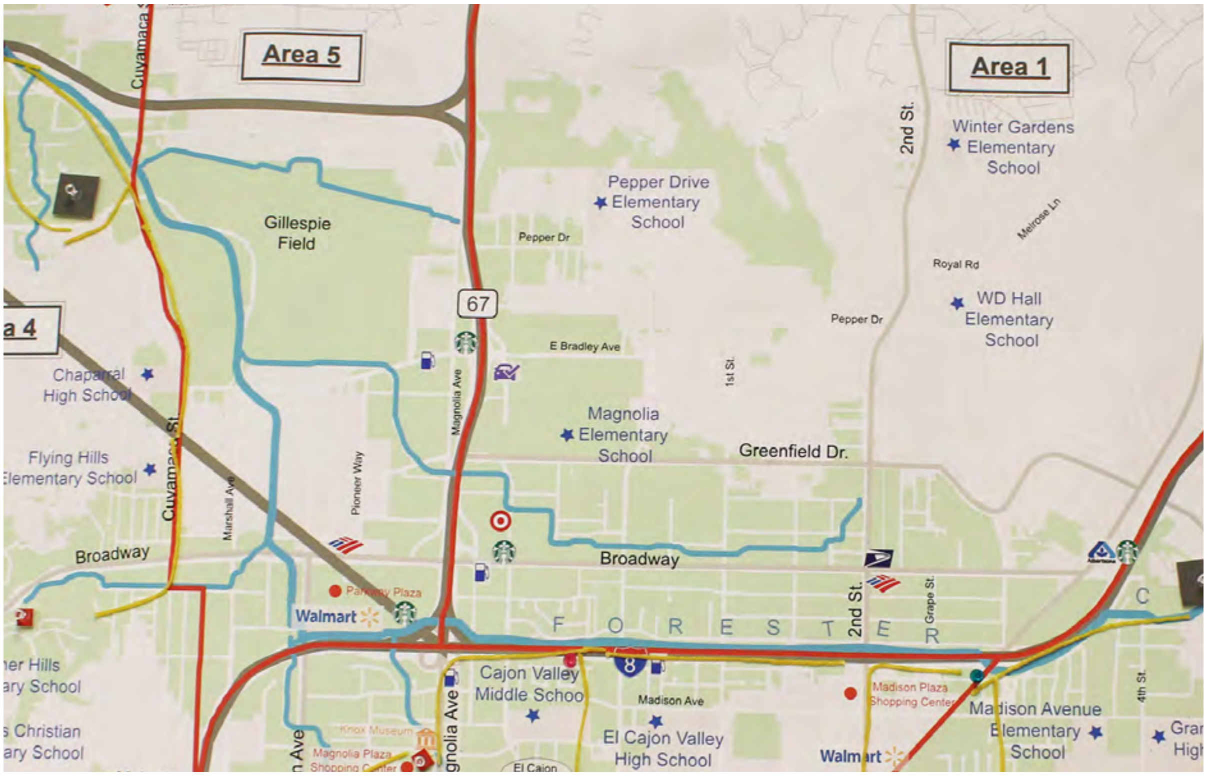


Figure 6.12 December Community Committee meeting: group D park/open space and trail/path locations (note this group used yellow [rather than black] string to indicate trails/paths)



- Opportunity for a recreational activity
- Key physical location or easy access by road
- The size of a piece of available land

An analysis of the maps revealed additional insights. Small or pocket parks were located in residential neighborhoods. All groups located a potential large (regional) park near the corner of Cuyamaca Street and Weld Boulevard (see Figure 6.13). All groups created a connection to the existing path along the restored portion of Forester Creek in Santee.

The follow-up questionnaire distributed at the beginning of the meeting had the following results:

- Most participants were interested in cycling in urban areas, parks, and natural areas for recreation, but not utilitarian cycling (to and from work).
- All respondents agreed that El Cajon should have more walking and cycling paths in local parks and natural areas.
- Most respondents felt that El Cajon should have more infrastructure to support walking and cycling, such as bike lanes on local roads and signs.
- When asked to identify what activity would be most popular with friends and family/neighbors, over 70% of responses involved trail-related activities such as hiking, cycling, walking, or jogging.

After the December meeting, the team refined the suitability analysis correcting errors and adding additional data. In creating the final plan, the team looked back at the results of the December meeting and made sure to apply the thinking of community members in combination with the final suitability analysis.

Figure 6.13 December Community Committee meeting: consolidated park/open space and trail/path location results

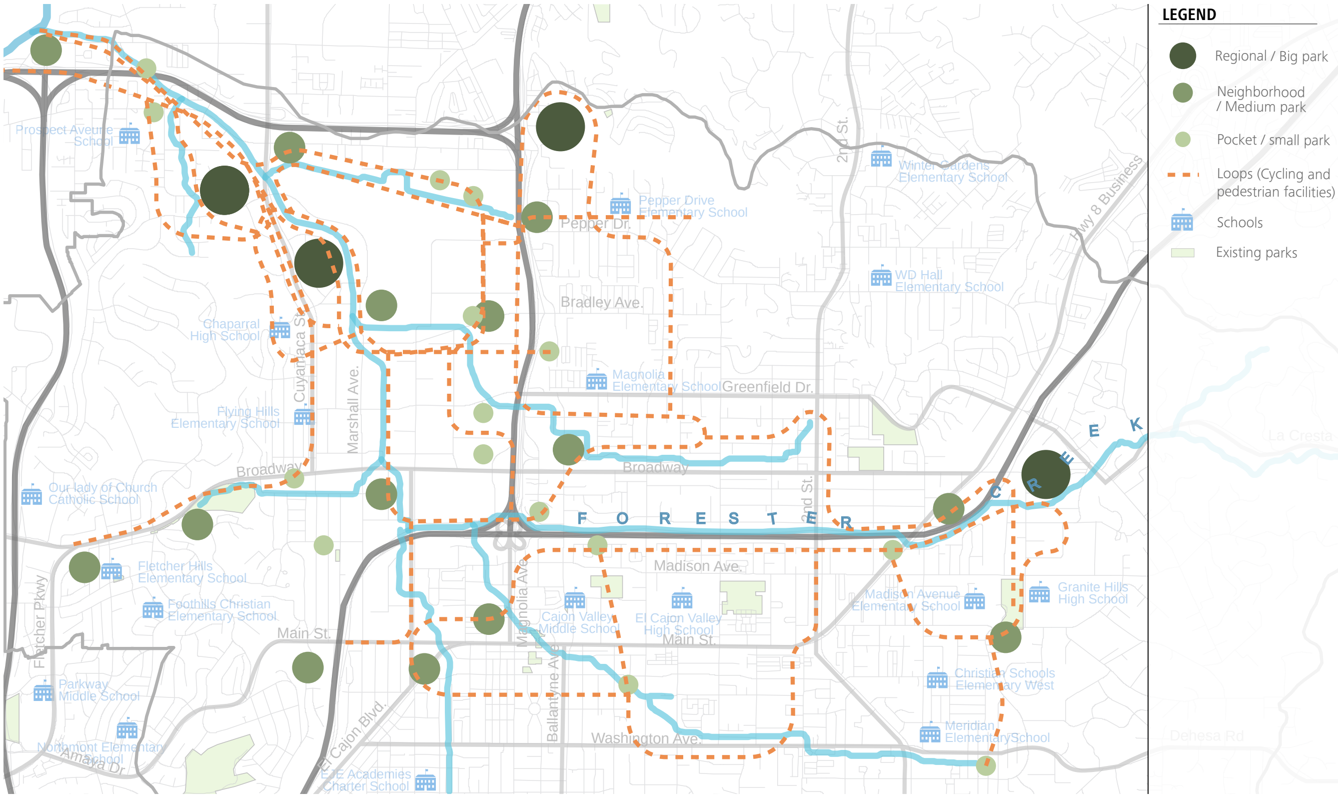


Figure 6.14 December Community Committee meeting

6.4/January Community Committee Meeting

After the presentation of the Forester Creek System draft plan by the 606 Studio (the plan development process is explained in Chapter 7), participants were separated into four groups (Table 6.06). Each group received a working map of the study area (including portions of El Cajon, Santee, La Mesa, Crest, and the County of San Diego). Participants were given a copy of the draft plan developed based on the input from previous meetings (see Figure 6.15, 6.16, 6.17 & 6.18) and a question sheet to guide discussion and ensure that they examined all aspects of the plan.

The questions included:

1. Are the regional parks located in the right areas? Would you add any additional regional parks? Or eliminate any of those shown in the plan?
2. Are the neighborhood parks located in the right areas? Would you add any additional neighborhood parks? Or eliminate any of those shown in the plan?
3. Are the pocket parks located in the right areas? Would you add any additional pocket parks? Or eliminate any of those shown in the plan?
4. Would you change the route of any of the bike lanes or trails?
5. Would you add any new routes? Or eliminate any of those shown?
6. Would you change the use of any of the routes? Converting a bike lane to a trail, or trail to a bike lane? Or converting a single use route to dual use?
7. Are there any activities or uses that you would recommend be placed at certain parks? (Refer to the key for what uses favored by the committee match each size of park).

Recommendations for new or changed locations of parks and trails/paths were marked on the map. At the end of the activity, each group reported back and shared their ideas and opinions with the other participants.

Group 1 (Figure 6.15)

- Remove a pocket and neighborhood park in the southern part of El Cajon
- Add a regional park near the schools
- Add a neighborhood park in the southwest area of El Cajon below Main Street near Foothills Christian Elementary School
- Add a neighborhood park in the southwest area of El Cajon near EJE Academies Charter School close to Washington Street
- Add a walking trail on Main Street

Table 6.06 Community Committee meeting details: January Community Committee meeting

Date and time	January 29, 2019, 5:30pm
Location	Renette Park and Recreation Center, 935 Emerald Ave, El Cajon, CA 92020 Tables and chairs set up in rows facing one side of the room
Number of participants	16
Role of TSDRPF	Introduction
Primary question	What changes should be made to park locations/sizes?
Secondary question	What changes should be made to trails/paths?
Activity 1 tool(s)	Map; markers; discussion sheet
Activity 2 tool(s)	Map; markers; discussion sheet

**See Chapter 3 for information on how participants were selected, the role of the 606 Studio, and other specific details about each meeting.*

Figure 6.15 January Community Committee meeting: group 1 map with participant annotations in orange

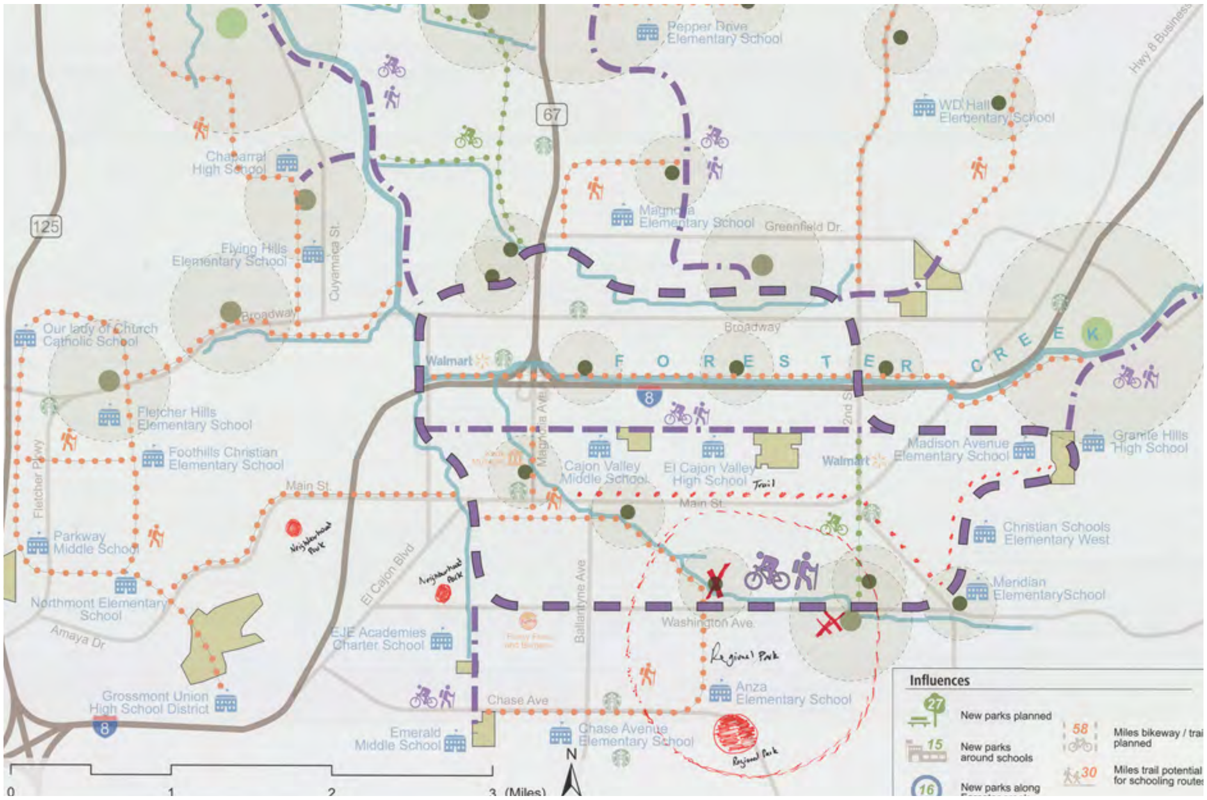


Figure 6.16 January Community Committee meeting: group 2 map with participant annotations in orange

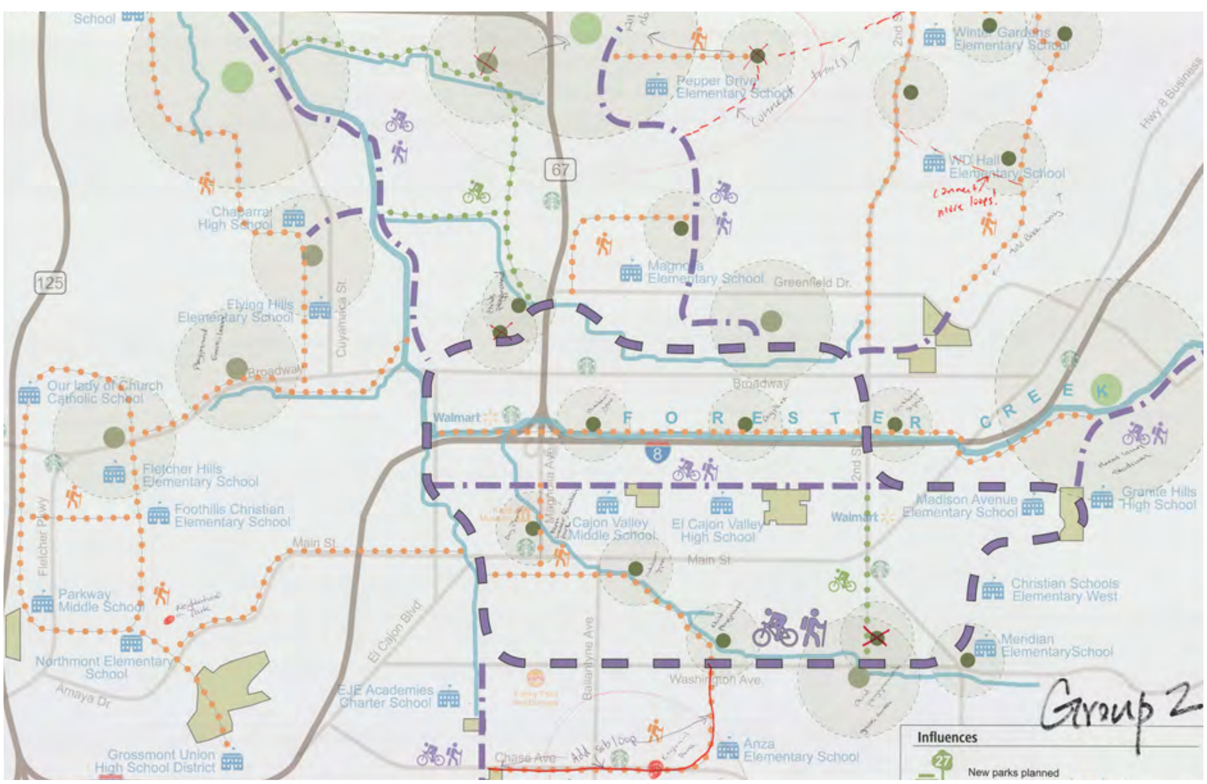


Figure 6.17 January Community Committee meeting: group 3 map with participant annotations in orange

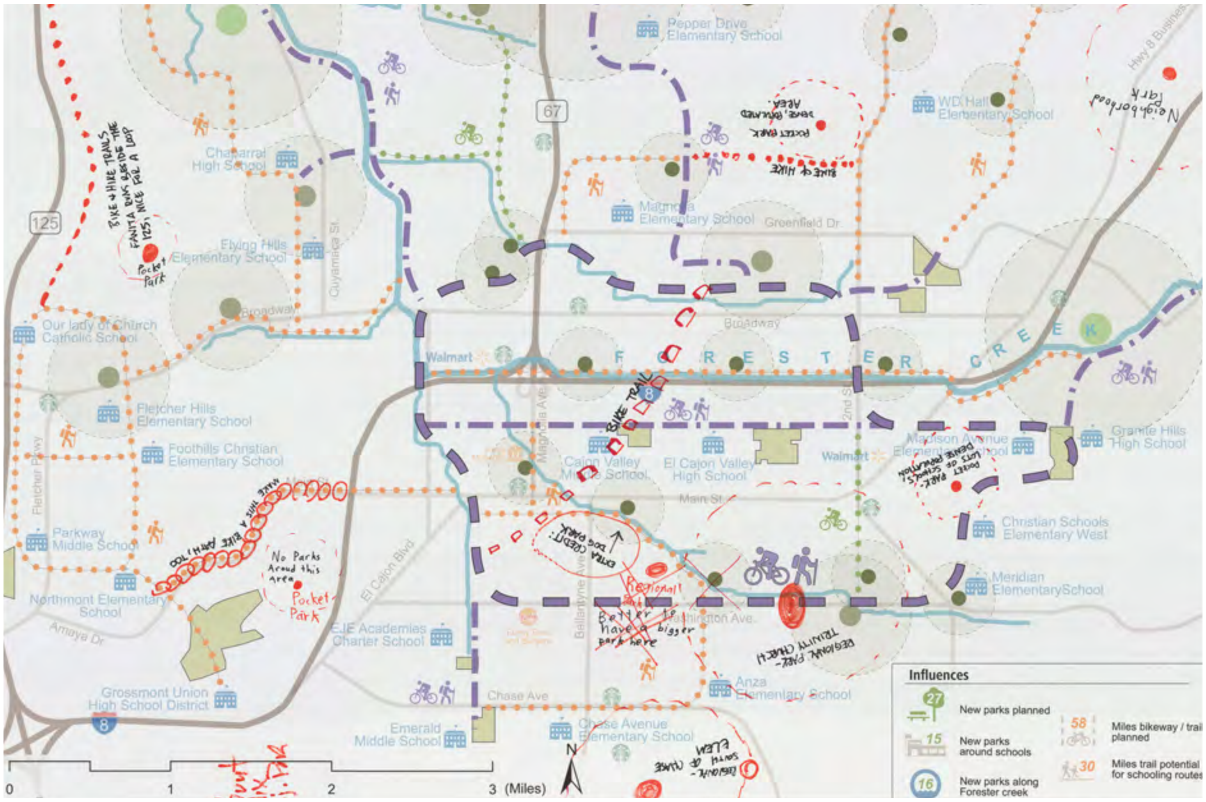


Figure 6.18 January Community Committee meeting: group 4 map with participant annotations in orange

Group 2 (Figure 6.16)

- Remove some of the pocket and neighborhood parks
- Add some regional parks
- Make the regional park near the freeway in the northern part of El Cajon larger to combine the neighborhood and pocket parks
- Add a regional park in the southern part of El Cajon on Chase Avenue near Chase Avenue Elementary School and Anza Elementary School
- Add a neighborhood park in the southwest part of El Cajon above Main Street near Parkway Middle School
- Add children's playground, event lawn, and sport fields to the regional park proposed on Chase Avenue
- Add an event lawn and stadium to the regional park on the eastern side on El Cajon
- Add playgrounds and event lawns to neighborhood parks
- Add dog parks, mini water fountain parks, outdoor gyms, children's playgrounds, and grass areas to the pocket parks in the downtown area
- The existing trail along Chase Avenue in the southern part of El Cajon was changed to a sub-loop (shared pedestrian/cycling trail)
- Add smaller loops of one, two or three miles
- Add extra trails which form loops to the proposed trail in the draft plan and connect these loops back to the sub-loop

Group 3 (Figure 6.17)

- Retain all the proposed parks
- Add a regional park in the southern part of El Cajon along Washington Avenue near Trinity Church
- Add a regional park in the southern part of El Cajon south of Chase Avenue Elementary School
- Add a neighborhood park along the Interstate 8 Freeway
- Add a new pocket park near Flying Hills Elementary School
- Add a new pocket park near Harry Griffith Park
- Add a new pocket park near downtown
- Add a new pocket park in the northern part of El Cajon where it is densely populated
- Add a new pocket park in the Mount Helix area
- Add an event space, concrete amphitheater seating, and a stage to the regional park near the freeway
- Add a dog park to a pocket park in downtown El Cajon
- Add a cycling and trail loop along Fanita Drive and the 125 Freeway
- Change the proposed trail near Northmont Elementary School (La Mesa) to a pedestrian/cycling facility
- Add a cycling trail connecting at Magnolia Elementary School to the proposed trail

Group 4 (Figure 6.18)

- Remove all the following parks: the pocket park near the 67 Freeway; the pocket park and the neighborhood park near Washington Avenue; the neighborhood park below Greenfield Drive; the neighborhood park by Gillespie Field; the pocket park near Pepper Drive Elementary School
- Change the following parks: the pocket park to a neighborhood park; the regional park near the naturalized area to a neighborhood park
- Add a new neighborhood park near Van Zanten Park and Bostonia Park and Recreation Center
- Remove the proposed trail in the northern area connecting the sub-loop to Pepper Drive Elementary School and change the proposed trail along Chase Avenue to a cycling trail

Meeting time was also devoted to exploring the format, tools, and approach for the February open house.

Figure 6.19 Stakeholder and Community Committee open house participants and volunteers

6.5/February Meeting (Community Open House)

In contrast to the earlier meetings that were gatherings of members of the Community Committee, the open house was a widely publicized, open invitation public event (Table 6.07). The goal was to encourage all El Cajon residents and stakeholders to join the process, review the draft plan and voice their recreation priorities and preferences (Figure 6.19 & 6.20).

To maximize accessibility, the event was held in El Cajon's Civic Center at the Ronald Reagan Community Center and scheduled to run from 4:30 to 7:30—from just before the end of the work day to after dinner. Open house participants were recruited using:

- Geographically targeted mailers/direct mail
- Sharing in social networks/community groups
- Email
- Local paper advertising/media coverage
- Press release
- Social media
- TSDRPF website
- Fliers
- Targeted recruitment of members of specific stakeholder groups
- Stakeholder networking
- City Council members

To make the event welcoming and engaging to newcomers and veteran activists alike, the open house was organized into a series of six interactive stations, each staffed by project team members and trained volunteers. Newcomers could first find the creek closest to their home or workplace and get background on the existing conditions, while stakeholders with experience could skip the introductory stations and go right to considering an international array of options for improving the creek system. At the final stations, everyone was asked to edit the draft plan and then vote for their top choices for

Figure 6.20 Stakeholder and Community Committee open house participants and volunteers

Table 6.07 Stakeholder and Community Committee meeting details: February open house

Date and time	February 26, 2019, 4:30pm to 7:30pm
Location	Ronald Reagan Community Center, 195 E Douglas Ave, El Cajon, CA 92020 Open house set up with stations
Number of participants	~ 150
Role of TSDRPF	Organization, venue, food, training volunteers, education, greeting (etc.)
Primary question	What do you think of the proposed locations and programming for the parks and open spaces?
Secondary question	What do you think of the proposed locations for the trails/paths?
Activity tools	Stations; photographs; maps; markers; crayons; stickers; flip charts

**See Chapter 3 for information on how participants were selected, the role of the 606 Studio, and other specific details about each meeting.*

Figure 6.21 Stakeholder and Community Committee open house participants and volunteers

Figure 6.22 Creek images from open house board 2A

Figure 6.23 “Favorite creek” images from open house board 2B (see Table 6.08)

Peralta Creek, Oakley, California

Marsh Creek, Oakley, California

Rockbrook Creek, Omaha, Nebraska


Minnehaha Creek, St. Louis Park, Minnesota


Cherry Creek, Denver


Carroll Creek, Maryland


Cheonggyecheon River, Seoul, Korea


Tigris River, Iraq


Kabul River, Afghanistan


Barada River, Syria


Pasig River, Philippines


Xochimilco Nature Reserve, Mexico

new parks, recreation activities, and immediate improvement projects (Figure 6.21).

In contrast to the previous meetings, which were set up with tables and chairs in rows, clusters, or a circle, the open house was set up to allow for a large number of participants, with mounted boards spaced around the room.

Table 6.08 Open house "favorite creek" exercise results (2B) (see Figure 6.23)

Creek images	Number of votes
Carroll Creek, Maryland	31
Minnehaha Creek, St. Louis Park, Minnesota	22
Cheonggyecheon River, Korea	10
Marsh Creek, Oakley, California	9
Tigris River, Iraq	9
Cherry Creek, Denver	7
Xochimilco Nature Reserve, Mexico	5
Peralta Creek, Oakland, California	3
Pasig River, Philippines	3
Rockbrook Creek, Omaha, Nebraska	3
Kabul River, Afghanistan	3
Barada River, Syria	1

For the 2B activity board (Table 6.08; Figure 6.23 & 6.27), the participants were asked to vote for their favorite creek project by selecting one from a collection of photos of completed restoration projects from around the world. A clear pattern was evident in the voting.

- The Carroll Creek in Maryland had the maximum of 31 votes followed by Minnehaha Creek in Minnesota. The Carroll Creek photo was aesthetically pleasing and it appears to be a design the public would prefer, with space around the creek for walking and seating beside a public market.
- The Minnehaha Creek has a cycling path along the creek which suggests people are interested in cycling along the creek.
- Many people voted for creeks associated with their country of origin, especially the Tigris River in Iraq and Xochimilco Nature Reserve in Mexico.

Table 6.09 Open house "favorite activity" board results (8A & 8B) (see Figure 6.34)

Creek images	Number of votes
Nature trail (walking and hiking)	34
Splash pad (water play)	20
Dog park (pet activities)	13
Community gardens (gardening)	9
Picnic areas (picnicking)	9
Biking	6
River cleaning	6
Soccer	5
Children's playground	5
Birdwatching	3
Art (mosaic)	3
Baseball	3
Basketball	2
Skateboarding	1
Outdoor gym (fitness equipment)	1

For activity boards 8A and 8B, participants were asked to vote for their favorite outdoor activity (what they would like to do in local parks). A clear pattern is seen in the votes (Table 6.09).

- The nature trail received the highest number of votes (34). The city currently lacks a nature trail and the only available nature areas are in Santee and at the Forester Creek headwaters.
- The splash pad was second highest with 20 votes, reflecting a desire for water-based and family-oriented activities. There is currently no splash pad in El Cajon.
- The third most preferred activity was the dog park. There were many people at the event who were concerned about a rumor that there was a proposal to remove the dog park in Wells Park.
- Fourth highest were picnicking and community gardening with 9 votes each, suggesting a preference for family- or community-oriented activities.

Another station (Figure 6.33) provided images of park types.

The penultimate station of the open house asked participants to select their top priority project from among 27 new parks proposed in the draft plan. An extra-large poster of the draft plan enabled participants to collectively consider and discuss all the options before voting (Figure 6.24 & 6.30).

Table 6.10 Open house "favorite park location" voting results (4B) (Figure 6.24 & 6.30)

Park # on board	Votes
01	1
02	5
03	1
04	0
05	1
06	8
07	0
08	0
09	0
10	4
11	2
12	0
13	0
14	8
15	0
16	12
17	1
18	2
19	1
20	1
21	1
22	0
23	0
24	6
25	0
26	1
27	0

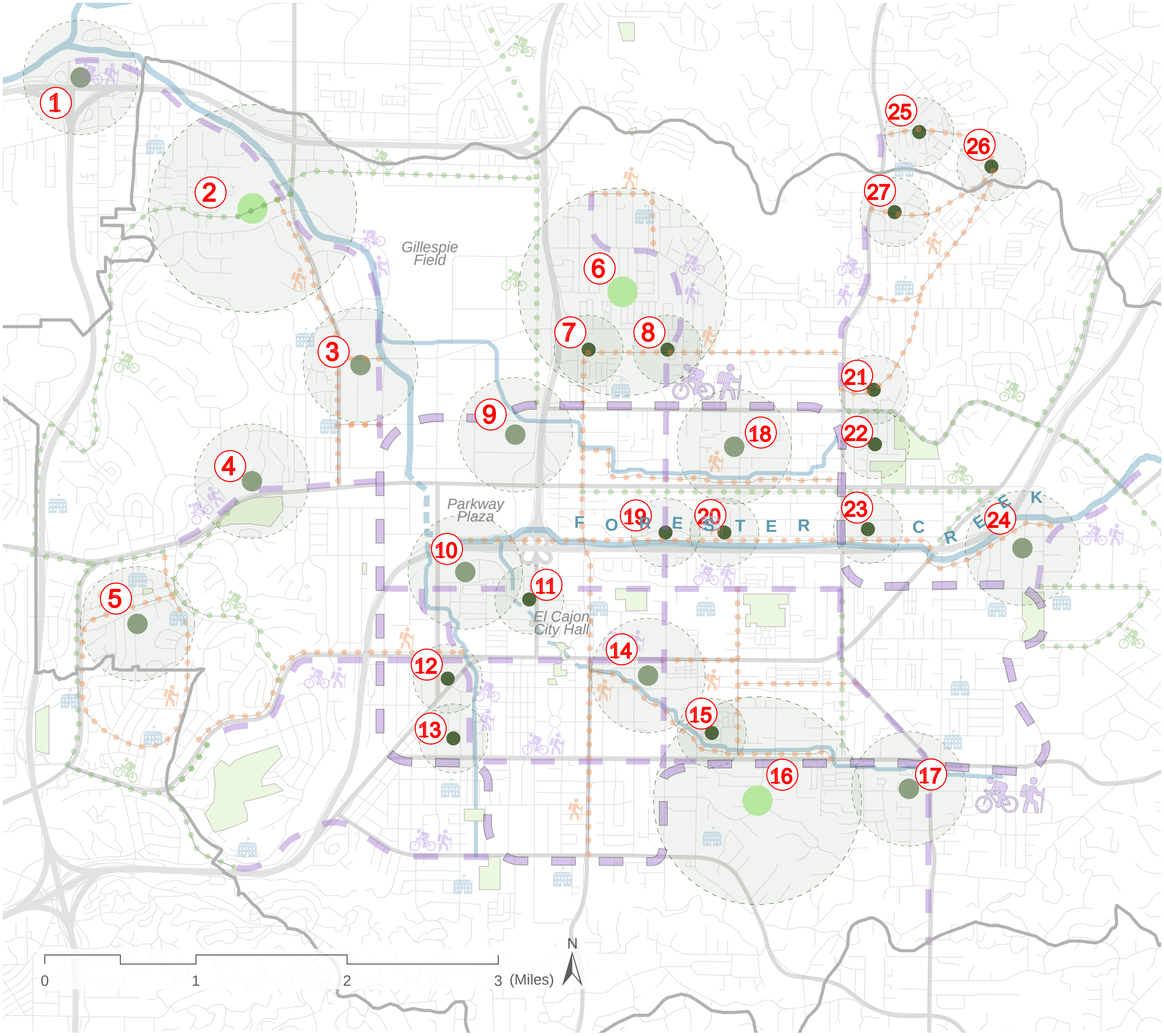
All the top (6, 14, 16) and secondary (2, 10, 24) park locations were large (3) or medium (3) parks (Figure 6.10). Pocket/small parks were less favored by participants, possibly because El Cajon is park-poor and people need large parks with more or better facilities (Figure 6.24).

- Four of the top 6 most wanted park locations (10, 14, 16, 24) were located in the south of the city in the densest residential area of El Cajon.
- People desired parks in natural areas (2, 24).
- Five of the top 6 most wanted park locations (2, 10, 24, 14, 16) were located along the creek. This suggested strong potential for engaging people with Forester Creek by providing more public open spaces.

Table 6.11 Open house short-term, small-scale, "favorite improvement" results (9) (see Figure 6.36)

Image	Votes
Green painted park bench, water in background, large canopy trees providing shade, evidence of design, natural context	23
Plain wood picnic table, orderly planting, small trees (no canopy and little shade), evidence of design, urban context	15
Viewing area boardwalk with educational signs, river and bridge in background, no canopy trees or shade, evidence of design, urban context	8
Colorful fish sculpture, large canopy trees in background, retaining wall and stairs, pavement and lawn area	7
Bridge crossing stream, no canopy trees or shade, painted abutment, grassy streambank, urban context	5
Child with educational sign, stone wall with railing, ornamental planting	2
Wayfinding sign in "natural" area with large canopy trees	2
Decorative entry gate with wrought iron and wood, river and bridge in background, shade but no canopy trees evident, urban context	1

Figure 6.24 Open house park locations (4B)



Communities preferred spaces that supported use through benches or education, rather than just aesthetics. Mini-parks with benches and areas beside rivers and creeks were the most selected project types (see Figure 6.36).

Figure 6.25 Open house: board 1 (find your home on the map)

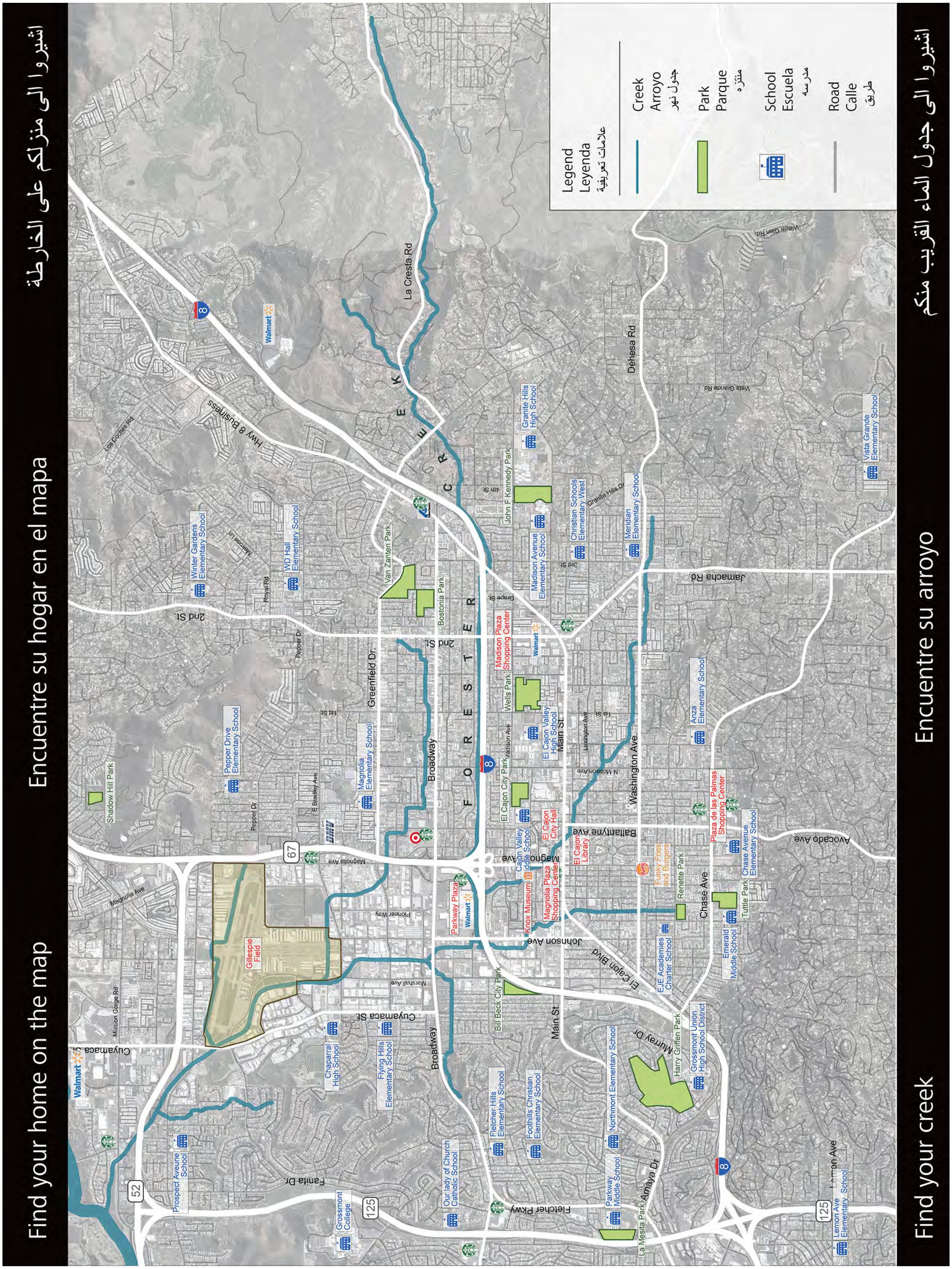


Figure 6.26 Open house: board 2A (find your favorite creek)

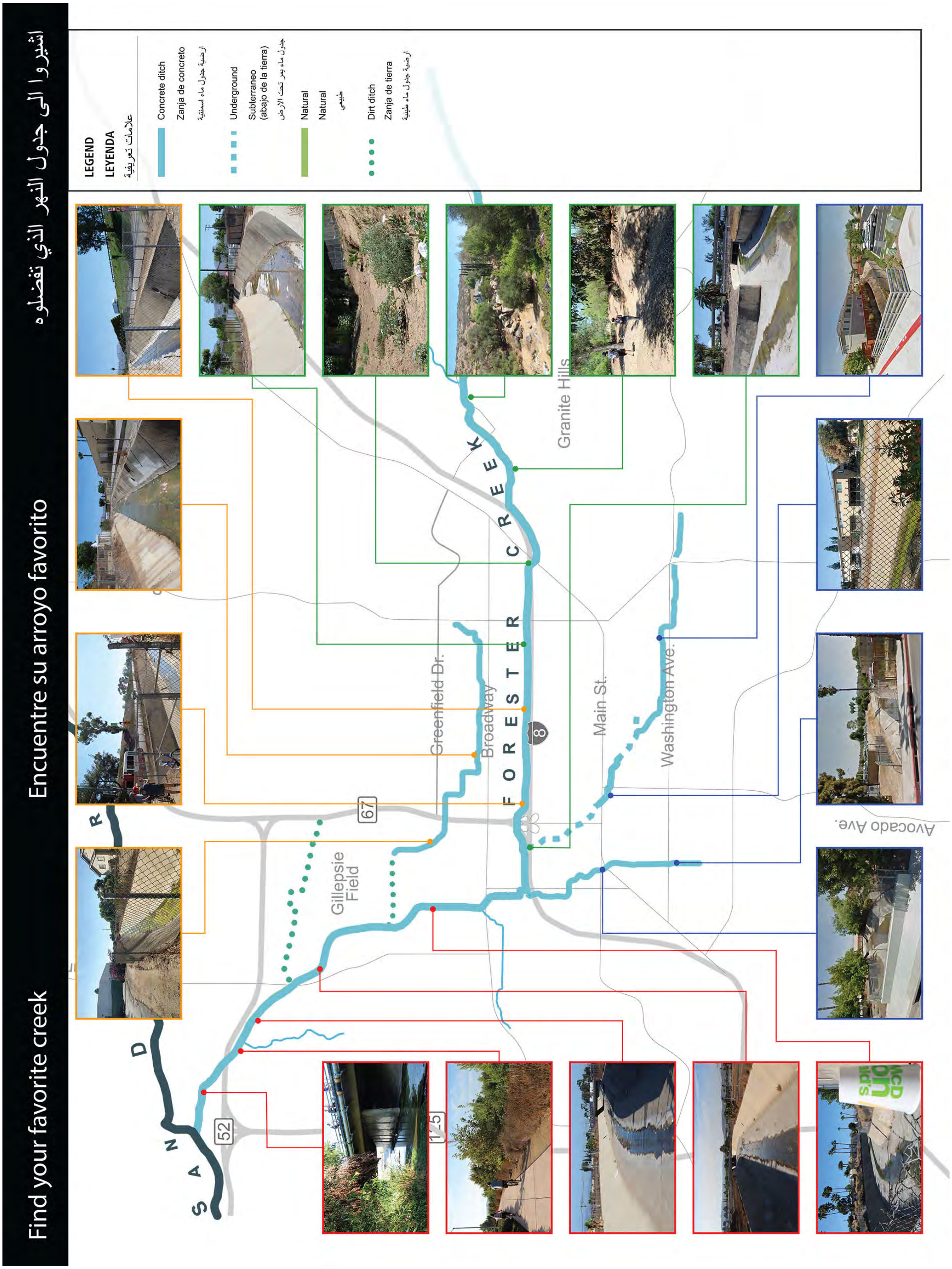
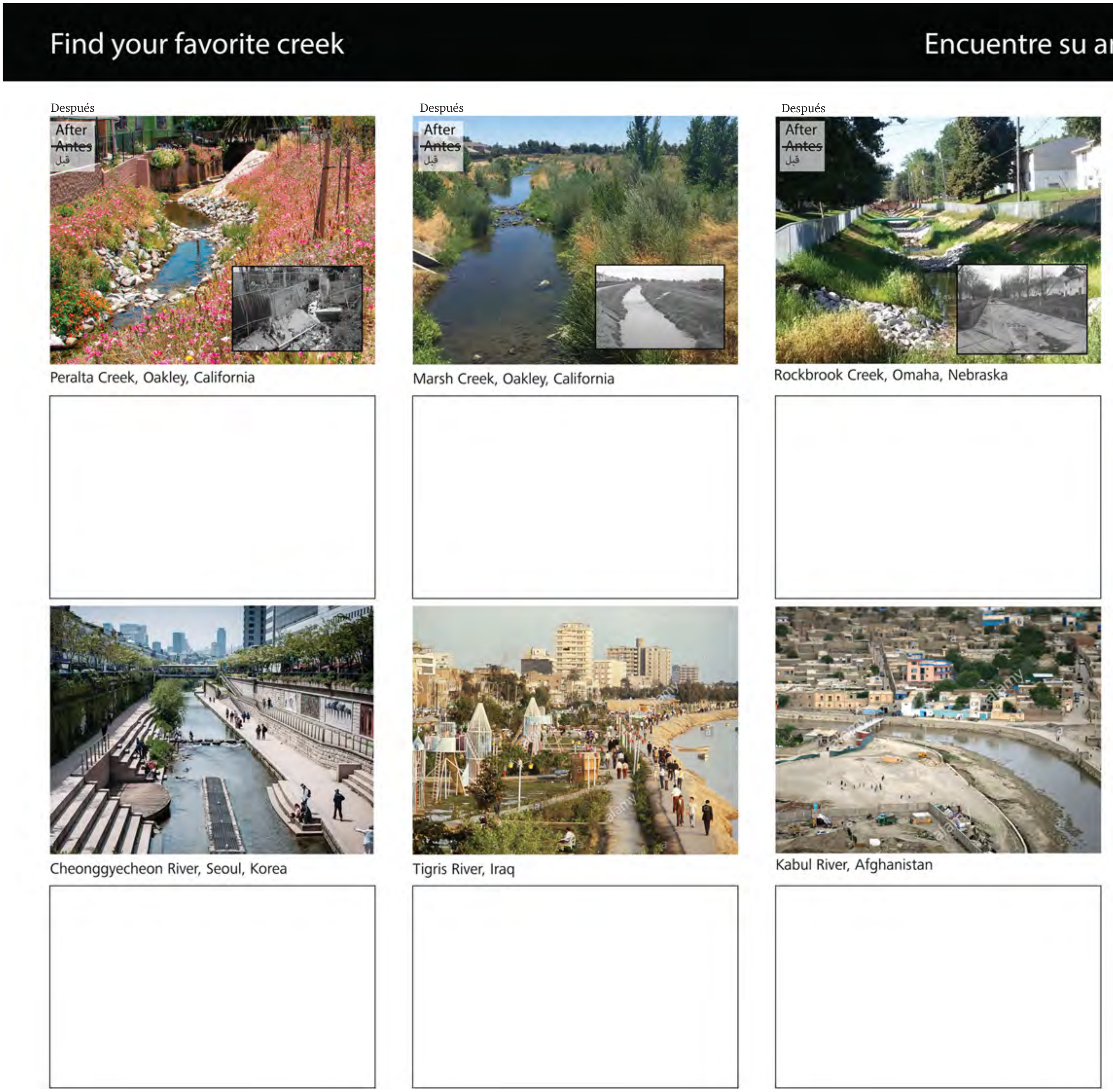


Figure 6.27 Open house: board 2B (find your favorite creek)



royo favorito

اشيروا الى جدول النهر الذي تفضلوه

Minnehaha Creek, St. Louis Park, Minnesota

Cherry Creek, Denver

Carroll Creek, Maryland

Barada River, Syria

Pasig River, Philippines

Xochimilco Nature Reserve, Mexico

Figure 6.28 Open house: board 3 (what we've done)

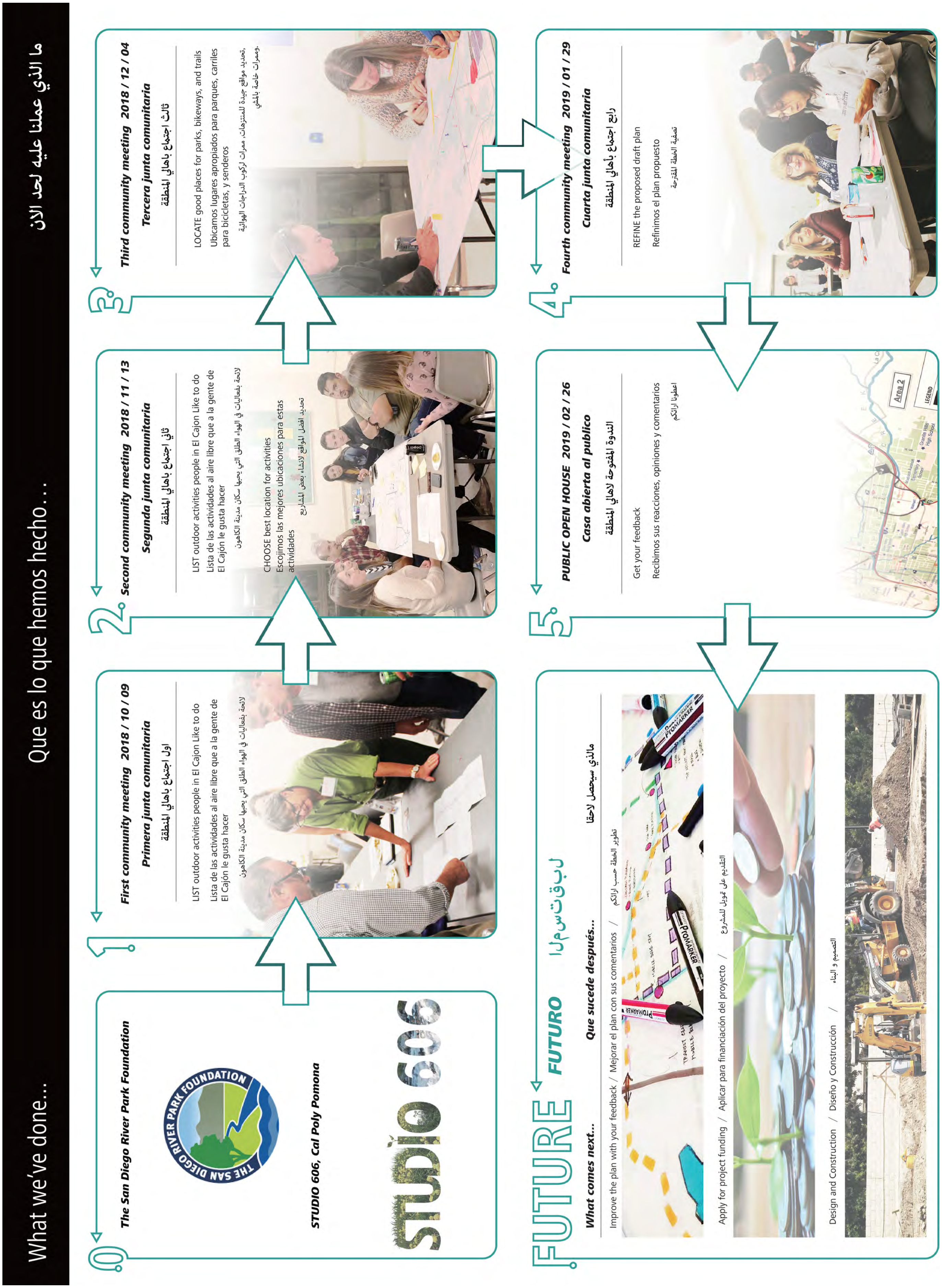


Figure 6.29 Open house: board 4A (proposed park plan)

