CITY OF SAN LUIS
PARKS, PATHS & TRAILS
MASTER PLAN

Prepared for:

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Introduction

A well-planned system of parks, paths, and trails supports active lifestyles of residents and contributes to the overall health of the community. As the City of San Luis grows and matures, additional park space, on-street bike and pedestrian facilities, and off-street trails will become increasingly necessary to maintain a high quality of life for current and future residents.

The San Luis Parks, Paths, and Trails Plan envisions an interconnected system of parks, on-street bike and pedestrian facilities, and off-street trails accessible to all residents. Broadly, the purpose of the San Luis Parks, Paths, and Trail Plan is to:

- Guide decision making relative to future parks, paths, and trails
- Gather residents' preferences regarding parks, paths, and trails
- Understand the current level of service of parks, paths, and trails in the community and identify the desired future level of service
- Evaluate available resources, funding opportunities, and potential partnerships to support the development of an enhanced parks, paths, and trails system
- Establish an implementable action plan to achieve the community's vision for parks, paths, and trails

Approach

The approach for the development and formation of the San Luis Parks, Paths and Trails Master Plan (the Plan) consisted of five key tasks, summarized as follows.

Relevant Plans and Studies Review

The following information relative to the existing parks and active transportation facilities in the City of San Luis was obtained and used in the development of the San Luis Parks, Paths and Trails Plan, including:

- Parks and active transportation inventory
- Service Providers
- Policies and procedures relative to parks and active transportation
- Previous planning studies and plans
- Comparative Analysis

Demographic and Parks Trends Analysis.

Demographic features of the community including population, gender, age, income, race and ethnicity, were analyzed to identify demographic and park trends. This analysis delineated market areas served by the park system and distinguished customer groups to determined changes occurring in San Luis. The results of this analysis served as the basis for a Service Area Analysis. Trends identified in the base demographic data were applied to the local populace to determine potential participation base within the community. The development of the Parks, Paths and Trails Plan was also guided by research of trends related to San Luis, surrounding communities and national, regional, and local lifestyle trends.

Community Engagement

The planning process to develop the San Luis Parks, Paths, and Trail Plan involved meaningful participation from stakeholders and residents utilizing the following methods.

- Stakeholder Interviews
- Focus Group Workshops
- Community-wide Workshops
- Commission and Council Hearings

Stakeholder Interviews

Stakeholder interviews were conducted to gather candid perspectives on the park, path, and trail networks in San Luis. The interviews were held on February 17 and 24, 2021. A total of 12 stakeholders were interviewed on Zoom, representing various agencies in the region, including: public school districts, Desert Sonora, San Luis Regional Support and Detention Center, Bureau of Reclamation, J2, and Yuma County Public Health.

Key topics covered during the interviews included parks, specifically, where they should be located, the type of parks that are needed in San Luis, and the types of amenities that should be included in parks; and the types of bicycle and pedestrian facilities that are needed to support connectivity throughout the city. Specific comments relative to the parks, paths and trails systems, when appropriate, were incorporated into the final master plan.

Focus Group Meetings

Two community Focus Groups were held to explore specific approaches and strategies for the development of a robust parks, paths and trails systems to serve the future needs of the community. The two community Focus Groups included public officials and private individuals with appropriate background and experience relative to parks, paths and trails, and are summarized below.

Land Use Focus Group

The Land Use Focus Group included public officials from the Bureau of Reclamation, Arizona State Land Department, Bureau of Land Management, and the San Luis Parks and Recreation Department. The Land Use Focus Group discussed approaches and strategies to facilitate the development of a comprehensive parks, paths and trails system to serve San Luis, including public /private partnerships, shared use agreements between educational facilities and the City of San Luis, and the use of existing processes with the Bureau of Reclamation (BOR) for the development of parks, paths, and trails on BOR public lands.

Transportation Focus Group

The Transportation Focus Group included primarily public officials from the City's Public Works Department, Arizona Department of Transportation, Arizona Public Service, Yuma County Water Users Association, and the Yuma Metropolitan Planning Organization. The Transportation Focus Group discussed approaches and strategies to facilitate the development of a comprehensive and connected network of future paths and trails to serve the City of San Luis as it grows into the future. The Transportation Focus Group primarily recommended coordination of the development of the paths and trails network with the development of the vehicular roadway system, and coordination and

requirements for private development to provide identified paths and trails system improvements by this plan.

Community Meetings

Community Meeting #1

The first community meeting was held on February 24, 2021 at 6 p.m. over Zoom. In total, 31 community members attended this meeting.