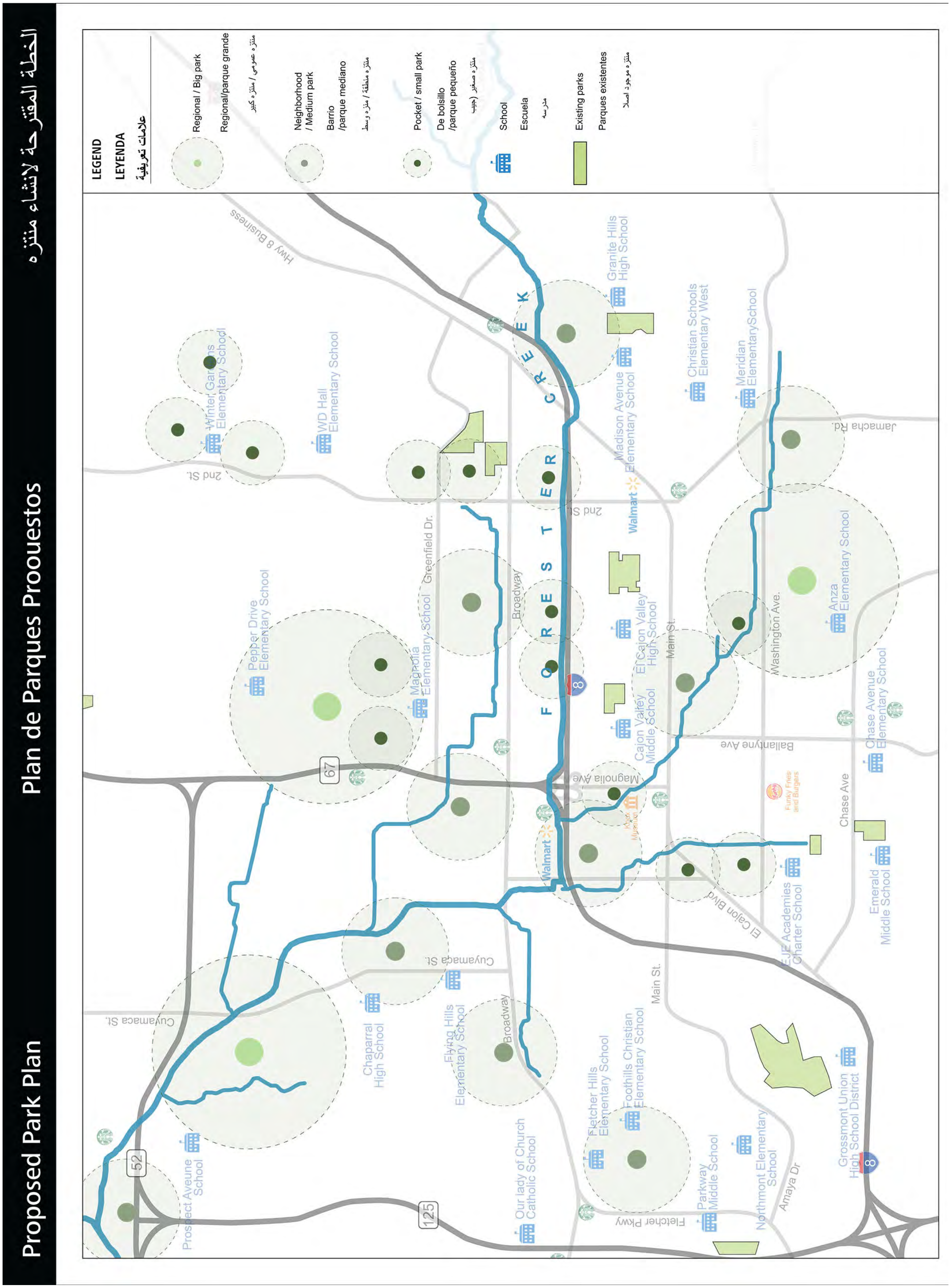


Figure 6.30 Open house: board 4B (find your favorite park location)

Find your favorite park locat

Proposed Park List

Lista de parques propuestos

قائمة المنتزهات المقترحه

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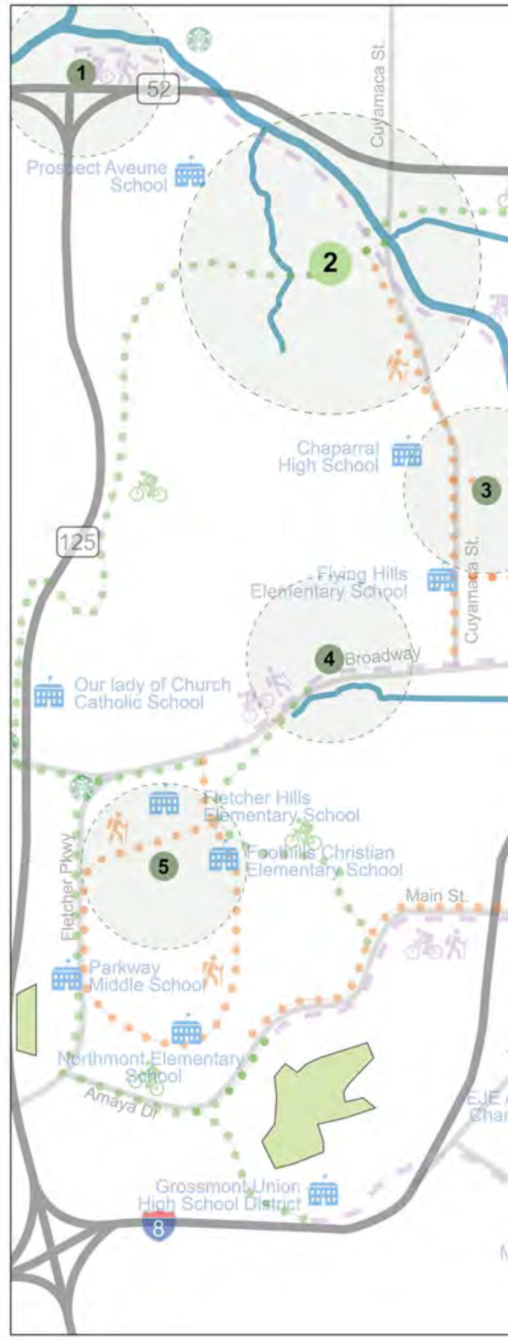


ion Encuentre su parque favorito اختاروا مكان المنتزه المفضل لديكم

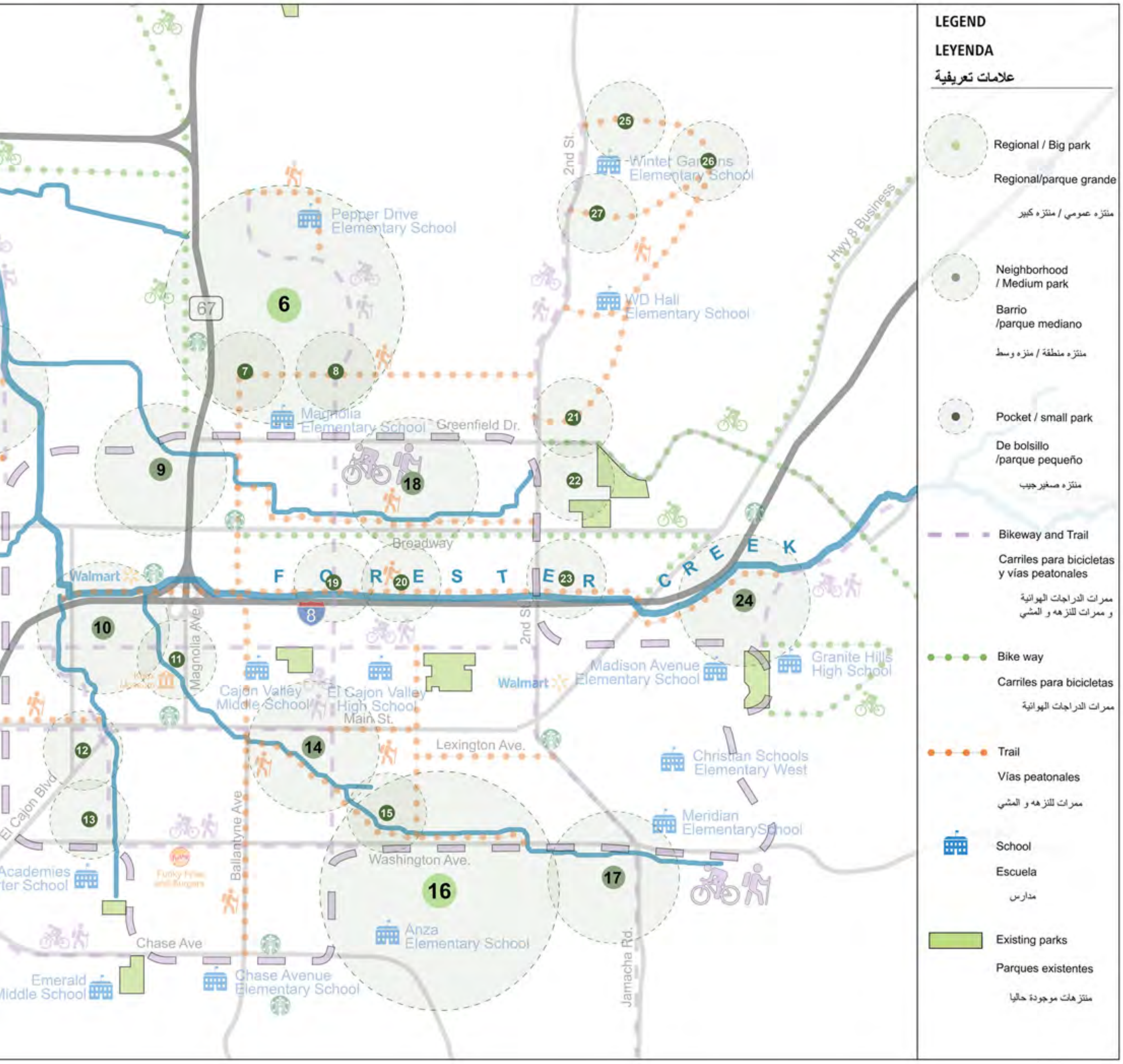


Figure 6.31 Open house: board 5 (proposed bikeway and trail plan)

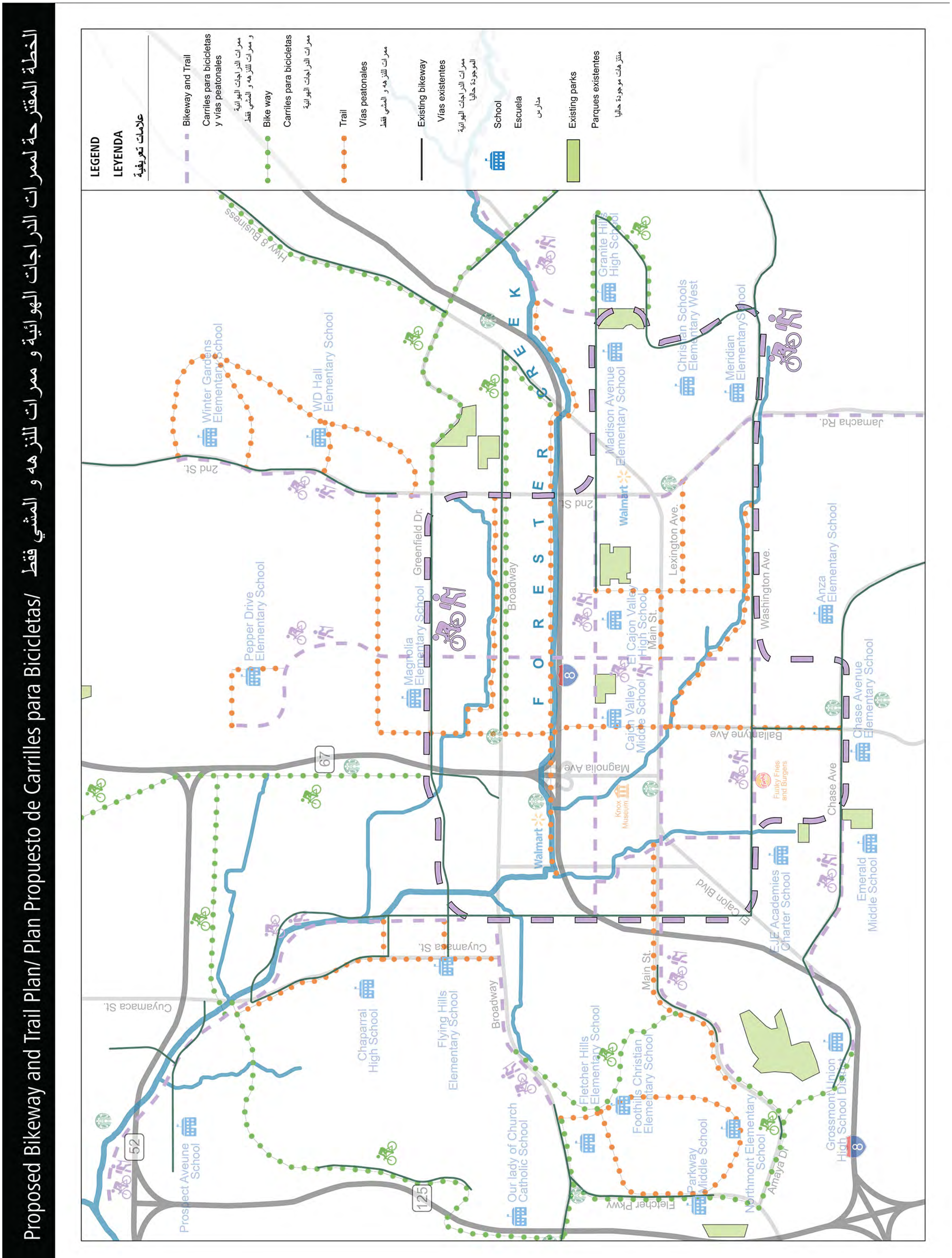


Figure 6.32 Open house: board 6 (proposed overall plan)

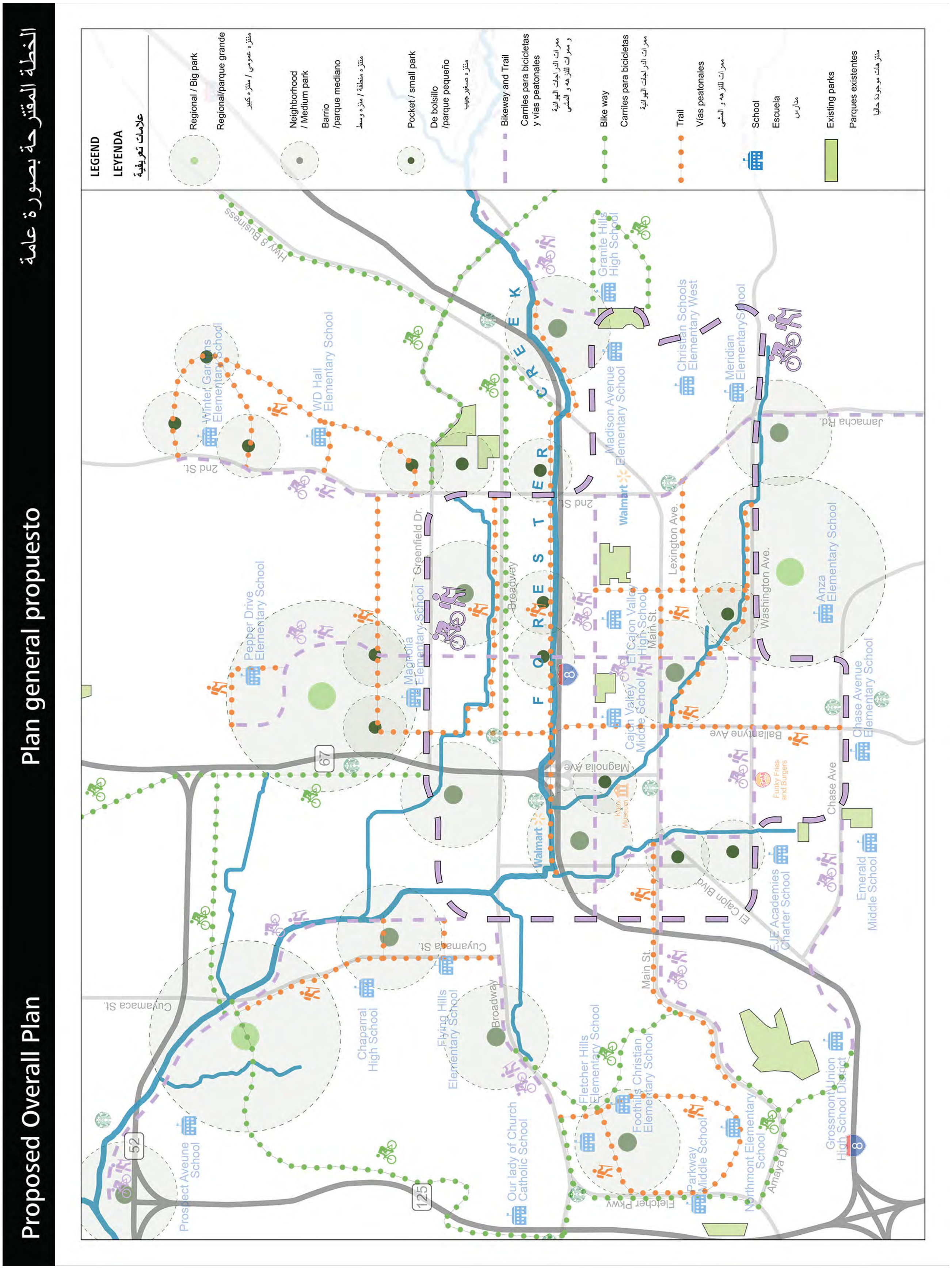


Figure 6.33 Open house: board 7 (plan components)

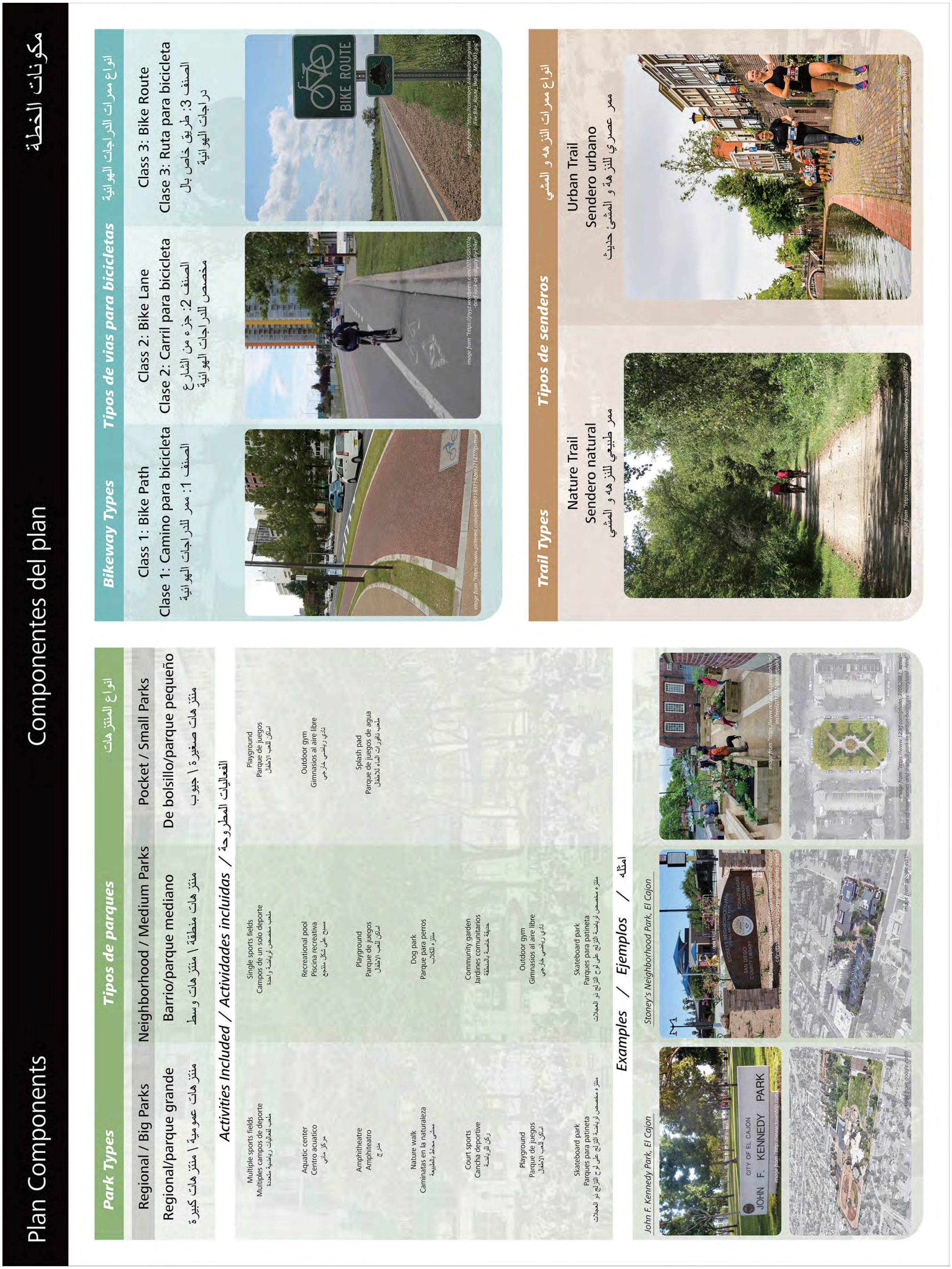


Figure 6.34 Open house: board 8A (find your favorite activity)

Figure 6.35 Open house: board 8B (find your favorite activity)

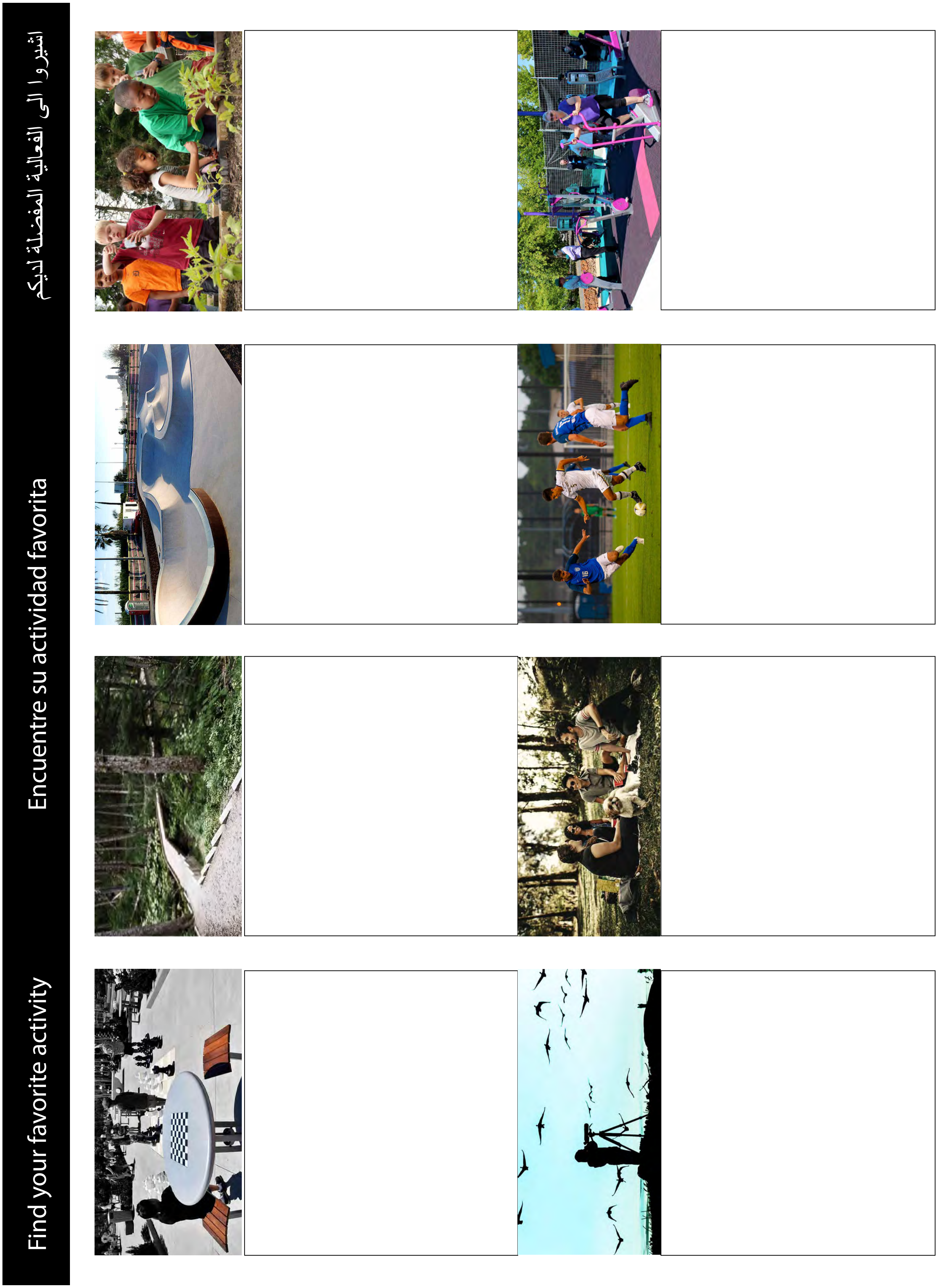
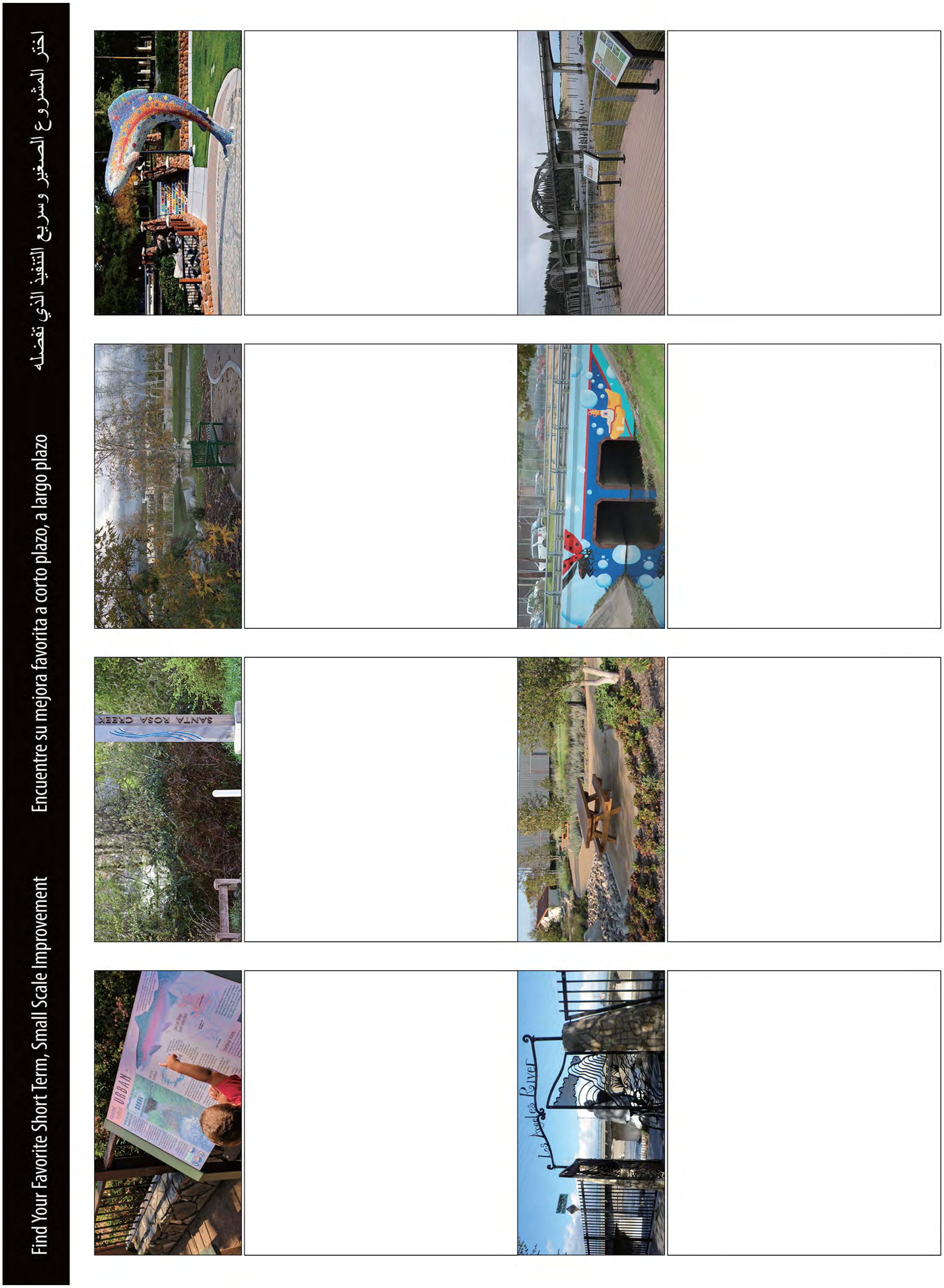


Figure 6.36 Open house: board 9 (find your favorite short-term, small-scale improvement)



6.6/The San Diego River Park Foundation (TSDRPF) Questionnaire

The *Forester Creek System Recreation Access Plan* participatory process included the administration of a questionnaire by The San Diego River Park Foundation (the "Forester Creek Survey" in Appendix D). Questions were designed to collect additional information on:

- Interest in outdoor activities;
- Environmental education, awareness and concern; and,
- Recreational facility needs.

The questionnaire was delivered at Community Committee meetings, community events, local gathering places (e.g., libraries and parks), and college classes. Additionally, surveys were distributed digitally through community mailing lists and social media. People self-selected to participate. A total of 1064 individuals completed the questionnaire between the dates of October 10, 2018 and February 26, 2019. The majority were completed in-person, with a few completed on-line. The questionnaire was available in four languages: English, Spanish, Arabic, and Farsi.

The survey was completed in English by 79% of respondents, Spanish by 7% of respondents, and in Arabic or Farsi by 14% of respondents. It is interesting to note that only 69% of respondents identified English as their first language, while 15% of respondents identified Spanish as their first language.

Respondents were an average age of 42 (average age in El Cajon is 36.7), with 56% of respondents 40 years old or under, 28% between 41 and 60, and 16% over 61 years of age, as compared to El Cajon's age profile which is generally younger. Survey respondents were also more likely to be female as compared to the general population, which is fairly common for questionnaire respondent profiles. Additionally, questionnaire respondents were:

- More likely to speak Arabic or Chaldean as a first language than the general population in the study area;
- More likely to live in a larger household (3.5 as compared to 2.9 people) than the general population in the study area; and,
- 7% more likely to be over 61 years old than the general population in the study area.

The results should be interpreted in light of the following:

- Children's activities scored lower than expected, but the average age of the survey participant was significantly higher than El Cajon's average age, with a large number over 60;
- Survey participants scored their interest in all activities as high (rather than being particularly interested in one or the other);
- All areas of "concern" were given equal weight, except for flooding, which seems to be an area of low concern; and,
- Survey participants felt that "El Cajon needs more….adult passive or low impact recreation" as compared to child-oriented facilities which differs from the focus of the community committee participants. This may be a reflection of the average age of the survey participants.

Table 6.12 TSDRPF Forester Creek questionnaire results

Question	Response	Questionnaire Results	City of El Cajon Profile (Census 2010)
Age	Average (mean)	42	36.7
	40 and under	55.5%	55%
	41 to 60	28%	28%
	61 and older	16%	9%
Gender	Male	37%	51%
	Female	62%	49%
Number of people in household	Average (mean)	3.5	2.9
First language	English	69%	67%
	Spanish	15%	16%
	Arabic or Chaldean	13%	7%
Race or ethnicity	Asian	6%	3.4%
	Black or African American	5%	5.7%
	Hispanic or Latino	23%	29.2%**
	White or Caucasian	32%	54.6%**
	Middle Eastern/North African	10%	unknown
	Two or more races	9%	6.9%
	Other	5%	10%
Household income	Less than $20,000	26%	20%
	$20,000 to $49,999	20%	31%
	$50,000 to $79,999	13%	17%***
	Above $80,000	18%	32%***
Median income		$49,445	$49,642
Relationship to El Cajon	Resident	64% of respondents	N/A
	Student	9% of respondents	
	Visitor	11% of respondents	

**Numbers may not add up to 100% as a result of individuals who selected "prefer not to answer" or rounding*

***Census (2010) data categories are $50,000 - $75,000, and above $75,000*

Table 6.13 TSDRPF Forester Creek questionnaire results: Interest in participating in outdoor activities

Response	Average (mean)*	A little interested or very interested
1. Fairs or festivals	3.3	83%
2. Guided hikes or walks	3.1	76%
3. Outdoor nature classes	3.1	73%
4. Outdoor exercise classes	3.1	73%
5. Outdoor art classes	3.0	70%
6. Children's educational activities	3.0	65%
7. Volunteer events like cleaning up trash	2.9	67&
8. Lectures about environmental issues	2.9	64%
9. Group bike rides	2.5	51%

**1=not interested, 2=neutral, 3=a little interested, 4=very interested*

Table 6.14 TSDRPF Forester Creek questionnaire results: Importance of activities to you and/or your family

Response	Average (mean)*	A little important or most important
1. Preserving natural spaces for wildlife	3.6	89%
2. Creating natural spaces for wildlife	3.5	87%
3. Raising community awareness about environmental issues	3.5	86%
4. Improving the appearance of the landscape	3.5	86%
5. Creating outdoor places for people	3.5	85%
6. Creating places for people to participate in physical activity	3.4	85%
7. Cleaning up trash from waterways and nature	3.4	84%
8. Removing concrete from creeks	3.2	75%

**1=not important, 2=neutral, 3=a little important, 4=most important*

Table 6.15 TSDRPF Forester Creek questionnaire results: Areas of concern when spending time outdoors in El Cajon

Response	Average (mean)*	A little concerned or most concerned
1. Trash	3.5	89%
2. Homeless people living in the outdoor space	3.5	87%
3. Water pollution	3.4	86%
4. Crime	3.4	86%
5. Health of wildlife in the space	3.4	87%
6. Physical appearance of the space	3.4	85%
7. Safety of the outdoor space	3.4	83%
8. Flooding	3.0	69%

**1=not concerned, 2=neutral, 3=a little concerned, 4=most concerned*

Table 6.16 TSDRPF Forester Creek questionnaire results: El Cajon needs more…

Response	Average (mean)*	Agree or strongly agree
1. Walking trails	4.3	84%
2. Gardens	4.3	84%
3. Grassy areas	4.2	84%
4. Picnic tables and benches	4.1	77%
5. Bike paths and bike lanes	4.1	73%
6. Public art	4.1	73%
7. [Tied] Spaces for concerts and other performances	4.0	72%
7. [Tied] Educational signs, such as about environmental issues or history	4.0	72%
8. Water play areas	4.0	69%
9. Dog parks	4.0	68%
10. Playgrounds	4.0	69%
11. Horseback riding trails	3.7	52%

**1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree*

6.7/The Answers that Emerged from the Participatory Process

The Community Committee meetings, open house and questionnaire fulfilled the objectives of the participatory process by answering 6 critical questions.

Question 1. What is the existing public consciousness and impression of the Forester Creek System?

Taken together, the participatory planning exercises painted a clear picture of the existing public consciousness of the Forester Creek System and, importantly, of the potential of a creek-oriented recreation system. The questionnaire showed the public was generally aware of the elements of what this study calls the “Forester Creek System,” but the public does not view the elements as “creeks” or natural resources. 76% of questionnaire respondents had seen part of a channelized creek in El Cajon, likely to have been part of the Forester Creek System. However, 41% of respondents thought that section of the creek was a storm drain and 13% thought it was sewer. Only 16% thought it was a creek or stream. The results of questions at Community Committee meetings were consistent with these results.

When Committee members were asked to name their favorite part of El Cajon, not a single one mentioned a creek or creek-side location, even though they had all agreed to help lead a creek recreation planning project.

Importantly, when members of the public were introduced to the waterways as “creeks,” they recognized them as potential locations for recreation. At the community open house, participants were oriented to the Forester Creek System, introduced to the potential for creek-related recreation and asked for their input on the draft recreation access plan. At the final open house station, community members were asked to vote for their favorite park sites out of the 27 locations included in the draft plan. While the majority of these 27 sites are not located along the creeks, five of the six most popular sites are creek-adjacent. Clearly participants were interested in connecting to the creeks once they were aware of their existence.

Question 2. How did the 606 Studio and TSDRPF build awareness and educate local residents about the potential of the Forester Creek System?

Each step in the participatory planning process was also a step in building community leadership and a community constituency for improving recreation access across El Cajon, particularly adjacent to the Forester Creek System.

The San Diego River Park Foundation conducted outreach from September 2018 to August 2019. Questionnaires were administered throughout

Table 6.17 Community Committee meeting objectives and participatory exercises

OBJECTIVE	Meeting/participatory activity				
	#1 – photo ranking	#2 – activity mapping	#3 – park mapping	#4 – refining mapping	#5 – open house
1/ Understand the existing public consciousness and impression of the Forester Creek System.	X	X	X	X	X
2/ Build awareness and educate local residents about the potential of the Forester Creek System.	X	X	X	X	X
3/ Collect the public’s insights into how the Forester Creek System could serve their communities.	X	X	X	X	X
4/ Identify the public’s preference and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System.	X	X		X	X
5/ Identify the public’s perception of potential and preferred opportunity and need areas.			X	X	X

that period, and at the time of producing this report in late 2019, The San Diego River Park Foundation had reached 11,022 individuals through presentations, tabling, flier distribution, and social media sharing in the community. They also engaged 2358 people in meetings, discussions, surveys, and presentations.

The 606 Studio focused on engaging the Community Committee to maximize the opportunity to identify and develop future creek recreation leaders. Through the participatory exercises at the five Committee meetings, members developed a solid base of knowledge about the creek system and the beginnings of a sense of ownership over the plan. The project team used the open house as an opportunity to "flip the classroom" and have the committee members become the teachers, explaining the creek system and the plan to the community. By the end of the event, the project had more than a dozen true creek recreation leaders—committee members who had stepped up to explain the creeks, their potential, and the plan as their vision. By the end of the night, the project also had over 150 supportive constituents—people who had taken time out of their day to learn about the creeks, give input on the plan and vote for their favorite potential activities and sites.

Question 3. What were the public's insights into how the Forester Creek System could serve their communities?

On one level, the participatory planning process revealed that this question is premature. Currently only 16% of residents recognize the local waterways as creeks, while 54% think they are storm drains or sewers. Public awareness and understanding of the creeks likely needs to be raised before residents will be able to consider how the Forester Creek System can serve their community.

Recognizing that limitation, the planning process did reveal that many of El Cajon residents' top recreation priorities could be well served by creek and creek-side improvements. For example, participants ranked walking and cycling as their most favored activities and expressed particular preference for engaging in these activities in natural settings. Improvement projects such as the Forester Creek Bike Path in neighboring Santee demonstrate how the creeks could help fulfill these desires. Also, as discussed above, residents strongly preferred creek-side locations for parks over other locations and were especially interested in water-based activities. All indications suggest that once the waterways are understood as creeks—either because of raised public awareness or changes in physical conditions that make them recognizable—El Cajon residents will see them as great recreational resources.

Question 4. What were the public's preferences and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System? What outdoor recreational activities would residents participate in if facilities were available?

Two recreation activities "rose to the top" every time the project team asked participants for their preferences. Walking on a trail or path was the most consistently preferred activity. At the first Community Committee meeting, at the community open house and in the community questionnaire, it was the number one favored activity. Cycling was the second most consistently preferred form of recreation, ranking in the top two activities at both the first and second Community Committee meetings. Interesting, it was ranked much lower at the community open house: this may be because the activity at the open house was an individual vote, with the results reflecting the high percentage of older participants. At the committee meetings, diverse groups of members were answering together as representatives of the community.

Importantly, for both these activities, participants appear to desire paths or trails separate from the urban grid, and preferably, with a natural context. At the open house, the activity image that garnered 70% more votes than any other was of a trail through a lush forest. At the January Community Committee meeting a breakout group advocated for a "walking path along Main Street." Main Street already has a 14 to 20 foot wide sidewalk with trees, decorative pavement, and porticos, but the participants were looking for a "path" experience.

Beyond walking and cycling, the ranking of activities varied significantly each time participants were asked for their preferences; however, participants did list a relatively consistent cluster of activities. In the November

Figure 6.37 Trail in study area

Figure 6.38 Renette Park

Community Committee meeting three groups were asked to brainstorm "the outdoor activities El Cajon residents are interested in." Cycling and fishing were named by all three groups. Table games, birdwatching, gardening, outdoor art, outdoor gyms, and soccer were named by two groups.

Other implications for implementing the *Forester Creek System Recreation Access Plan* include participants' strong preference for water-contact recreation, even after the project's focus on "non-contact" activities had been explained. As previously mentioned, fishing was the only activity beyond cycling mentioned by all the groups when Community Committee members brainstormed the outdoor activities that most interested El Cajon residents. When community members where shown an array of improved creeks across the world, the image that showed families in kayaks and paddle boats received 50% more votes than any other image. And, playing in a splash pad was the second most preferred activity by vote of the open house participants.

The community questionnaire also revealed the nuances of participants' preferences. For example, while cycling was a favorite activity across the planning process, "Group Bike Rides" received the lowest ranking of all the group activities offered in the survey. Also, interestingly, while "Outdoor Nature Classes" were ranked three out of nine group options, "Lectures on Environmental Issues" were second to last.

Question 5. What outdoor recreational facilities are needed to support desired activities? What characteristics should they have?

Based on El Cajon residents' preferred activities and their drawings and detailed comments in planning meetings, the most needed recreation facilities are walking and cycling paths and trails. Importantly, as discussed above, residents clearly saw these paths and trails as distinct from sidewalks and roadways. At the same time, the Community Committee also prioritized safe pedestrian/cycling routes on sidewalks and roadways to connect parks, schools, and other destinations. As such, the number one recreation facility need expressed was a complete and connected system of pedestrian and bicycle infrastructure. Looking deeper, residents favored both sinuous pathways in "natural" settings and formal urban paths, as long as the latter were separated from traffic. The most favored activity image at the open house was a natural surface path through a forest. At the same time, the most favored example creek improvement project featured a rectilinear channel bound by wide brick walkways. This diversity of preferences suggests developing a pedestrian and bicycle network that offers a range of experiences from secluded nature paths to urban promenades.

To accommodate walking and cycling in a natural setting and the wide range of other outdoor activities favored by residents, Community Committee members supported the creation of new parks across the City. It was particularly noticeable that when given an introduction and base maps that highlighted the creeks, Committee members still located parks evenly across the City to cover all areas that lacked local green space. Members were particularly interested in larger regional and neighborhood parks, seemingly to realize their desire to recreate in green settings apart from urban development. They also supported pocket parks throughout the densely populated neighborhoods around downtown, sharing their rationale: the lack of vacant land made larger parks infeasible.

The participatory planning process also revealed that within new and existing parks in the City, residents wanted facilities for their favored activities. Colloquially many activities are synonymous with their facilities. A planner might say, "the City should create a splash pad to accommodate water play." Community members will say, "we want a splashpad!" The results of the Community Committee meetings and the open house clearly show community members not only want splashpads, but also benches and picnic tables in natural settings, community gardens, soccer fields, outdoor gyms, outdoor art, dog parks, bodies of water for fishing and boating and natural habitat for birdwatching. The community survey revealed a range of level of support of each of these facilities, with the most favored facilities—walking trails, grassy areas and gardens—receiving 84% support, while the "least" favored—water play, dog parks and playgrounds—receiving 69%. The fact that the "least" favored items received 69% support illustrates the need for more of virtually all types of recreation facilities in El Cajon.

Question 6. What was the public's perception of potential and preferred opportunity areas or zones? Where should facilities to support outdoor recreation be located? Why are those locations recommended?

Throughout the participatory planning process, five factors appeared to drive El Cajon residents' selection of locations for recreation facilities: proximity to schools, densely populated neighborhoods, park-poor areas, downtown, and the creeks.

As the Community Committee developed and refined the plan, the most significant driver of their park placement was proximity to schools. Committee members expressed that schools are where children and their families already gather.

The next most frequent rationale for facility placement was to serve the most densely populated neighborhoods and neighborhoods without access to parks. Members explained that they wanted to serve the greatest number of people and the people in greatest need.

Committee members also intentionally placed new parks in downtown and near Parkway Plaza to both take advantage of the people already gathered in these areas and to activate the City's core.

Finally, while applying each of the factors explained above, committee members also sought out sites on or next to the creeks. Members saw adjacency to the creeks as improving park locations by providing access to potential future natural settings.

The broader community input at the open house confirmed the Community Committee's decisions regarding park placement. When given an opportunity to individually refine the draft plan, community members made very few changes to the locations of parks and those they made were consistent with the Community Committee's thinking. For example, multiple open house participants broke up groupings of parks and tried to more evenly distribute recreation facilities to better serve more people. Open house participants also added more smaller parks in downtown to serve more densely populated neighborhoods. When given the opportunity to vote for their favorite park locations, open house participants again confirmed the Community Committee's thinking. Four of the six top "vote-getters" were in the south of the City and adjacent to the most densely populated neighborhoods. Five of the six top "vote-getters" were locations on or near the creeks.

The implementation of community members' preferences for locating facilities is detailed in the next chapter, which describes the development of each iteration of the plan.

Figure 6.39 Open house most favored "example creek improvement project"

Chapter 6 Summary

The El Cajon community participated in creating this plan through:

- Four Community Committee meetings with 73 participants
- A community open house attended by 150 participants
- A questionnaire completed by 1064 residents and visitors

Through these venues community members answered four key questions as follows:

What is the existing awareness and impression of the Forester Creek System?

The public is generally aware of the elements of what this study calls the “Forester Creek System,” but the public views Forester Creek and its tributaries as “storm drains” or “sewers,” not “creeks” or natural resources.

However, once the creeks are identified as natural resources, the public gravitated towards them and chose them as locations for parks and recreation.

What are the public’s preferences and priorities regarding non-motorized, non-contact, water-based recreational activities in the Forester Creek System?

Walking on a trail or path and cycling are the most consistently preferred activities.

Other frequently preferred activities include: table games, birdwatching, gardening, outdoor art, outdoor gyms, and soccer.

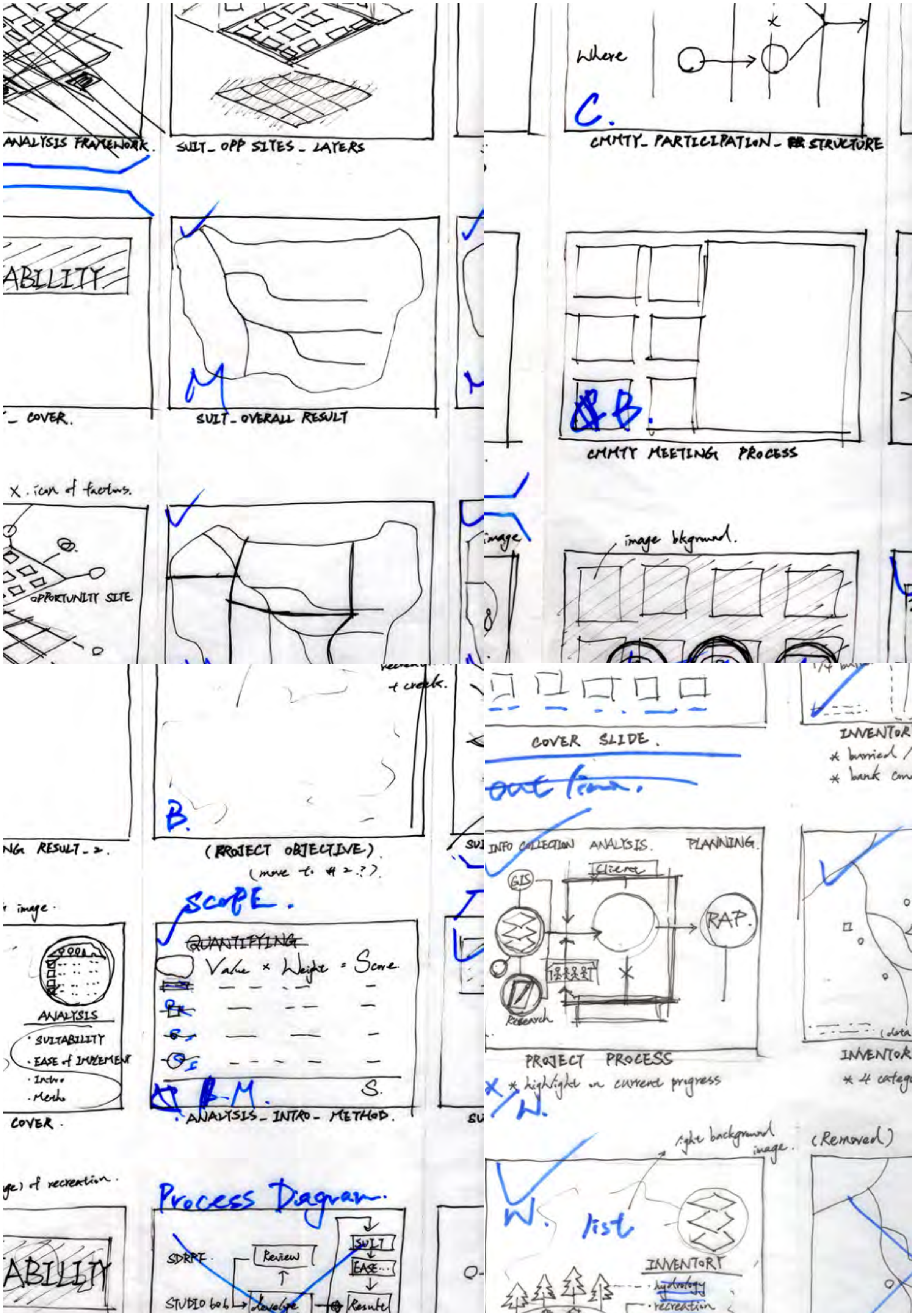
What outdoor recreational facilities does the public feel are needed to support desired activities?

The most desired recreational facilities are walking and cycling paths and trails.

Participants consistently called for new parks across the city, not just in certain neighborhoods, and for more of virtually all recreational elements, reflecting a perceived general lack of recreation resources.

What are the public’s perceptions of potential and preferred opportunity areas or zones? Where should facilities to support outdoor recreation be located?

Five factors consistently drive participants’ selection of locations for recreation facilities: proximity to schools, densely populated neighborhoods, park-poor areas, downtown, and the creeks.



CHAPTER 7. INTEGRATION OF INVENTORY, GEODESIGN AND COMMUNITY OUTREACH

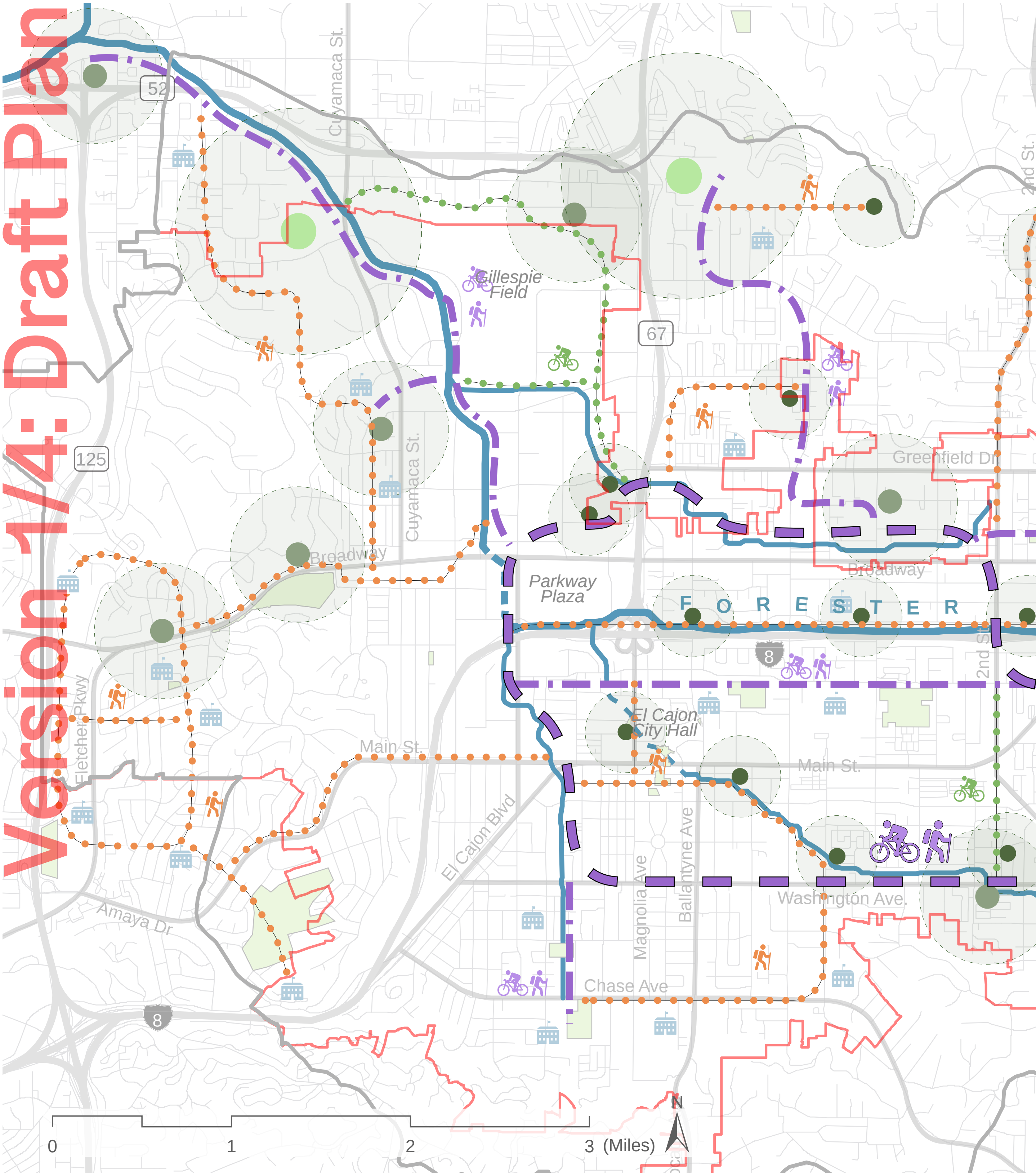
This chapter presents the *Forester Creek System Recreation Access Plan*. The project team developed the plan by integrating the results of geodesign analysis and community input (Figure 7.02). The plan also responds to the objectives of the project and benefited from the insights of the design team. The plan was developed through four iterations: the Draft Plan, the Open House Plan, the Post-Open House Plan, and the Final Plan (Figure 7.03).

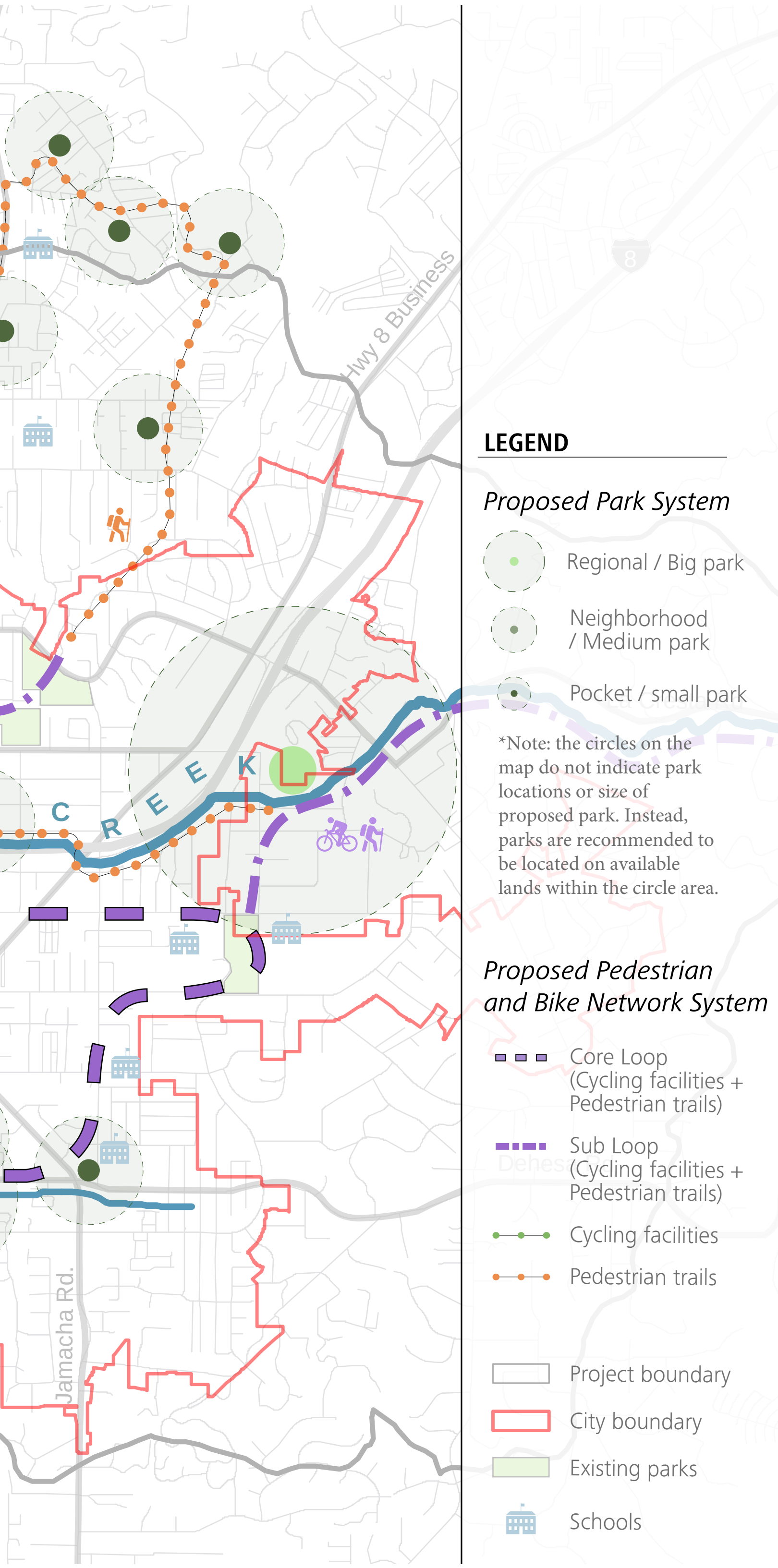
The Draft Plan introduced the defining elements and overall framework for the recreation access plan. The next three iterations of the plan incorporated refinements based on community direction, the results of the geodesign analysis, and the insights of the project team. Below, each iteration of the plan is described. The text discusses the benefits of each iteration and describes the key changes made in each iteration. Tables summarize the sources and reasoning behind each change.

This chapter is structured in this way because, for many readers, the best approach to understanding a plan created through an iterative process integrating multiple inputs is to follow the development of the plan from the first version to the final. Readers who prefer to first review the final result and then explore its origins are encouraged to skip forward to page 284 and then return here to follow the process of development.

Definitions of pocket/small parks, neighborhood/medium parks, and regional/large parks are provided on page 271.

Figure 7.01 Draft plan





7.1/Version 1: Draft Plan

The Draft Plan was developed by integrating the project's geodesign analysis results and the Community Committee's input through January 2019. The overall concept of the Draft Plan was to locate spaces near parks, schools, and the creek, and then connect these spaces with pedestrian/cycling routes to address the needs articulated by the community, and thus achieve the project's objective.

To create a park system, the team placed new parks in strategic locations integrating the suitability analysis of the project and comments from the Community Committee. In response to the direction of the Community Committee, the team proposed a pedestrian/cycling network that consists of a major loop around the downtown and more densely populated areas, complemented by several secondary loops which extend from the main loop to other neighborhoods in the city (Figure 7.01).

7.1.1/ Draft Plan Overall Concept

A/Place parks and pedestrian/cycling routes near schools

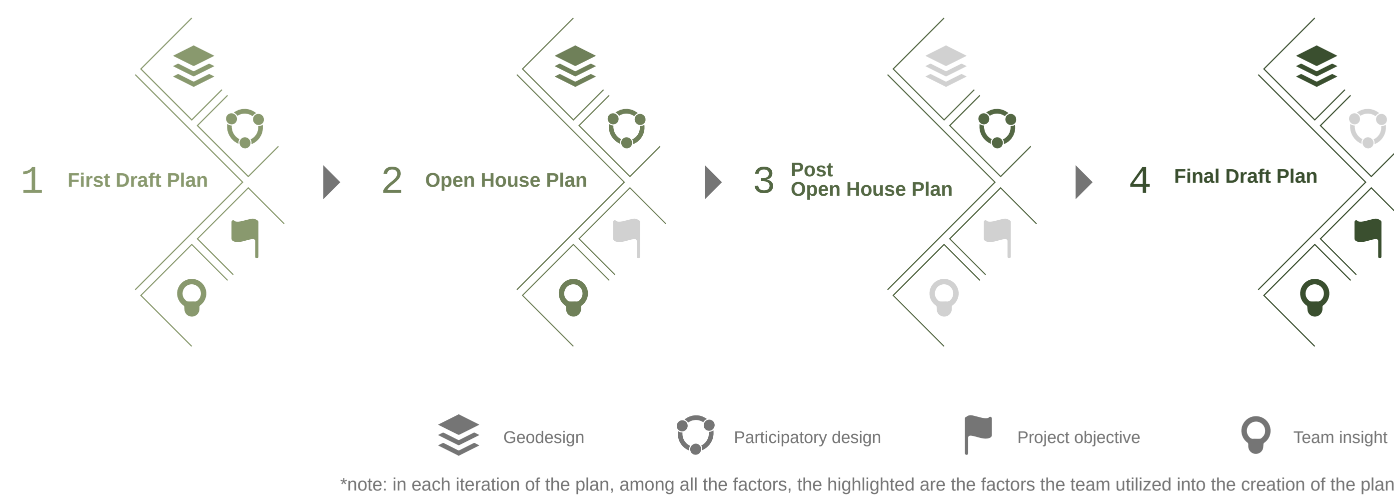
Within each school area, parks and a pedestrian/cycling network were proposed in suitable areas to serve the needs of younger users and their families. The Community Committee suggested placing parks near schools so that there would be more playgrounds and sports fields where young people and their families already gathered. Community Committee members also proposed linking schools and parks with safe pedestrian/cycling routes, so that youth and their families could travel from home to school, to the park, and back (Figure 7.04).

B/Place parks and pedestrian/cycling routes near creeks

Adjacent to each creek, parks and pedestrian/cycling routes were proposed to connect residents to the creeks as recreational resources. One of the objectives of the project was to engage people with the Forester Creek System by providing open space adjacent to the creeks. This project objective was confirmed by Community Committee members. In multiple Community Committee meetings, members favored recreation spaces near the creek and creek-side cycling facilities (e.g., Figure 7.04).

Figure 7.02 Relationship between data collection and decision-making tools: integration

Figure 7.03 Relationship between four versions of the plan (draft plan, open house plan, post-open house plan, and final plan)



7.1.2/Draft Plan: Park System

C/Place parks in the best locations within suitable areas

The plan's parks were located in the most suitable areas as defined by the suitability analysis criteria presented in Chapter 5. Within the suitable areas, the particular locations of parks were based on input from the Community Committee meetings (see Figure 7.04 to 7.07). In the meetings, the results of the suitability analysis were shared with the Community Committee members. The committee members then located parks within the suitable zones using their local knowledge. With this approach, the project team aimed to determine the most strategic locations for parks according to both suitability criteria developed by the team and local understanding of the community. As the process moved forward, more input from the community was incorporated and the suitability analysis was improved as errors were corrected and additional data was added to target areas currently under-served by parks.

D/Match the size and type of park to the need

The proposed park system is composed of three types of parks: regional/big parks, neighborhood/medium parks, and pocket/small parks. These are the three types of parks developed by most California cities and counties. Each type and size of park accommodates different activities and requires different acreage and context (see Figure 7.07; Table 7.01) These three types were the "building blocks" used to construct an initial plan that attempted to give equal access to residents to all forms of recreation. Community Committee members then refined the distribution of these building blocks using their intimate knowledge of the area.

Figure 7.04 Draft plan: Community Committee meeting 3 results

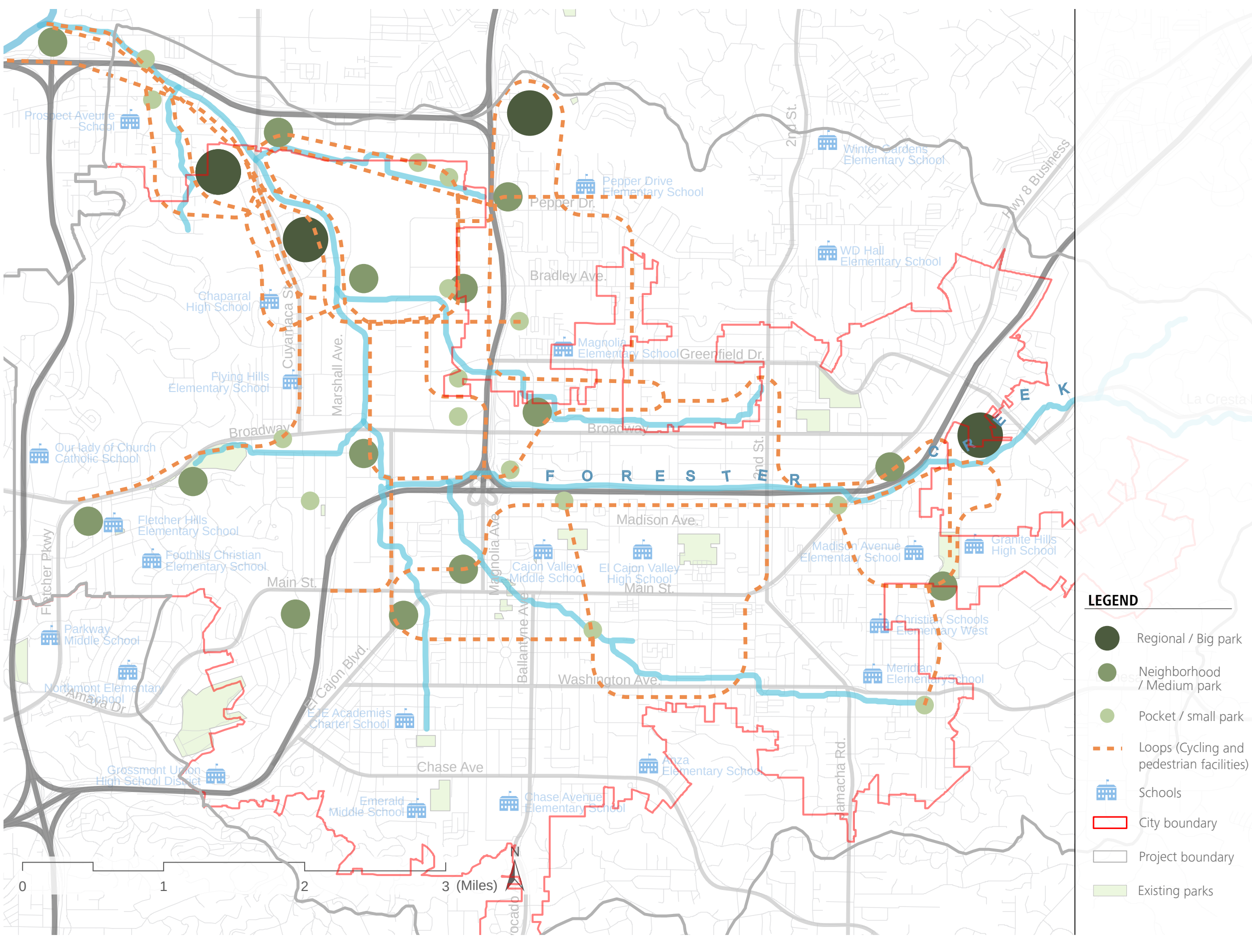


Figure 7.05 Draft plan: school locations and adjacent proposed plan elements

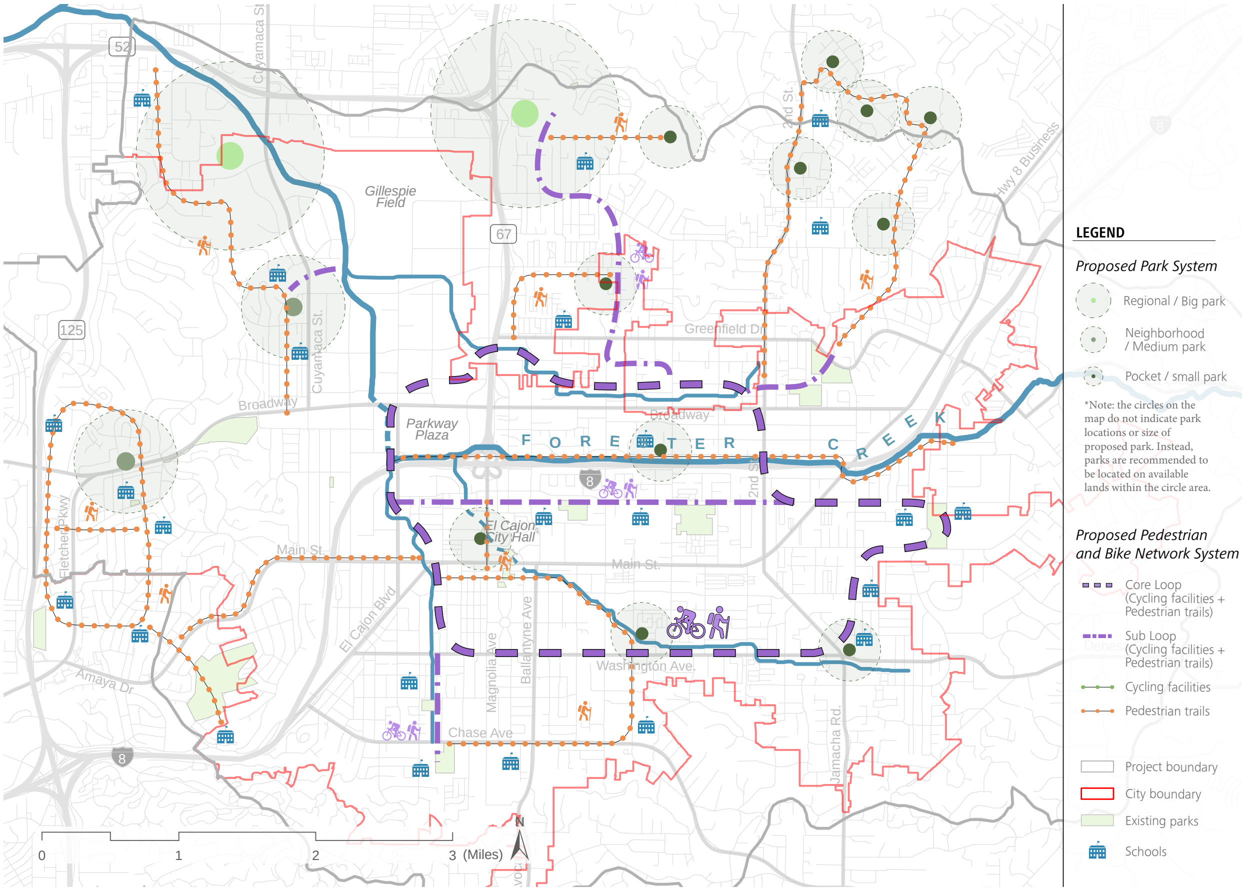


Figure 7.06 Draft plan: proposed plan elements in the Forester Creek System corridor

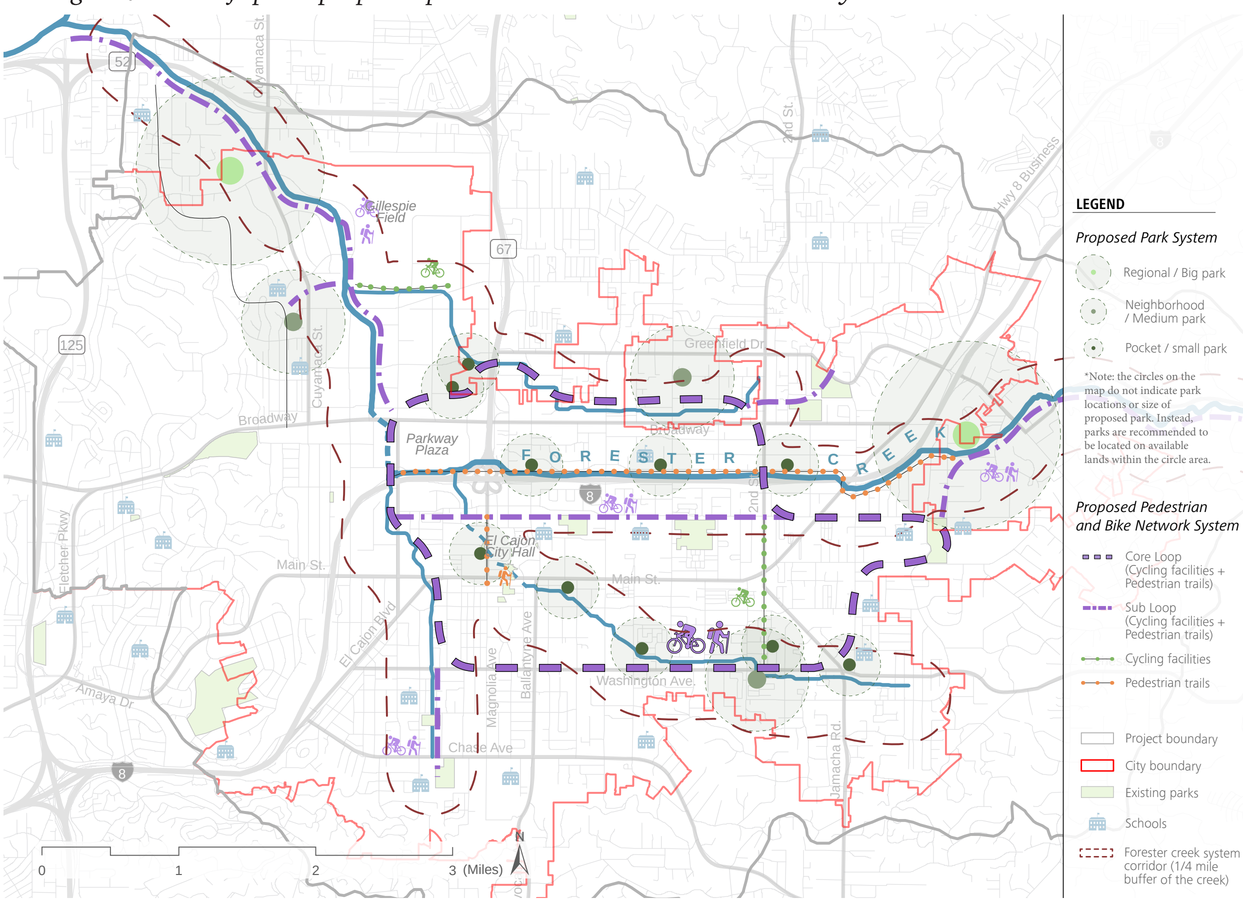


Figure 7.07 Draft plan: park system

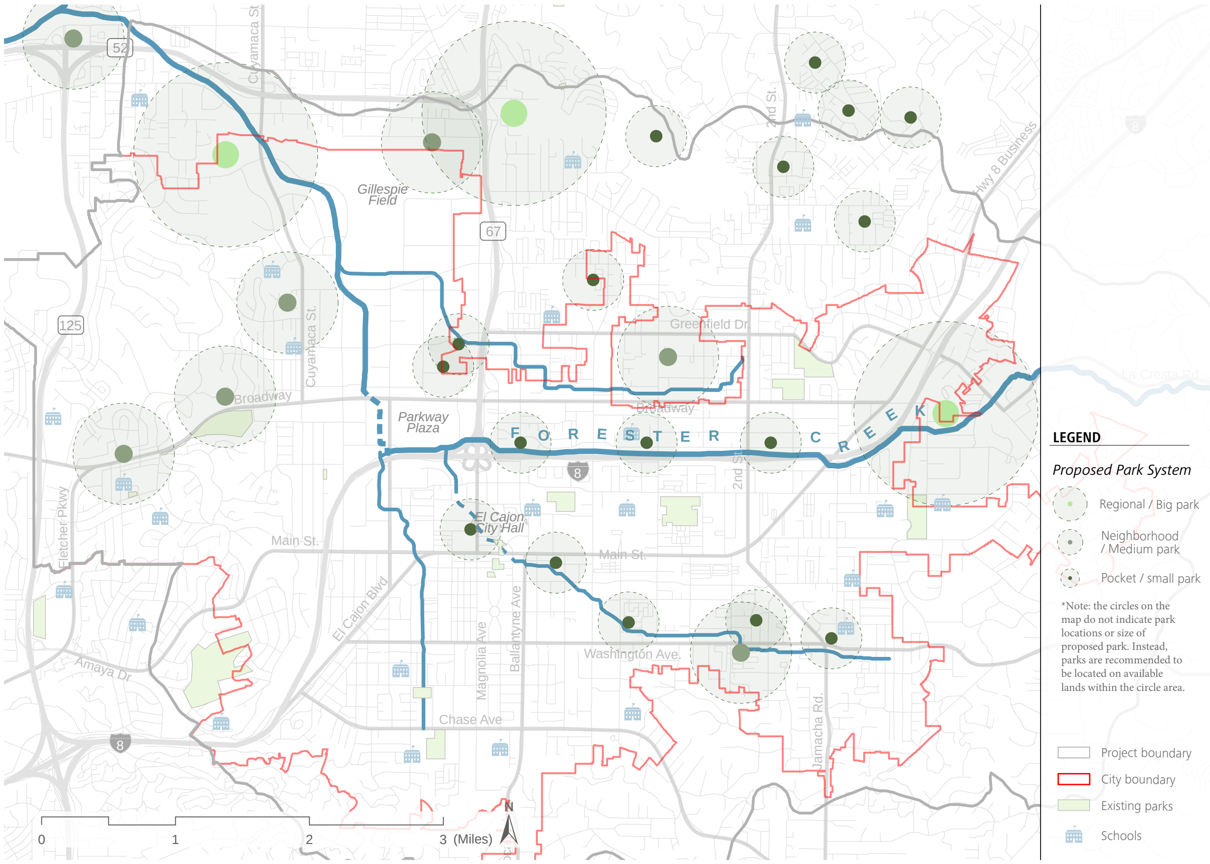


Figure 7.08 Draft plan: network system

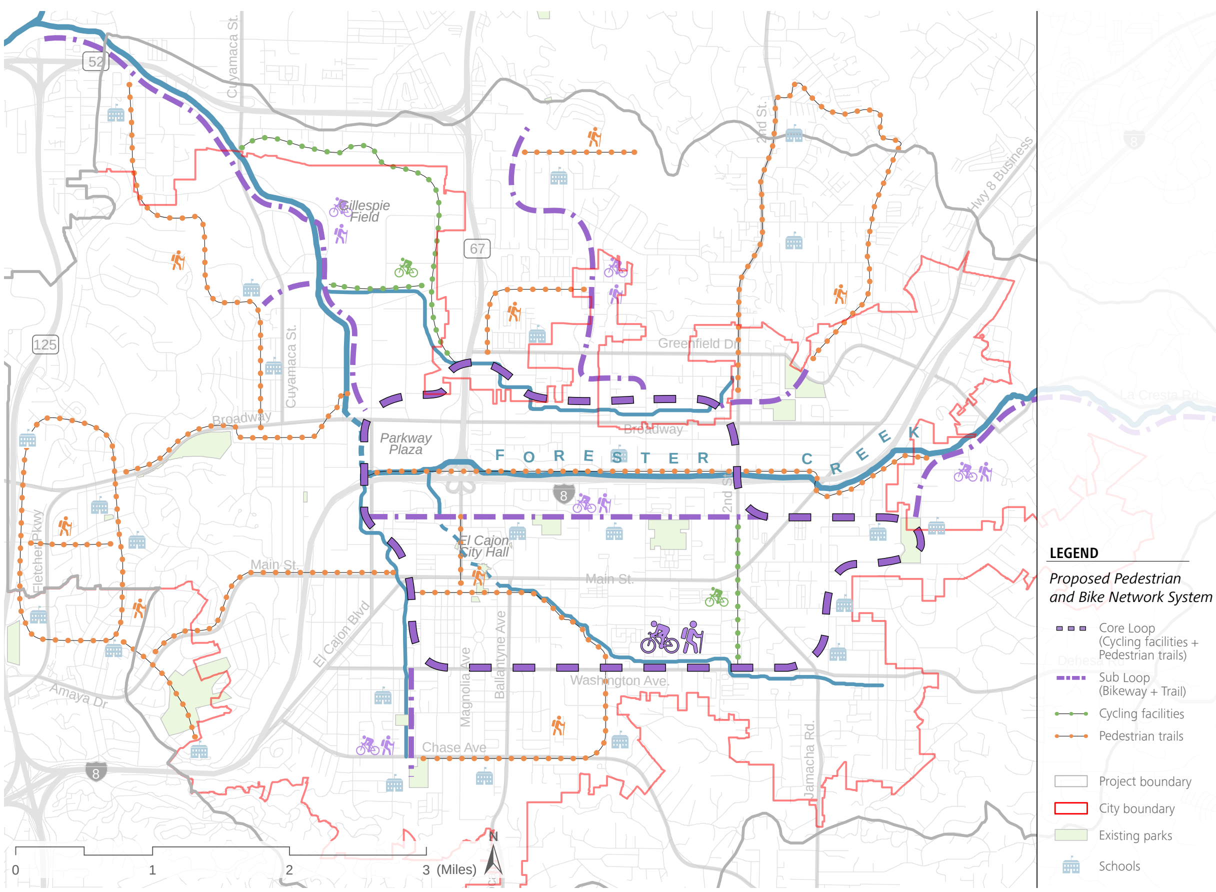


Figure 7.09 Draft plan: network system and destinations in the study area

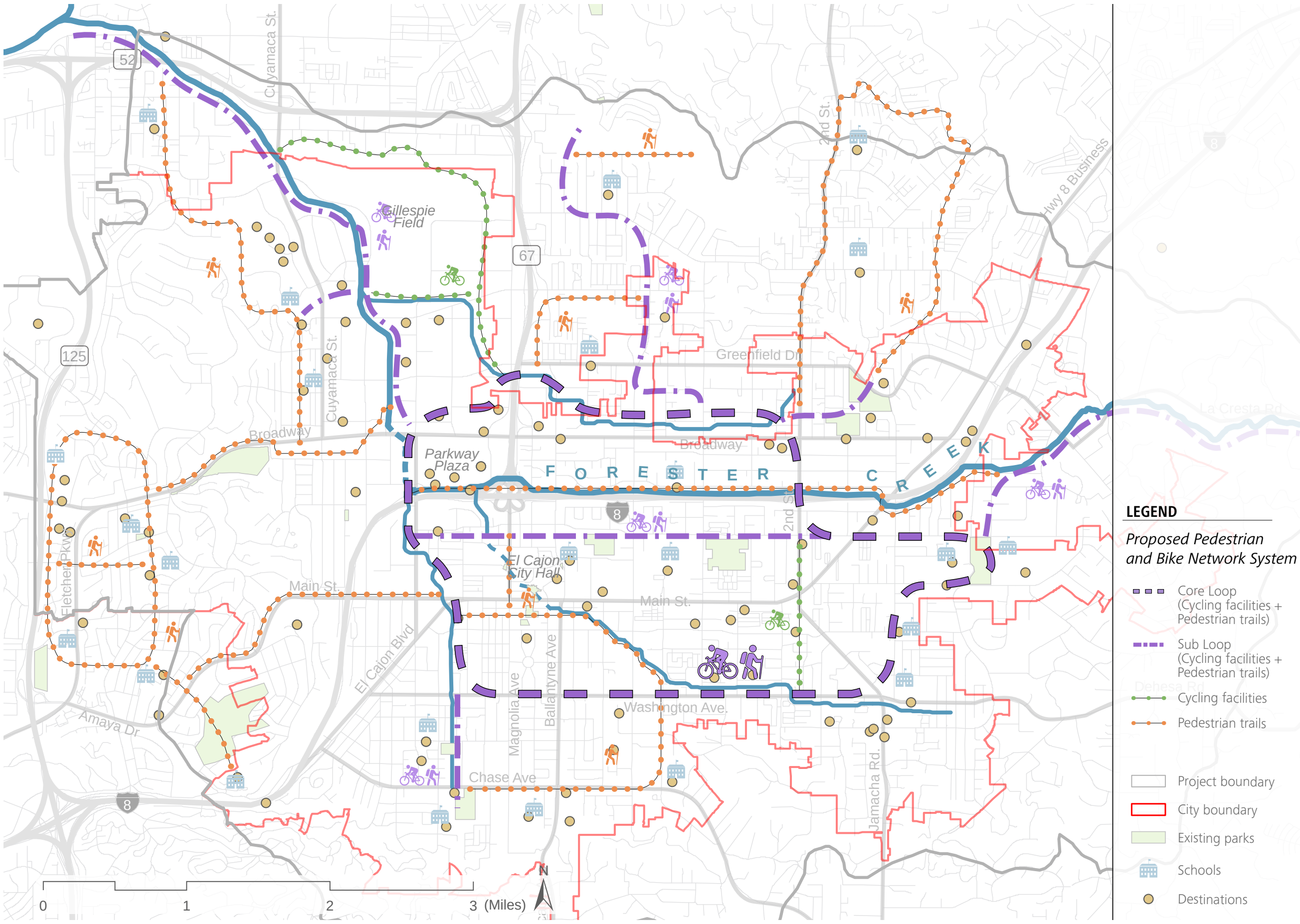


Table 7.01. Draft plan: major elements sorted by source

Draft Plan		
Source	**Elements or Approaches**	**Reasoning**
Geodesign	Place parks in suitable areas	Evaluate potential park locations using major suitability factors to maximize impact (as described in Chapter 5)
Participatory design process	Place parks and pedestrian/cycling routes near schools	Students and families want ready access to parks after school; school zones are better protected and policed
	Create a loop system with options	People want to choose the length of the loop they cycle or walk
Project objective	Place parks and pedestrian/cycling routes near creeks	Leverage the creek system as an open space resource
Team's insight	Match the size and type of park to community needs	Different types of parks and networks serve different functions
	Match the type of route to community needs	Different types of routes serve different functions
	Connect destinations throughout the city	Maximize use by connecting popular destinations

7.1.3/Draft Plan: Pedestrian/Cycling Network

E/Match the type of route to community needs

The active transportation network in the plan consists of three types of facilities: cycling routes, pedestrian routes, and routes with a combination of pedestrian/cycling amenities. The standards for determining where to place what type of facility were developed by the 606 Studio team. Cycling facilities were located by the team to maximize opportunities for recreation and transportation while pedestrian routes were prioritized in residential neighborhoods and as routes to schools. In some areas, both cycling facilities and pedestrian routes are proposed to address diverse local needs.

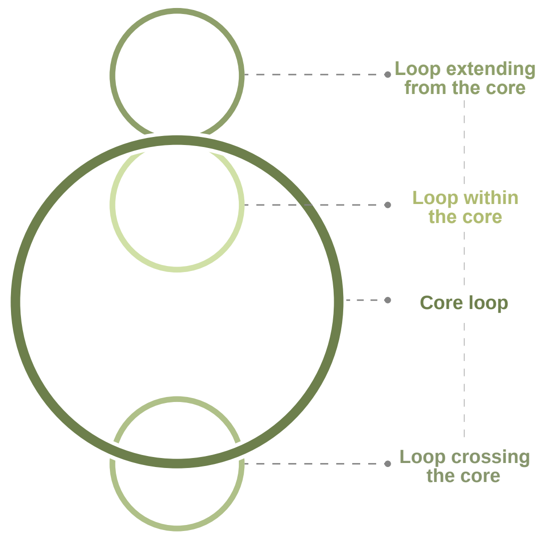
F/Create a loop system with options

The pedestrian/cycling network in the plan provides options with different length of loops. Community Committee members expressed a preference for different sizes of loops, so people could customize their recreation according to their ability or needs (Figure 7.09).

G/Connect destinations throughout the City

In order to connect schools, parks, and creeks across El Cajon, the plan's pedestrian/cycling network is composed of a core loop connecting the population centers of the City and secondary loops providing alternatives in El Cajon's downtown and surrounding neighborhoods. Together, these loops connect residents, particularly young people and their families, to the schools, parks, creeks, and other major destinations across El Cajon (Figure 7.10).

Figure 7.10 Loop concept



Types and Sizes of Parks

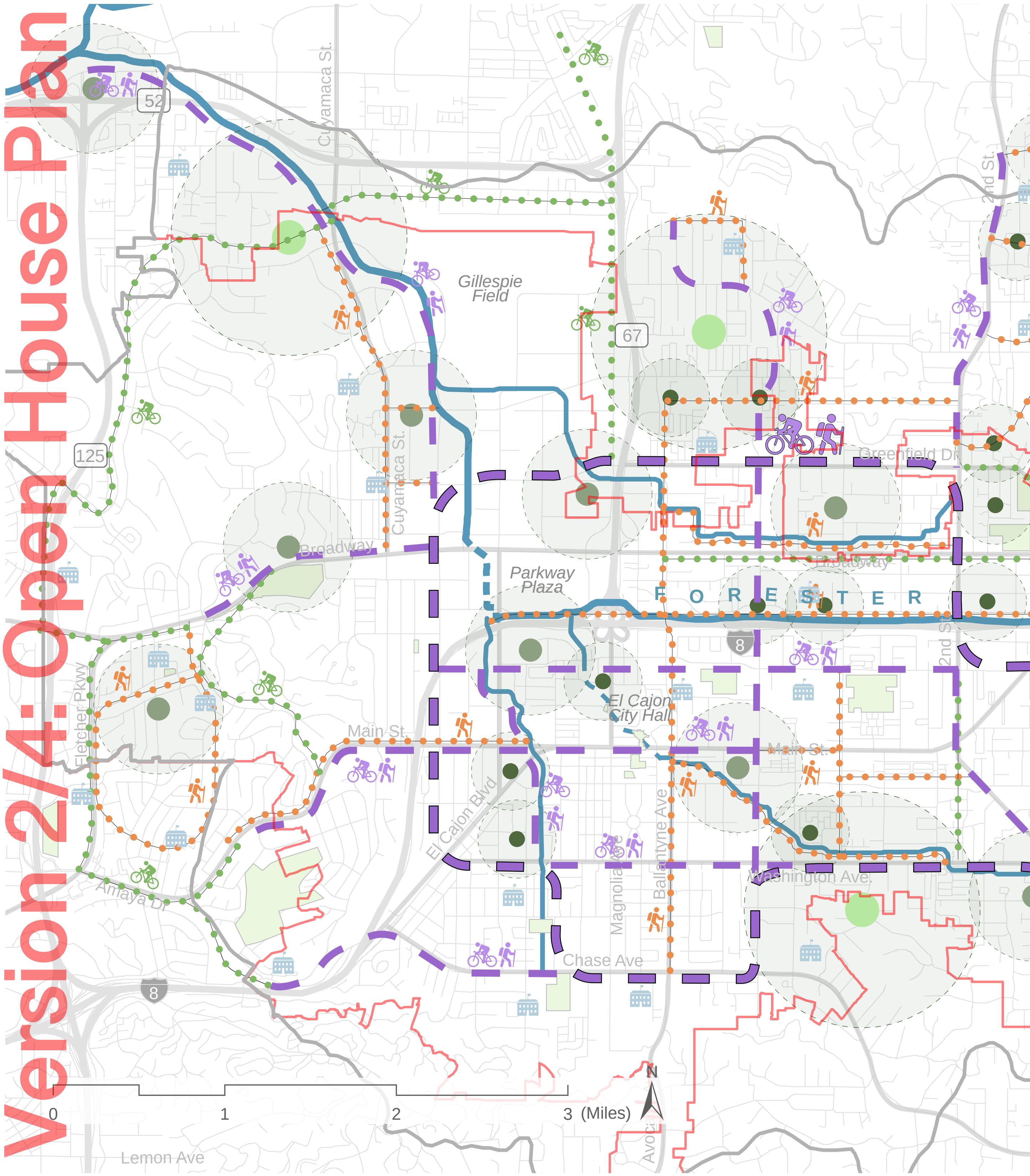
Many California cities divide their urban parks into three types and sizes: small pocket parks, medium sized neighborhood parks and large regional parks. Each individual park is unique, but in general the characteristics of these types are:

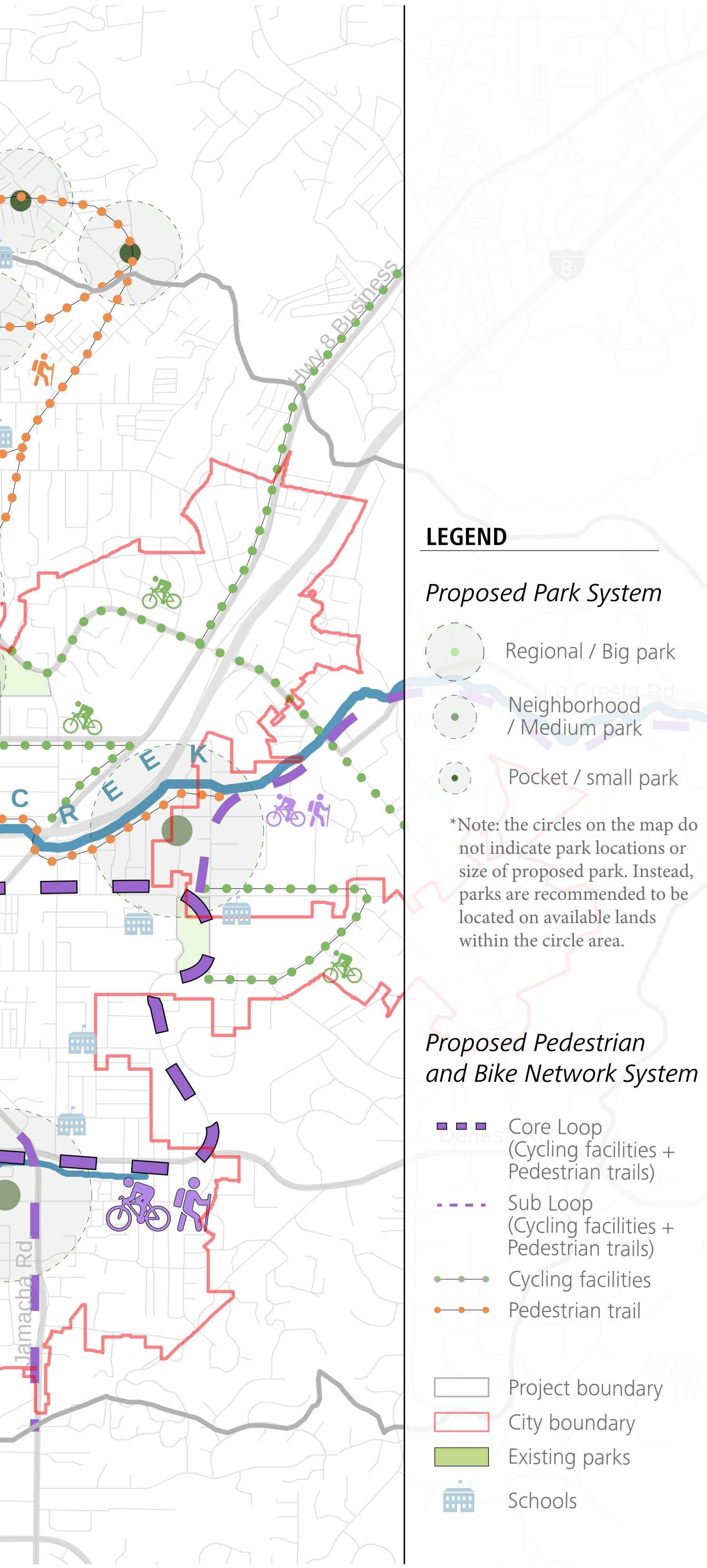
Small/Pocket Park
- Less than 20,000sf, often a single house lot
- Serves immediate neighbors who walk to the site from their homes or offices
- Often includes playgrounds, exercise equipment, picnic, and relaxation spaces

Medium/Neighborhood Park
- 1 to 6 acres, 40 to 240,000sf, often a single city block
- Primarily serves the neighborhood within walking distance; some amenities attract users who bike, drive, or ride public transportation from a greater distance
- Often includes everything in pocket parks, plus multi-use fields, small numbers of sports courts, dog play areas, community gardens, and/or larger picnic areas

Large/Regional Parks
- 10 acres and above
- Serves the collective needs of the whole city or a section of a city; users mostly arrive by vehicle, public transportation, and/or bicycle
- Often Includes sets of athletic fields—for example four baseball/softball fields or four or more soccer fields—destination playgrounds, large family or event picnic areas, and restrooms

Figure 7.11 Open house plan





7.2/Version 2: Open House Plan

The open house plan (Figure 7.11) includes significant refinements to the park system and pedestrian/cycling network. Additional parks were added to serve park-poor neighborhoods and the location of other parks was adjusted to better match the suitability analysis. The pedestrian/cycling network was refined to better connect the routes and major destinations, such as high schools. These refinements emanated from two sources: additional geodesign analysis and input from the January Community Committee meeting (Figure 7.08 & 7.09).

7.2.1/Open House Plan: Park System

H/Add a regional park in the south

Based on the results of the fourth Community Committee meeting, a regional park was added in south El Cajon. Adding this park addressed an area of park poverty and serves a large population in downtown and south El Cajon.

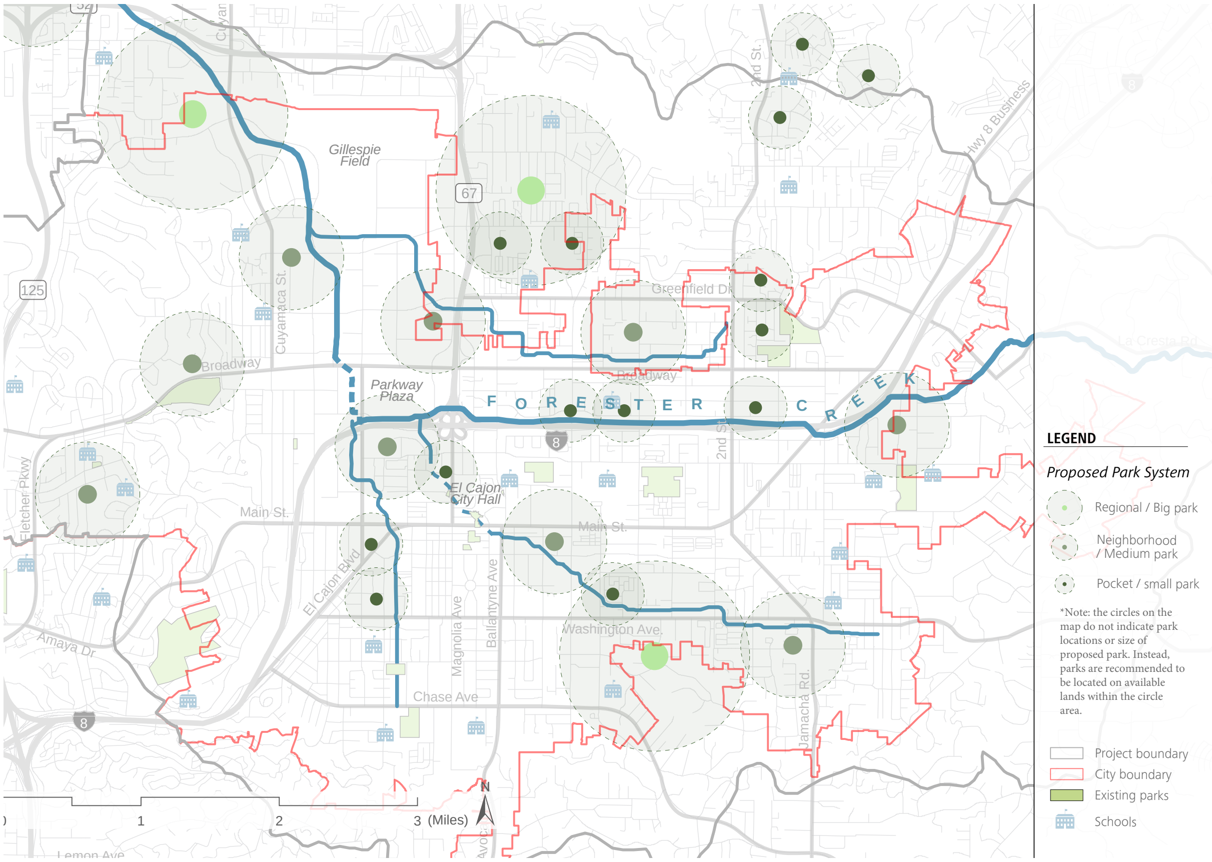
I/Balance the suitability analysis and community input

The Community Committee members' input at meeting 4 inspired the project team to refine the criteria for the geodesign suitability analysis. As explained in Chapter 5, the project team weighed a wide range of criteria when developing the suitability map (see Chapter 5).

Based on input from the four Community Committee meetings, the project team identified several changes to the weighting factors. For example, in the fourth Community Committee Meeting, participants re-emphasized the importance of locating parks near to schools. Based on this input, proximity to schools was given greater weight in the suitability formula.

At the same time, the revised suitability analysis also inspired minor adjustments to the plan. Some of the locations the Committee suggested for parks were on unsuitable land close to suitable land (Figure 7.13). In those cases, the parks were moved to the adjacent suitable land.

Figure 7.12 Open house plan: park system



J/Add parks to park-poor areas

Based on discussions within the project team and with the project sponsors, additional parks were added to serve the most park-poor and densely populated areas of El Cajon. The project team reviewed the geodesign analysis results related to park poverty and population density in El Cajon and placed additional parks in the most park-poor and densely populated areas (Figure 7.14 & 7.15).

Pocket parks, in particular, were planned in the densely populated areas surrounding downtown because of the lower availability of large parcels in these areas. This change benefited the El Cajon residents who currently have the least access to parks.

Figure 7.13 Overall parcel-based recreation suitability for the study area

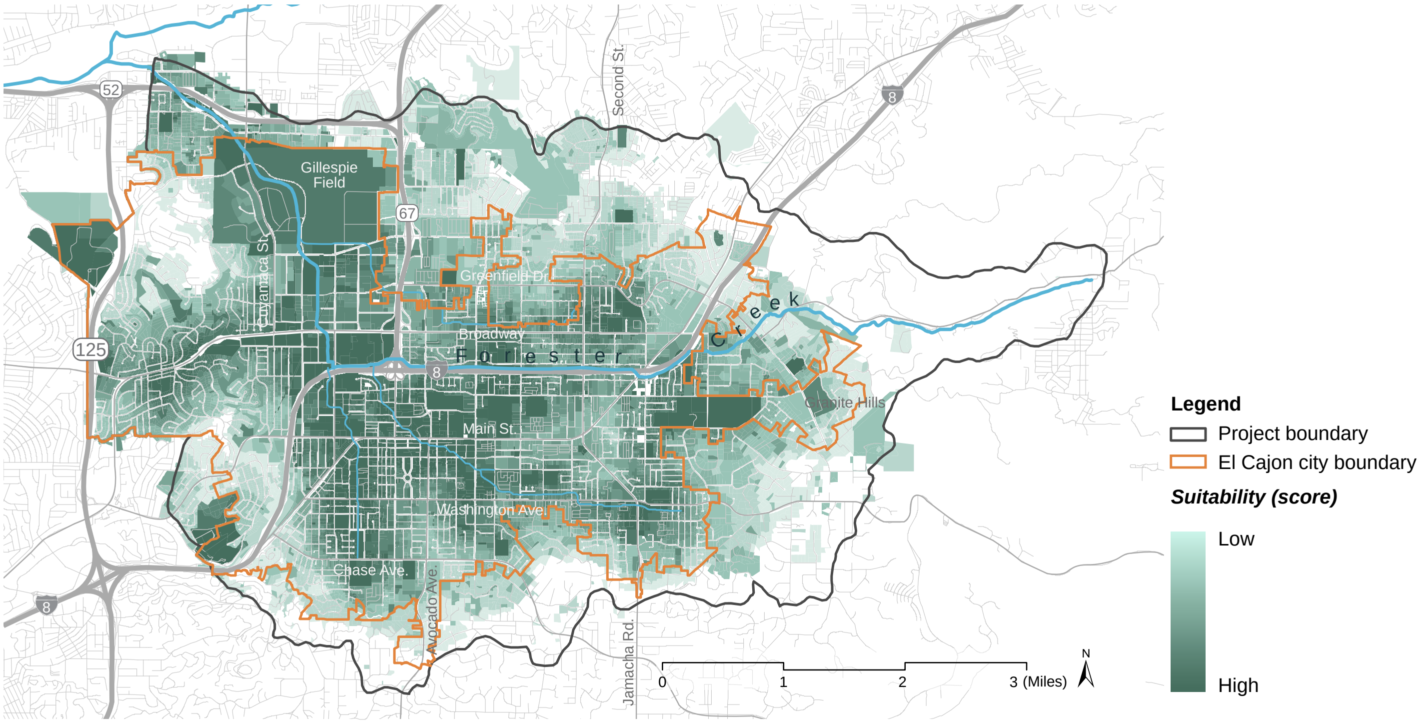


Figure 7.14 Population density

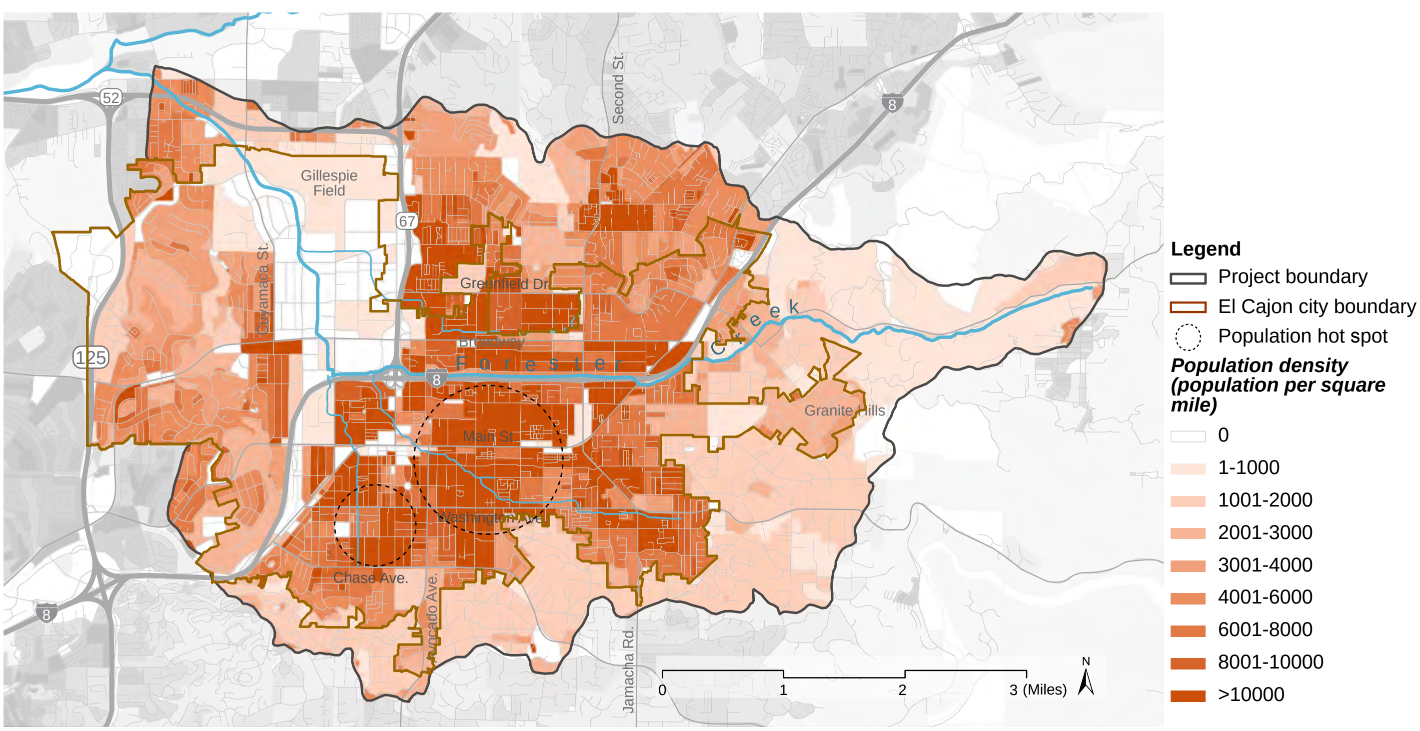


Figure 7.15 Park poverty (determined using a Thiessen Polygon analysis and # acres/1000 persons) (darker areas have more serious levels of park poverty)

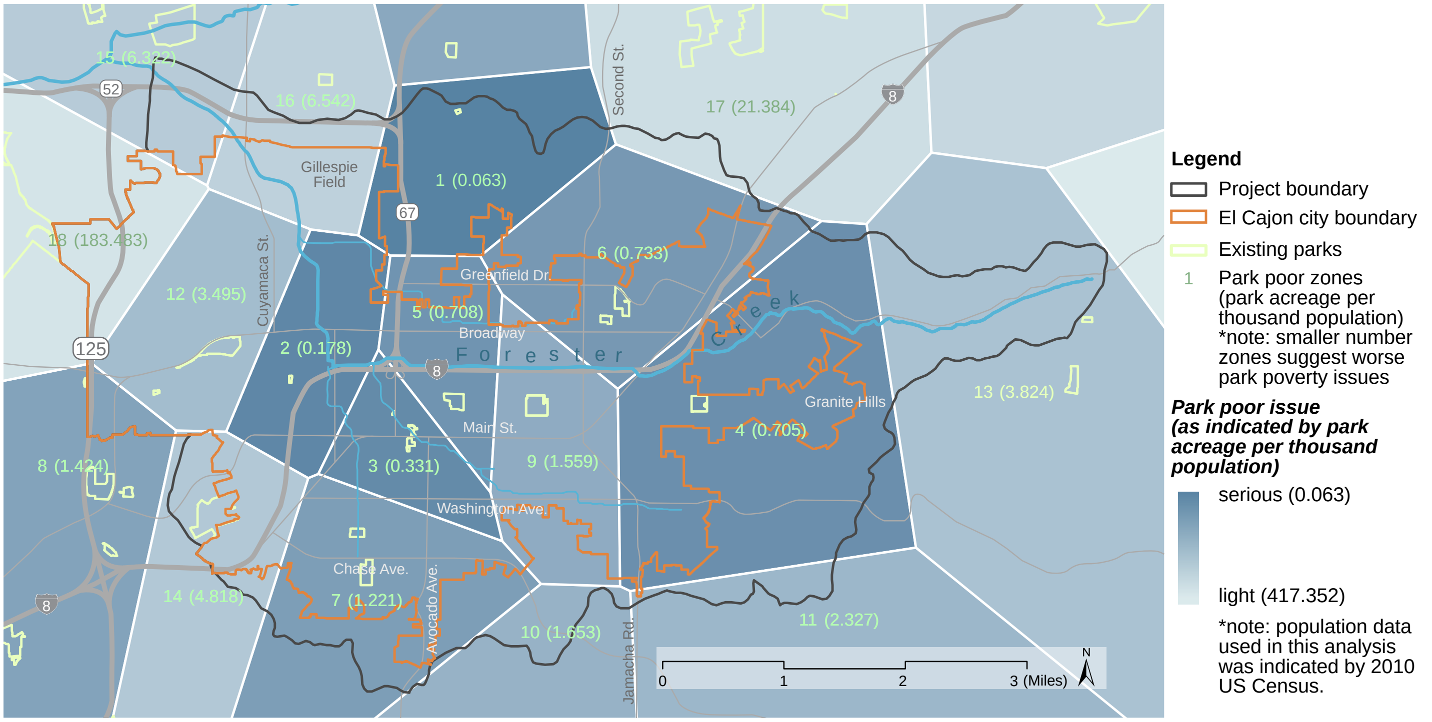


Figure 7.16 Existing cycling facilities

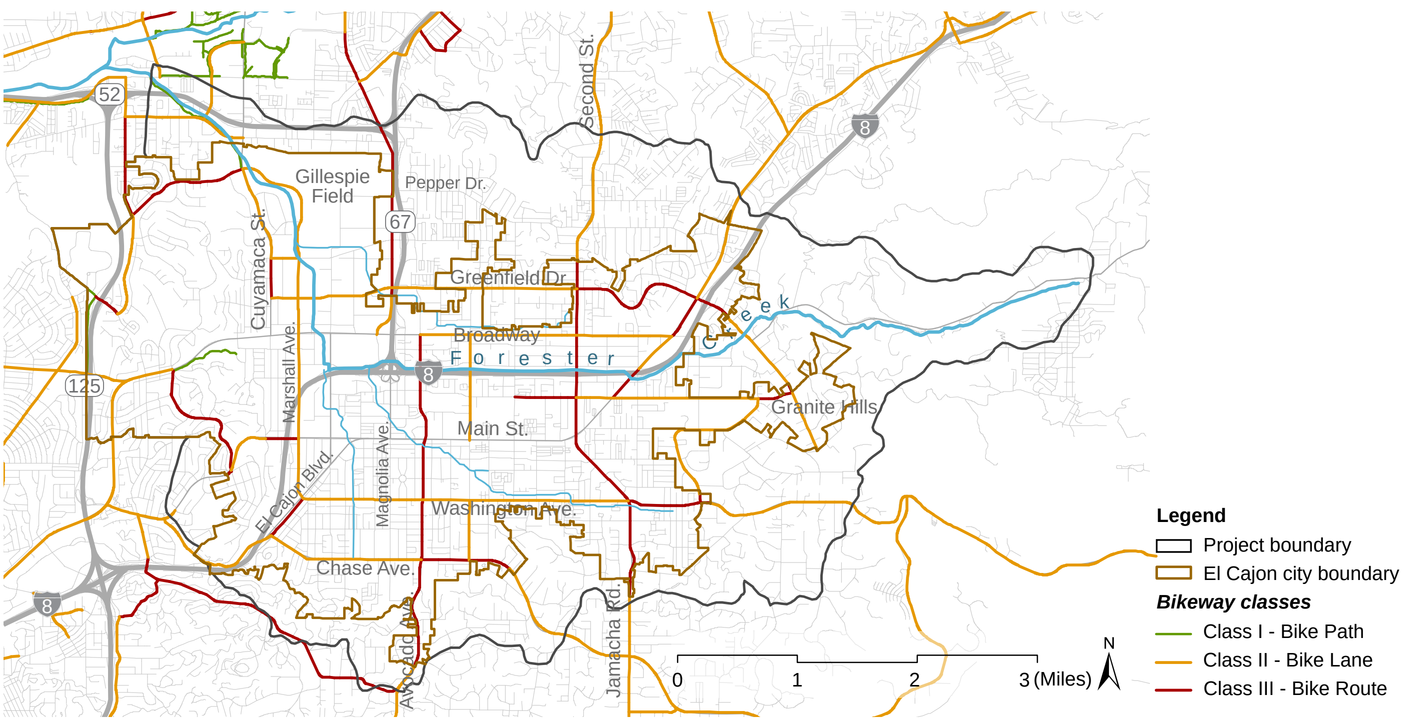


Figure 7.17 Planned cycling facilities

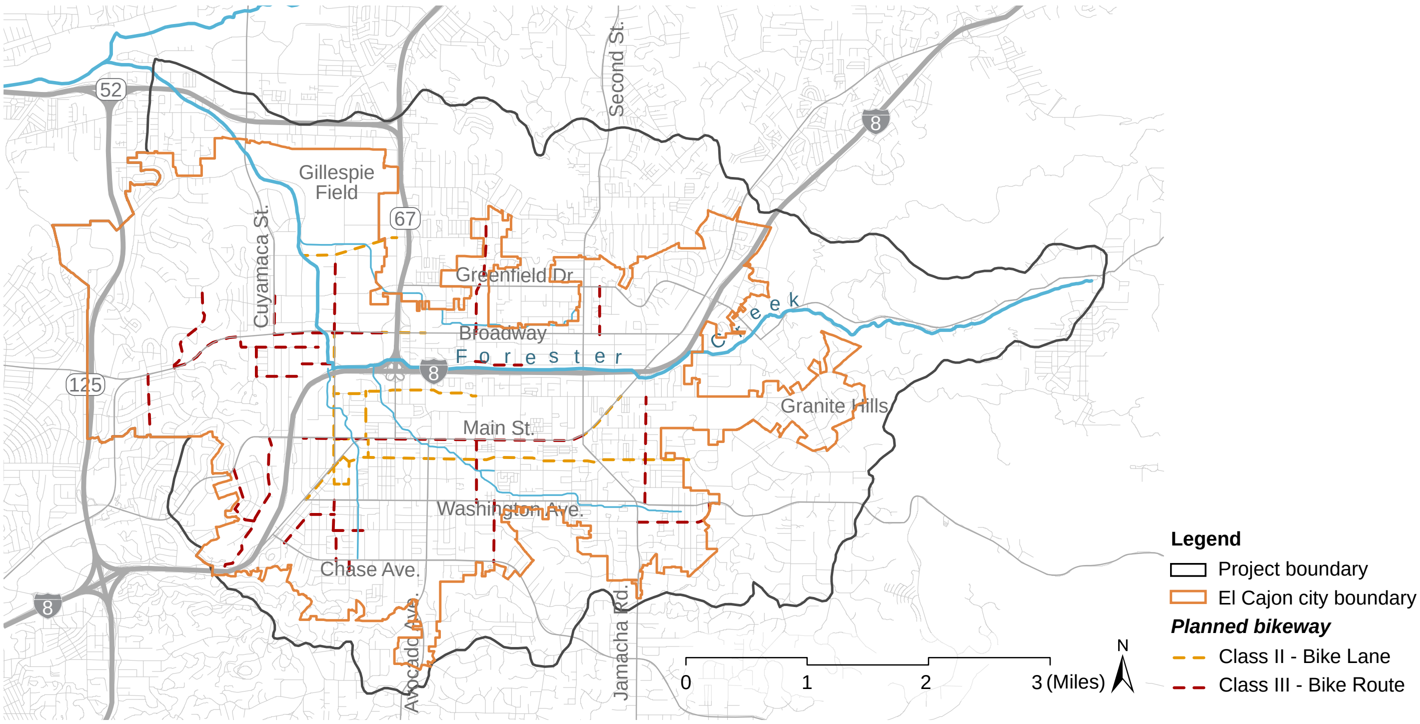


Figure 7.18 Gaps in existing and planned cycling facilities

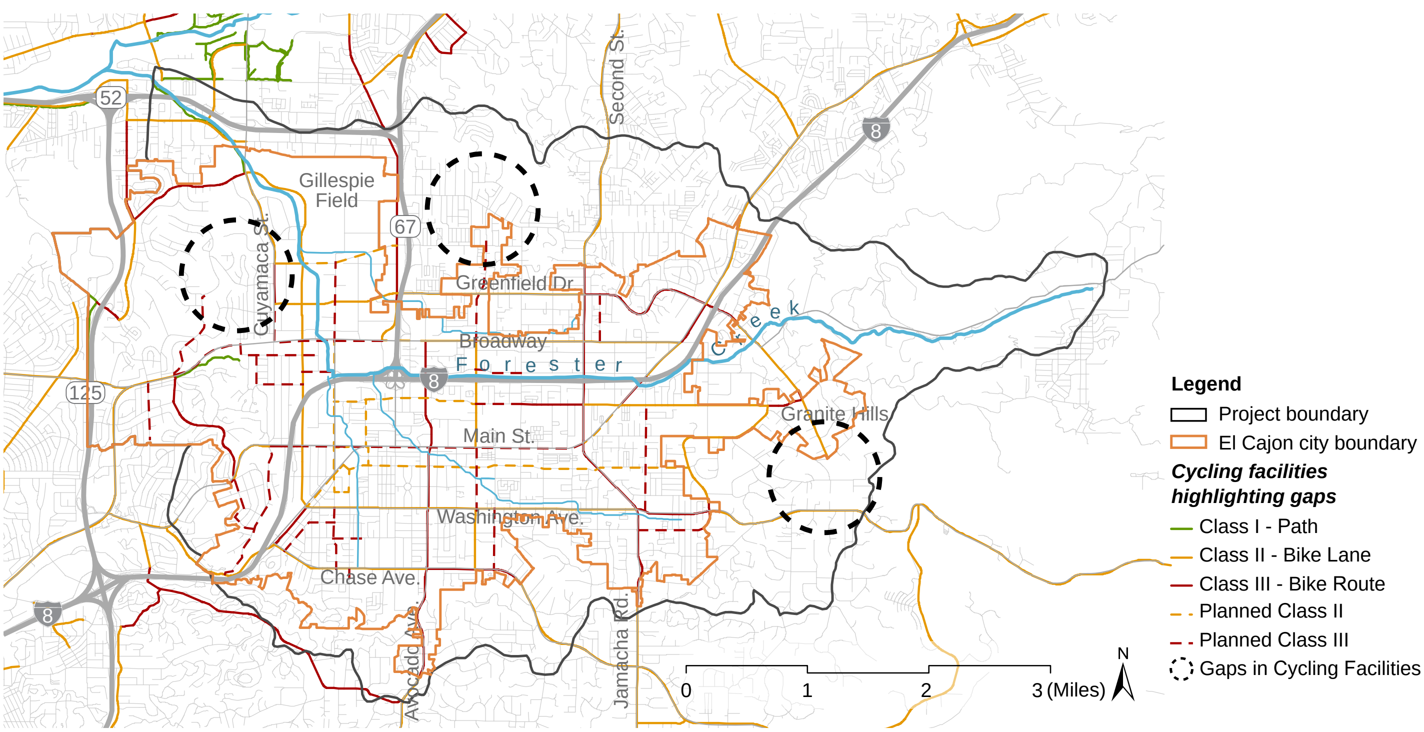


Figure 7.19 Open house plan: network system

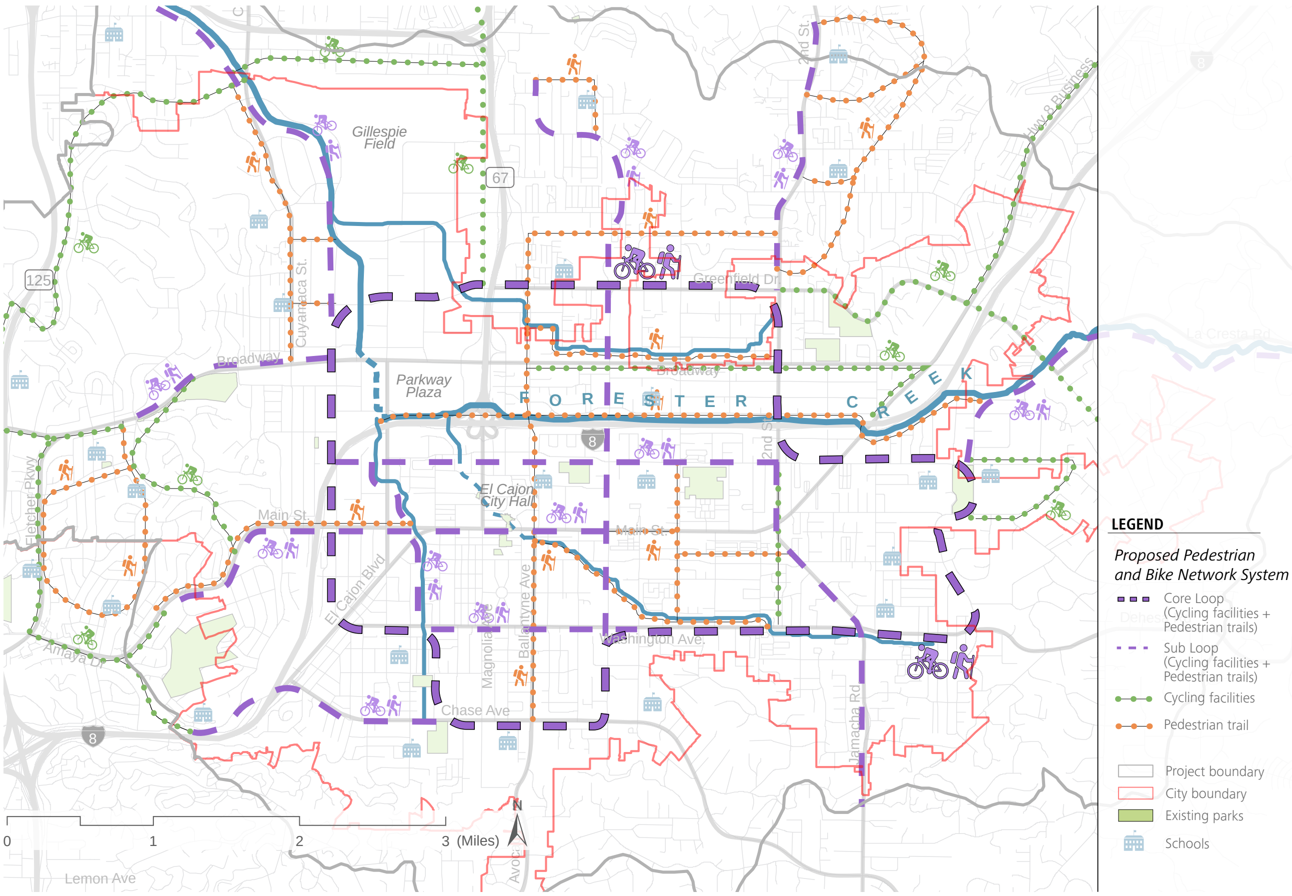


Table 7.02 Open house plan: major changes sorted by source

Open House Plan		
Source of change	**Major changes**	**Reasoning**
Geodesign	Bring existing and planned facilities into alignment	Build a complete connected network system
	Add parks in park-poor area	Provide more recreation opportunities for residents; address equity
	Add pocket parks downtown	Provide pocket or mini-parks in highly populated areas with limited land availability to address park poverty
	Identify suitable lands for parks based on revised suitability criteria	Confirm suitability of proposed park locations (see Chapter 5)
Participatory design process	Plan regional park in south El Cajon	Balance the two regional parks proposed in north El Cajon
	Connect cycling facilities to high schools	Support high school students cycling to school
	Add cycling facility sub-loops	Serve the needs of a variety of users
	Add cycling facilities along the freeway	Provide alternative transportation options

7.2.2/Open House Plan: Pedestrian/Cycling Network

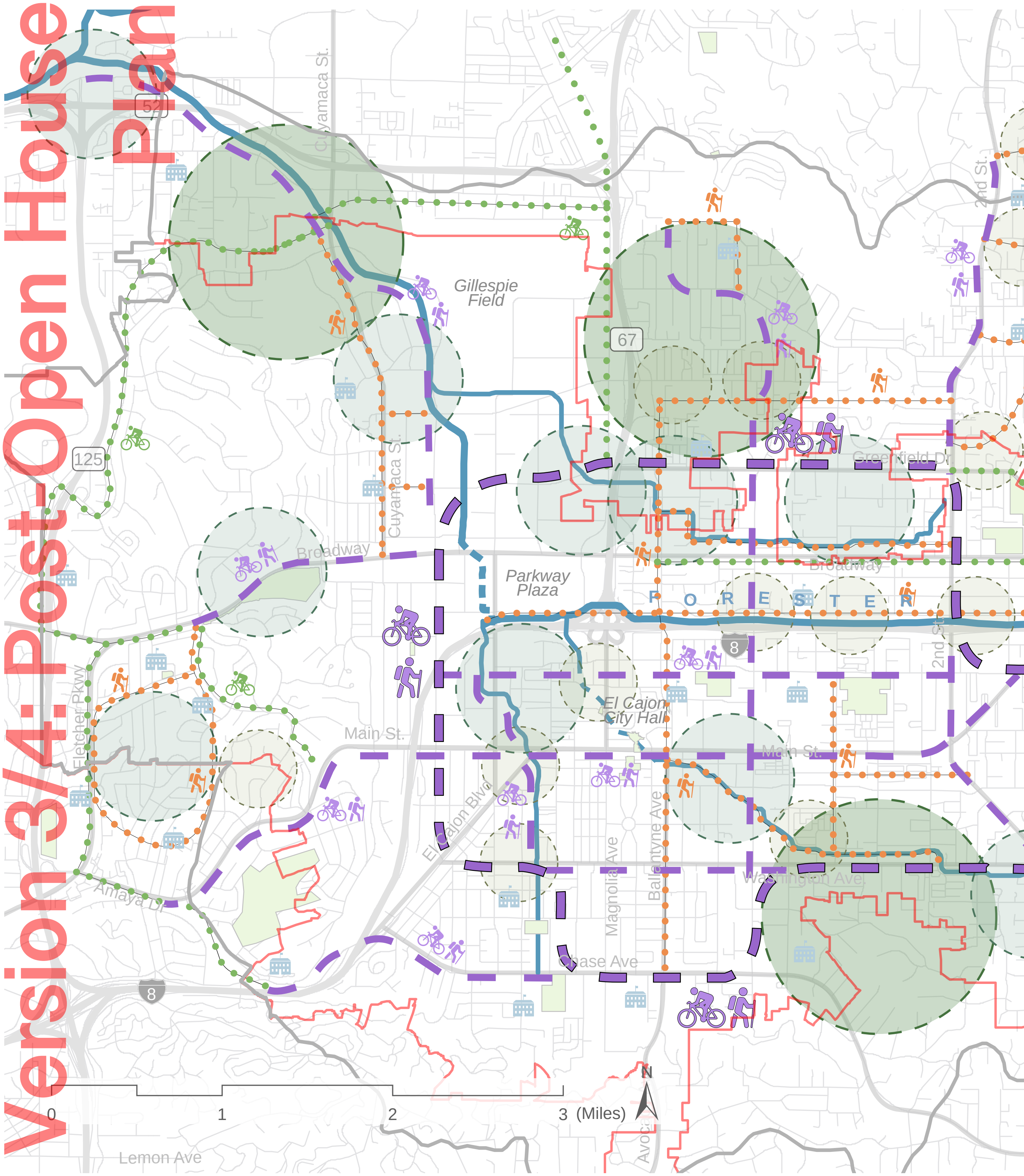
K/Integrate and link existing, planned and proposed pedestrian/cycling facilities

At this stage, the project team also recognized the importance of overlaying the pedestrian/cycling routes proposed in the plan with the existing and planned cycling facilities of the City of El Cajon. After conducting this overlay analysis, the team added more pedestrian/cycling facilities in the downtown area to connect the existing and planned systems. These additional routes connected major destinations such as the library, City Hall, the recreation center, the senior center, and the plaza to Washington Channel, County Ditch, and current and future parks. This linking of areas created a well-connected system supporting travel to different destinations (Figure 7.16 to 7.19).

L/Connect cycling facilities and the trail system into a complete system

After reviewing the Draft Plan, Community Committee members suggested adding cycling facilities connecting to the high schools and a recreational cycling loop along the streets adjacent to the freeway. They also added a range of lengths of cycling facilities to offer choices and match users' desires and abilities. The gaps between the existing and planned cycling facilities were studied and revisions were proposed by the team to create a complete system (Figure 7.16 to 7.19; Table 7.02).

Figure 7.20 Post-open house plan



7.3/Version 3: Post-Open House Plan

Version 3 of the draft plan, the Post-Open House Plan, integrated the comments from the open house (Figure 7.20).

7.3.1/Post-Open House Plan: Park System

M/Distribute park locations

After reviewing the draft plan presented at the open house, the community members suggested breaking up the groupings of proposed parks to create a more consistent distribution that would better serve more residents. Following this reasoning, two pocket parks that were near to the existing parks were removed.

Generally, the community members preferred bigger parks to smaller parks but, in densely populated areas such as the downtown, they suggested adding more pocket parks. The Community Committee members felt that bigger parks would have more activities, but pocket parks in the downtown area would address a larger population, as it is a densely populated area.

Two available parcels were identified by committee members and the parks near those sites were moved to those parcels (Figure 7.21).

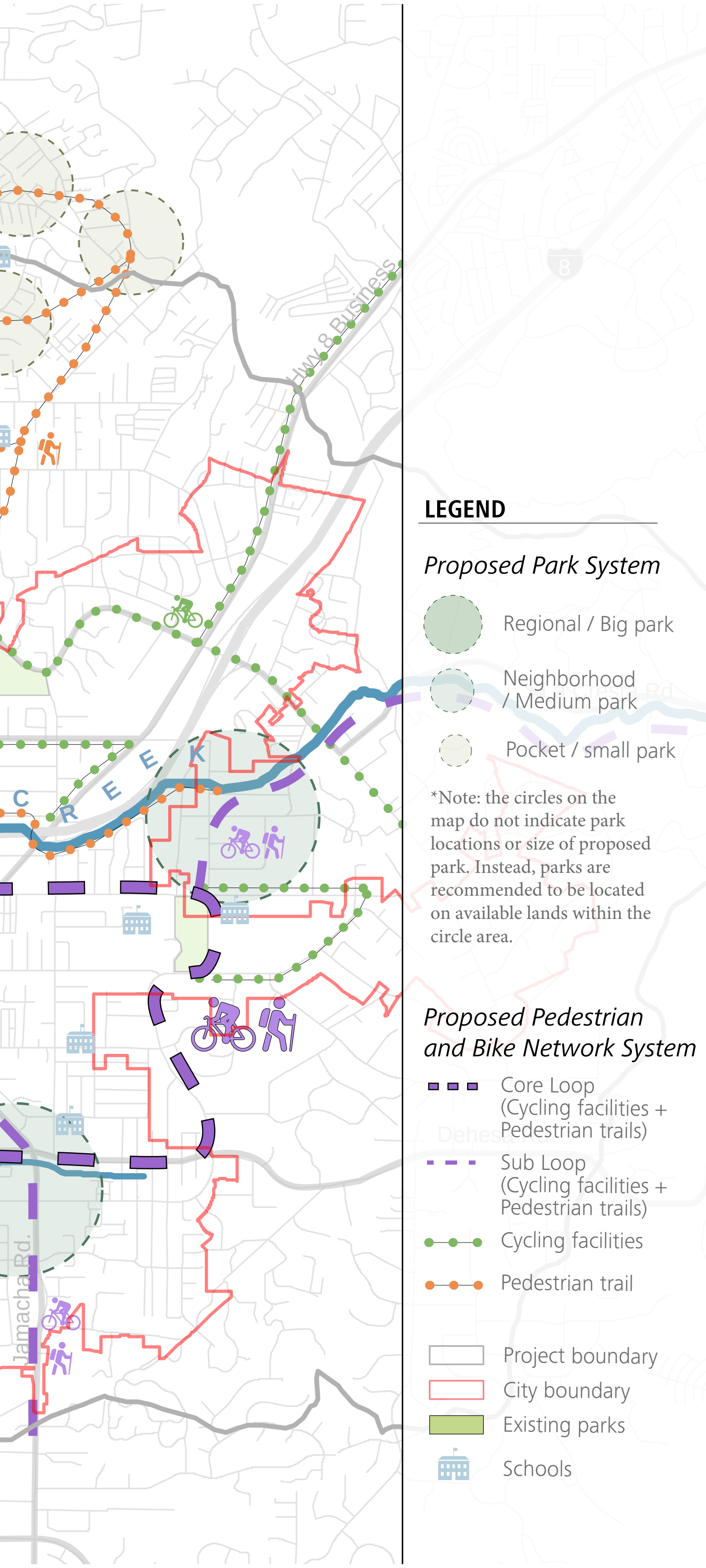


Figure 7.21 Post-open house plan: park system

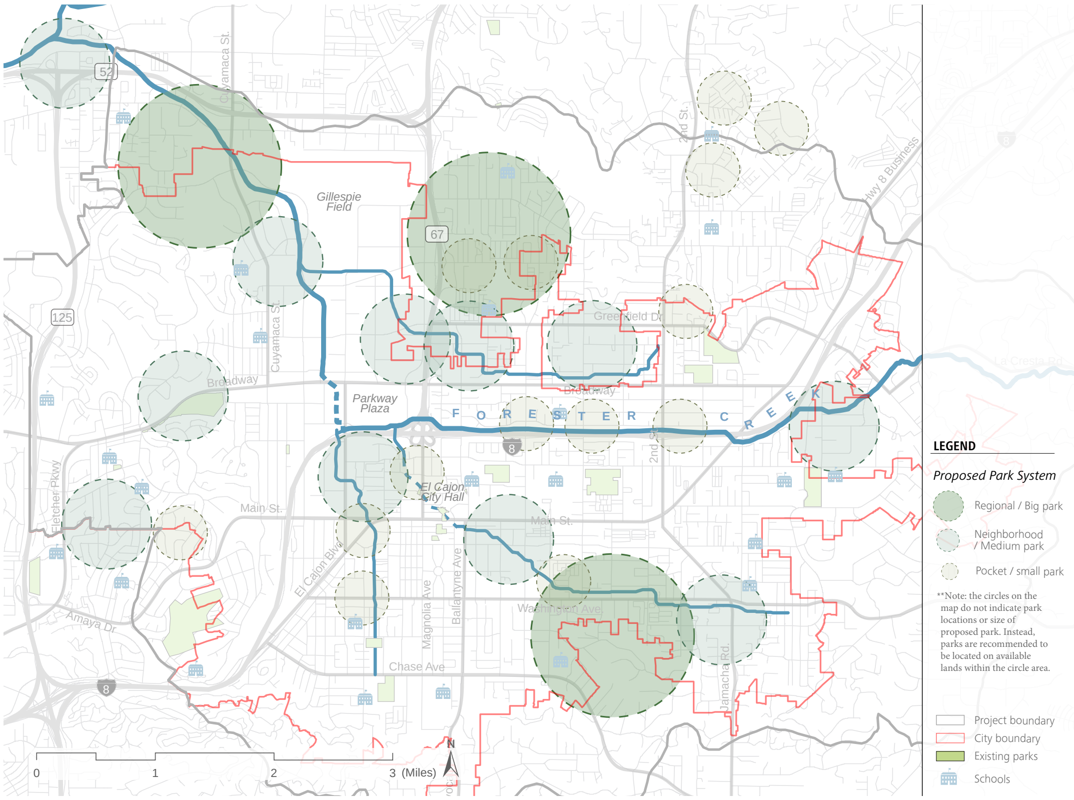


Figure 7.22 Post-open house plan: network system

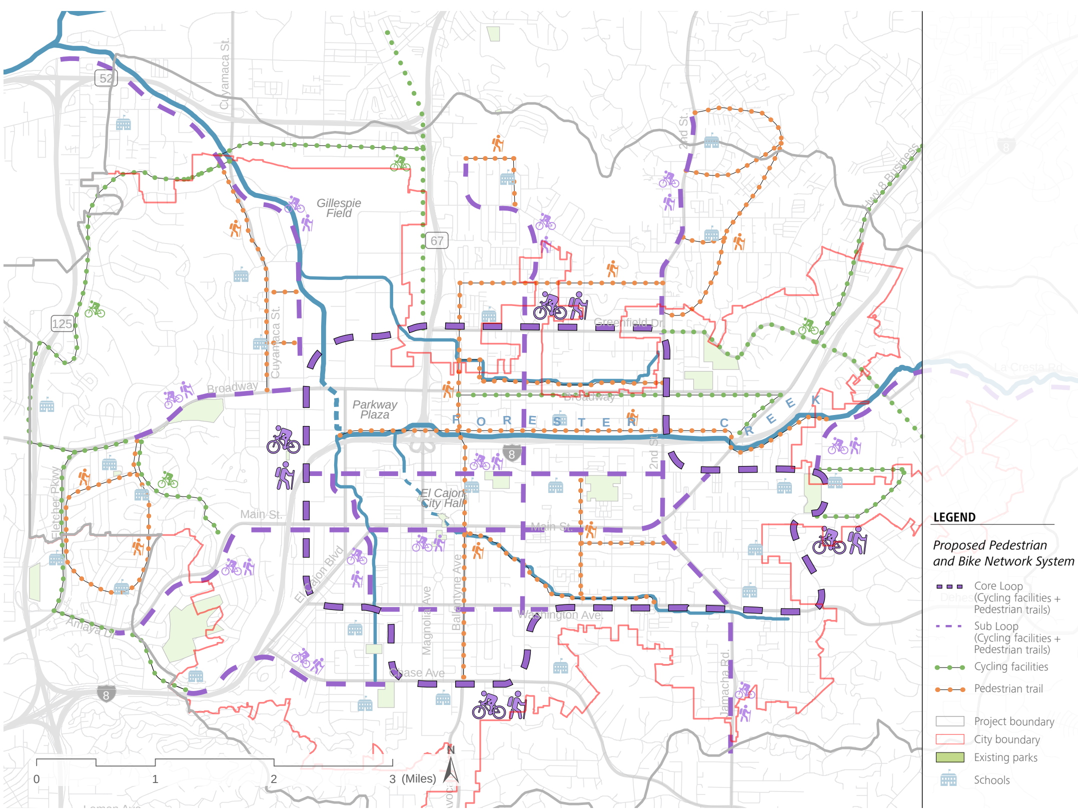


Table.7.03 Post-open house plan: major changes by source

Post-Open House Plan		
Source	**Major changes**	**Reasoning**
Participatory design process	Distribute park locations	Address more residents
	Relocate proposed parks to available lands	More feasible for the park to get built faster
	Add parks to highly dense areas	Additional parks are needed in areas with high population density (such as downtown) to address park poverty
	Connect cycling facilities and trail system	Make the mobility network complete, safe, and legible
	Connect cycling facilities to public transportation	Create an active transportation system to encourage utilitarian walking and cycling
	Connect cycling facilities to cycling facilities in neighboring cities	Create a mobility network that invites visitors from other cities

7.3.2/Post-Open House Plan: Pedestrian/Cycling Network

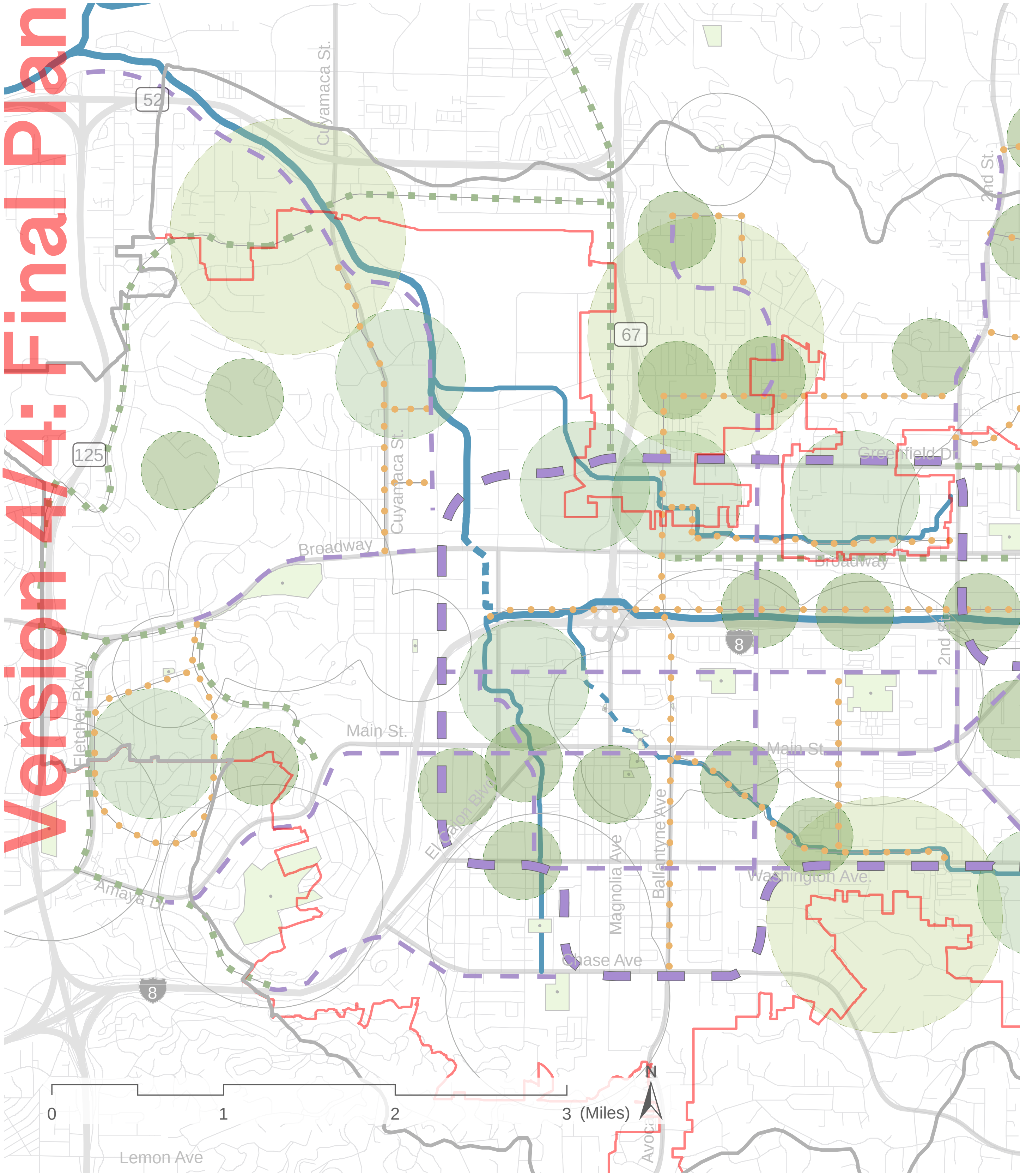
N/Connect cycling facilities into a comprehensive mobility system

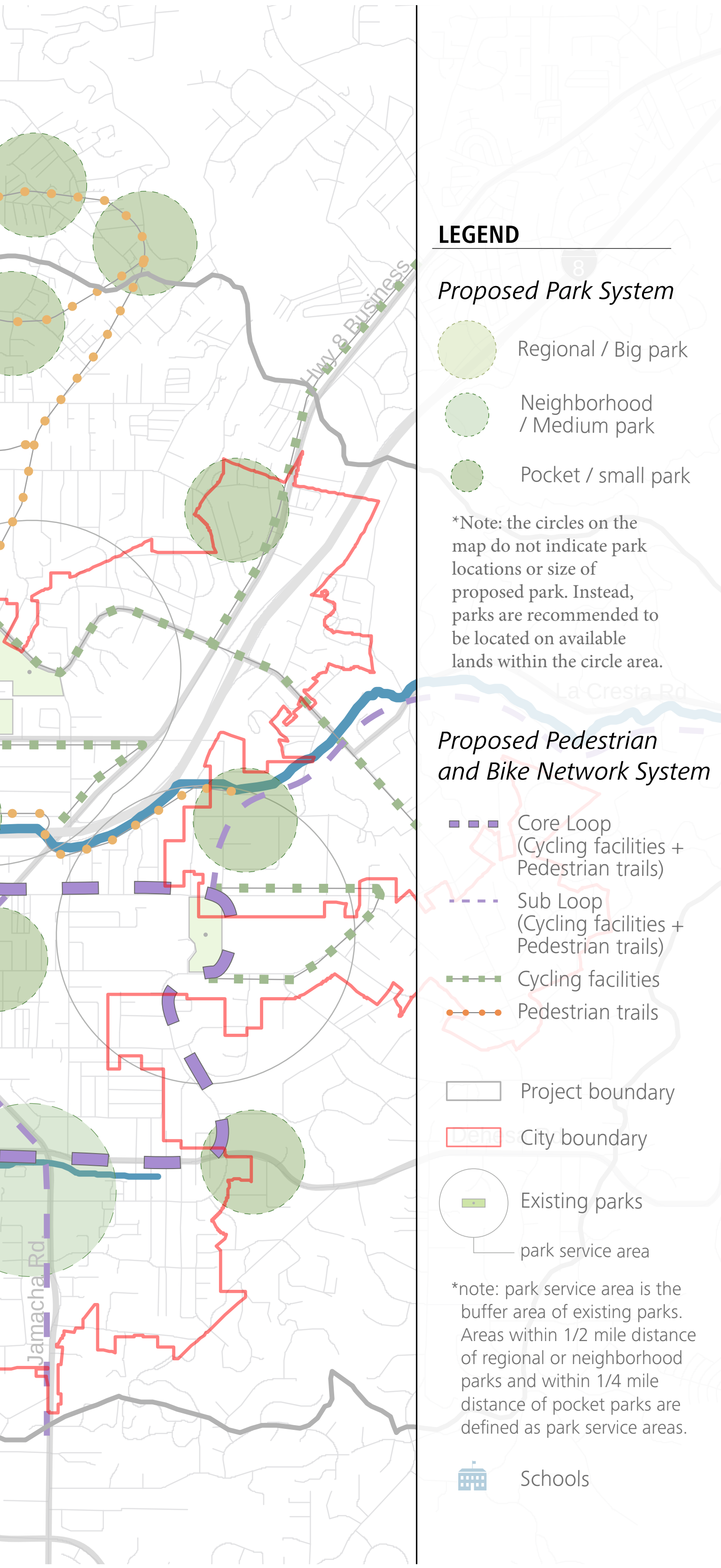
Open house participants suggested connecting the cycling facilities and trail network to the public transportation system. This was recommended by the participants as it would allow people to combine cycling and public transportation to reach their destinations (Figure 7.22).

Participants also suggested adding cycling facilities and trails to address gaps and improve connectivity. Some community members wanted to extend the cycling facilities to neighboring cities such as Alpine and Santee.

Based on the input from the open house, the plan was refined to create a more complete cycling network. The gaps identified by the Community Committee members were addressed to improve connectivity. The connectivity to the public transportation services was also improved as recommended by the community members.

Figure 7.23 Final plan





7.4/Version 4: Final Plan

After creating three iterations incorporating successive rounds of geodesign analysis and public participation, the project team and The San Diego River Park Foundation (TSDRPF) reviewed the draft plan to identify final refinements. This process included multiple group reviews and ground-truthing in the field. This Final Plan added parks to fill the gaps in park service coverage, so that the vast majority of El Cajon residents would live within ten minutes walking distance of a park, consistent with the City of El Cajon's walkability project (TPL, 2019). The plan also introduced a network of small-scale (mini-park) projects that could be implemented immediately and serve as stepping stones to larger projects and connect people to the creeks (Figure 7.23).

7.4.1/Final Plan: Park System

O/Locate new parks to address park service coverage gaps

Several parks were newly proposed in the Final Plan to enhance park service coverage in El Cajon. The team created a ten minute walking distance service coverage map of existing and proposed parks and then added parks to fill the gaps (Figure 7.24 to 7.27). The 2030 plan proposes eight approaches to adding park land which reflect the recommendations of this report (TPL, 2019) (see Chapter 9). The City of El Cajon has committed to increasing parkland and reducing walking distances to local parks by 2030.

P/Adjust the type and size of parks

The team adjusted the park system by changing the type or reducing the size of the parks as suggested by the geodesign process and team insights. In some areas, park service coverage zones overlapped and park locations needed to be shifted (Figure 7.24 to 7.27).

Figure 7.24 Park service area coverage of existing parks

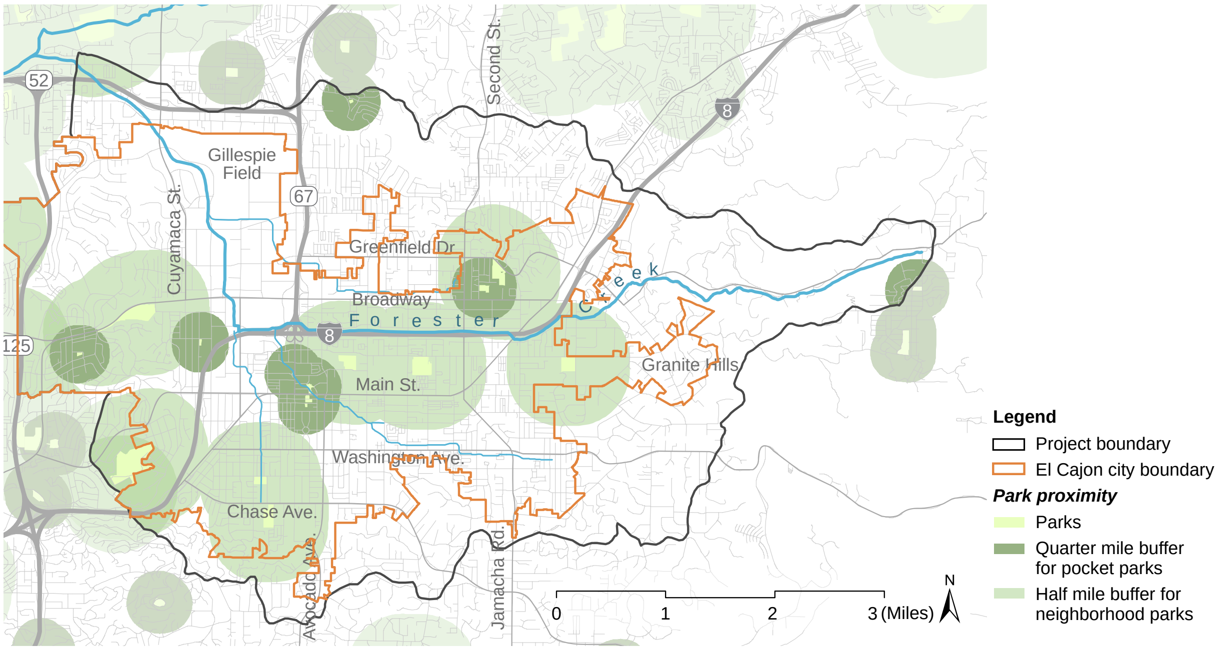


Figure 7.25 Final plan: park system

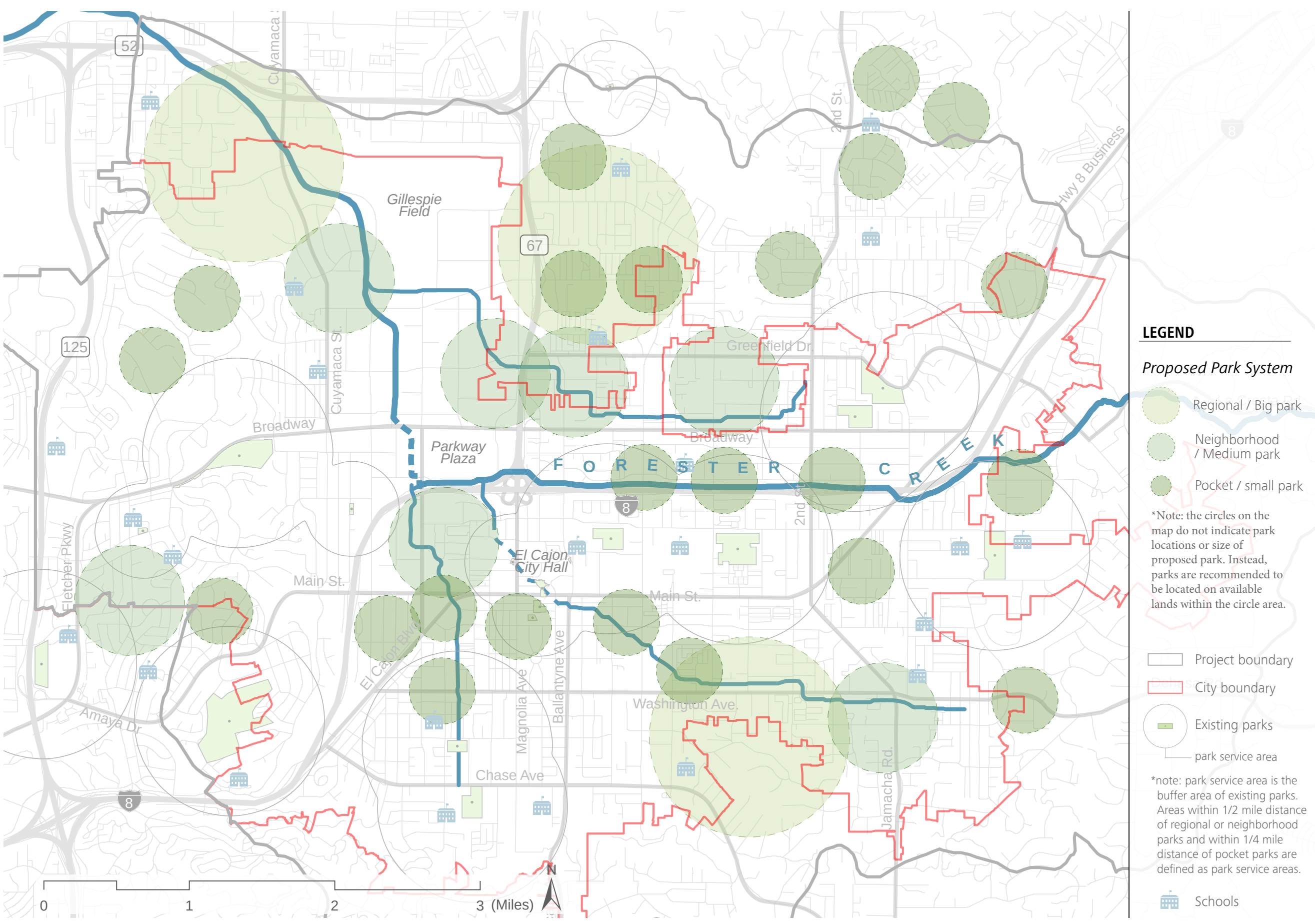


Figure 7.26 Park service area coverage of existing and proposed parks

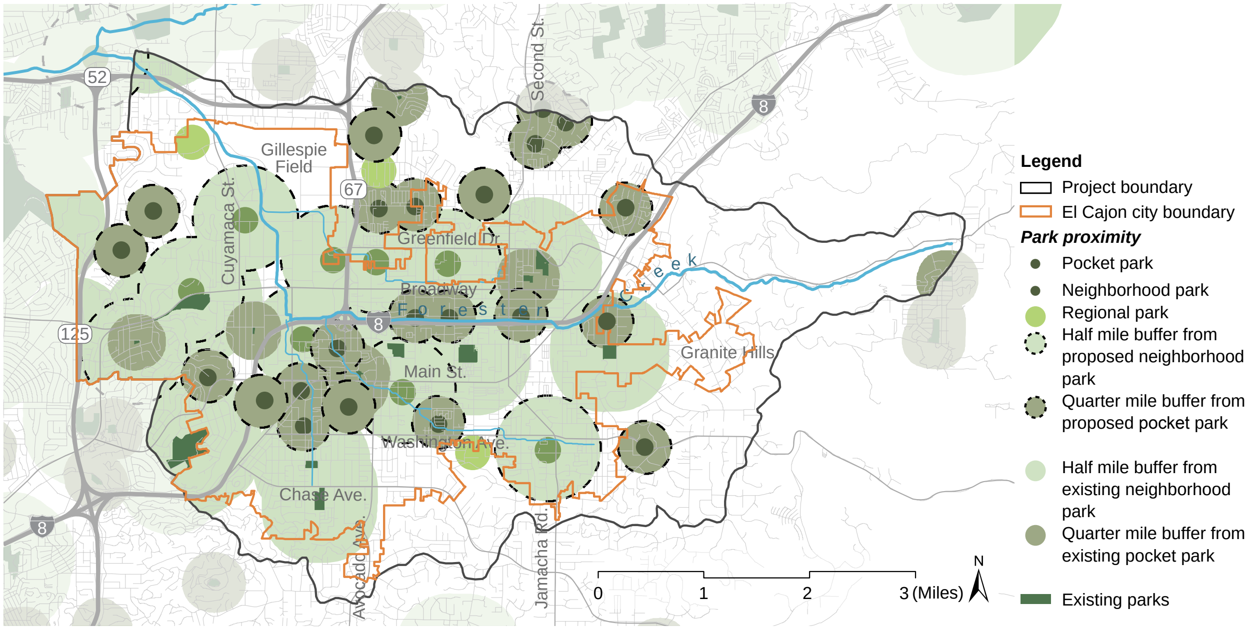


Figure 7.27 Final plan: network system

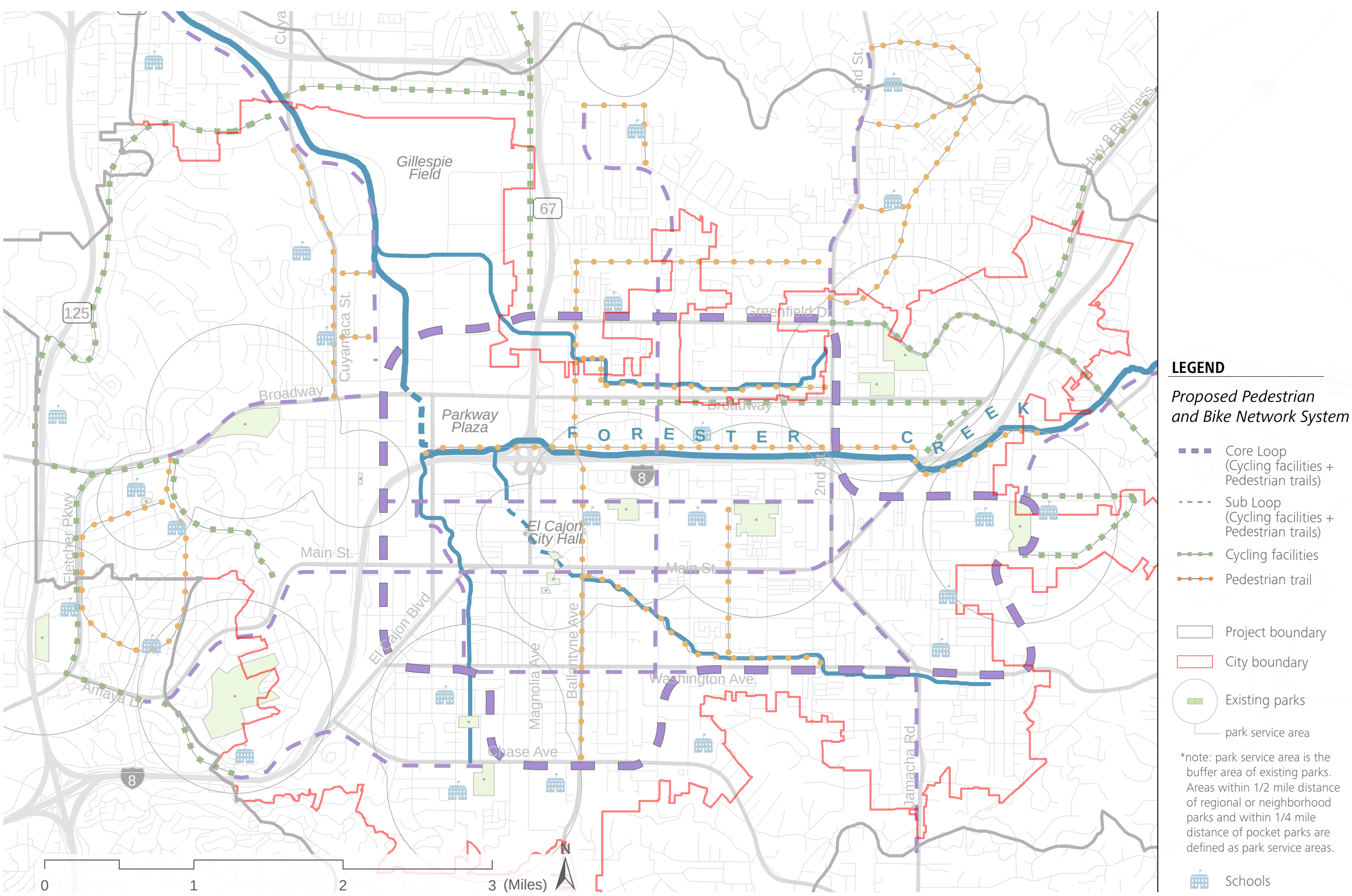


Table 7.04 Summary of design evolution

OVERALL CONCEPT		
DESIGN GUIDELINE	**RATIONALE**	**SOURCE**
Place parks and pedestrian/cycling routes near schools	Students and families will have ready access to parks after school; school zones are already better protected and policed	Participatory Design
Place parks and pedestrian/cycling routes near creeks	The project's objective is to engage people with the creeks	Project Objective
PARK SYSTEM CONCEPT		
DESIGN GUIDELINE	**RATIONALE**	**SOURCE**
Plan for 3 types of parks: Regional/Big parks, Neighborhood/Medium parks, and Pocket/Small parks	Different types of parks can provide different functions and serve different needs; supports park equity, not just equality	Team Insight
Distribute park locations	Serve more residents	Participatory Design
Plan more parks in park-poor areas	Address under-served areas	Geodesign
Plan park locations according to park service coverage	Ensure all residents are within walking distance of a park	Geodesign
Plan park locations in suitable areas in the city	Balance all the factors that make land suitable for parks	Geodesign
Locate parks according to the pattern of lot sizes and land availability	Increase the likelihood of implementation	Team Insight
PEDESTRIAN/CYCLING NETWORK SYSTEM CONCEPT		
DESIGN GUIDELINE	**RATIONALE**	**SOURCE**
Integrate the plan with the City of El Cajon's existing and planned facilities; fill gaps to build a complete network	Increase the likelihood of implementation	Team Insight
Plan 3 types of networks: cycling; pedestrian; and, integrated cycling/pedestrian	Different types of networks can serve different needs; supports park equity, not just equality	Team Insight
Create a multi-loop system with options	Maximize use; people prefer to customize their experiences	Participatory Design
Propose cycling facilities that connect to high schools	Serve high school students who cycle to school; encourage more students to engage in Active Transportation to School (ATS)	Participatory Design
Connect to public transportation system	Support multi-modal travel and alternative modes of transportation	Participatory Design
Connect to destinations throughout the City of El Cajon and in adjacent cities	Maximize use; people want a system that connects to preferred destinations	Team Insight

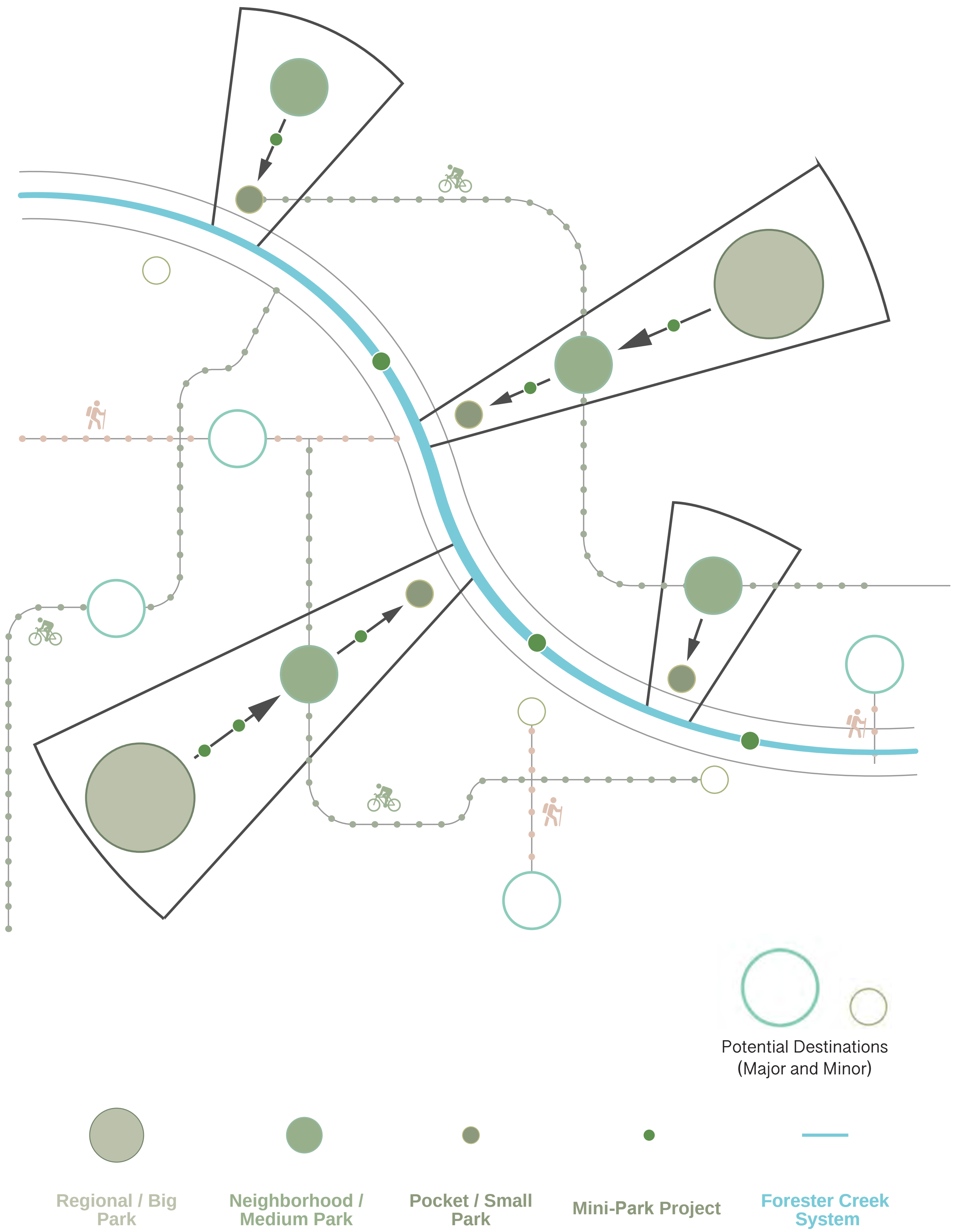
Connect cycling facilities to cycling facilities in neighboring cities	Support multi-modal travel and alternative modes of transportation; create a large recreational resource	Participatory Design
SMALL-SCALE, SHORT-TERM ("MINI-PARK") PROJECT SYSTEM CONCEPT		
DESIGN GUIDELINE	**RATIONALE**	**SOURCE**
Create "stepping stones" to link residential and urban areas to the creek	Build awareness of the creek and its potential	Team Insight
Place stepping stones between parks and along the creek	Physically and perceptually link parks, open spaces, and the creek into a green recreational system	Team Insight
Include small-scale, low-cost (mini-park) projects in high profile locations	Increase the likelihood of implementation; build awareness of the creek and its potential	Team Insight

Table. 7.05 Final plan: major changes by source

Final Plan		
Source	**Major Changes**	**Reasoning**
Geodesign	Locate parks according to park service coverage	Ensure all residents have walking access to the park
Sponsor's objective	Add small-scale, low-cost (mini-park) projects to the plan	Build support for larger elements
Team's insight	Adjust the type and size of parks	Support efficient use of resources
	Match the park pattern according to lot size and land availability	Maximize likelihood of implementation

Figure 7.28 Concept (section)

Figure 7.29 Concept (plan)



Q/Include small-scale, low-cost (mini-park) projects

Small-scale, low-cost (mini-park) projects were added to the plan to serve as “stepping stones” in the park system. These projects enable implementation of the plan to begin immediately because the small pieces of land needed for these projects are comparatively plentiful throughout El Cajon (Figure 7.28). While the City budget does not currently include funding for these projects, the relatively small budgets these projects require can readily be raised through grants and donations. Fast and successful physical demonstrations of the plan will help the sponsors raise support and funds for the larger projects in the plan while increasing awareness of the creek system, an important aspect of this project.

While the majority of the creek system lacks appeal for many reasons, the project team found a surprising number of shaded creek-side nooks with a view of the water that could offer a cool respite from the heat and glare of the urban environment. Little-by-little these tiny projects could serve as stepping stones toward connecting people to the creeks. Initial small-scale projects along the creeks will introduce the creeks as a recreational resource, build a relationship between the creeks and local residents, and set the foundation for implementing the overall plan (Figure 7.30).

In addition, small-scale projects linking larger parks and the creeks can guide people toward the creeks. In most areas of the City, existing parks are not located adjacent to the creeks and larger parcels are not available in these areas, so stepping stones of recreational space are needed to connect the parks and park users to the creeks. These small-scale, short-term projects will help create an integrated park and creek recreation system (Figure 7.30).

R/Maintain a viable network pattern to create a functional park system

The team recognized that the pattern of lot sizes and land availability suggested a pattern of types of parks: pocket parks in the densely populated core, then neighborhood parks in the surrounding communities, and finally regional parks closer to the perimeter of the City. This approach increases the feasibility of implementing the plan.

S/Create a “Human Flow to the Creeks”

In the final plan, the team recognized the potential to further engage people with the Forester Creek System by creating connected sets of parks and other recreation facilities and amenities that create a human flow towards the creek. Along the creek, the plan calls for mini-parks linked by cycling facilities or trails to destinations in the city. Between parks, there are small-scale projects or installations that create an axis and guide people to the creek. By drawing people’s lives closer to the creek, the vision of the plan is to render a strong connection between the people of El Cajon and the Forester Creek System (Figure 7.29 & 7.30).

7.4.2/Final Plan: Pedestrian/Cycling Network

The post-open house plan\ included improving the connectivity within El Cajon to create a more complete cycling network. The changes from the open house were retained in this final version of the draft plan. No additional changes were included in the Final Plan (Figure 7.28).

Summary of Forester Creek System Recreation Access Plan

The *Forester Creek System Recreation Access Plan* is a strategic blueprint for meeting the recreation needs of El Cajon residents by creating an interconnected network of schools, parks, and creek-side open spaces. The plan maximizes the impact of each recreation investment by:

- Building out from schools as the organic centers of children's and families' activity.
- Leveraging El Cajon's recreation assets—schools, existing parks, active pedestrian routes, and four creeks.
- Locating the right number and size of parks in the locations where they will serve the greatest number of currently under-served residents.
- Connecting open spaces, the city's densest neighborhoods, and most used destinations with a network of pedestrian/cycling routes.
- Jump-starting implementation with strategic small-scale, low-cost improvement projects.

Overall Concept #1: Plan parks and pedestrian/cycling routes near schools

The plan locates parks and pedestrian/cycling networks adjacent to schools to serve the needs of younger users and their families where they already gather and feel safe. Linking schools and parks with safe pedestrian/cycling routes will also enable more youth and their families to bike and walk safely from home to school, to the park, and back (see Table 7.05).

Overall Concept #2: Place parks and pedestrian/cycling routes near creeks

The plan locates parks and pedestrian/cycling routes adjacent to the creeks to realize the recreational potential of the Forester Creek System and connect residents to these key natural resources.

Overall Concept #3: Develop an interlocking system of recreation resources at a range of scales.

The plan overlays and interconnects three key components: (1) parks; (2) pedestrian/cycling facilities; and, (3) small-scale, low-cost (mini-park) projects.

***Forester Creek System Recreation Access Plan*: Park System**

The plan strategically distributes three types of parks throughout the City to maximize the number of residents served and assure as many residents as possible can walk to a park in 10 minutes or less. The three types of parks included are: Regional/Big parks, Neighborhood/Medium parks, and Pocket/Small parks. In total, the plan proposes 23 new pocket parks, 7 new neighborhood parks, and 3 new regional parks. Each park type fulfills different needs and together form a complete park recreation system. A particular emphasis is placed on densely populated neighborhoods that are currently under-served by parks. To maximize the potential for implementation, the plan matches the type of park to local land availability: pocket parks were placed in the densely populated core where large lots are not available, neighborhood parks were placed in the surrounding communities, and regional parks closer to the perimeter of the city where land is more plentiful.

The plan highlights the most strategic, impactful "zones" for new parks, not exact locations or particular parcels. This approach was taken to create a living plan that can be implemented over time to serve the greatest number of residents with the most significant need. Basing the plan on currently available land would be misleading and unnecessarily limiting. There is no way to know if currently available land will be similarly available in 5, 10 or 15 years when park funding is available. In 5, 10 or 15 years, other land will be available. A map of particular parcels would also give the impression that the plan would be built as drawn. In fact, the plan is not a map of future parks: it is a system of guidelines to enable civic leaders to select and develop the most impactful next park project each time funding becomes available. The "Next Steps" section describes how leaders can apply the plan's guidelines to choosing and designing projects.

***Forester Creek System Recreation Access Plan*: Pedestrian/Cycling Network**

The pedestrian/cycling network links existing and planned facilities into a complete and connected system. The network addresses three different functions: cycling facilities for recreation and transportation; pedestrian paths in residential neighborhoods and near schools; and, combination pedestrian/cycling facilities as needed to serve diverse local needs.

The network includes three types of facilities: a core loop that encircles downtown and the adjacent densely populated areas; secondary loops inside the core loop and extending from it to connect residential areas and destinations; and, pedestrian/cycling facilities in residential and rural areas to provide safe mobility options. The network includes loops of different lengths for fitness options and connects to the public transportation system and cycling facilities in neighboring cities to encourage active transportation (Table 7.05).

Small-Scale, Low-Cost (Mini-Park) Projects

The plan also includes small-scale, low-cost (mini-park) projects to link parks to each other, to the creeks, and provide recreational spaces in dense urban neighborhoods with limited land availability. These projects can be located on excess right-of-ways, undevelopable triangular sites created as the creeks cut across lots, extra space in parking lots, and frontages and other under-utilized portions of parcels. They can serve as stepping stones that create connected open spaces that guide people to the creek. They can also serve as recreation spaces along the creek in areas of limited land availability. These projects are also a strategic asset as they allow fast and successful physical demonstrations of the plan to engage the local community, raise support, and generate funds to implement the complete park system and pedestrian/cycling network. These small-scale projects and the opportunity sites are discussed in greater detail in Chapter 8.

First Steps in Implementing the *Forester Creek System Recreation Access Plan*

The next chapter outlines a strategy to jump-start implementation of this plan by first building small-scale, low-cost (mini-park) projects that demonstrate the potential of the plan to connect schools, parks, pedestrian routes, and the creeks. Once this initial effort succeeds, the next strategic question will be, "How do you decide which of the numerous park projects and pedestrian and cyclist routes in the plan to do first, second and third?" And, given that the plan identifies "zones" where parks are needed, not particular sites, the next question will be, "What are the criteria for choosing sites?"

Selecting Project Zones and Sites

The criteria for choosing project zones and particular sites are the same. You are applying the results of the community planning process on two levels—first to select a zone, and then, a particular site. In practice, it is most effective to use the criteria to develop a priority list of potential project zones and then apply the criteria to evaluate sites in all the potential zones. This is a practical way to find a high priority site in a high priority zone. If you only look for sites in one top project zone, you may end up either selecting a marginal site or having to start over in another zone.

The most effective projects and sites will:

- **Fulfill the criteria underlying the entire plan** (Table 7.05)—test for need and potential for impact. Projects and sites in the densest, most park-poor neighborhoods best fulfill the plan's need criteria. Projects and sites that leverage adjacent schools, active pedestrian/ cycling routes and the creeks fulfill the plan's criteria for maximum impact.

- **Fill top priority needs and desires identified by the community**—first projects and sites must accommodate the priority recreation activities identified by the community. Detailed in Chapter 6, these include: walking, cycling, table games, gardening, outdoor gyms and soccer. If projects and sites do not fulfill this criteria, they risk being under-utilized and will diminish the opportunity to further implement the plan.

- **Visible and replicable**—in addition to being much needed recreation spaces, these first projects are tests for the plan and demonstrations of its potential. To best fulfill this role, the first projects and sites need to be in visible locations, so their success is not only experienced by their users, but also seen by passersby. The projects should also be replicable, so their success clearly points to the next project. For example, if there are three similarly effective mini-park locations along a creek, one of them would be a better first project than the one uniquely spectacular site that doesn't demonstrate the potential of any other available locations.

- **Cost-Effective**—first projects should demonstrate the potential to serve a large number of people at a relatively low-cost. For example, a $50,000 walking path around a school that is actively used by walkers morning and night may build more momentum for the plan than a $500,000 mini-park on an empty lot that serves only a few people at a time. From the perspective of an average resident, public landscapes are very expensive to build, so it is important to deliver perceived value. Also, leveraging an existing asset—like a school—is perceived as fiscally responsible.

CHAPTER 8. INITIAL SMALL-SCALE, LOW-COST (MINI-PARK) PROJECTS

As described in Chapter 7, small-scale, low-cost (mini-park) projects can serve as literal and strategic "stepping stones" to greater recreational access to the Forester Creek System. Even when this plan is fully implemented, limits on available large park sites will mean that many recreation areas will be distant from the creeks and disconnected from each other. However, between these larger sites lie many smaller sites that can be developed into recreational nodes that serve as stepping stones between parks, and from parks to the creek. Lying on public and private land, these sites are smaller than a developable lot, often no more than few hundred square feet of unused edge or excess right-of-way. The creeks themselves help create these sites as they cut diagonally across the city grid, creating little "islands" of water-side land separated from the developable part of their "mainland" lot. These small sites have the potential to play an out-sized role in creating an interconnected park system and recreational access to the creeks.

These small-scale, low-cost (mini-park) projects also serve as strategic stepping stones toward implementing the larger parks envisioned in the plan. Even a ¼ acre pocket park can require years of fundraising, design and development, and a million dollar budget. The largest parks in the plan are likely 10 or more years and 10 million dollars into the future. Small-scale, low-cost (mini-park) projects offer an opportunity to start the physical implementation of the plan immediately: each small demonstration of success will help to build the support and capacity for larger projects. Physical demonstrations are especially important for this project because, as the Forester Creek questionnaire showed, most El Cajon residents are unaware of the creeks' existence, let alone conscious of them as attractive locations for recreation. Successful small-scale, low-cost (mini-park) projects will be critical components in building a large group of residents who have a positive association with the creeks.

As described and illustrated below, the small-scale, low-cost (mini-park) projects envisioned for this project may take many forms—creek-side seating, exercise zones, play areas, learning spaces, public art, etc.—but they must be designed to deliver two critical benefits: improved quality of life, and positive connection to the creeks.

By creating street-side recreation nodes, each mini-project will also make a small contribution to addressing park poverty and creating safe routes to schools, both identified as community priorities. By increasing plant coverage and offering shade, some of these projects will also address the urban heat island effect (Figure 8.01 to 8.03). Others will address water quality and flooding issues by creating detention and infiltration areas. When implemented well, small-scale, low-cost (mini-park) projects have proven potential to provide immediate benefits, kick-off the successful implementation of a larger project, and address larger and longer-term needs.

8.1/What Makes a Successful Small-Scale, Low-Cost (Mini-Park) Project?

The form and function of small-scale, low-cost (mini-park) projects are as diverse as the communities that create them, however several characteristics consistently define successful examples. They are:

- **Low-cost, possible-to-build multiple projects with readily available funds**. A significant part of the impact of these projects comes from doing them quickly and repeatedly, so funding and fundraising should not slow the process or constrain replication. For some contexts, this would suggest a budget of no more than $100. For others, $10,000. Both are viable. The key is to work within your means.

- **Quickly realized from concept to ribbon cutting**. To catch the community's attention and have catalytic impact, these projects should be completed in no more than six months, preferably three months, or even three weekends. The key to such quick implementation is preparation before engaging the public, which is when the clock starts ticking. This preparation

Figure 8.01 Parklet toolkit (606 Studio, 2015)

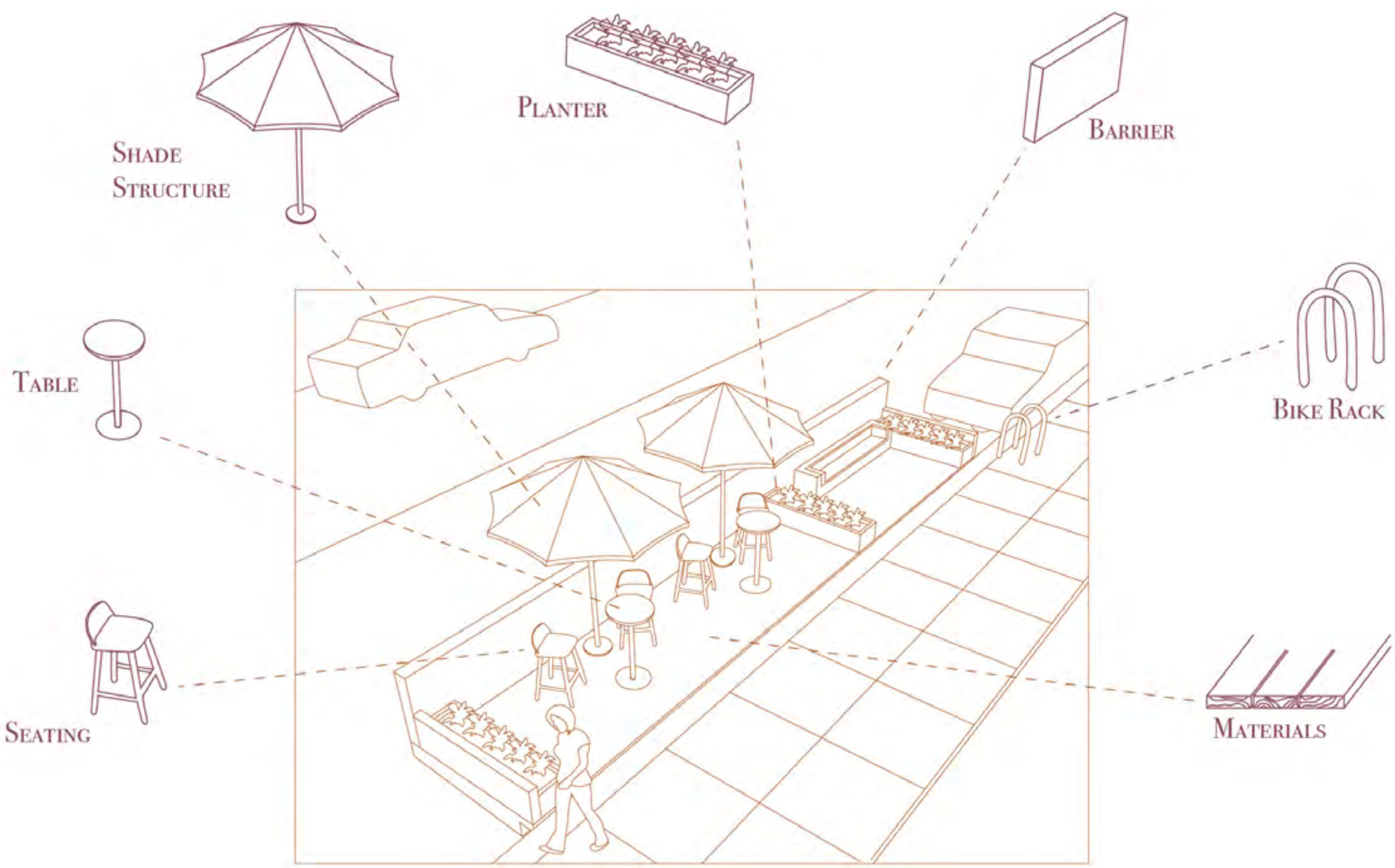


Figure 8.02 Green alley toolkit (606 Studio, 2015)

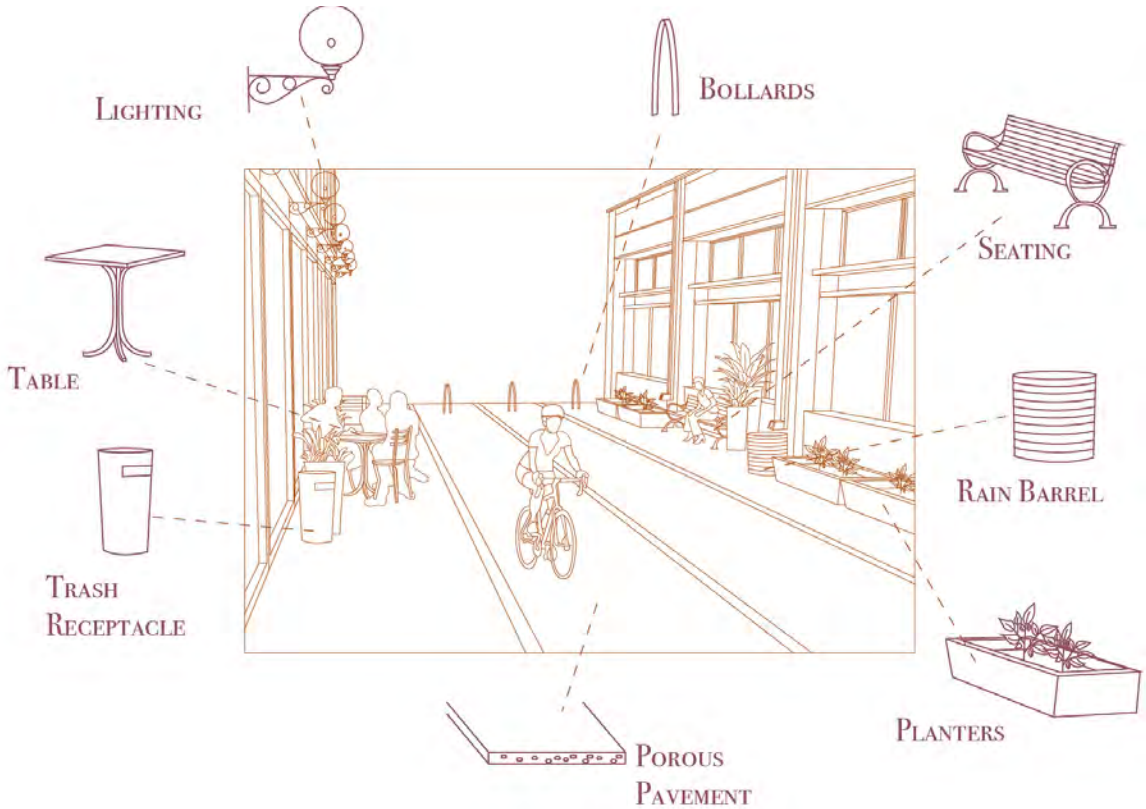
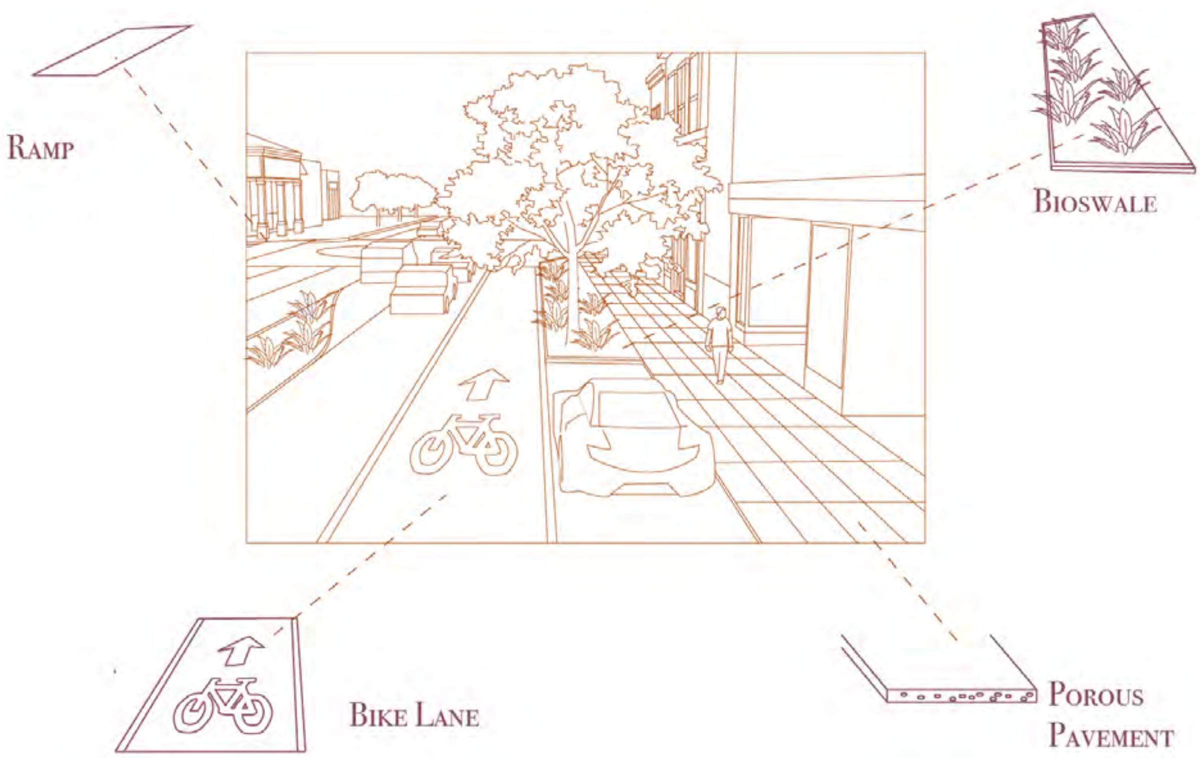


Figure 8.03 Streetscape toolkit (606 Studio, 2015)



includes raising the funding, securing access and use of the site, assuring there are no unforeseen barriers to construction, setting the foundation for permitting, and arranging project management, design, and construction assistance.

- **Easy to build, easy to repair, easy to maintain**. Every extra hour and dollar spent on a project because it is difficult to build, repair, or maintain, is time and money taken away from the next project and lessens the potential for broader impact. From day one, projects should be conceived and designed to be as easy to build, repair, and maintain as possible. This does not suggest bland or dumbed-down designs, but rather investing time and effort into creating easy-to-build, durable projects. Be sure to match the design with who is going to maintain it. City crews can handle trimming trees and emptying trash that might be too much for resident volunteers, while residents can care for vegetable and flower gardens that require more detailed, day-to-day attention than City staff can likely provide.
- **Respond to life and culture of the neighborhood**. These small projects have big success when they build on activities that already define life in the neighborhood. If residents already sit in the yard or at the café playing board games, build board game tables in the shade of a creek-side tree. If neighborhood kids work on their bikes on the sidewalk, build a creek-side bike repair station. Or if there is a community tai chi group, collaborate with them to create a creek-side space for their practice.

8.2/What Makes a Good Site for a Small-Scale, Low-Cost (Mini-Park) Project?

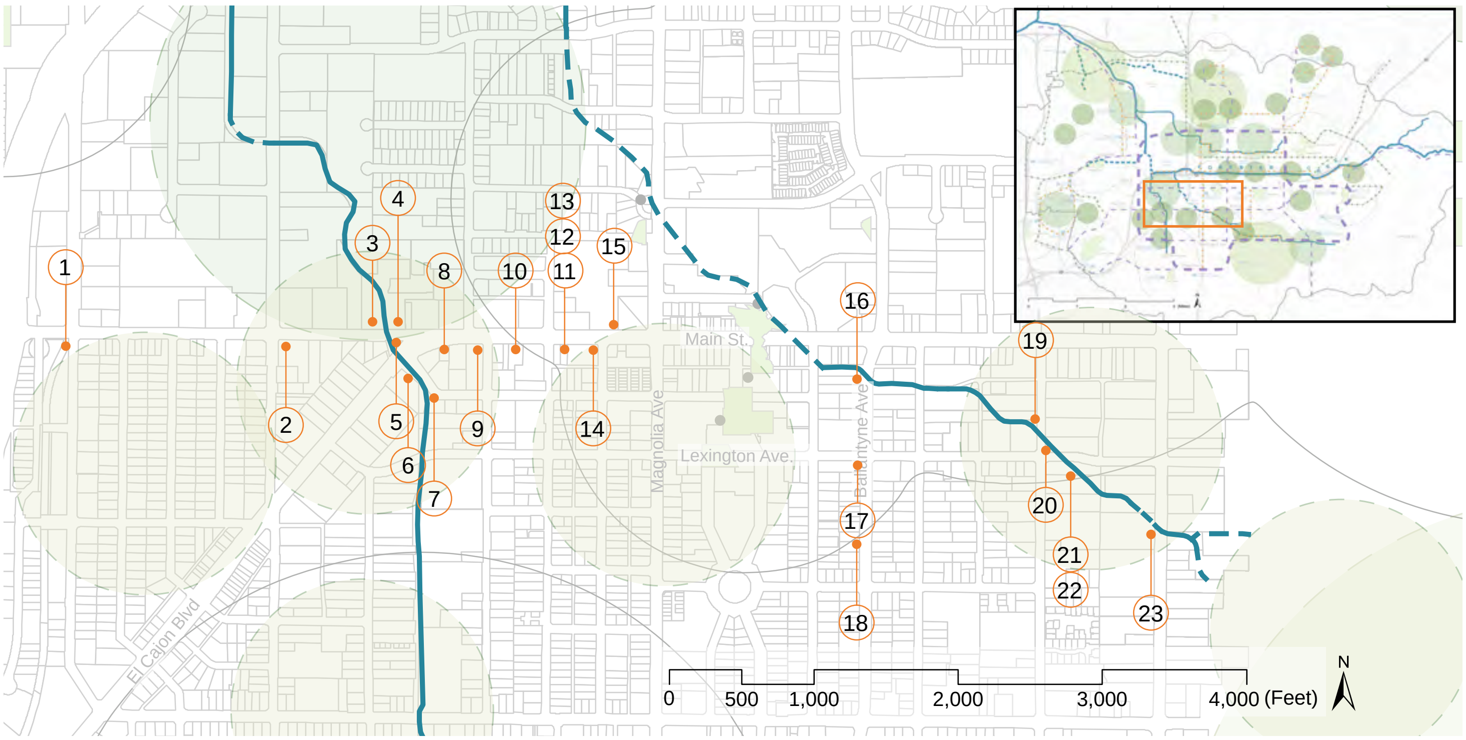
While currently the creek is largely channelized and lacks sensory appeal, the implementation of small-scale projects can demonstrate the positive impact of small improvements. To illustrate the potential of the plan and catalyze implementation, initial small-scale, low-cost (mini-park) projects should be located on sites that are immediately adjacent to a creek, along active pedestrian routes, and highly visible (Figure 8.04).

- **Immediately adjacent to a creek—**to promote positive associations with the creek and demonstrate the recreation potential of the creeks, these new recreation nodes should be directly adjacent to a creek. Users should be able to see the creek as they relax, play, learn, or appreciate the art. This is critical and easily compromised in the field. If there is a "great site" one block from the creek, it is not a great site (*for now)*. After the first creek-side projects are built, the site one or two blocks from the creek may be a perfect stepping stone to the park four blocks away. Initial small-scale projects need to be directly on the creek to fulfill their intended impact.
- **On active pedestrian route—**small-scale projects do not have sufficient magnetism to be independent destinations. They need to be placed where people are to attract regular use. Moreover, one of the attractive characteristics of a recreation space is as a place to "see and be seen," so adjacent pedestrian traffic improves every space.
- **Very visible—**to build a positive association with the creeks, these small projects need to be enjoyed not just by the people who use them, but also by the many people who will see other people use them. The family watching the creek go by from the new shaded bench is building a positive association with the creek. The hundred families that see this sitting family as they drive, walk, or bike by are also building a positive association with the creek.

Beyond these project specific criteria, the general quality of the site is critical to the success of a small-scale, low-cost (mini-park) project. Small-scale projects cannot overcome bad sites. In fact, small-scale projects rely on the positive qualities of their sites to achieve success. The characteristics of a quality site for a small-scale, low-cost (mini-park) project include:

- **No acquisition or rent required—**only free sites fit within the strategy of building multiple, easily maintainable, small-scale projects with readily available funds. Good examples of these "free" sites include unused public right-of-ways at intersections and along freeways, under-utilized edges of parking lots, commercial and office

Figure 8.04 Initial potential small-scale, low-cost (mini-park) project locations in sample area



developments and churches and healthcare facilities. Owners will often welcome a small improvement project and community stewardship because otherwise these remnant spaces attract trash and vandalism.

- **Characterized by both prospect and refuge**—people are attracted to sites that have both a positive, expansive outward view (prospect), and a sense of protection or safety (refuge).

- **Existing shade or favorable aspect** (not exposed to afternoon sun)—providing shade is critical to encouraging use in El Cajon's climate. While a small-scale project may include planting shade trees, the new recreation space will need some pre-existing shade to succeed while the trees mature.

- **Adjacent uses without inherent land use or user conflict**—when seeking to demonstrate the positive experience of recreating along the creek, it is critical to avoid sites with conflicting adjacent land uses. For example, when building a creek-side picnic area, avoid a site next to an odorous recycling center or a freeway.

Figure 8.05 Initial potential small-scale, low-cost (mini-park) project locations in sample area (1-8)

Figure 8.06 Initial potential small-scale, low-cost (mini-park) project locations in sample area (9-15)

Figure 8.07 Initial potential small-scale, low-cost (mini-park) project locations in sample area (16-23)

8.3/Main Street Creek Corridor—Proposed Zone for Initial Small-Scale, Low-Cost (Mini-Park) Projects

To test the potential for small-scale projects in El Cajon, the project team applied the above criteria to the Main Street Corridor as it crosses County Ditch and Washington Channel. This area was selected because of its potential for creek-side sites that combine high pedestrian traffic and high visibility. The map above and the images on the following pages locate and illustrate the 23 sites the project team identified in this one area.

The availability of sites with views of the creeks shows the potential for small-scale projects that could introduce and kick-start the vision in El Cajon. This field survey of the Main Street Corridor demonstrated that there are many sites for small-scale projects within the development grid and land use patterns of El Cajon (Figure 8.04 to 8.07).

8.4/Examples of Small-Scale, Low-Cost (Mini-Park) Projects

Seating and Picnic Areas

Seating and picnicking areas create places for residents and visitors to rest, relax, and recharge next to the creek. These spaces promote people spending extended time next to the creeks, which has dual impacts: it exposes the users to unexpected beauty and nature that might be missed at first glance; and, it turns the users into living demonstrations of the recreation potential of the creeks. These early users will be seen by large numbers of passersby (Figure 8.08 to 8.10).

Informal Exercise and Play Spaces

Simple structures with bars and benches, or natural elements, such as boulders and logs, can provide a multi-use space for exercise and play. These spaces can be designed to promote creek-side recreation and appear as attractive creek-side landscapes when not in use (Figure 8.08 to 8.10).

Community Billboards and Bulletin Boards

Community billboards provide flat surfaces for drawing, communicating messages, or artistic expression. They can include blackboards, cork boards, wooden, and paved surfaces. Placing community bulletin boards adjacent to the creek can draw in neighbors who might otherwise never have taken a look into the channel (Figure 8.08 to 8.10).

Learning Landscapes

Learning landscapes include educational or interpretive features such as signs, illustrative panels, QR codes, or citizen scientist tasks. These elements can be especially effective in promoting creek awareness when planned along a walking route to and from a school, or combined with a seating and picnic area (Figure 8.08 to 8.10).

Rain Gardens and Greenways

Rain gardens and greenways create beautiful landscapes, filter water before it enters the creek, and reduce local flooding. For this project, they also create a living connection to the creeks that is visible at the street and sidewalk level (Figure 8.08 to 8.10).

Figure 8.08 Examples of small-scale, low-cost (mini-park) projects

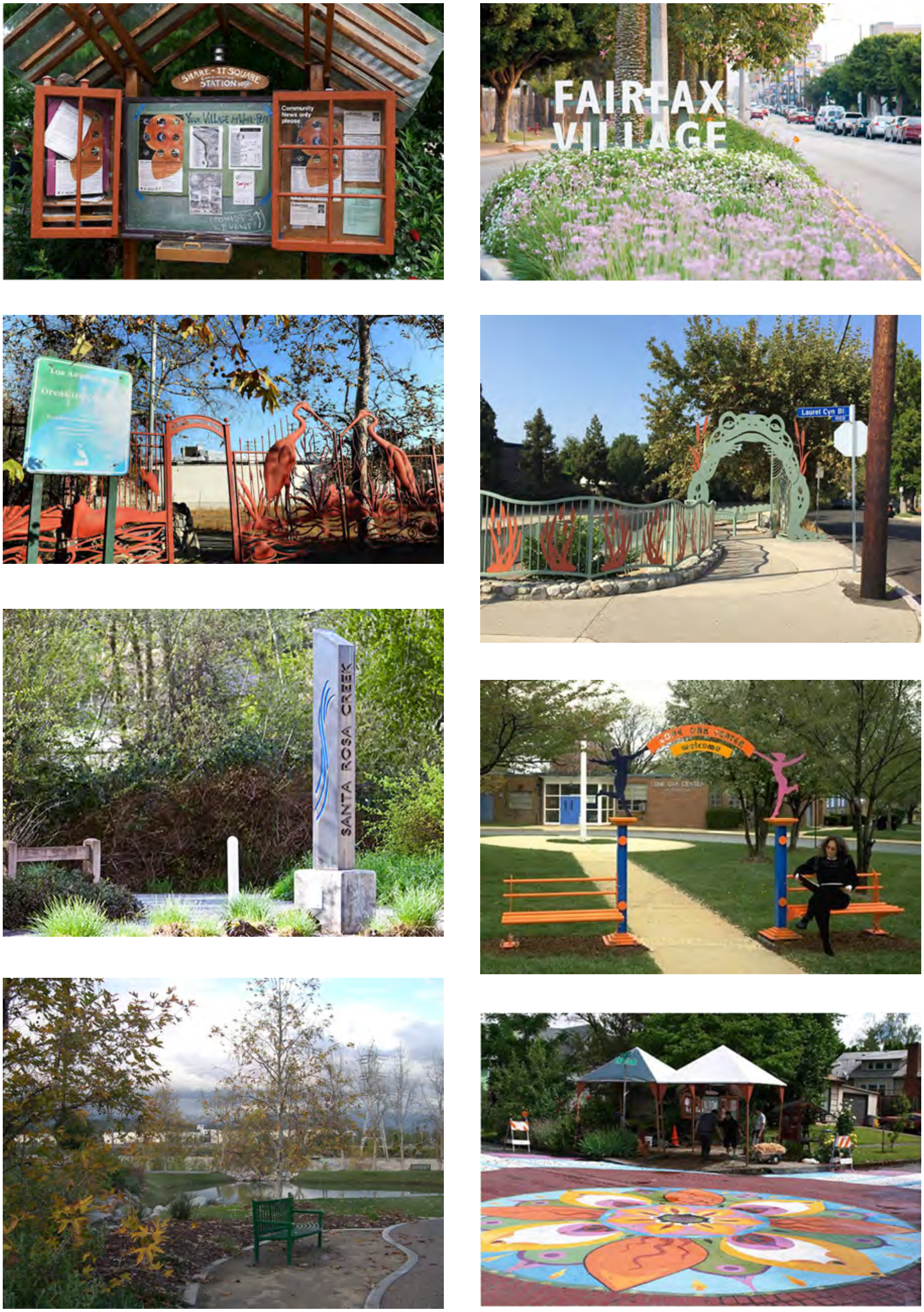


Figure 8.09 Examples of small-scale, low-cost (mini-park) projects

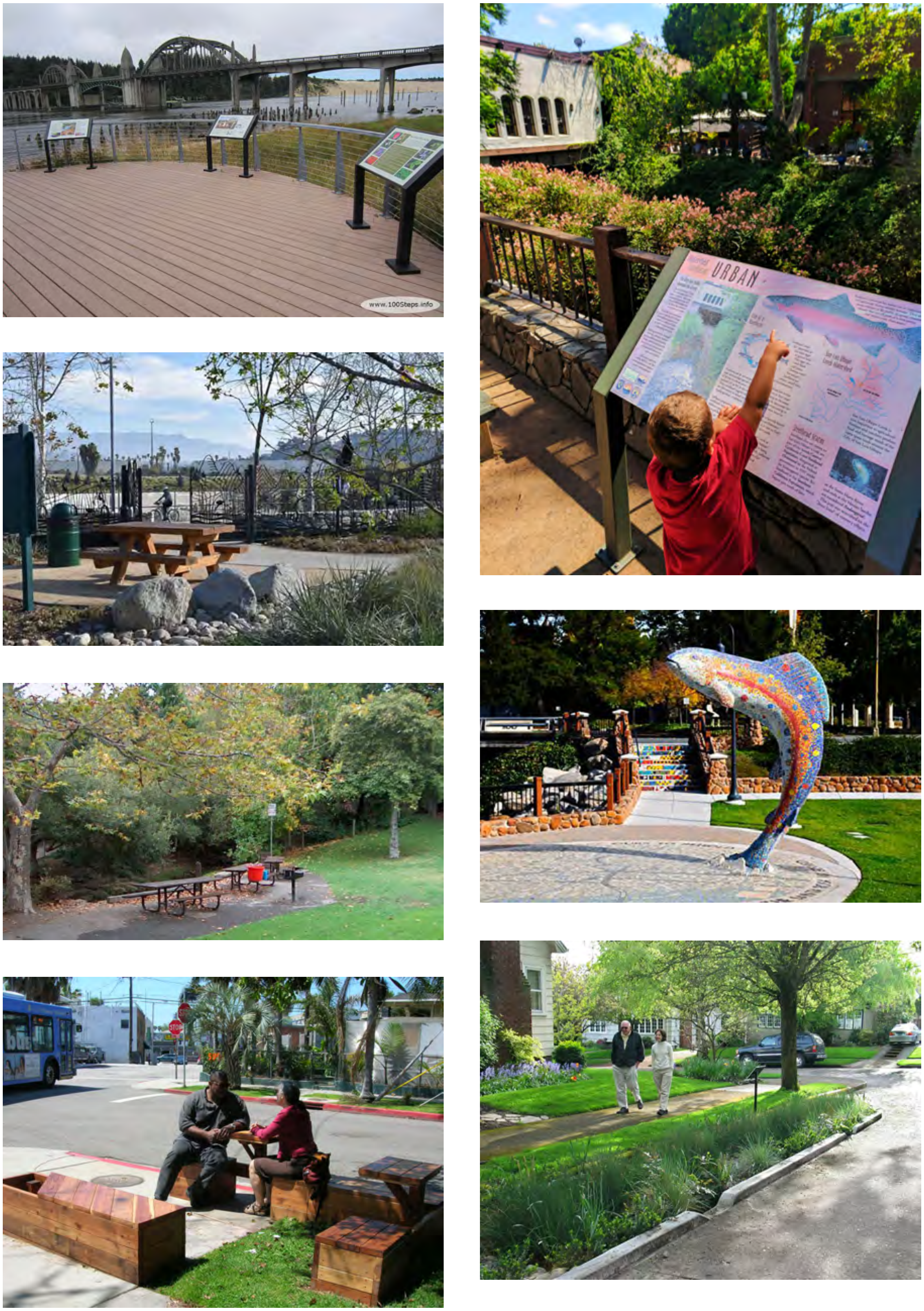


Figure 8.10 Examples of small-scale, low-cost (mini-park) projects

Creek Markers and Gateways

Markers and gateways identify a location and cause drivers, cyclists, and pedestrians to recognize where they are and acknowledge their surroundings. Strategically placed markers and gateways build residents' awareness of the creeks and entice them to stop and explore. These enticements often work best when combined with elements that encourage people to apply what they just learned. For example, a creek-side sign with information about local birds might be combined with a shaded bench placed for birdwatching (Figure 8.08 to 8.10).

Public Art

In the context of this project, creek-side public art is a type of "gateway or window" that can encourage people to recognize and explore the creek. Creative artistry can add impact by attracting people to the creek who would not respond to simple signs and entry arches (Figure 8.08 to 8.10).

Chapter 8 Summary

Small-scale, low-cost (mini-park) projects can serve as literal and strategic “stepping stones” to greater recreational access to the Forester Creek System. Even when this plan is fully implemented, limits on available large park sites will mean that many recreation areas will be distant from the creeks and disconnected from each other. However, between these larger sites lie many smaller sites that can be developed into recreational nodes that serve as stepping stones between parks, and from parks to the creek.

These small-scale, low-cost projects also serve as strategic stepping stones toward implementing the larger parks envisioned in the plan. Even a ¼ acre pocket park can require years of fundraising, design and development, and a million dollar budget. Small-scale, low-cost projects offer an opportunity to start the physical implementation of the plan immediately: each small demonstration of success will help to build the support and capacity needed for larger projects.

Lying on public and private land, the sites for these projects are smaller than a developable lot, often no more than few hundred square feet of unused edge or excess right-of-way. The creeks themselves help create these sites as they cut diagonally across the city grid, creating little islands of water-side land separated from the developable part of their “mainland” lot. These small sites have the potential to play an out-sized role in creating an interconnected park system and recreational access to the creeks.

Examples of Small-scale, Low-Cost (Mini-Park) Projects

- Seating and picnic areas
- Informal exercise and play spaces
- Community billboards and bulletin boards
- Rain gardens and greenways
- Public art
- Neighborhood gateways

Characteristics of Good Sites for Small-Scale, Low-Cost (Mini-Park) Projects

- Immediately adjacent to the creek
- On active pedestrian route
- Highly visible
- Shaded
- No acquisition or rent required

Successful Small-Scale, Low-Cost (Mini-Park) Projects

The form and function of small-scale, low-cost projects are as diverse as the communities that create them, however several characteristics consistently define successful examples:

- Low-cost, possible to build multiple projects with readily available funds
- Quickly realized from concept to ribbon cutting—in a few months, not years
- Easy to build, easy to repair, easy to maintain

CHAPTER 9. DISCUSSION AND RECOMMENDATIONS

9.1/Discussion

This project explored the potential for non-motorized, non-contact, water-based recreational activities within the Forester Creek System. Initially, the project was motivated by the pollution from runoff and litter in El Cajon reaching the San Diego River. Fully addressing this issue will require engineering solutions, changes to the city's infrastructure, and human behavioral changes, such as the elimination of dumping. Developing creek-related recreation can contribute to this effort by developing users' appreciation for the creek and their desire to see it protected and improved.

Currently, the Forester Creek System is highly urbanized: habitat modifications are not top priorities. However, the more the creeks are restored, the more these considerations will become a factor. Each incremental increase in recreational access to the creek system raises the issue of environmental balance. For example, long before a creek trail is built, recreational access will likely be increased in small steps with creek-side benches, picnic areas, and mini-parks. Each of these projects will help provide much needed nature-adjacent open space and connect El Cajon residents to the creeks, but they will also bring more human impact, for example, trash left behind to flow into the creeks, or youth throwing things into the creeks. This is the classic park planner's dilemma: how to balance access and preservation. In some cases and locations, it will be possible to serve both objectives. In others, choices will need to be made as to whether a particular site is primarily for access or preservation. Considering this balance should be part of every step of implementing this plan. Along the main stem of the San Diego River, The San Diego River Park Foundation has had success in engaging the community in volunteerism and stewardship to mitigate negative impacts of public access to natural resources, and this model could be effective in El Cajon.

El Cajon is severely park-poor, having less than 1/10 the national standard of acres of parks per 1000 residents (as of 2017). El Cajon's 1 acre per 1000 people provision level is also only one-third the state standard for California. In the beginning, this project focused on the Forester Creek System. However, as the team undertook data collection, biophysical and sociocultural inventory, as well as participatory design, it became clear that the stakeholders and residents wanted to consider open space resources along the creek in the context of the study area's park system as a whole.

While basic information on demographics and city characteristics is available on-line, detailed information was difficult to find. Challenges associated with identifying and assessing the study area's recreational and open space resources were complicated by the City of El Cajon's lack of a park and recreation master plan, detailed demographic information, and population projections. Most data used for this analysis was provided by the County of San Diego. This data included significant errors. El Cajon is well-known in the region for having a significant population of Middle Eastern and North African refugees and immigrants, as well as immigrants from Latin America, but data quantifying this population was not available.

What is clear is that El Cajon residents need access to recreational resources in general. Until their basic needs for safe routes to school, playgrounds for children, and group sports facilities have been addressed, El Cajon residents will be unlikely to support creek-related improvements.

The greatest demand was for large regional-scale parks with natural and maintained areas, trails and paths. However, residents recognized the difficulty inherent in finding and purchasing large areas of land, and supported medium and pocket parks as alternative ways to provide recreation to residents. Pocket parks, and even smaller mini-projects, offer a highly implementable approach to retrofitting open spaces into the city fabric on "left-over" and remnant pieces of land, many of which are city-owned. Pocket parks and mini-projects are also an excellent way to create momentum and support for larger park projects as they can be implemented in urban, highly populated areas, adjacent to roadways, and associated with commercial and institutional properties. Even small-scale, low-cost (mini-park) projects can address basic recreation needs, create amenities for local businesses, and address air and water quality concerns.

The waterways of the Forester Creek System are virtually invisible in El Cajon and the residential and commercial development of the City turns its back to them. There is no usable right-of-way along most of the Forester Creek System and few full parcels of vacant land adjacent to the creek. The lack of available land along the creek makes creating a viable recreational system using only currently available land impractical. It also eliminates the most common and popular element of a waterway recreation access plan—the creek-side path.

One viable alternative is to determine the areas where recreation facilities are needed and how these areas can relate to one another and the creek, leaving the task of identifying specific parcels for particular uses to the detailed design and implementation stages of the plan. Even when new regional and neighborhood parks are developed, in most cases, users will need to use pocket parks and mini-projects as stepping stones leading from larger parks to the creeks.

Currently, access to the Forester Creek System is limited, especially within the urban residential and commercial reaches. The creek is often purposely hidden from view and access is prohibited by fences. In these restricted conditions, the 606 Studio defined existing access points as any point where public viewing was possible, including points where the creek intersects street locations that might not usually be considered as traditional access points. These street crossings act as both existing and potential access points which may be further developed. Daylighting opportunities also played a role in defining potential access points. Where the creek is buried beneath opportunity sites such as Renette Park and City Hall, there are exceptional opportunities to daylight the creek or use "eco-revelatory design" to provide visual evidence of the creek and its functions while still addressing stormwater functions.

A wide range of methods were used to develop the *Forester Creek System Recreation Access Plan*. Data mining and GIS/geodesign were used to build a biophysical and sociocultural inventory. This off-site research and analysis was complemented and ground-truthed through field work to collect "on-the-ground" information about the Forester Creek System and its surroundings. Participatory design methods were used to help community members identify their preferences and priorities for recreational activities, facilities, and amenities, and their preferred locations for each in

Figure 9.01 Relationship between data collection and decision-making tools: recommendations

their neighborhoods. Questionnaires were used to collect information on individual perspectives and priorities. Suitability analyses were conducted to identify opportunity sites. Finally, integrative design tools were used to integrate all the available information, data, comments, insights, and feedback into a single comprehensive plan.

According to this study, people in El Cajon are interested in natural elements in the city, walking and cycling paths, wildlife, and birdwatching. However, recreation trends shift over time and with demographic changes.

The Community Committee was a strong voice for local residents and stakeholders. They were a significant resource for encouraging broad attendance at the open house, and facilitated discussion and dialogue within the community. Throughout the five meeting process, they participated in a wide range of exercises designed to elicit their thoughts and insights about the Forester Creek System, El Cajon, and recreation. This report attempts to document their ideas and priorities.

9.2/Recommendations

1/Implement mini-projects to create community engagement and build momentum.

Create small-scale, low-cost (mini-park) projects to demonstrate progress. The recommended area for the first group of projects is the Main Street Corridor where it intersects Washington Channel and County Ditch.

2/Work with local grassroots organizations to implement local mini-projects.

Long-term partnerships with government are necessary, but take time to create. Building momentum requires immediate responsiveness and small-scale implementation non-profits can provide, so project participants can be sustained by visible, tangible results. Non-profits engage members of the community, resulting in in-kind service such as project maintenance, and increase neighborhood awareness of environmental issues.

3/Select two to three readily implementable pocket or neighborhood parks as demonstration projects.

To build on the momentum generated by the mini-projects, select two to three pocket or neighborhood park projects to serve as demonstrations of the potential for creek-connected recreation. Use the information in Chapter 5 regarding land ownership, land availability, and potential funding to help determine which projects would be most readily implementable.

4/Integrate local workshops into demonstration projects (and every project).

El Cajon is a highly diverse community and very motivated to improve its recreation resources. Residents from the range of cultural, educational, and ethnic backgrounds must be engaged in discussions about its physical resources in order to ensure that resources are used effectively and serve the needs of the full range, and largest number, of residents possible.

5/ Integrate health and environmental quality benefits with open space and recreation planning and design.

Projects which incorporate components such as green infrastructure (low impact development [LID], vegetated swales, bioretention areas, etc.) and improve community health (by encouraging active transportation such as walking or cycling on local paths, trails, or bike lanes) are easier to fund and generate political support.

6/Support the development of a Park and Recreation Masterplan for the City of El Cajon with the goal of providing everyone access to parks.

A more detailed and comprehensive analysis of the population of El Cajon and its needs is required to effectively plan for the future and use the City's resources effectively. This process should include a Needs Assessment to allow residents to engage in the planning process and highlight gaps and opportunities. The masterplan should provide an implementation plan to distribute parks throughout the city to ensure equal access, prioritizing the most under-served and densely populated neighborhoods of the City.

7/Integrate the Forester Creek System into the K-12 curriculum.

Throughout the project, it was clear that people in El Cajon do not know about the creeks. Educating children as stewards and citizen scientists is important for a sustainable future. Children are also very effective at raising their parents' consciousness. The Forester Creek System is in close proximity to 70% of the population of the city, and can be a resource for educating children about local ecosystems, environmental quality, habitat, and wildlife. Even channelized, the creek system can educate students about habitat, water systems, and provide opportunities for citizen science projects.

8/Create a connected pedestrian/cycling loop system with a variety of trail surfaces, character, destinations and lengths.

The loop system should connect key destinations in the city, including downtown, shopping, schools, and parks into a complete and contiguous system. It must connect pedestrian/cycling facilities into a comprehensive mobility system, which includes links to public transportation such as trains, buses, and light rail.

The *El Cajon 2030: Connecting People with Parks* (Trust for Public Land [TPL], 2019) plan proposes approaches to adding park land including the following which are also recommended by this report:

1/Acquire parkland, using tools such as: direct purchase or fee simple acquisition; easements, real property donations; life estate; land dedication; land trust; land swap; long-term lease; and, conditions of approval.

2/Create small footprint parks.

3/Add small-scale park amenities to existing parks to add recreation value.

4/Develop joint-use agreements with schools.

5/Develop joint-use agreements with public facilities (such as fire stations and libraries) and public infrastructure (such as substations, water supply facilities, etc.).

6/Rethink streets by using streets, public right-of-ways and parking lots for recreation and green infrastructure.

9.3/Conclusion

This project involved engaging people in planning the recreation and open space future of a city with creeks at its heart. However, the creeks are no longer part of people's daily experience in El Cajon, and in fact, most residents and visitors do not even know that Forester Creek or its tributaries exist. A storm drain, or worse yet, a sewer, is closer to people's perception of the creeks than a natural waterway. This lack of knowledge and positive perception about the creeks requires a more extensive process beyond the scope of this project, including informing, educating, and engaging the people of El Cajon—and, importantly, giving them initial opportunities to experience the creeks as positive resources and as actual creeks. Before El Cajon is ready to focus on the creeks as a place to develop recreational resources, positive awareness of the creeks will need to be raised. The potential of the creeks will need to be demonstrated at sites where the creeks already intersect daily life in El Cajon. New

Figure 9.02 November Community Committee meeting

development—of buildings and open space—will need to be encouraged to turn toward the creeks.

The creek-adjacent land that is currently available for recreational use is predominantly very small, under-utilized remnants and edges of parcels, and designated public right-of-ways that range from 50 to 1000 square feet in size. The most viable first stage of implementation may be a series of demonstration projects on these small remnants of land that will introduce hundreds and then thousands of residents to the potential of creek-oriented recreational development.

Once this occurs, the relationship between El Cajon's people and their creeks can come full circle, with the creek becoming a crucial part of their daily lives again.

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11.0 IMAGE SOURCES

All images from 606 Studio unless otherwise specified

All maps used data from San Diego Association of Governments; additional data sources are as noted below

	Cover (image B)
	Image courtesy of: MHZ Photo
	Acknowledgments
	Image courtesy of: MHZ Photo
1.01	Box culverts, trapezoidal, and rectangular channels
	Image courtesy of: Cristina Plemel
1.04	Stream restoration
	Image courtesy of: Friends of Forester Creek, 2019, https://www.facebook.com/friendsofforestercreek
2.01	Advantages of recreational spaces
	Adapted from: Witt & Caldwell, 2010, p. 18
2.04	Box culverts, trapezoidal, and rectangular channels
	Image courtesy of: Cristina Plemel
3.04	IAP2 model
	Adapted from: International Association for Public Participation, 2016
3.05	Arnstein's ladder
	Adapted from: Arnstein, 1969
3.08	Stakeholders at open house
	Image courtesy of: MHZ Photo
4.03	Acanthomintha ilicifolia (San Diego thornmint)
	https://institute.sandiegozoo.org/species/san-diego-thornmint
4.04	*Artemisia californica* (California sagebrush)
	https://www.laspilitas.com/nature-of-california/communities/sagebrush-scrub
4.05	*Eriogonum fasciculatum* (California buckwheat)
	http://www.desertplants.org/?page_id=243
4.06	*Baccharis pilularis* (Coyote brush)
	https://www.watershednursery.com/nursery/plant-finder/baccharis-pilularis/
4.07	*Diplacus aurantiacus* (Monkey flower)
	https://www.parksconservancy.org/conservation/sticky-monkey-flower

4.08 *Ribes speciosum* (Fuchsia-flowered gooseberry)

https://smmtc.org/plantofthemonth/FuchsiaFloweredGooseberry.php

4.09 *Didelphis virginiana* (Virginia opossum)

https://en.wikipedia.org/wiki/Virginia_opossum

4.10 *Otospermophilus beecheyi* (California ground squirrel)

https://en.wikipedia.org/wiki/File:CA_Ground_Squirrel_on_rock.jpg

4.11 *Tadarida brasiliensis* (Mexican free-tailed bat)

https://www.arizonahighways.com/nature/mexican-free-tailed-bats

4.28 Forester Creek after a storm

Image courtesy of: Ally Welborn

4.29 Restored area of Forester Creek after a storm

Image courtesy of: Ally Welborn

4.80 Walkability index

Data source: Walkability Index Dataset

4.81 Most dangerous intersection locations

Data source: Transportation Injury Mapping System (TIMS)

4.98 Native American settlements in Western San Diego County (c. 1876)

Image courtesy of: Carrico, 1985

4.102 Railroad in El Cajon

Image courtesy of: Lay & Brockett, 1987

4.103 Fletcher Parkway

Image courtesy of: Lay & Brockett, 1987

4.104 Gillespie Field

Image courtesy of: Lay & Brockett, 1987

4.105 Main Street, El Cajon

Image courtesy of: Lay & Brockett, 1987

4.106 Planned cycling facilities

Data source: San Diego Bike Master Plan

4.107 Existing and planned pedestrian/cycling facilities highlighting gaps

Data source: San Diego Bike Master Plan, San Diego Association of Governments

4.109 Quality of mental health

Data source: CalEnviroScreen

4.110 Quality of physical health

Data source: CalEnviroScreen

4.111 Quality of physical environment

Data source: CalEnviroScreen

5.14 Parcel-based recreation suitability as determined by proximity to collision hotspots

Data source: Transportation Injury Mapping System

5.15 Parcel-based recreation suitability as determined by proximity to potential user conflicts

Data source: 2018 Weallcount Annual Report, San Diego County

5.28 Corridor-based recreation suitability as determined by proximity to collision hotspots

Data source: Transportation Injury Mapping System

5.29 Corridor-based recreation suitability as determined by proximity to potential user conflicts

Data source: 2018 Weallcount Annual Report, San Diego County

6.02 Stakeholder and Community Committee meeting participants

Image courtesy of: MHZ Photo

6.17 Stakeholder and Community Committee meeting participants

Image courtesy of: MHZ Photo

6.19 Stakeholder and open house participants (Images A, B, and C)

Images courtesy of: MHZ Photo

8.01 Parklet toolkit

Image courtesy of: 606 Studio, 2015

8.02 Green alley toolkit

Image courtesy of: 606 Studio, 2015

8.03 Streetscape toolkit

Image courtesy of: 606 Studio, 2015

APPENDIX A: 606 STUDIO

The California State Polytechnic University, Pomona, 606 Studio is a design team made up of faculty and third-year Landscape Architecture Masters students. The Studio promotes the application of advanced methods of analysis and design to address serious and important ecological, social, and aesthetic issues related to urban, suburban, rural, and natural landscapes with a particular emphasis on preserving and restoring natural systems.

The academic studio environment offers a unique opportunity for graduate students to explore issues and possibilities at a variety of levels. The students, with faculty direction and participation, carry out the project – including the tasks of research, analysis, planning and presentation. Because the Studio is part of an educational institution, the projects that come from it must maintain academic integrity, display technical and professional expertise, advance sustainable land management practices and theory, and be grounded in reality. The projects are also required to address significant issues concerning resources and the physical environment with broad implications beyond the boundaries of the study area and promise to result in significant benefits to the general public.

APPENDIX B: FACULTY PROFILES

Dr. Lee-Anne Milburn, PLA, FASLA, FCELA, Professor of Landscape Architecture at California State Polytechnic University, Pomona. Dr. Milburn researches issues related to water quality and quantity, active and alternate transportation, and climate resilience and adaptation. Her teaching interests are directly related to her scholarly concerns: sustainable design and the design of healthcare facilities. Dr. Milburn has a B.F.A., an M.L.A., and a Ph.D. in Rural Studies— Environmental Design and Rural Development.

Dr. Weimin Li, ASLA, Professor of Landscape Architecture at California State Polytechnic University, Pomona. Dr. Li specializes in advanced geospatial technologies e.g., geospatial data integration, geospatial analysis, geo-processing modeling, high resolution remote sensing imagery processing and 3D landscape construction, and their application in a wide range of landscape design and planning practice. In addition to Geodesign, Dr. Li also researches the environmental and social impacts of contemporary landscape design and planning on different dimensions of sustainability and quality of life in urban settings, including storm water management, urban green space, wildlife habitat conservation, multi-modal transportation, neighborhood safety, public health, and environmental justice. Dr. Li's teaching echoes her research interests and includes introductory and advanced GIS, intermediate landscape design, environmental analysis and advanced ecosystematic landscape design. Dr. Li has a B.S. in Urban and Resource Planning, a M.S. in Physical Geography and a Ph.D. in Landscape Architecture and Environmental Planning.

Steve Rasmussen Cancian, Lecturer, Department of Landscape Architecture at California State Polytechnic University, Pomona. Steve leads Shared Spaces, a community-based participatory design firm. His practice combines organizing, facilitation and design to enable people to participate in every step of creating places that resonate with their experience, desires, community and culture. At all scales, from the neighborhood bench to the community specific plan, he seeks to collaborate with communities to create improvements that serve current residents without catalyzing gentrification. He has published research on historic design-build methods and leads a youth design-build project. He conducts training sessions on participatory methods and cultural and gender bias in design. Before studying landscape architecture, Steve was a community and political organizer for 13 years. He has a B.A. in American History from Columbia University and an M.L.A. from the University of California, Berkeley.

APPENDIX C: STUDENT PROFILES

Wei-Shiun Chen

Wei-Shiun Chen received his Bachelor of Landscape Architecture degree from Taiwan and decided to continue his learning in MLA program at Cal Poly Pomona. He has passion for sports and brings that passion into the field of landscape of architecture. His philosophy as a landscape architecture student is that it is a science and art that integrate different aspects in the environment. He has strong interest in spatial design. He loves to imagine people's experience in the landscape. In the MLA program at Cal Poly Pomona, he learned to plan the larger landscape system with technology and developed his strong interest in Geographic Information System. In the 606 Studio, his main interests lie in structure of the project, geodesign, and visual communication. With his learning in the field, he wishes to become a landscape architect who is influential and able to bring positive change to the environment.

Monica A. Marathey

Monica Marathey earned a Bachelor of Architecture degree in India and decided to pursue Master in Landscape Architecture from Cal Poly Pomona. With interdisciplinary experience she is interested in creating spaces for the people that combine the built environment and the natural landscape through planning and design. Her current interest lies in planning that involves the people, getting opinions and feedback from the public to create a space that they will enjoy. During her time at the graduate program she did an internship with Site Design Studio in which she assisted with site specific designs such as residential projects improving her knowledge of native plants in Southern California. For a team project she ensures the team is well coordinated and the project deadlines are followed. She hopes to one day in the future create a space for the people and watch them use it.

APPENDIX D: COMMUNITY OUTREACH MATERIALS

San Diego River Park Foundation
Forester Creek Survey

The San Diego River Park Foundation is working with partners to improve conditions along waterways in El Cajon. This survey is designed to help us identify where best to put our efforts. Your response is very important to provide a balanced perspective on the issues associated with the creek. Thank you!

QUESTIONS ABOUT RECREATION OPPORTUNITIES IN EL CAJON:

1. **What most often brings you to El Cajon? (Choose one)**
   - ☐ I live here.
   - ☐ I work here.
   - ☐ I visit El Cajon in my leisure time.
   - ☐ This is my first time visiting El Cajon.
   - ☐ Other (please specify): ____________________

2. **How interested are you in participating in the following outdoor activities?**

	Not interested	*Neutral*	*A little Interested*	*Very Interested*	*I Don't Know*
Guided walks or hikes					
Group bike rides					
Volunteer events like cleaning up trash					
Lectures about environmental issues					
Fairs or festivals					
Outdoor art classes					
Outdoor nature classes					
Outdoor exercise classes					
Children's educational activities					
Something else:					

3. **How important are the following activities to you and/or your family?**

	Not important	*Neutral*	*A little important*	*Most Important*	*Don't Know*
Cleaning up trash from waterways and nature					
Creating outdoor places for people					
Creating places for people to participate in physical activity					
Removing concrete from creeks					
Improving the appearance of the landscape					
Raising community awareness about environmental issues					
Creating natural spaces for wildlife					
Preserving natural spaces for wildlife					
Something else:					

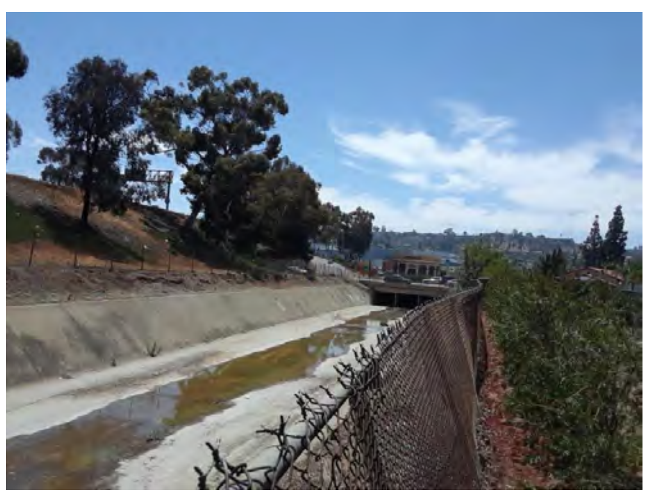
4. **When I think about spending time outdoors in El Cajon, I am concerned about:**

	Not a concern	*Neutral*	*A little concerned*	*Most concerned*	*Don't Know*
Safety of the outdoor space					
Crime					
Trash					
Water pollution					
Flooding					
Homeless people living in the outdoor space					
Health of wildlife in the space					
Physical appearance of the space					
Something else:					

5. **I think El Cajon needs more:**

	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*	*Don't Know*
Playgrounds						
Water Play Areas						
Grassy Areas						
Gardens						
Bike paths and bike lanes						
Dog parks						
Walking trails						
Public art						
Picnic tables and benches						
Horseback riding trails						
Spaces for concerts and other performances						
Educational signs, such as about environmental issues or history						
Other (please specify):						

<u>GENERAL QUESTIONS ABOUT WATERWAYS:</u>



6. **Have you seen an area like this picture in El Cajon? (choose one)**
   - ☐ Yes
   - ☐ No

7. **This is a photograph of (choose one):**
   - ☐ A creek/stream
   - ☐ An irrigation canal
   - ☐ A sewer
   - ☐ A storm drain
   - ☐ I have no idea

8. **Most of the water in the previous photograph goes into (choose one):**
   - ☐ The sewer and then to the Ocean
   - ☐ A River and then to the Ocean
   - ☐ A water treatment plant and then to a reservoir
   - ☐ It soaks into the ground
   - ☐ I have no idea

9. **What contributes most of the trash to this area (choose one):**
   - ☐ Illegal dumping by businesses (examples: equipment, tires, yard waste)
   - ☐ Illegal dumping by residents (examples: furniture, appliances)
   - ☐ Litter (examples: food wrappers, plastic bags, straws)
   - ☐ Trash from homeless encampments (examples: clothing, household items)
   - ☐ Other (specify)

The San Diego River Park Foundation project is focused on Forester Creek, which is 11 miles long and empties into the San Diego River. The creek has four distinct reaches and three major tributaries. The creek and its tributaries pass through a range of residential and industrial areas, including directly under the El Cajon Civic Center, Parkway Plaza and Renette Park Community Center.

10. **I didn't know Forester Creek existed before today.**
    ☐ True ☐ False

11. **I didn't know the San Diego River existed before today.**
    ☐ True ☐ False

DEMOGRAPHIC INFORMATION

12. **What year were you born?** ____________

13. **What is your gender?**
    - ☐ Male
    - ☐ Female
    - ☐ Prefer not to answer

14. **How many people live in your household?** ____________

15. **My first language is:**
    - ☐ English
    - ☐ Spanish
    - ☐ Arabic
    - ☐ Other: ___________________________

16. **How would you describe your race or ethnicity?**
    - ☐ American Indian or Alaska Native
    - ☐ Asian
    - ☐ Black or African American
    - ☐ Hispanic or Latino
    - ☐ Native Hawaiian or Other Pacific Islander
    - ☐ White or Caucasian
    - ☐ Middle Eastern/North African
    - ☐ Two or more races
    - ☐ Other (specify)
    - ☐ Prefer not to answer

17. What is your total household income?

- ☐ Less than $9,999
- ☐ Between $10,000 and $19,999
- ☐ Between $20,000 and $29,999
- ☐ Between $30,000 and $39,999
- ☐ Between $40,000 and $49,999
- ☐ Between $50,000 and $59,999
- ☐ Between $60,000 and $69,999
- ☐ Between $70,000 and $79,999
- ☐ Above $80,000
- ☐ Prefer not to answer

THANK YOU! Would you like to learn more about the San Diego River Park Foundation, including information about events and projects in El Cajon? If so, please provide your email address below.

Email: ____

San Diego River Park Foundation
Forester Creek Survey
مؤسسة منتزهات نـهر سان دييغو
استبيان رأي حول جدول نـهر سان دييغو المسمى بـ Forester

مؤسسة منتزهات نهر سان دييغو تعمل مع شركاء عديدين لتطوير ضفاف جدول النهر الذي يمر في مدينة الكاهون. استبيان الرأي هذا مصمم لمعرفة أين يمكن ان نركز جهودنا. رأيكم مهم جدا لا عطاء قرار متوازن حول المشاكل المتعلقة بجدول النهر. شكرا لكم.

أسئلة حول فرص إنشاء منتزهات ترفيهية في الكاهون:

1. **ما هي علاقتك بمدينة الكاهون؟ (اختر واحد فقط)**
   - ☐ اسكن في الكاهون
   - ☐ اعمل في الكاهون
   - ☐ أزور مدينة الكاهون في أوقات الفراغ
   - ☐ هذه اول مرة أزور مدينة الكاهون فيها
   - ☐ شيء اخر (اشرح رجاء): ______________________________

2. **ما هو مستوى اهتمامك في المشاركة في النشاطات الخارجية التالية؟**

	غير مهتم	وسط	مهتم قليلا	مهتم جدا	لا أعرف
رحلات للمشي او التسلق مع دليل سياحي					
المشاركة مع مجموعة في ركوب الدراجات الهوائية					
التطوع في فعاليات مثل إزالة القمامة والاوساخ					
محاضرات حول المشاكل البيئية					
معارض او احتفالات					
محاضرات فنية في الهواء الطلق					
محاضرات عن الطبيعة في الهواء الطلق					
تمارين رياضية في الهواء الطلق					
فعاليات تعليمية للأطفال					
شيء اخر:					

3. **ما هو مستوى اهتمامكم واهتمام عائلتكم بالفعاليات التالية؟**

	غير مهتم	وسط	مهتم قليلا	مهتم جدا	لا أعرف
تنظيف جدول النهر والطبيعة من القمامة والاوساخ					
انشاء أماكن لتجمع الناس في الهواء الطلق					
انشاء أماكن للناس للمشاركة في فعاليات بدنية					
إزالة القاع الإسمنتي من جدول النهر					
تطوير المنظر الطبيعي					
رفع المستوى الثقافي للجالية حول المشاكل البيئية					
انشاء محميات طبيعية للكائنات البرية					
حماية الأماكن الطبيعية للكائنات البرية					
شيء اخر:					

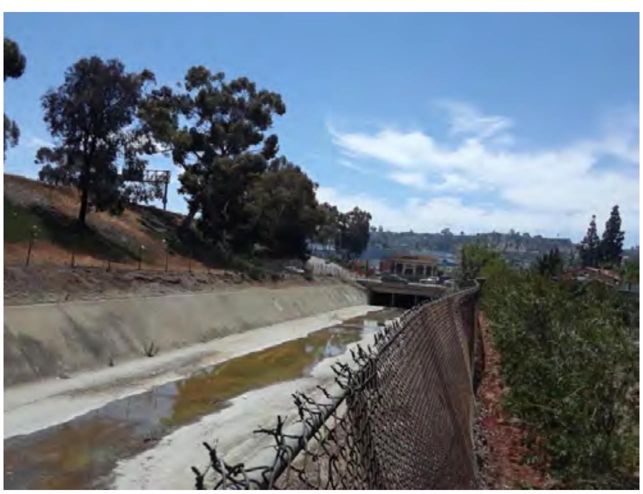
4. ماهي المشاكل التي تؤثر على قراركم عندما تودون قضاء وقت في الهواء الطلق في مدينة الكاهون:

	لا تؤثر	وسط	تؤثر بشكل بسيط	تؤثر بشكل كبير	لا أعرف
الأمان في الأماكن الخارجية					
الجريمة					
الاوساخ والقمامة					
الماء الملوث					
الفيضانات					
الهوملس يعيشون في الأماكن الترفيهية					
صحة الكائنات البرية					
المظهر الخارجي للاماكن الخارجية					
شيء اخر					

5. ماهي نسبة موافقتك على ان مدينة الكاهون تحتاج الى الأشياء التالية:

	غير موافق بشدة	غير موافق	وسط	موافق	موافق جدا	لا أعرف
ملاعب						
ملاعب مائية						
مساحات عشبية خضراء						
حدائق						
ممرات مخصصة للدراجات الهوائية						
متنزهات خاصة للكلاب						
ممرات خاصة للمشي						
لوحات جدارية او اعمال فنية						
طاولات ومساطب للنزهة						
ممرات لركوب الخيل						
أماكن لإقامة الحفلات الغنائية وعروض اخرى						
علامات تعليمية عن المشاكل البيئية او تأريخ المنطقة						
شيء اخر (اذكروا رجاء)						

أسئلة عامة عن الممرات المائية:



6. هل شاهدت شيء مشابه لهذه الصورة في الكاهون؟ (اختر جوابا واحدا)
- ☐ نعم
- ☐ كلا

7. ما هو الشيء الموجود في هذه الصورة برأيك (اختر جوابا واحدا):
- ☐ جدول نهر
- ☐ قناة مائية للري
- ☐ ممر مجاري
- ☐ ممر لتصريف مياه الفيضانات
- ☐ لا أعرف

8. اغلب المياه التي تمر بالمجرى الموجود في الصورة اعلا يذهب الى (اختر جوابا واحد):

- ☐ الى المجاري ثم الى المحيط
- ☐ الى نهر ثم الى المحيط
- ☐ الى محطة تنقية المياه ثم الى خزان مائي
- ☐ ينزل الى الأرض
- ☐ لا أعرف

9. ماهي أكثر الأسباب والأشياء التي تسبب تلوث هذه الممرات (اختر جوابا واحدا):

- ☐ رمي المخلفات من قبل الصحاب المحلات (مثل: معدات، إطارات سيارات، او مخلفات الكراجات)
- ☐ رمي المخلفات من قبل الناس (مثل: اثاث، أجهزة منزلية)
- ☐ النفايات (مثل: مواد تغليف الطعام، أكياس نايلون، قصبات شرب السوائل)
- ☐ مخلفات الأغراض التي يجمعها الهوملس (مثل: ملابس، واغراض منزلية)
- ☐ أشياء أخرى (يرجى ذكرها)

ان مشروع مؤسسة منتزهات نهر سان دييغو يركز على جدول نهر سان دييغو المسمى بـ Forester, والذي يبلغ طوله 11 ميلا و يصب في نهر سان دييغو. يصل الجدول الى أربع مناطق ويحتوي على ثلاث روافد رئيسية. الجدول وروافده يمرون بالعديد من المناطق السكنية والتجارية، بضمنها مباشرة تحت بلدية مدينة الكاهون، المول التجاري Parkway Plaza, و منتزه رينيت Renette Park.

10. لم أكن على علم بوجود جدول نهر سان دييغو المسمى بـ Forester قبل اليوم.

• صح ☐ خطأ

11. لم أكن اعلم بوجود نهر في سان دييغو قبل اليوم.

• صح ☐ خطأ

معلومات سكانية

12. سنة ولادتك؟ ___________

13. ما هو جنسك؟

- ☐ ذكر
- ☐ انثى
- ☐ أفضل ان لا اجيب على هذا السؤال

14. عدد الأشخاص الساكنين معك في المنزل؟ ________________

15. اللغات التي أستطيع التحدث بها:

- ☐ الإنكليزية
- ☐ الاسبانية
- ☐ العربية
- ☐ لغة أخرى: ______________

16. كيف تصنف نفسك بالنسبة للعرق او الأصل؟

- ☐ من الهنود الحمر او سكان الاسكا الأصليين
- ☐ اسيوي
- ☐ اسود، او امريكي من أصل افريقي
- ☐ من سكان هاواي الأصليين او جزر المحيط الهادئ
- ☐ شرق اوسطي او من شمال افريقيا
- ☐ من عرقين او كثر
- ☐ غير ذلك (يرجى ذكره)
- ☐ أفضل عدم الاجابة

17. ما هو مجموع دخل عائلتك المادي السنوي تقريبا؟

- ☐ اقل من $9,999 دولار سنويا
- ☐ ما بين $10,000 و $19,999 دولار سنويا.
- ☐ ما بين $20,000 و $29,999 دولار سنويا.
- ☐ ما بين $30,000 و $39,999 دولار سنويا.
- ☐ ما بين $40,000 و $49,999 دولار سنويا.
- ☐ ما بين $50,000 و $59,999 دولار سنويا.
- ☐ ما بين $60,000 و $69,999 دولار سنويا.
- ☐ ما بين $70,000 و $79,999 دولار سنويا.
- ☐ اعلى من $80,000 دولار سنويا.
- ☐ أفضل عدم الاجابة

شكرا لكم! اذا كنتم ترغبون بمعرفة المزيد من المعلومات حول مؤسسة منتزهات نهر سان دييغو، بضمنها معلومات حول النشاطات و المشاريع القادمة في الكاهون؟ فيمكنكم كتبة بريدكم الإلكتروني (ايميل) في الأسفل.

البريد الالكتروني (الايميل): ____

بنیاد پارک رودخانه سن دیگو
بررسی رودخانه جنگل

بنیاد پارک رودخانه سن دیگو در حال همکاری با شرکای خود برای بهبود شرایط در امتداد خطوط رودها درالکهان است.
این نظرسنجی طراحی شده است تا به ما در شناسایی بهترین اقدامات کمک کند. پاسخ ودیدگاه شما رابطه با مسائل مربوط به نهریاجوی بسیار مهم است . متشکرم!

<u>سوالات درمورد فرصت های تفریحی درالکهان:</u>

1.آنچه که شما را اکثر به الکهان به می آورد؟ (یکی را انتخاب کن)

- من اینجا زندگی میکنم.
- من اینجا کار می کنم.
- من از الکهان در اوقات فراغت خودم بازدید می کنم.
- این اولین بار من است که به الکهان میایم.
- دیگر (لطفا مشخص کنید) --

2 .شما چقدر علاقه مند به شرکت در فعالیت های فضای بازهستید؟

	علاقه مندنیستم	نظرندارم	کمی علاقه مند هستم	زیادعلاقه مند هستم	نمیفهمم
پیاده روی یا راه رو یهایی هدایت شده					
بایسیکل سواری گروپی					
رویدادهای داوطلب مانند جم آوری کثافات					
سخنرانی یاتدریس در مورد مسائل محیط زیست					
نمایشگاه ها یا جشنواره ها درفضای باز					
کلاس های هنری در فضای باز					
کلاس های طبیعت در فضای باز					
کلاس های ورزشی در فضای باز					
فعالیت های آموزشی اطفال					
ویاکدام چیز دیگر:					

3. فعالیت های ذیل به شما و یا خانواده شما چقدرمهم است؟

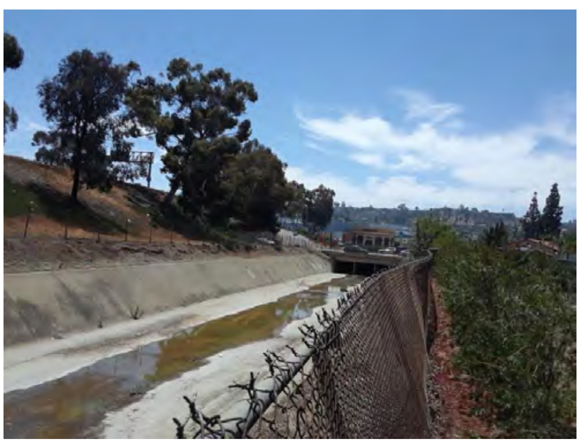
	علاقه مندنیستم	نظرندارم	کمی علاقه مند هستم	زیادعلاقه مند هستم	نمیفهمم
جم آوری کثافات از آب و طبیعت					
ایجاد مکان ها در فضای باز برای مردم					
ایجاد مکان ها برای شرکت در فعالیت های جسمانی					
برداشتن کانکریت ازجویها					
بهبودی منظره های چشم انداز					
افزایش آگاهی جامعه در مورد مسائل محیط زیست					
ایجاد فضاهای طبیعی برای حیات وحشی					
حفظ فضاهای طبیعی برای حیات وحشی					
یک چیز دیگر:					

4. وقتی که من در مورد بیرون ازمنزل درالکهان فکر می کنم، من نگران میباشم از:

	علاقه مندنیستم	نظرندارم	کمی علاقه مند هستم	زیادعلاقه مند هستم	نمیفهمم
امنیت فضای آزاد					
جرم یاجنایت					
زباله ها یا کثافات					
آلودگی آب					
سیلاب					
افراد بی خانمان در فضای باز زندگی می کنند					
سلامتی حیات وحشی در فضا					
ظاهر فیزیکی فضا					
یک چیز دیگر:					

5. من فکر می کنم الکهان نیاز بیشتری دارد به:

	به شدت مخالف	مخالف	نظرندارم	موافقم	به شدت موافقم	نمیفهمم
میدان بازی						
ساحات آب بازی						
ساحات گیاهی						
باغ ها						
مسیرهای بایسکل و خطوط بایسکل						
پارک سگ ها						
مسیرهای پیاده روی						
هنر عمومی						
میز وچوکیها برای گردش دسته جمعی						
مسیرهای اسپ سواری						
ساحات کنسرت و دیگر اجرا						
علائم آموزشی مانند مسائل مربوط به محیط زیست یا تاریخ						
دیگر (لطفا مشخص کنید):						



مسائل عمومی در مورد نهریا جویها:

6 آیا شما درالکهان یک منطقه مانند این تصویررا دیده اید ؟ (یکی را انتخاب کن)

- بلی
- نخیر

7 .این عکس است از (یکی را انتخاب کنید):

- نهر یا جوی
- یک کانال آبیاری
- فاضلاب
- تخلیه سیلاب یاطوفان
- من هیچ نظری ندارم

8. اکثر آب در عکس قبلی وارد می شود به (یکی را انتخاب کنید):
- فاضلاب و سپس به اقیانوس
- رودخانه و سپس به اقیانوس
- یک گیاه تصفیه آب و سپس یک مخزن
- در زمین جذب میشود
- من هیچ نظری ندارم

9. چی چیزی باعث بیشترشدن کثافات به این منطقه میشود (یکی را انتخاب کنید):
- تخطی غیر قانونی توسط شرکت ها (تجهیزات، تایرها، کثافات خانه)
- تخطی غیر قانونی توسط ساکنان (فرنیچر، لوازم خانگی)
- انداختن (مواد غذایی، کیسه های پلاستیکی، کاغذ)
- کثافات از مکان های بی خانمان (لباس، وسایل خانگی)
- دیگر (مشخص کنید)

پروژه بنیاد پارک رودخانه سن دیگو بر روی جوی یا نهرجنگل متمرکز شده است که 11 مایل طول دارد و به رودخانه سن دیا گو می انجامد. این رودخانه دارای چهار گونه متفاوت و سه شاخه اصلی است.این رودخانه از مناطق مسکونی و صنعتی عبور می کنند، به طور مستقیم تحت مرکز مدنی الکاهون، پارک ویلا پلازا و مرکز اجتماعی رینتی پارك.

10. من قبل از امروزدرباره نهرویاجوی جنگل نه شنیده بودم.
- درست
- نادرست

11 .من نمی دانستم که رودخانه سن دیاگو قبل از امروز وجود داشت.

- درست
- نادرست
-

<u>معلومات جمعیت شناسی</u>

12. متولد کدام سال هستید ؟ ---

13. جنسیت شما چیست؟
- مذکر
- مونث
- جواب نمیدهم

14. چند نفر در خانواده شما زندگی می کنند؟ -------------------------

15. زبان مادری من است:

- دری
- پشتو
- فارسی
- عربی
- کدام زبان دیگر

16. چگونه نژاد یا نژاد خود را توصیف می کنید؟

- امریکایی
- آسیایی
- آسپانیایی
- سیاه یا افریقایی
- شرق میانه
- دو ویا بیشتر نژاد
- دیگر
- لازم نیست جواب بدهم

17 . درآمد کل خانواده شما درسال چند است؟

- کمتر از 9999 دالر
- بین 10،000 و $ 19،999
- بین 20000 تا 29999 دالر
- بین 30،000 و $ 39،999 دالر
- بین 40000 تا 49999 دالر
- بین 50،000 دلار و 59،999 دالر
- بین 60،000 تا 69،999 دالر
- بین 70،000 دلار و 79،999 دالر
- بیش از 80،000 دالر
- ترجیح نمی دهم جواب بدهم

13 متشکرم! آیا می خواهید اطلاعات بیشتری درباره بنیاد پارک رودخانه سن دیگو، از جمله اطلاعات مربوط به رویدادها و پروژه های الکهان کسب کنید؟ اگر چنین است، لطفا ایمیل آدرس خود را در زیر بنویسید.

ایمیل آدرس : ---

San Diego River Park Foundation
Encuesta Acerca del Arroyo de Forester Creek

La Fundación de San Diego River Park, en asociación con otras organizaciones, está trabajando para mejorar las condiciones a lo largo de las corrientes de agua en El Cajón. Esta encuesta está diseñada para ayudarnos a identificar las áreas en donde debemos poner nuestros mayores esfuerzos. Sus respuestas son muy importantes ya que nos darán una perspectiva balanceada acerca de los temas asociados con el arroyo. ¡Muchas gracias!

PREGUNTAS ACERCA DE LAS OPORTUNIDADES DE RECREACION EN EL CAJON:

1. **¿Qué es lo que le trae a usted a El Cajón? (Elija una opción)**
   - ☐ Yo vivo aquí.
   - ☐ Yo trabajo aquí.
   - ☐ Yo visito El Cajón en mi tiempo libre.
   - ☐ Esta es mi primera vez visitando El Cajón.
   - ☐ Otra razón (por favor, especifique): ____

2. **¿Le interesa o le interesaría participar en las siguientes actividades?**

	No tengo interés	*Neutro*	*Un poco interesado*	*Muy interesado*	*No se*
Caminatas guiadas al aire libre					
Paseos en bicicleta en grupo					
Eventos de voluntariado como para recoger basura en lugares abiertos					
Conferencias y charlas acerca de temas ambientales					
Ferias o festivales					
Clases de arte al aire libre					
Clases acerca de la naturaleza al aire libre					
Clases de ejercicio al aire libre					
Actividades educativas para niños					
Alguna otra actividad:					

Continua en la siguiente página ➔

3. **¿Qué tan importantes son las siguientes actividades para usted y para su familia?**

	No es importante	*Neutro*	*Un poco Importante*	*Lo más importante*	*No se*
Remover basura de la naturaleza					
Crear lugares al aire libre para el uso de la comunidad					
Crear lugares para que la gente ejercite en actividades físicas					
Remover el hormigón que rodea al arroyo					
Mejorar la apariencia del paisaje					
Crear conciencia en la comunidad acerca de temas ambientales					
Crear espacios naturales para la vida silvestre					
Preservar espacios naturales para la vida silvestre					
Alguna otra cosa:					

4. **¿Cuándo pienso en pasar tiempo al aire libre en El Cajón, esto me preocupa:**

	No me preocupa	*Neutro*	*Me preocupa un poco*	*Lo que más me preocupa*	*No se*
La seguridad de los espacios públicos abiertos					
El crimen					
La basura					
La contaminación del agua					
Las inundaciones					
La gente sin hogar que vive en lugares públicos					
La salud de la vida silvestre en el lugar					
La apariencia física del lugar					
Alguna otra cosa:					

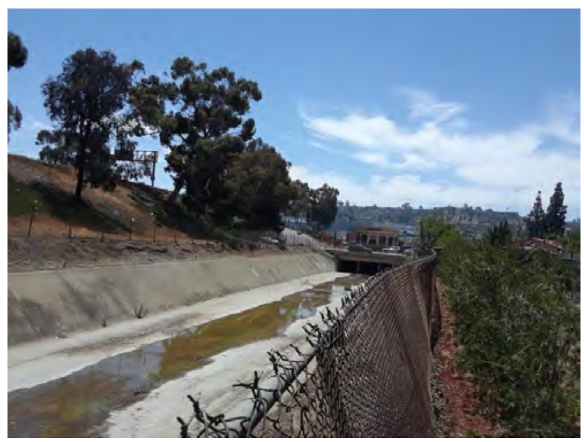
Continua en la siguiente página ➔

5. **Yo creo que El Cajón necesita más…:**

	Muy en desacuerdo	*Desacuerdo*	*Neutro*	*Estoy de acuerdo*	*Totalmente de acuerdo*	*No se*
Patios y parques de recreación para niños						
Parques de juego con agua						
Áreas con hierba para jugar						
Jardines						
Carriles y líneas para bicicletas						
Parques para perros						
Senderos para caminar						
Arte en la calle						
Mesas de picnic y bancos para sentarse						
Senderos para montar a caballo						
Lugares para conciertos y otros eventos						
Letreros educativos, con información histórica, cultural y ambiental						
Qué otra cosa (por favor, especifique):						

<u>PREGUNTAS EN GENERAL ACERCA DEL ARROYO:</u>

6. **¿Ha visto usted lugares como en la foto en El Cajón? (seleccione una)**
   - ☐ Si
   - ☐ No



7. **Esta foto es de… (seleccione una):**
   - ☐ Un arroyo o arroyuelo
   - ☐ Un canal de irrigación
   - ☐ Un alcantarillado
   - ☐ Un recolector de aguas pluviales
   - ☐ No tengo idea

8. **La mayoría de esta agua desemboca en (seleccione una):**
   - ☐ En las alcantarillas y después al océano
   - ☐ En el río y después al océano
   - ☐ En una planta de tratamiento de agua y después en un reservorio
   - ☐ Se absorbe por la tierra
   - ☐ No tengo idea

Continua en la siguiente página ➔

9. **¿De dónde sale la mayoría de la basura de esta área? (seleccione una):**
   - ☐ Desechos y basura botada ilegalmente por negocios (ejemplos: equipos técnicos, llantas, desechos de jardinería)
   - ☐ Desechos y basura botada ilegalmente por los residentes (ejemplos: muebles, electrodomésticos)
   - ☐ Basura (ejemplos: envolturas de comida, bolsas plásticas, popotes)
   - ☐ Basura proveniente de los campamentos de gente sin hogar (ejemplo: ropa, artículos de casa)
   - ☐ Otras cosas (por favor, especifique) ______________________________________

El proyecto de la Fundación de San Diego River Park se enfoca en el arroyo de Forester Creek, nace en la comunidad de Crest, corre por 11 millas y desemboca en el Rio de San Diego en Santee. El arroyo tiene cuatro segmentos y tres afluentes. El arroyo y sus afluentes pasan por varias zonas residenciales e industriales, incluyendo el área directamente debajo del Centro Cívico de El Cajón, la Plaza Parkway y el Centro Comunitario de Renette Park.

10. **No sabía que el arroyo Forester Creek existía antes del día de hoy.**
    ☐ Verdadero ☐ Falso

11. **No sabía que el Río de San Diego existía antes del día de hoy.**
    ☐ Verdadero ☐ Falso

<u>INFORMACION DEMOGRAFICA</u>

12. **¿En qué año nació?** ____________

13. **¿Cuál es su género?**
    - ☐ Masculino
    - ☐ Femenino
    - ☐ Prefiero no responder

14. **¿Cuántas personas viven en su hogar?** ____________

15. **Mi primer idioma es:**
    - ☐ Inglés
    - ☐ Español
    - ☐ Árabe
    - ☐ Otro: ___________________________

16. **¿Cómo describiría su raza o grupo étnico?**
    - ☐ Indio Americano o Nativo de Alaska
    - ☐ Asiático
    - ☐ Africano-Americano
    - ☐ Hispano o Latino
    - ☐ Nativo Hawaiano o de otra Isla del Pacifico
    - ☐ Blanco o Caucásico
    - ☐ Medio Este/Norte del África
    - ☐ Dos o más razas
    - ☐ Otro (especifique)
    - ☐ Prefiero no responder

Continua en la siguiente página ➔

17. ¿Cuál es su ingreso familiar anual?

- ☐ Menos de $9,999
- ☐ Entre $10,000 y $19,999
- ☐ Entre $20,000 y $29,999
- ☐ Entre $30,000 y $39,999
- ☐ Entre $40,000 y $49,999
- ☐ Entre $50,000 y $59,999
- ☐ Entre $60,000 y $69,999
- ☐ Entre $70,000 y $79,999
- ☐ Más de $80,000
- ☐ Prefiero no responder

¡GRACIAS! ¿Le gustaría saber más acerca de la Fundación de San Diego River Park? Particularmente acerca de eventos y proyectos comunitarios en El Cajón. Si desea, por favor déjenos su correo electrónico para podernos comunicar con usted.

Correo Electrónico: ____


Art Mosaic


Bikepath


Birdwatching


Education


Game-playing

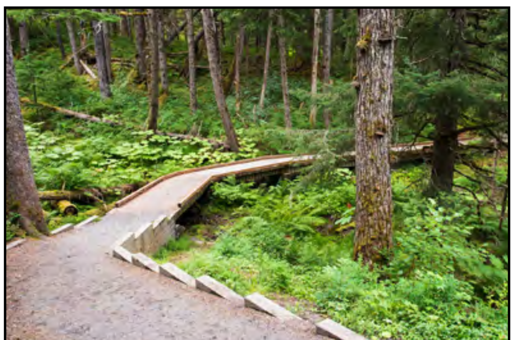

Garden


Pocket Park


Picnicking


River Cleaning


River Gate


Trail


Walking to School

1 Birdwatching 14
2 River Cleaning 13
3 Education 12
4 Bike path / Trail / Walk to school 11
5 Pocket park 10
Picknicking 9
Garden 8
Art Mosaic 7
Game Playing 6
River Gate 5

3

1. Pocket Park
2. Game-playing
3. Garden
4. Education
5. Art Mosaic

1

Ally

4

(1) Trail 14
(2) Education 13
(3) Bike path 12
(4) "Informational Signage" 11
(5) Walking to School 10
(6) River Cleaning 9
(7) Picnicking 8
(8) Pocket Park 7
(9) Art Mosaic 6
(10) Garden 5
(11) Game playing 4
(12) Birdwatching 3
(13) River Gate 2

1. Pocket Park 14
2. Education (Adult + Youth) 13
3. Trail 12
4. River Cleaning 11 4
5. Bikepath 10 3
6. Garden 9 2
7. Birdwatching 8
8. Walking to School 7
9. Art Mosaic 6 1
10. Picnicking 5
11. River Gate
12. Game-playing
13.
Other: De-channelization
+
14. Restoration
make it look/function like a natural creek

2

1) Start with River Cleaning 14
2) River Gate 13
3) Pocket Park 12
4) Garden 11
5) Walking to School 10
6) Trail + Bike path + ~~River~~ 9
7) Art + Game + Birdwatching + Education 8
8) Picnicking 7

6

1-Picknicking 14
2. Pocket Park 13
3. Bike Path 12
4- Game Playing 11
5 - TRAIL 10
6- River Gate 9
7- GARDEN 8
8- ART MOSAIC 7
9- Walking Trail
6 10-River Cleaning
5 11-Bird watching
4 12-Education

5

8

1) Native plants & trees 14
2) Trails 13
3) Bikepath 12
4) River Cleaning 11
5) Native American and historical interpretation ~~10~~ 9 ~~8~~

7

Trail/Bikepath 14
Game playing 13
Outdoor fitness area 12
Outdoor ampitheater/educational 11
Art Mosaic / nice art along path 10

Game playing
Skate park

10

9

1 TRAIL
2) POCKET PARK
3 Bikepath
4 Garden
5 Education

12

River cleaning 14
Pocket park 13
Education 12
Trail 11
Bike path 10
Gardening 9
Picnicking 8
Art Mosaic 7
Game-Playing 5
rivergate 4
Birdwatching 3

11

PHOTO (PROPOSED RANKINGS).
(1) TRAIL (2) BIKE PATH (3) RIVER CLEANING
(4) EDUCATION (5) WALKING TO SCHOOL
(6) POCKET PARK (7) GARDEN (8) PICNICKING
(9) BIRD WATCHING (10) GAME PLAYING
(11) ART MOSAIC (12) RIVERGATE

(14)

1. Pocket Park 14
2 Trail 13
3 Bike path 12
4 Picknicking 11
5 Walking to school 10
6 Bird watching 9
7 Garden 8
8 River Cleaning 7
9. River gate 6
10 Game playing 5
11 Education 4
12 Art Mosaic 3

(13)

1. River Cleaning 14
2. Pocket Park 13
3 Education 12
4. Trail 11
5. Picnicking 10
6. Art Mosaic 9
7. Garden 8
8. Bikepath 7
9. Game-playing 6
10. walking to school 5
4 11 Birdwatching
3 12 River Gate

(17)

EDUCATION 14
RIVER CLEANING 13
POCKET PARK 12
BIKE PATH 11
TRAIL 10
PERVIOUS VEGETATED CHANNEL BOTTOM WITHIN EXISTING CHANNEL GEOMETRY AND WITHIN HYDRAULIC CAPACITY 9

(16)

Within City Limits / Rural Areas

River Cleaning 14
education 13
Art Mosaic 12

pocket park 11
bike trail/path 10
Cleaning 9
education

(19)

1. Pocket Park 14
2 Trail 13
3. Bikepath 12
4- Picnicking 11
4 Walking to School 11

(18)

1. Bike path 14
2. trail 13
3. garden 12
4. pocket park 11
5. education 10

21

14 1) Bike Path - Connecting All
13 2) Pocket Parks - Strategically Placed thru-out
12 3) River Cleaning - Access - Bioswell, settling/collection
11 4) Safe Pathways to Schools (Urban) + Trails (Rural)
10 5) Art / Garden / Game Stations / Exercise Stations

(Sarah - SDRPF)

20

1. trail 14
2. education 13
3. bike path 12
4. art mosaic 11
5. picknicing 10

23

1. Pocket Park w/ game playing & 24/7 restrooms 14
2. Trail (w/ physical activity component) 13
3. Garden w/ picnic area 12
4. Walking to school 11
5. Bikepath 10

Steve Richardson

22

1. Education 14
2. Trail 13
3. Bikepath 12
4. Garden 11
5. Picnicking 10

15

#1 14 River Gate (to invite people in)
2 13 Trail (to ~~4~~ physical activity)
3 12 Pocket Park - a green space
4 11 Education
5 10 River Cleaning

#6 - 12

24

1. Education 14
2. Game-playing 13
3. Garden 12
4. Stop Bullying 11
5. Birdwatching 10

6- Birdwatching 9
7- Bike path 8
8- Picnic 7
9- walking to School 6
10- Garden 5
11- Game playing 4
12 Art Mosaic 3

Brainstorm Results from Stakeholder Meeting Activity 1

Outdoor Activities
Question: What would EL Cajon Residents like to do along the Creek?

* Represents outdoor activities stakeholders would like to do along a creek

Group 1

Outdoor Gym *
Indoor Soccer Facility
Bike Trail (Loop) *
Community Garden*
Mural Painting*
Lake (Fishing) *
Kids Splash Pad Zone*
Outdoor Wedding/Music Venue*

Group 2

Bikes
Skate Park
Clean Ups
Work Out Circuit
Educational Parks for Families *
Wild open space
Frisbee Golf
Game Tables or Courts
Fishing *
Bike Riding *
Nature Trail *
Walk /Run Trial *
Gardening*
Wildlife/Bird Watching*

Group 3

Parks
Hiking
Bike Riding
Playing Soccer with kids
Outdoor Sports (Mini Ping Pong)
Walking
Outdoor Art
Picnics
Inner-tube Down Creek*
Swimming Hole*
Birdwatching *
Fishing*
Walk along Promenade and Trails *
Sounds Wall (to block freeway noise)*

Top 5 Outdoor Activities Along the Creek
Question: Where is the beast place to do each activity along the Creek?

Group 1

Bike Trial (Loop)
Outdoor Wedding/Music Venue
Mural Painting
Community Garden
Water Activities (Splash Pad, Fishing)

Group 2

Bike Riding
Nature Trail
Walk/Run Trail
Gardening
Wildlife/Birdwatching

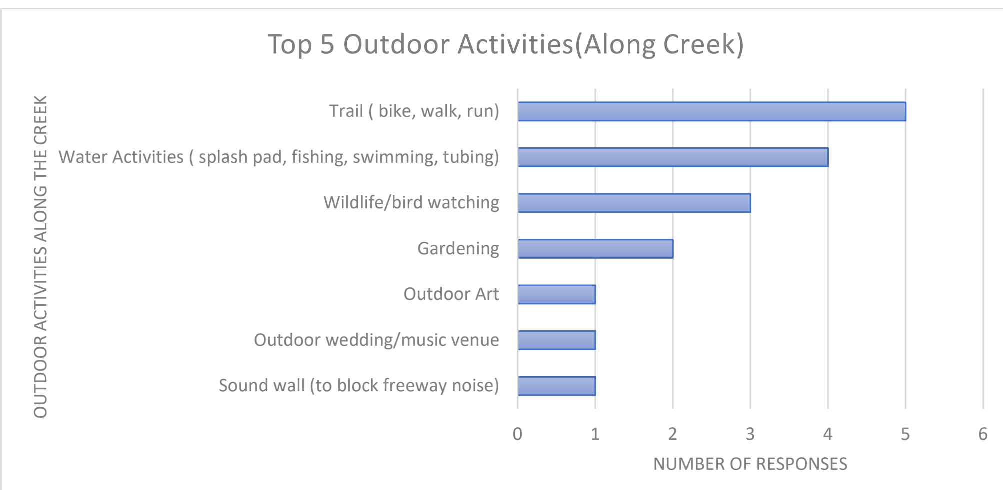
Group 3

Inner-tube Down River
Swimming Hole
Fishing
Birdwatching
Walking Promenade/Trails
Sound Walls (to block freeway noise)

Forester Creek Recreation Access Plan

Stakeholder Meeting Activity 1 on 11/13/18

Brainstorm Results



Stakeholder Meeting 1 Follow-up Questionnaire

Dear Stakeholder:

At our last meeting, you told us about preferred recreation activities in El Cajon. We would like to get some additional information from you to help make sure we understood your comments correctly and can accurately reflect them in the plan.

Please mark the response that best matches your feelings.

A. INTEREST IN CYCLING

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No response
1. I'm interested in biking short distances for fun and fitness.	☐	☐	☐	☐	☐	☐
2. I'm interested in biking long distances for fun and fitness.	☐	☐	☐	☐	☐	☐
3. I'm interested in biking to work.	☐	☐	☐	☐	☐	☐
4. I'm interested in mountain biking.	☐	☐	☐	☐	☐	☐
5. My friends and family are interested in biking.	☐	☐	☐	☐	☐	☐
6. My neighbors are interested in biking.	☐	☐	☐	☐	☐	☐

Cycling facilities come in all shapes and sizes. For example, bike paths are separate from the road and can go through parks or natural areas. Bike lanes are on the road and marked with symbols, lines, and signs. Bike routes are on the road and are just marked with signs.

B. FACILITIES NEEDED FOR CYCLING

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No response
7. El Cajon should have more bike paths in local parks.	☐	☐	☐	☐	☐	☐
8. El Cajon should have more bike paths in natural areas.	☐	☐	☐	☐	☐	☐
9. El Cajon should have more bike lanes on local roads.	☐	☐	☐	☐	☐	☐
10. El Cajon should have more bike routes on local roads.	☐	☐	☐	☐	☐	☐
11. El Cajon should have more signs about bike facilities.	☐	☐	☐	☐	☐	☐

Walking and hiking facilities also come in a range of different types. Sidewalks are paved and provide a safe place to walk beside a road. Walking paths are paved and separate from the road, but go through parks or other open spaces. Nature trails are often unpaved and go through natural or wild areas.

C. FACILITIES NEEDED FOR WALKING/HIKING

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No response
12. El Cajon should have more sidewalks.	☐	☐	☐	☐	☐	☐
13. El Cajon should have more walking paths in local parks.	☐	☐	☐	☐	☐	☐
14. El Cajon should have more nature trails in natural areas.	☐	☐	☐	☐	☐	☐
15. El Cajon should have more signs about walking/hiking facilities.	☐	☐	☐	☐	☐	☐

D. MOST POPULAR ACTIVITIES

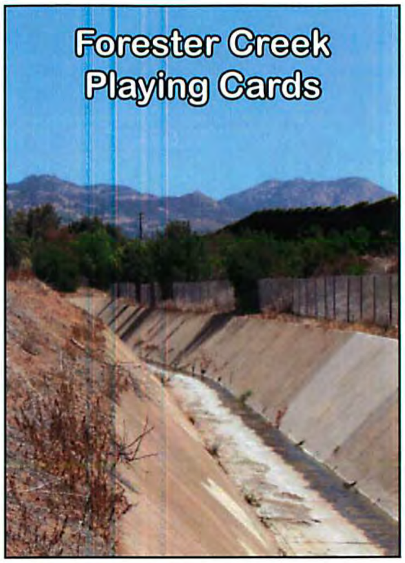
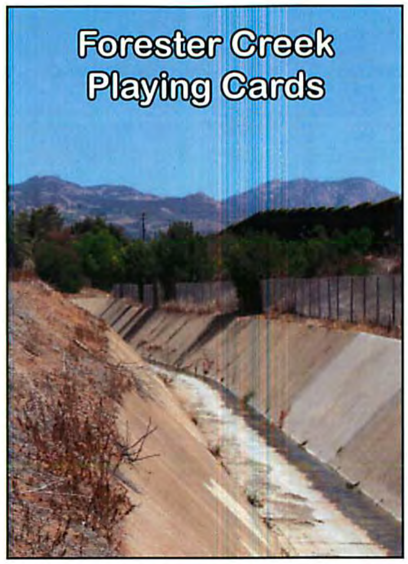
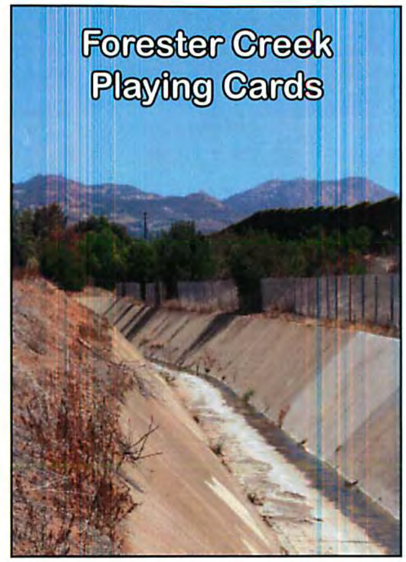
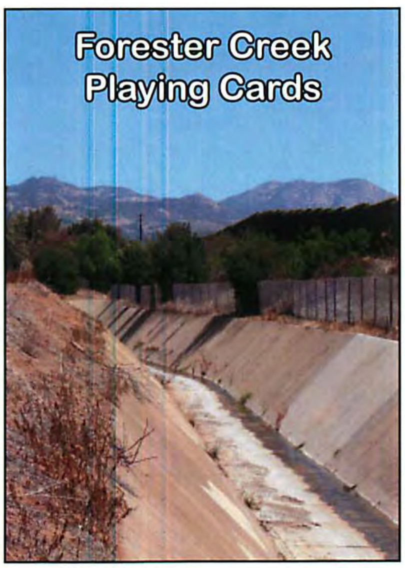
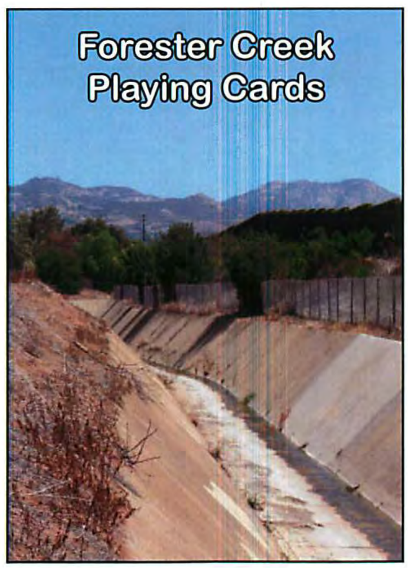
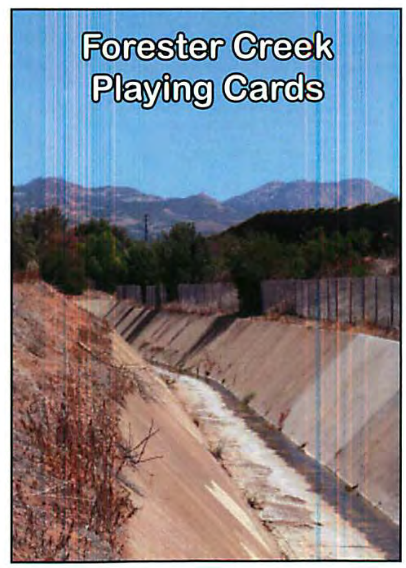
16. Of all the activities we discussed at the last meeting, what activity do you think would be:

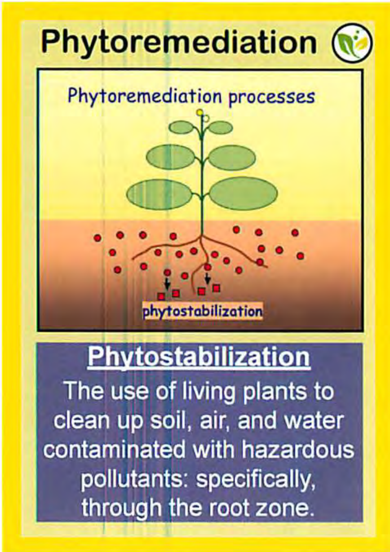
(a) Most popular with your friends and family? ______________________________________

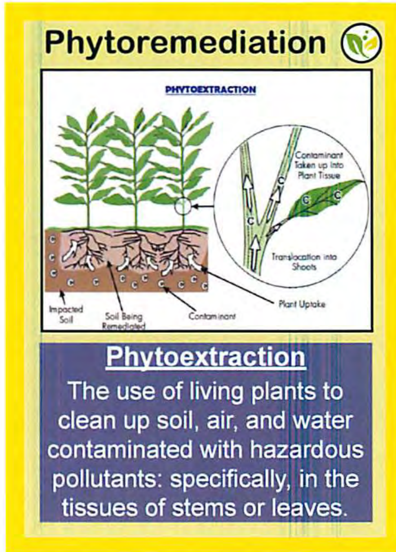
(b) Most popular with your neighbors? ______________________________________

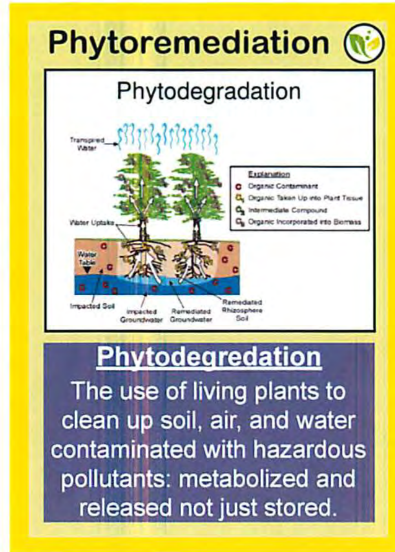
Thank you for your assistance with this and all our planning efforts!

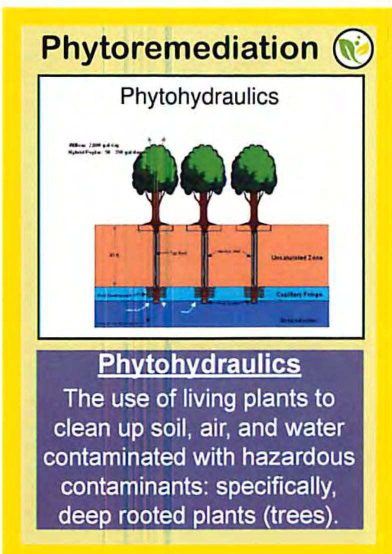
Please return the survey to a member of the Cal Poly Pomona 606 Team.


Forester Creek
Playing Cards

Forester Creek
Playing Cards

Forester Creek
Playing Cards

Forester Creek
Playing Cards

Forester Creek
Playing Cards

Forester Creek
Playing Cards


Phytoremediation
Phytoremediation processes
phytostabilization
Phytostabilization
The use of living plants to clean up soil, air, and water contaminated with hazardous pollutants: specifically, through the root zone.


Phytoremediation
PHYTOEXTRACTION
Contaminant Taken up into Plant Tissue
Translocation into Shoots
Plant Uptake
Impacted Soil
Soil Being Remediated
Contaminant
Phytoextraction
The use of living plants to clean up soil, air, and water contaminated with hazardous pollutants: specifically, in the tissues of stems or leaves.

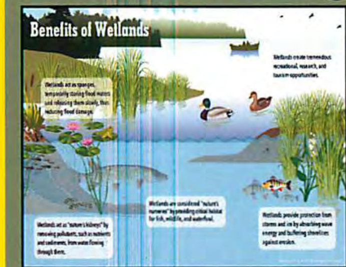

Phytoremediation
Phytodegradation
Phytodegradation
The use of living plants to clean up soil, air, and water contaminated with hazardous pollutants: metabolized and released not just stored.


Phytoremediation
Phytohydraulics
Phytohydraulics
The use of living plants to clean up soil, air, and water contaminated with hazardous contaminants: specifically, deep rooted plants (trees).


Creek Restoration
Historical Habitat Types and Channels
Historical
Set of activities that help improve the environmental health of the creek: focusing on restoring the waterway to its historical conditions/course.


Creek Restoration
Human Integration
Set of activities that help improve the environmental health of the creek: focusing on the benefits to human well-being and accessibility.

Creek Restoration



Ecological

Set of activities that help improve the environmental health of the creek: focusing on improving the conditions for plant and animal life.

Creek Restoration

Holistic

Set of activities that help improve the environmental health of the creek: focusing on integrating comprehensive improvements in all areas.

Confluence

Source

The connection of two rivers/ creeks: the location where two smaller creeks or rivers merge to become the source for a new river.

Confluence

Tributary

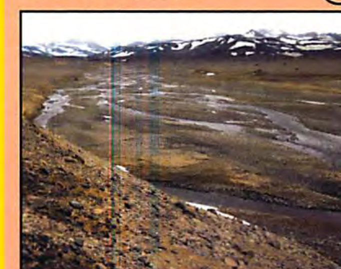
The connection of two rivers/ creeks: A smaller river or creek flowing into a larger river system i.e. Washington Creek and Broadway Channel.

Confluence

Estuary

The connection of two rivers/ creeks: with a free connection to the open sea, forming a transition zone between river and open sea environments.

Confluence



Floodplain/Multi-Thread

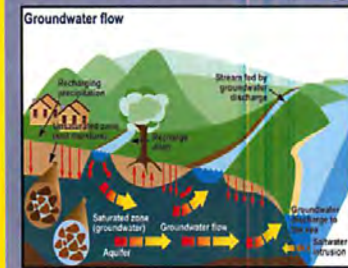
The connection of multiple rivers/creeks: Also known as braided rivers consist of temporary islands that create a larger floodplain network.

Watershed Hydrology

Surface Water Hydrology

Science of the water cycle as it moves through a regional network: specifically, water that does not include atmospheric, and ground waters.

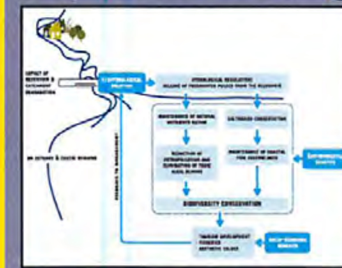
Watershed Hydrology



Ground Water Hydrology

Science of the water cycle as it moves through a regional network: specifically, the water flow that percolates through the soil into subsurface aquifers.

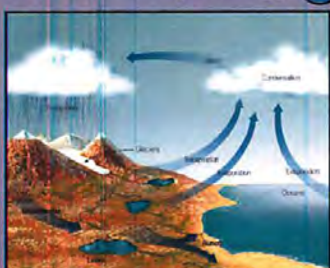
Watershed Hydrology



Ecohydrology

Science of the water cycle as it moves through a regional network: specifically, the study of the interactions between water and ecosystems.

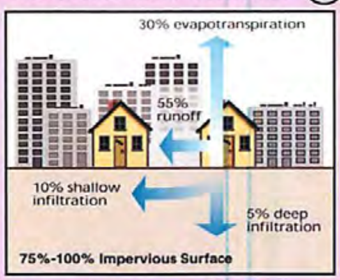
Watershed Hydrology



Hydrometeorology

Science of the water cycle as it moves through a regional network: specifically, transfer of water between the land surface and the lower atmosphere.

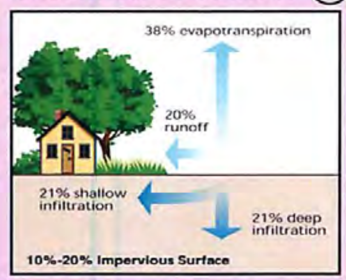
Stormwater Runoff



Urban Runoff

Surface condition of water displacement and role in water cycle: urban conditions are the most impervious and polluted of the possible landscapes.

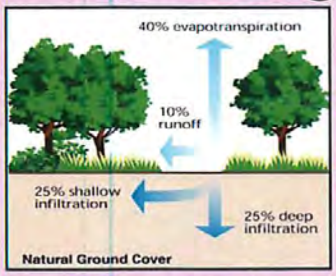
Stormwater Runoff



Rural Runoff

Surface condition of water displacement and role in water cycle: rural conditions better infiltration for developed land but suffer from pesticide & fertilizer.

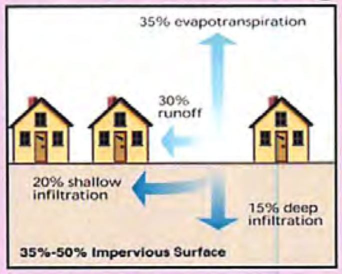
Stormwater Runoff



Natural Runoff

Surface condition of water displacement and role in water cycle: natural conditions have the highest infiltration rate and least polluted runoff.

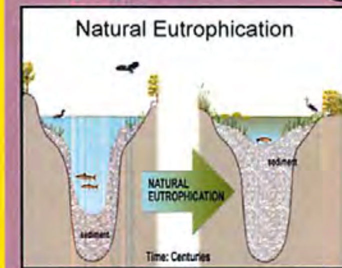
Stormwater Runoff



Suburban Runoff

Surface condition of water displacement and role in water cycle: suburban conditions have the second worst infiltration and results in larger runoff.

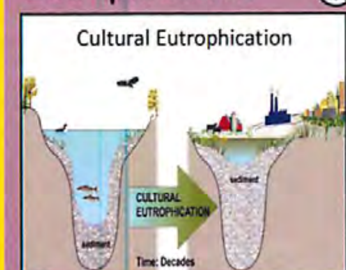
Eutrophication



Natural Eutrophication

Excessive richness of nutrients in a body of water, due to runoff, which causes a dense growth of plant life and death of animal life from lack of oxygen: via natural processes.

Eutrophication



Cultural Eutrophication

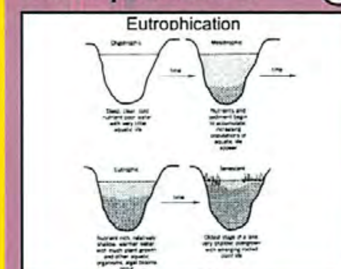
Excessive richness of nutrients in a body of water, due to runoff, which causes a dense growth of plant life and death of animal life from lack of oxygen: via human processes.

Eutrophication

Algal Blooms

Excessive richness of nutrients in a body of water, due to runoff, which causes a dense growth of plant life and death of animal life from lack of oxygen: via rapid increase in algae.

Eutrophication



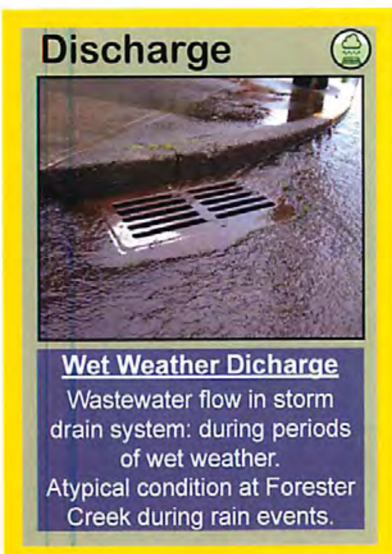
Sedimentation

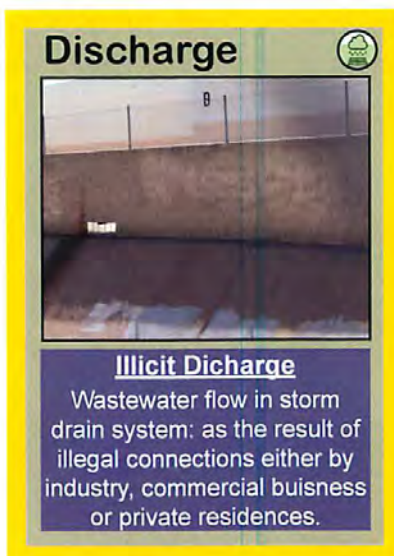
Excessive richness of nutrients in a body of water, due to runoff, which causes a dense growth of plant life and death of animal life from lack of oxygen: via sediment deposit.


Reach
West of 67 fwy along Marshall
Industrial
Continuous parts of the creek with similar characteristics: Lack of permanent population, with buisnesses and factories.


Reach
Border of El Cajon and Santee
Restored
Continuous parts of the creek with similar characteristics: Having undergone dechan-nelization and revegetation.


Discharge
Dry Weather Dicharge
Wastewater flow in storm drain system: during periods of dry weather.
Typical condition at Forester Creek with minimum rainfall.


Discharge
Wet Weather Dicharge
Wastewater flow in storm drain system: during periods of wet weather.
Atypical condition at Forester Creek during rain events.


Discharge
Illicit Dicharge
Wastewater flow in storm drain system: as the result of illegal connections either by industry, commercial buisness or private residences.


Discharge
Non-Stormwater Dicharge
Wastewater flow in storm drain system: as the result of improperly dumping any substance that is not composed entirely of rainfall.

Channelization

Box Culvert

Method of river engineering that widens or deepens creeks to increase the capacity for peak volume: 90 degree wall face (fastest).

Channelization

Banked Channel

Method of river engineering that widens or deepens creeks to increase the capacity for peak volume: ~45 degree wall face (faster).

Channelization

Naturalized

Creek waterway that has never been poured over with concrete, with the exception of road intersection through way drainage elements.

Channelization

Dechannelized

Creek waterway that has been poured over with concrete, but has undergone restoration including the removal of concrete.

Reach

Granite Hills, East of 8 fwy

Headwaters

Continuous parts of the creek with similar characteristics: Rural character, larger lots, and a naturalized creek.

Reach

West of and adjacent to 8 fwy

Residential

Continuous parts of the creek with similar characteristics: Urban character, smaller lots, and a channelized creek.

Creek

Forester Creek: El Cajon, CA

Arid Creek

A dry creek that temporarily or seasonally fills and flows in response to rain.

Creek

Deer Creek: Selma, OR

Perennial Creek

Typically have continuous water-flow year round with average rainfall.

Creek

Forester Creek: El Cajon, CA

Intermittent Creek

Has flowing water during wet season and is typically dry during summer.

Creek

Forester Creek: El Cajon, CA

Subterranean Creek

Creek path that runs wholly or partially beneath the ground surface.

General Instructions:

1. This pack of 40 cards is meant to illustrate some of the terminology used in the discussion of creek processes.

2. The large font on the top row identifies the general term being defined accompanied by a related symbol in the top right hand corner for identification.

3. There are a seires of four cards for each term, each with its own specific sub-header and image.

4. Each individual card has both a definition of the general term and the specific sub-header associated seperated by a colon or line break.

Go Creek! Instructions:

These cards can be used to play a variant of "Go Fish!" which we are calling "Go Creek!" and plays very similarly.

1. Ask your opponent for a card i.e. "Do you have any phytoremediation?"

2. If your opponent does not have the card you asked for, they will say "Go Creek!". At this point, you draw a card from the draw pile.

3. The goal is to have a set of 4 cards of the same category in your hand, once you have all 4 cards place them face up on the table.

4. The game ends when one person lays all their cards on the table, or the draw pile is empty, whichever comes first. The person with the most sets of four wins the game.

Forester Creek Recreation Access Plan: Stakeholder Committee Meeting: 12/4/18

Activity Instructions

The map is broken up into 5 different areas that are labeled 1-5 on the map. Start in the area that matches the number at your table. For example, if you are in group 2, you will start in area 2.

Activity Instructions:

Choose the best area to place potential parks/open space

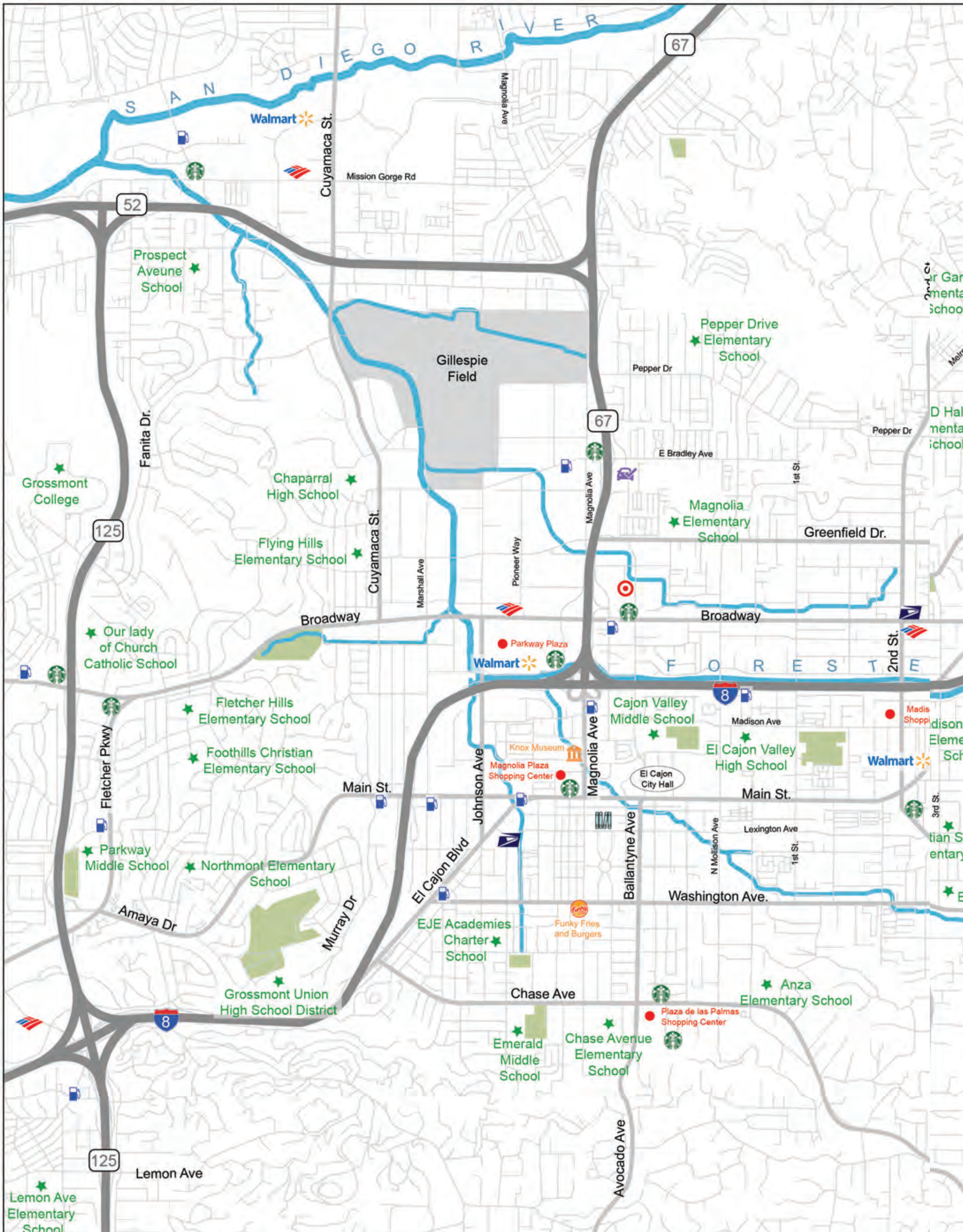
1. As a group, discuss where to place parks within your area.
2. As you talk, move the park cut outs around on the map to consider different arrangements.

The placement of the parks does not have to be exact, it represents a general area that would be best for potential parks/open space/recreation sites.

3. Once your group agrees on potential park locations, attach the large and medium parks on the maps using clear pins, small sparks are represented by colored pins
4. Fill out the to explain why you chose the locations for potential parks/open spaces

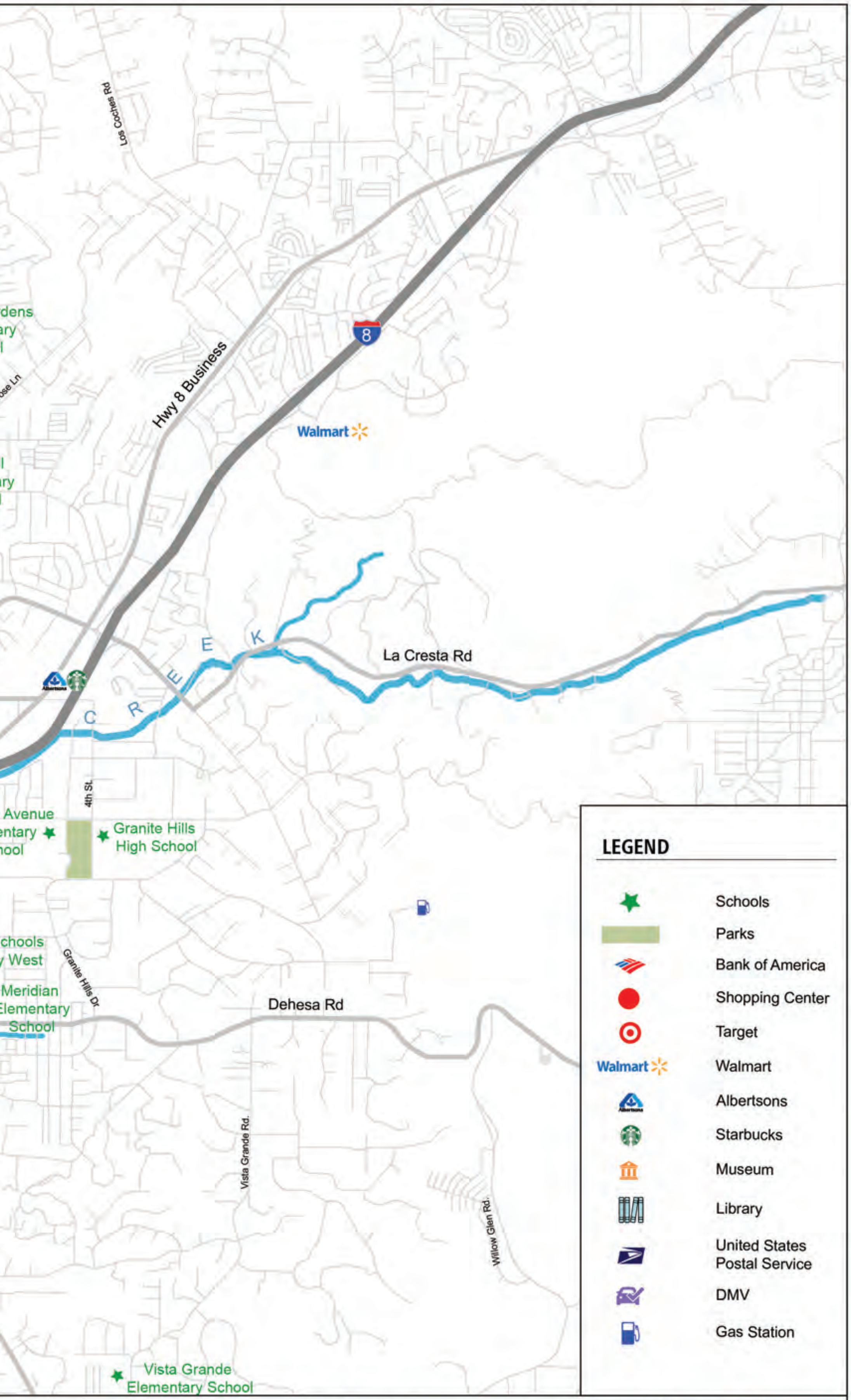
Connect your parks/open spaces placed in step one, with a trail/path.

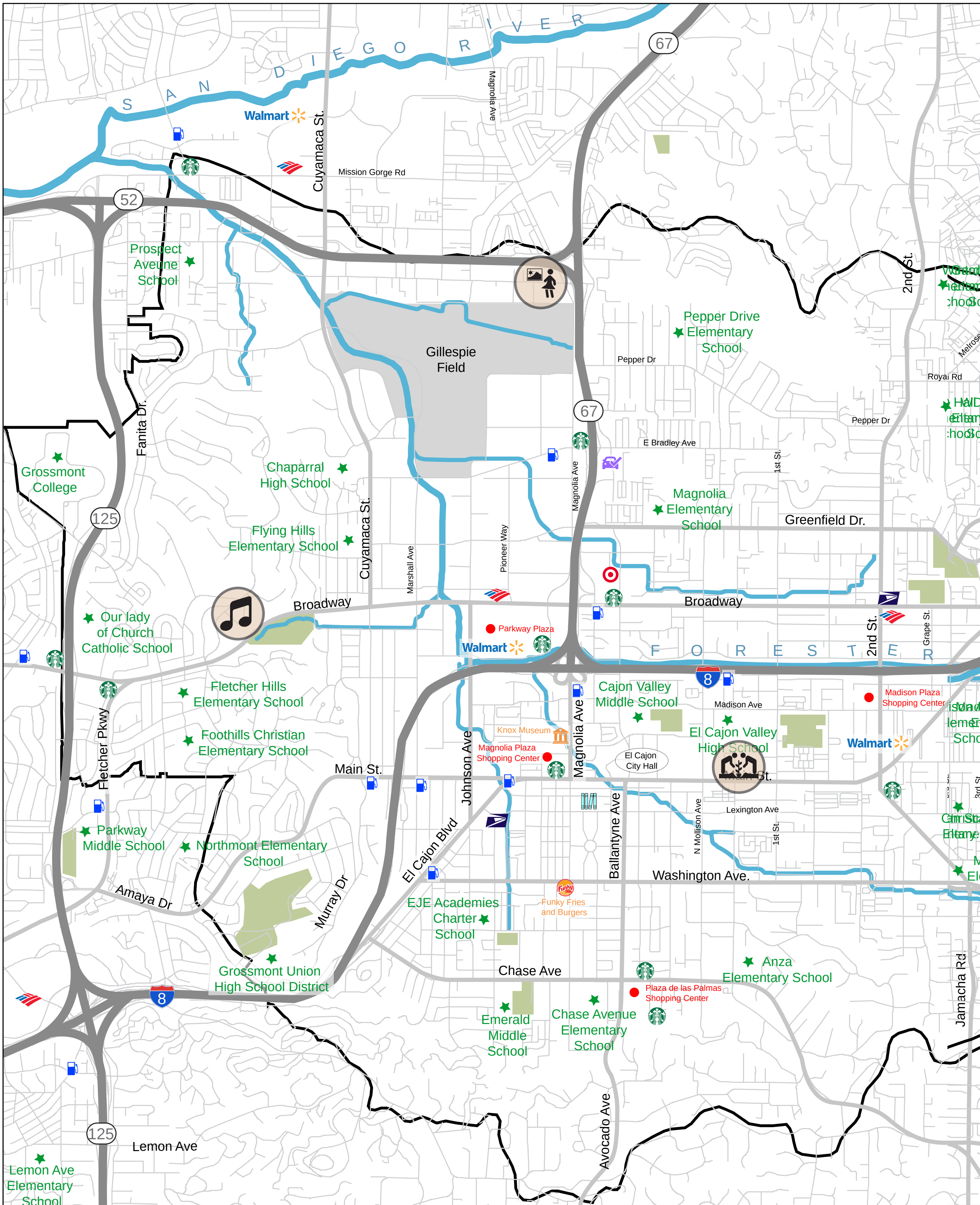
1. As a group discuss what are the best routes to connect the potential parks/open spaces
2. As you talk, move the Wikki Stix around the map to consider considering different trail/paths.
3. Once your group agrees on a route to connect the parks, push down on the Wikki Stix to stick them to the map.



El Cajon Area Street Map With Major Landmarks

fornia

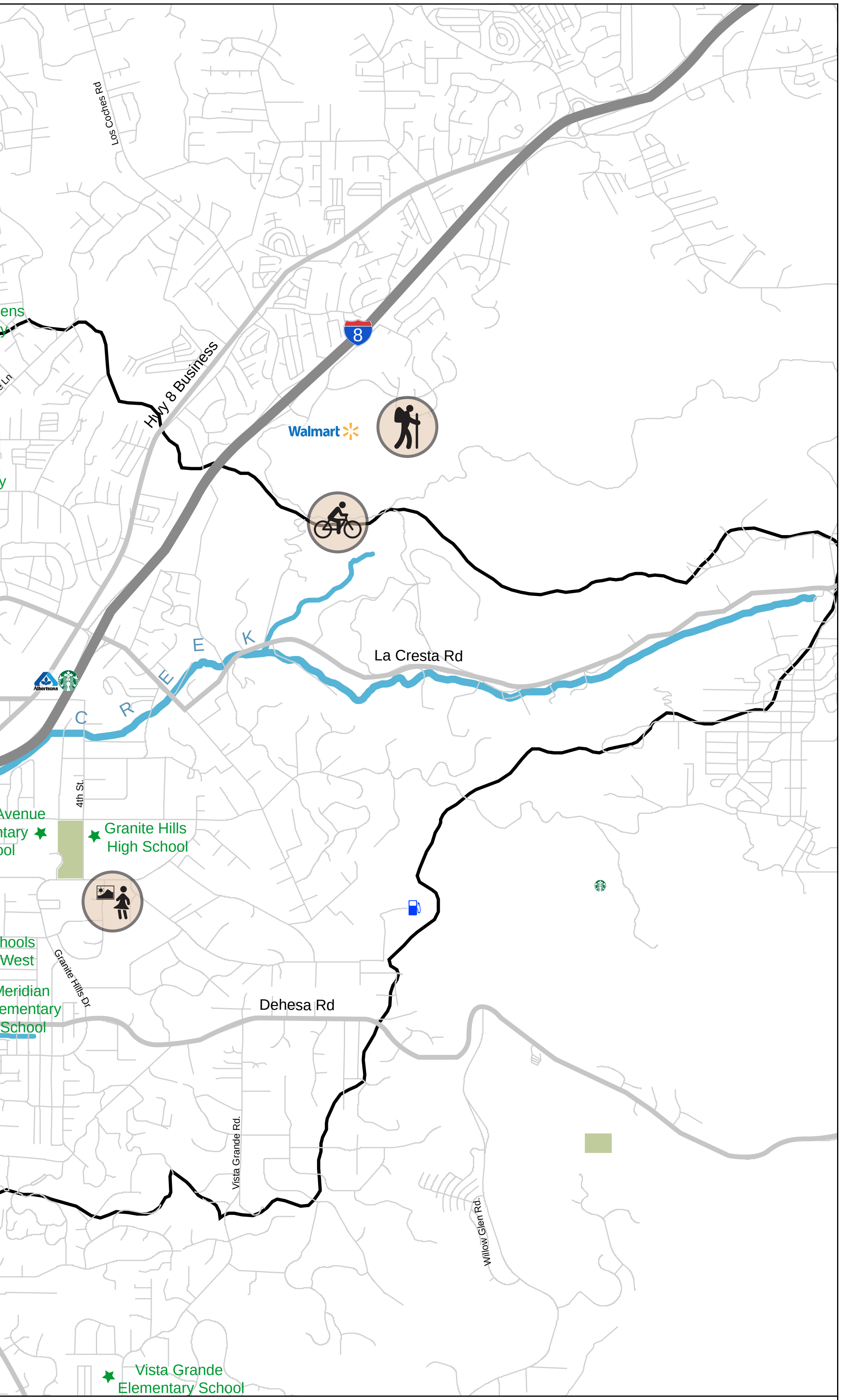

Los Coches Rd
Hwy 8 Business
8
Walmart
La Cresta Rd
C R E E K
4th St.
Granite Hills
High School
Granite Hills Dr.
Dehesa Rd
Vista Grande Rd.
Willow Glen Rd.
Vista Grande
Elementary School
LEGEND
Schools
Parks
Bank of America
Shopping Center
Target
Walmart
Albertsons
Starbucks
Museum
Library
United States
Postal Service
DMV
Gas Station



El Cajon Area Street Map With Major Landmarks

ornia

Group 1



Legend

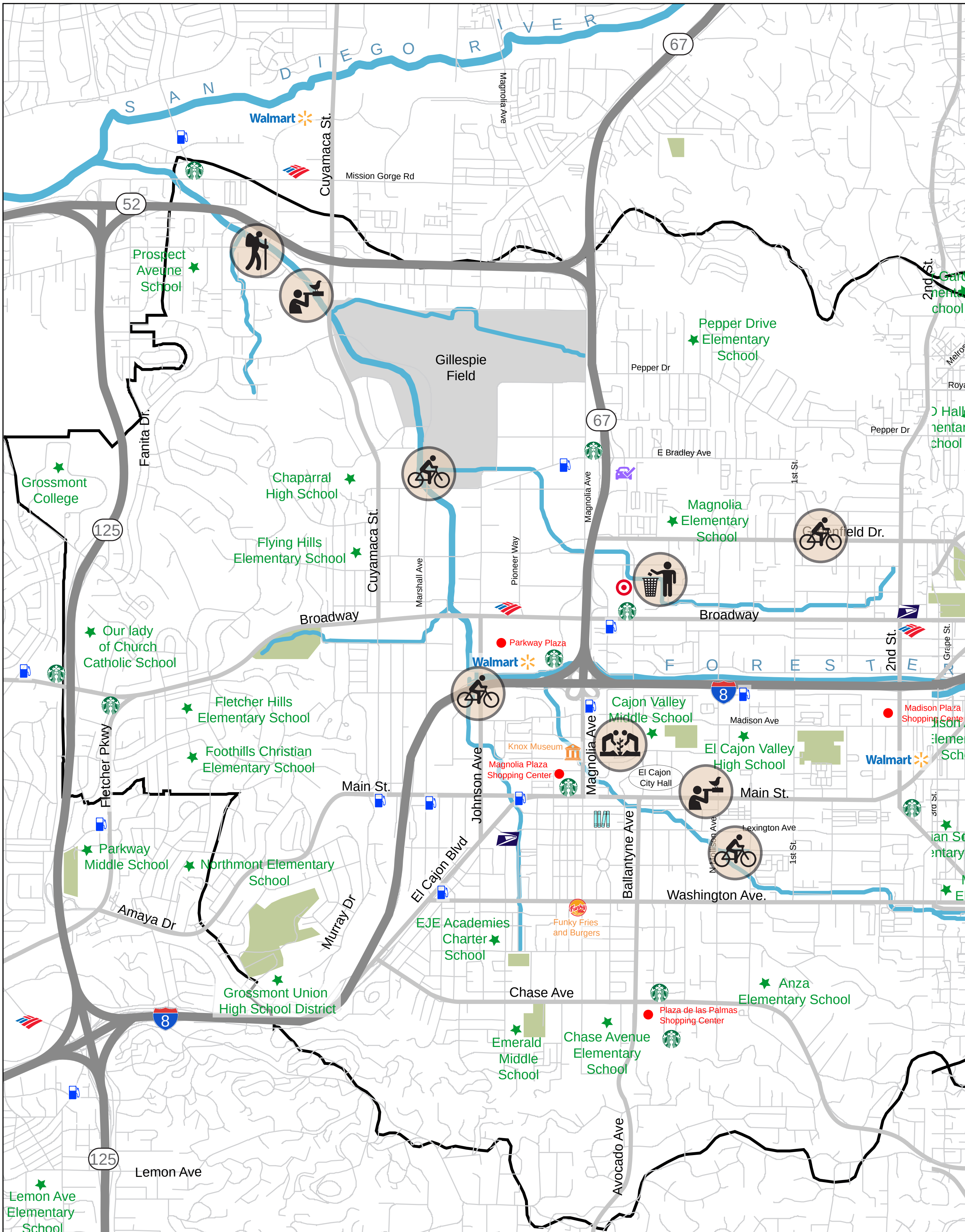
- Art Viewing
- Biking
- Hiking
- Music Venue
- Gardening

LEGEND

- Schools
- Parks
- Bank of America
- Shopping Center
- Target
- Walmart
- Albertsons
- Starbucks
- Museum
- Library
- United States Postal Service
- DMV
- Gas Station

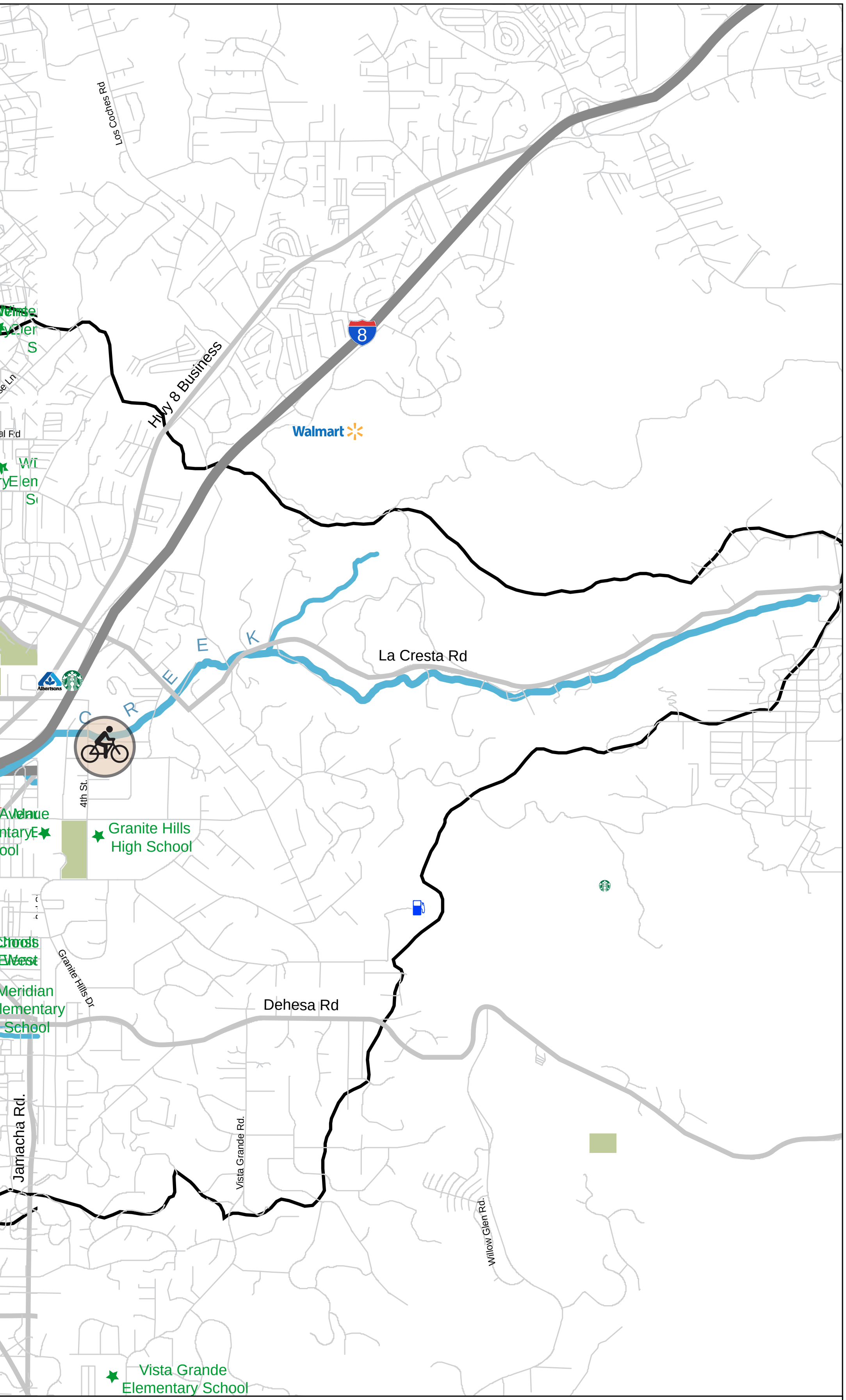
The Forester Creek Recreation Access Plan, El Cajon, San Diego

State Polytechnic University, Pomona | STUDIO 606 The San Diego River Park Foundation



El Cajon Area Street Map With Major Landmarks

Group 2



The Forester Creek Recreation Access Plan, El Cajon, San Diego

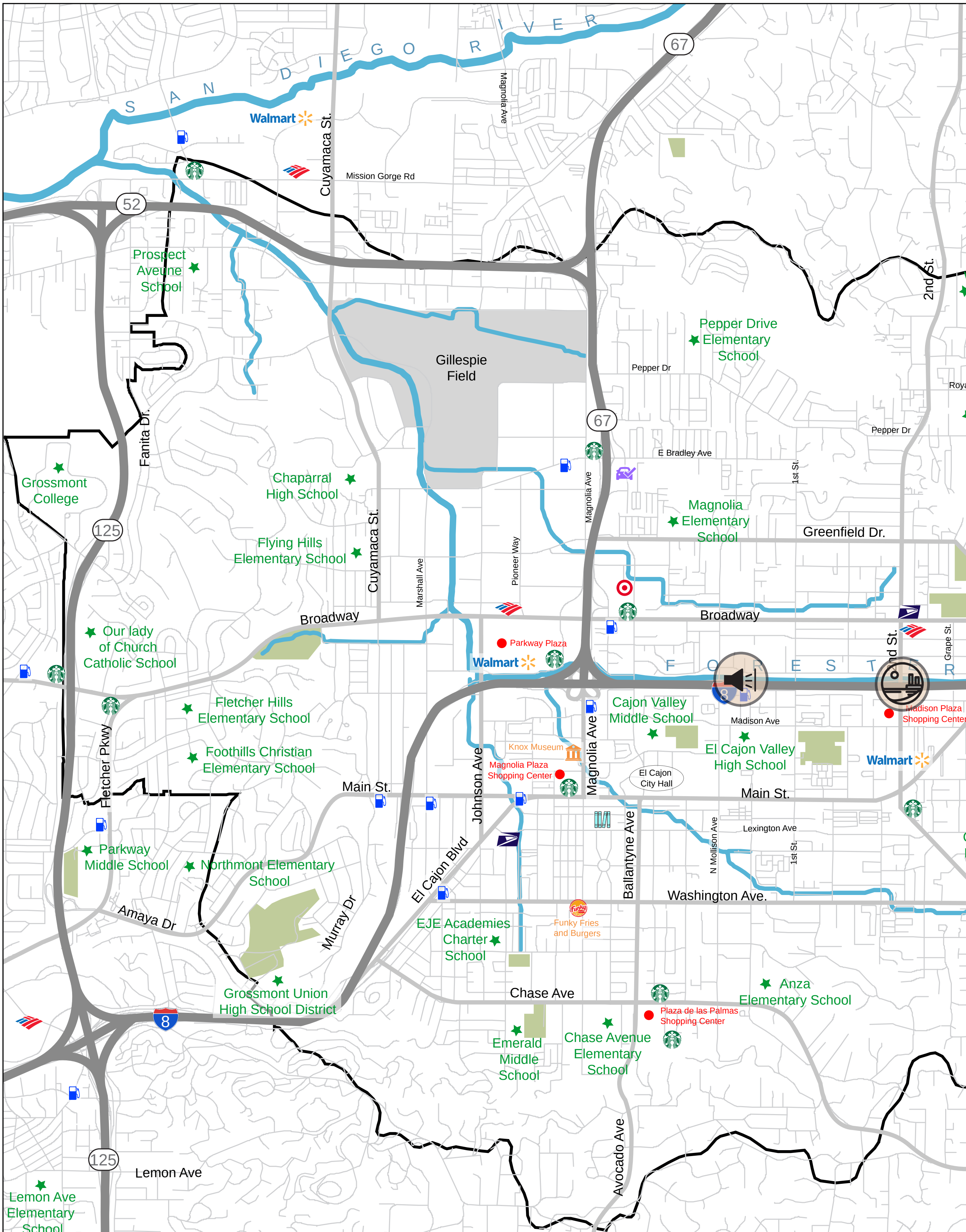
State Polytechnic University, Pomona | STUDIO 606 The San Diego River Park Foundation

Legend

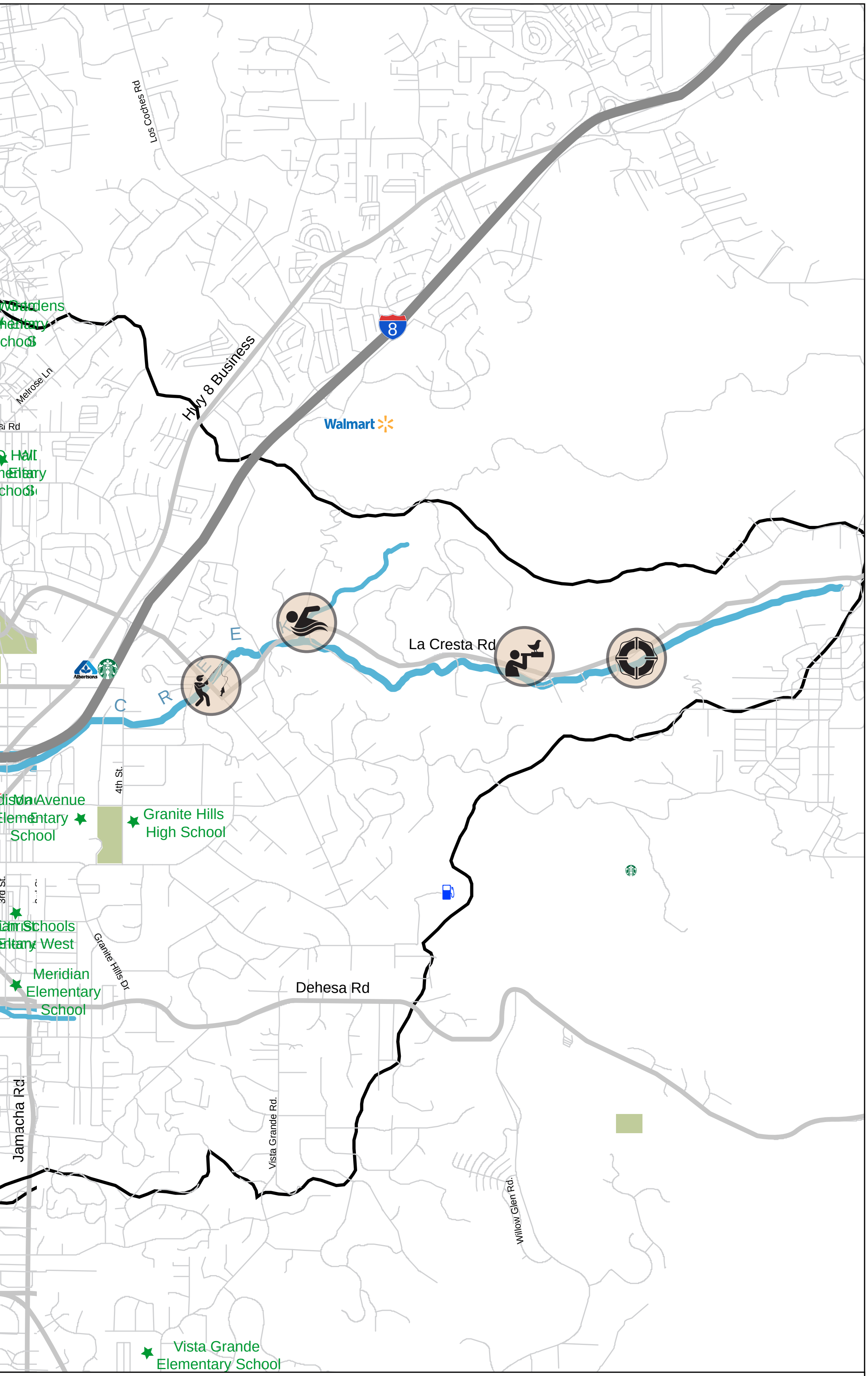
- Gardening
- Bird Watching
- Hiking
- River Cleaning
- Biking

LEGEND

- Schools
- Parks
- Bank of America
- Shopping Center
- Target
- Walmart
- Albertsons
- Starbucks
- Museum
- Library
- United States Postal Service
- DMV
- Gas Station



El Cajon Area Street Map With Major Landmarks



Group 3

Legend

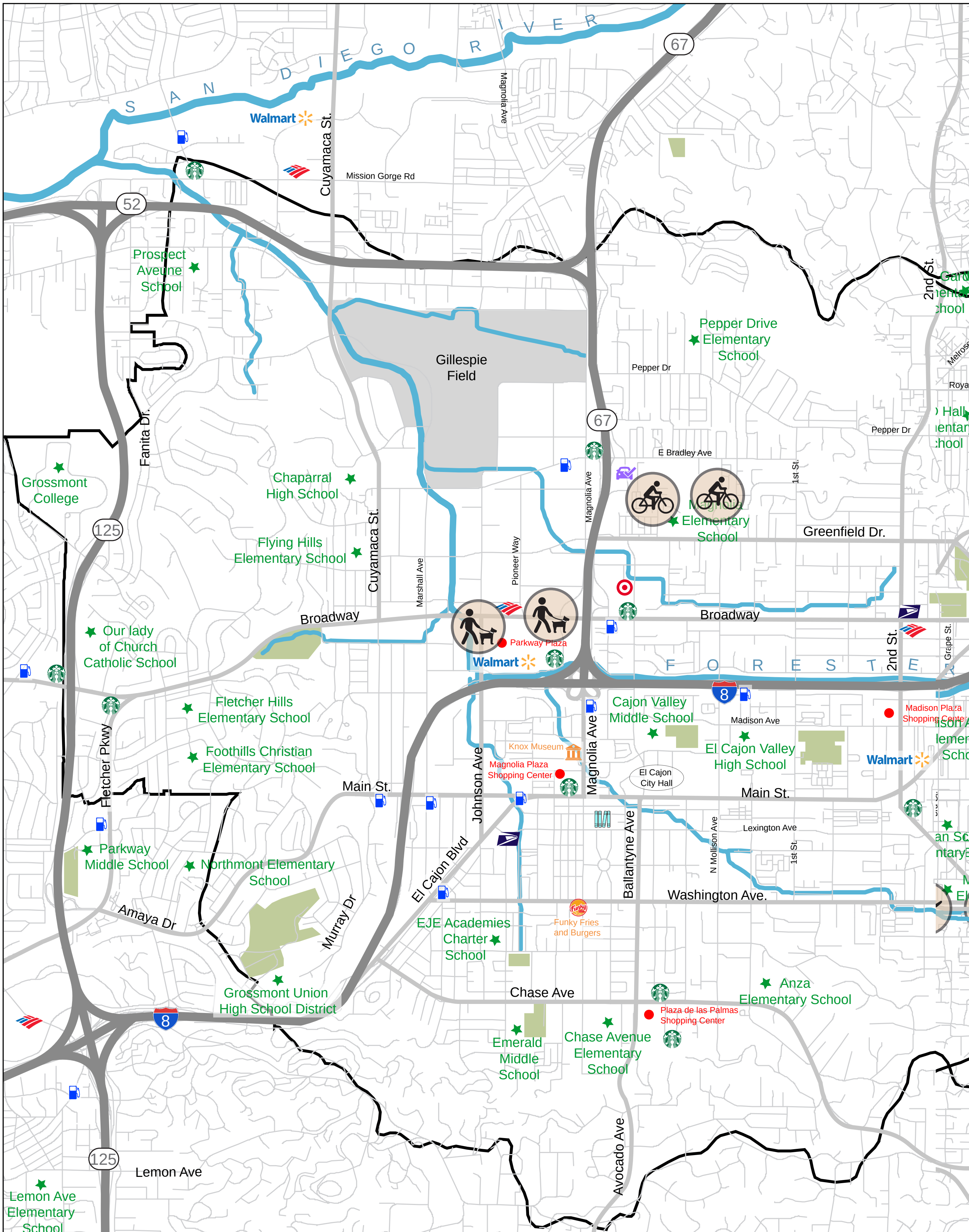
- Sound wall
- Promenade
- Fishing
- Bird Watching
- Tubing
- Swimming hole

LEGEND

- Schools
- Parks
- Bank of America
- Shopping Center
- Target
- Walmart
- Albertsons
- Starbucks
- Museum
- Library
- United States Postal Service
- DMV
- Gas Station

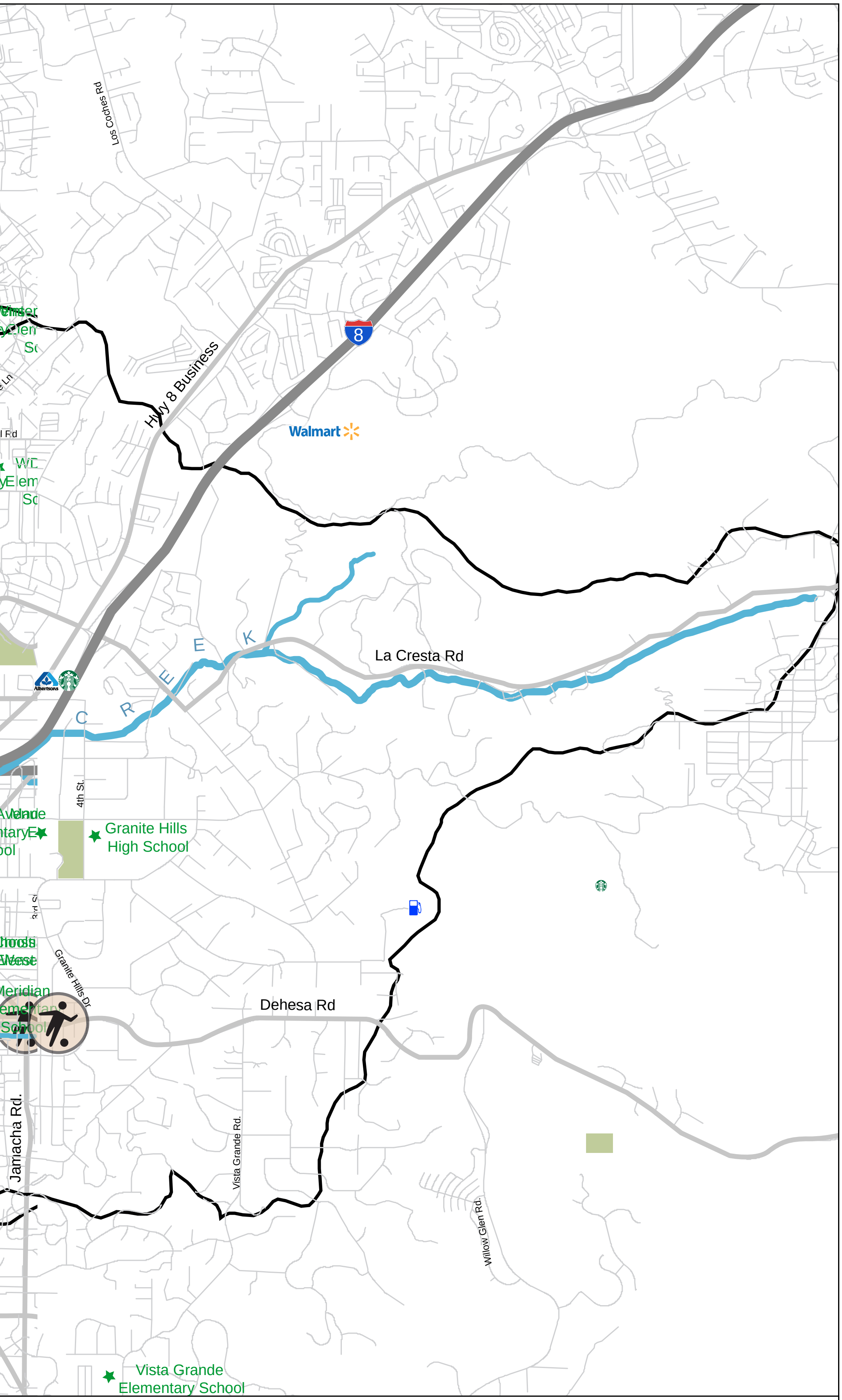
The Forester Creek Recreation Access Plan, El Cajon, San Diego

fornia State Polytechnic University, Pomona | STUDIO 606 The San Diego River Park Foundation



El Cajon Area Street Map With Major Landmarks

Group 4



The Forester Creek Recreation Access Plan, El Cajon, San Diego

State Polytechnic University, Pomona | STUDIO 606 The San Diego River Park Foundation

Legend

- Soccer
- Dog Walking
- Biking

LEGEND

- Schools
- Parks
- Bank of America
- Shopping Center
- Target
- Walmart
- Albertsons
- Starbucks
- Museum
- Library
- United States Postal Service
- DMV
- Gas Station

Community Committee Meeting #4

Question to Answer to Refine Draft Plan

Remember: mark every answer on the plan, including explaining "why"

PARKS

Question 1: Are the **regional parks** located in the right areas? Would you add any additional regional parks? Or eliminate any of those shown in the plan?

Question 2: Are the **neighborhood parks** located in the right areas? Would you add any additional neighborhood parks? Or eliminate any of those shown in the plan?

Question 3: Are the **pocket parks** located in the right areas? Would you add any additional pocket parks? Or eliminate any of those shown in the plan?

BIKE LANES AND TRAILS

Question 4: would you **change the route** of any of the bike lanes or trails?

Question 5: would you **add** any new routes? Or **eliminate** any of those shown?

Question 6: would you change the **use** of any of the routes? Converting a bike lane to a trail, or trail to a bike lane? Or converting a single use route to dual use?

EXTRA CREDIT: DISTRIBUTING ACITIVITIES AMONG THE PARKS

Question 7: are there any **activities or uses** that you would recommend be placed at certain parks? (refer to the key for what uses favored by the committee match each size of park)

Remember: mark every answer on the plan, including explaining "why"

Mapping Activity Response Form
Park/Open Space #____

We chose to locate this park/open space near the corner of ________________

and ______________________ because:

____

____

____

____

Park/Open Space Size:

(Circle One)

Large Medium Small

Mapping Activity Response Form
Park/Open Space #____

We chose to locate this park/open space near the corner of ________________

and ______________________ because:

____

____

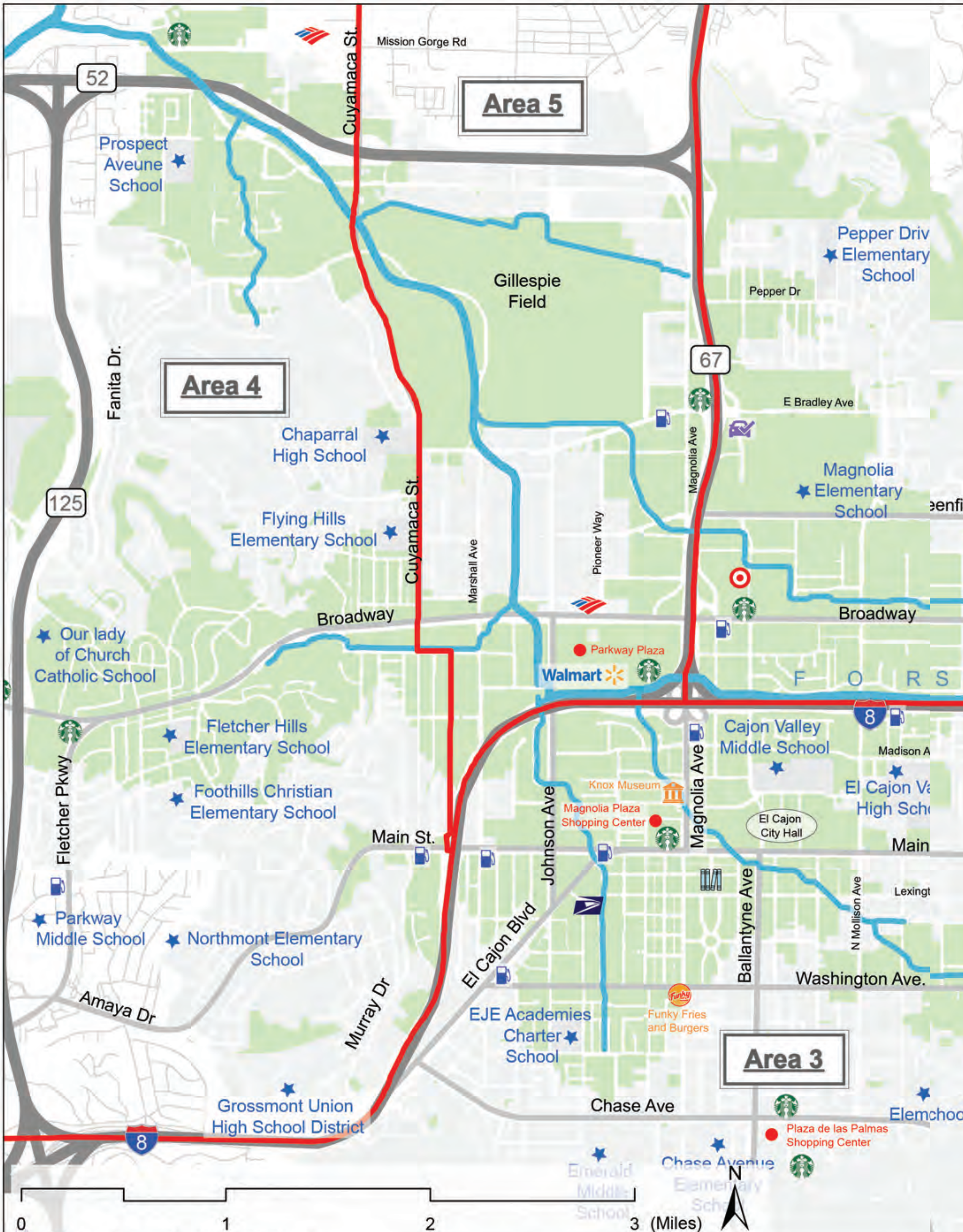
____

____

Park/Open Space Size:

(Circle One)

Large Medium Small



Potential Parks/Open Space Location Map


Area 1
2nd St.
Winter Gardens Elementary School
Melrose Ln
Hwy 8 Business
8
Royal Rd
Walmart
WD Hall Elementary School
Pepper Dr
eld Dr.
E
K
E
La Cresta Rd
2nd St.
Grape St.
C
R
T
E
R
Area 2
4th St.
Madison Plaza Shopping Center
Madison Avenue Elementary School
Granite Hills High School
Walmart
3rd St.
Christian Schools Elementary West
Granite Hills Dr
Meridian Elementary School
Jamacha Rd.
LEGEND
Existing Parks
Potential parks/open space locations
Schools
Bank of America
Shopping Center
Target
Walmart
Albertsons
Starbucks
Museum
Library
United States Postal Service
DMV
Gas Station


Community Parks Workshop
رأيكم يهمنا
¡Necesitamos su opinión!
Your thoughts are needed!
What Does Your Neighborhood Need?
Tuesday, Feb. 26, 4 - 7 pm
Ronald Reagan Community Center
195 East Douglas Ave. in El Cajon
الثلاثاء, يوم 26 من شهر الثانى.
من الساعة 4 الى 7 عصرا
على قاعة ريغان مقابل مكتبة الكاهون
195 East Douglas Ave. El Cajon

APPENDIX E: RELEVANT LOCAL AND REGIONAL PLANNING DOCUMENTS

The following sections are summaries of local and regional planning documents that are relevant to the Forester Creek System Recreation Access Plan.

E.01/General Plan

The City of El Cajon General Plan was prepared in the late 1990s and approved in 2000. As such, while it is a legally binding document, much of the information and goals therein are dated and may not reflect the City's current approach to development and management. The sections most relevant to this project – Open Space and Recreation identify existing resources and the planned partnership with the school system to provide additional recreational resources. New parks or recreational facilities are not included, other than a "Bicycle Route Map".

E.02/City of El Cajon Bicycle Master Plan (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011)

The El Cajon Bicycle Master Plan is an update to the 2000 General Plan. Its goal is to "***maximize the connections between mass transit, employment and residential sectors, and activity centers*** with bikeways to promote a viable alternative to automobile travel [and…provide a more convenient bikeway system for cyclists who do not have ready access to motor vehicles" [emphasis added. According to the plan, "the community desires a ***comprehensive bikeway system*** that provides a network of facilities serving destinations throughout the City. Second, the community desires ***east-west linkages*** across the City using relatively ***low volume*** routes. Third, as the community continues to grow, the bikeway system should be extended with new developments integrated" [emphasis added. Goal 3 of the master plan is to "develop a ***safe, convenient, and continuous network of bicycle facilities for all types of cyclists within the City and to adjacent jurisdictions***" [accent added]. Finally, Goal 7 attempts to "improve bicycle access on **bridges and under-crossings** and to **maximize connections with mass transit** facilities" [emphasis added. The master plan proposes an additional 52 miles of cycling facilities.

According to the document, the public raised several concerns as part of the outreach process, including:

- Opening the Kennedy Skatepark to bicycles
- The under-crossing at Main Street and I-8
- Bike facilities on Broadway and Fletcher Parkway

Recommended Planning Actions of the 2011 El Cajon Bicycle Master Plan (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011) include:

- Improve access to public lands for mountain bicyclists
- Work with the mountain biking community to develop a plan for off-road access
- Develop a bicycle skills parks and/or BMX park.

The report has the following specific routing recommendations.

The following are verbatim excerpts from the referenced documents as they relate to the City of El Cajon's cycling facility planning efforts (KTU&A Planning and Landscape Architecture & Fehr Peers, 2011) (see Table 4.19 for specific routing recommendations)..

E.03/City of San Diego Bicycle Masterplan (Alta Planning + Design, 2013)

Existing Routes to El Cajon:

- Class II into El Cajon on Navajo Road
- Class III Route on Highwood Drive that connects to Grossmont College and the SR-125 Bike Path

Planned routes to El Cajon: None

E.04/County of San Diego Bicycle Transportation Plan (Alta Planning + Design & KTU&A, 2003)

Crest-Dehesa-Granite Hills-Harbison Canyon

Existing Routes to El Cajon:

- Class II Lane on Dehesa Road
- Class II Lane on Granite Hills Drive
- Class II Lane on Greenfield Drive

Planned routes to El Cajon: None

Amenity recommendations: No bicycle amenities, including shower and locker facilities, are planned in the community of Crest-Dehesa-Granite Hills-Harbison Canyon.

Proposed Bicycle Parking: As part of the county-wide bicycle parking program, bicycle racks, and lockers may be planned for locations in Crest-Dehesa-Granite Hills-Harbison Canyon at parks, commercial districts, civic buildings, and park-and-ride lots.

Lakeside-Pepper Drive-Bostonia

Existing Routes to El Cajon:

- Class II Lane on Second Street
- Class II Lane on East Main Street/I-8 Business Route
- Class II Lane on Greenfield Drive

Planned routes to El Cajon:

- Class II Lane on Magnolia Avenue between Vernon Way and Airport Drive
- Class III Route on First Street between Pepper Drive and El Cajon city limit
- Class III Route on Pepper Drive between First Street and El Cajon city limit

Amenity recommendations: No bicycle amenities, including shower and locker facilities, are planned in the community of Lakeside-Pepper Drive-Bostonia.

Proposed Bicycle Parking: As part of the county-wide bicycle parking program, bicycle racks, and lockers may be planned for locations in Lakeside-Pepper Drive-Bostonia at parks, commercial districts, civic buildings, and park-and-ride lots.

Valle De Oro

Existing Routes to El Cajon:

- Class II Lane on Avocado Boulevard
- Class II Lane on Chase Avenue
- Class II Lane on Jamacha Road

Planned routes to El Cajon: None

Amenity recommendations: No bicycle amenities, including shower and locker facilities, are planned in the community of Valle De Oro.

Proposed Bicycle Parking: As part of the county-wide bicycle parking program, bicycle racks and lockers may be planned for locations in Valle De Oro at parks, commercial districts, civic buildings, and park-and-ride lots.

E.05/San Diego Regional Bicycle Plan: Draft Existing Condition Report (2008)

The San Diego Regional Bicycle Plan indicates regional corridors throughout San Diego County. The three north-south corridors that travel through El Cajon are the SR-125 Corridor, the El Cajon-Santee Connector, and the SR-54 Bikeway.

SR-125 Corridor

The SR-125 corridor primarily travels parallel to SR-125 utilizing Fanita Drive, Grossmont College Drive, Seattle Drive, Medford Street, Navajo Road, and Fletcher Parkway. This connects the Cities of Santee, El Cajon, and San Diego. The full extent of this corridor would begin in Santee and end at the Otay Mesa Border Crossing with a mix of Class I (10.7 miles), Class II (16.3 miles), and Class III (8.8 miles), for a total of 35.8 miles.

El Cajon-Santee Connector

This connector begins at the Cuyamaca Street bike path and primarily uses Marshall Avenue and El Cajon Boulevard as the route through the City. The full corridor begins on Main Street in El Cajon and ends at the SR-52 Corridor in Santee. The full length is 3.7 miles and composed of 1.1 miles of Class I Paths and 2.6 miles of Class II Lanes.

SR-54 Bikeway

The SR-54 Bikeway uses Second Street and Jamacha Road through the City of El Cajon. It connects with Lakeside to the north and Valle De Oro to the south.

E.06/City of Santee Bicycle Master Plan (2009)

Existing Routes to El Cajon:

- Class I Path along Cuyamaca Street

Planned routes to El Cajon:

- Class II Lane on Fanita Drive
- Class II Lane on Cuyamaca Street
- Class II Lane on Magnolia Avenue

Amenity recommendations: No amenities are planned in the City of Santee that would have an impact on the City of El Cajon

E.07/El Cajon Downtown El Cajon Specific Plan 182 (2017)

Planned Class II Lanes:

- Madison Avenue between Johnson Avenue and Ballantyne Street
- Lexington Avenue between El Cajon Boulevard and Lincoln Avenue
- Chambers Street between Madison Avenue and Lexington Avenue
- Avocado Avenue between Lexington Avenue and Main Street
- Ballantyne Street between Main Street and Interstate 8
- Johnson Avenue between Washington Avenue and Madison Avenue
- El Cajon Boulevard between Chase Avenue and Main Street

Planned Class III Routes:

- Main Street between Lincoln Avenue and Mollison Avenue

E.08/City of San Diego [including surrounding cities]. Multiple Species Conservation Program: MSCP Plan (City of San Diego, 1997)

The area of the MHPA in El Cajon is described earlier in Chapter 4.

E.09/City of El Cajon Water Efficient Landscape Design Manual

This manual provides support for the design, management, permitting, and installation of water efficient and drought-tolerant landscapes and irrigation systems. It also provides a list of drought-tolerant, low water use plants appropriate for El Cajon.

E.10/Climate Action Plan

The Climate Action Plan (CAP) addresses greenhouse gas emissions (GHG), emissions projects, and reduction targets. It also provides a climate change vulnerability assessment.

E.11/Live Well San Diego: Community Health Assessment (County of San Diego Health and Human Services Agency, 2014)

Live Well San Diego is the County's vision for a region that is "Building Better Health, Living Safely, and Thriving". It endeavors to build "a better system which integrates care and services; supporting healthy and positive choices, through the promotion of healthy eating, active living and tobacco and drug free lives; pursuing policy and environmental changes that increase access to healthy foods and active communities, as well as support tobacco and drug free communities; and changing the culture within the County employee workforce." The plan involved the use of assessments to examine "1) Community Health Status Assessment, 2) Forces of Change Assessment, 3) Community Themes and Strengths Assessment, and 4) Local Public Health System Assessment." Beyond broadly supporting active living, the Live Well report does not provide specific recommendations which are relevant to the *Forester Creek System Recreation Access Plan*.

E.12/County of San Diego Active Transportation Plan (Michael Baker International, 2018)

The ATP attempts to improve safety to reduce auto collisions with cyclists and pedestrians; increasing accessibility and connectivity with an active transportation network; and improving public health by encouraging walking and cycling. The plan provides a summary of relevant local and state planning initiatives. It also evaluates existing road infrastructure, cycling facilities, and land uses to identify barriers and opportunities. It proposes to cover 100% of Mobility Element roads with a minimum Class II Lane. In villages, Class IV Separated trails with additional cyclist separation are proposed. The plan reclassifies existing Mobility Element Class III Route designations as either Class II or Class IV.

E.13/El Cajon 2030: Connecting People with Parks (Trust for Public Land [TPL], 2019)

The El Cajon 2030 plan is the product of the 10-minute walk planning and technical assistance grant program. It aims to increase access to park for city residents.

The plan identifies 44% of El Cajon residents as “park deficient”. Specifically, it states that “El Cajon has approximately 120 acres of parkland. Of that acreage, 17% is provided in joint use sites owned by local school districts. Even including the school sites, only 1.3% of El Cajon’s total land area within the city is parkland. El Cajon provides far less parkland than many high density or low-density cities. TPL’s ParkScore™ data show that 9% is the median figure for parkland as a percentage of city area for medium high-density cities, a category that includes Chula Vista, San Jose, and Stockton. For medium low-density cities, a category that includes Fremont, Fresno, Irvine, Riverside, Sacramento, and San Diego, the median figure is 7.8% (TPL, 2019, p. 7).

The El Cajon 2030: Connecting People with Parks (Trust for Public Land [TPL], 2019) plan proposes eight approaches to adding park land:

1/Acquiring parkland, including direct purchase or fee simple acquisition; easements, real property donations; life estate; land dedication; land trust; land swap; long-term lease; conditions of approval

2/Creating small footprint parks

3/Adding small-scale park amenities to existing parks to add recreation value

4/Re-purposing under-performing spaces such as closed golf courses, airports, and industrial facilities

5/Joint use agreements with schools

6/Joint use with public facilities (such as fire stations and libraries) and public infrastructure (substations, water supply facilities, etc.)

7/Rethinking streets by using streets, public rights-of-way and parking lots for recreation and green infrastructure

8/Flexible programming such as mobile recreation facilities

E.14/Other Documents

Recreation and Parks Masterplan

The City of El Cajon does not have a Recreation and Parks Masterplan.

Stormwater Management Manual

The City of El Cajon does not have a city Stormwater Management Manual.

APPENDIX F: LESSONS LEARNED BY 606 STUDIO TEAM

F.01/Field Investigation

Use field investigation to understand the day-to-day experience of the local landscape, to identify the defining features that create the sense of place and to ground-truth data acquired from digital sources and participatory planning. Field investigation requires careful planning and disciplined data collection, including standardized forms, physical maps, and review of online mapping information. Cycling is an efficient way to conduct field work, but makes it difficult to talk to local residents. Field investigation should be planned and conducted throughout a project to keep the work grounded in the experience of living in the landscape.

F.02/Research Methods

Translating materials into multiple languages creates strong positive relationship with other cultures. Presentations are very effective at encouraging project involvement and completion of project questionnaires.

F.03/Project Management

Clearly define criteria and carefully track changes to project, criteria, research questions, and data. Label and record information, including photographs carefully, and develop a file management process and labeling protocol. Ensure community meeting materials are prepared and printed the day before a meeting. After community meetings, prepare a report documenting the meeting, scan or photograph all materials, and code the results immediately. Regularly review the Scope of Work to verify that the team is remaining “on task.”

F.04/Community Meetings

A facilitation team should include the facilitator, an assistant, and at least one “runner” to track time, take notes, and take photographs. Before the meeting, develop a detailed checklist of roles, responsibilities, materials, equipment and furniture—“walk through” the event from the parking lot to closing the doors at the end of sessions to double check that nothing has been forgotten. Include a furniture plan, ensure the needed equipment will be available, and have a plan to eliminate any excess furniture. Practice all spoken components aloud multiple times. Reiterate the structure and objective of the project, and the role of the current meeting multiple times during the meeting. Prepare detailed instructions and work sheets to ensure the participants answer the core questions related to the exercise. Explain the exercises and materials multiple times and demonstrate, step-by-step. Prepare extra credit questions for groups that finish the exercise early. Provide quality food.

F.05/Project Goals, Research Questions and Timeline

Articulate the project questions and check regularly to ensure they are being answered and the project remains focused. Share the project timeline at every event, so participants can appreciate what they have already accomplished and understand what to expect next.