The purpose of the meeting was to provide an overview of the Parks, Paths & Trails Master Plan. Topics covered included the components, goal, and timeline for the project; background on the inception of the project; and some initial cross sections, which illustrate widths of bicycle and pedestrian facilities.

The meeting provided an opportunity for members of the community to provide input on their preferences for bicycle, pedestrian, and park facilities. This was done through polling that was conducted throughout the presentation.

Community Meeting #2

The second community meeting was held on March 3, 2021 at 6 p.m. over Zoom. A total of 29 community members attended this meeting.

Similar to the first community meeting, the purpose of this meeting was to provide an overview of the Parks, Paths & Trails Master Plan and covered the same background information as the first community meeting. The meeting provided an opportunity for members of the community to provide more specific input on their preferences for the park system in San Luis, which was done through polling conducted throughout the presentation.

Financial Analysis

An overview analysis was completed of existing funding to meet existing needs and projected funding to meet future needs of San Luis as it grows and develops into the future. Other sources of funding were explored including levies and bonds, and strategies for land acquisition. The analysis examined the current management and funding system to identify areas of improvement, including alternative funding and partnerships.

Inventory and Level of Service Analysis

A detailed inventory and assessment were completed of all parks owned and maintained by the City of San Luis. The assessment provided a detailed summary of site improvements present at each facility location, condition assessment, and recommendations for improvement. Existing bicycle and pedestrian facilities were assessed for connectivity, safety. ADA access, and other attributes to establish a base of existing facilities.

Recommendations and Implementation Plan

The final element of the plan was to summarize the action steps needed to implement the plan findings and recommendations including responsible party, funding sources, timeframes, and partnerships. An Action Plan was established of funding mechanisms for improvements for parks, paths and trails to serve the community.

Community Engagement

Development of the San Luis Parks, Paths, and Trails Plan involved a detailed community engagement strategy designed to provide meaningful input from residents, user groups, associations, neighboring communities and other stakeholders. The community engagement strategy for this project involved the following:

- Initial Information Gathering: Designed to collect as much information as possible on awareness, use patterns, satisfaction, desires, barriers, vision, priorities, and funding possibilities to inform the development of the plan
- Two (2) focus group meetings drawing from special interest individuals and groups, associations, other service providers staff, schools, health clubs, and seniors
- Two (2) community-wide public meetings at the information gathering, findings, and draft stages to provide information and to validate and round out the information received from the focus groups
- Stakeholder interviews were conducted with a broad cross-section of user groups, governmental agencies, school districts and other engaged parties
- Findings Presentation we will compile and present a summary of findings from the inventory, needs assessment and initial analysis for validation by staff, decision makers, stakeholders, and the public
- Draft Recommendations Presentation hearing, open to the public
- Final Council and Commissions Presentation for Adoption Hearing, open to the public

Based on previous successes, the following citizen involvement strategy approach was designed to assure residents, user groups, associations, neighboring communities, and other stakeholders that they are provided an opportunity to participate in the plan's development, and is recommended for this project.

Advisory Committees

The project involved the establishment of advisory committees to guide and inform development of the plan. A Technical Advisory Committee, utilizing parks, bicycle and pedestrian paths and trails professionals was formulated to assist in guiding the development of this plan consisted of members of a diverse group of parks, bicycle and pedestrian paths and trails stakeholders.

Community Meetings

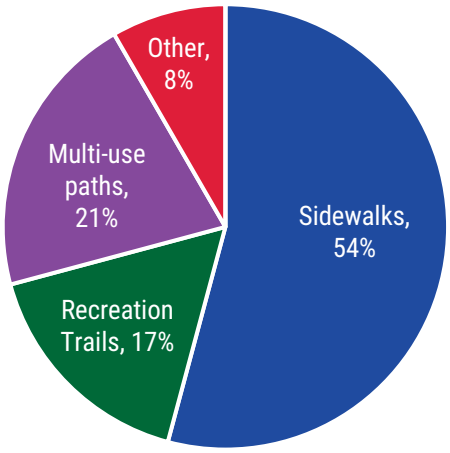
Community Meeting #1

The first community meeting was held on February 24, 2021 at 6 p.m. over Zoom. In total, 31 community members attended this meeting.

The purpose of the meeting was to provide an overview of the Parks, Paths & Trails Master Plan. Additionally, the meeting provided an opportunity for members of the community to provide input on their preferences for bicycle, pedestrian, and park facilities. This was done through a poll that was conducted throughout the presentation. Participants answered questions to provide initial input on parks, paths, and trails. The following are the responses from those questions:

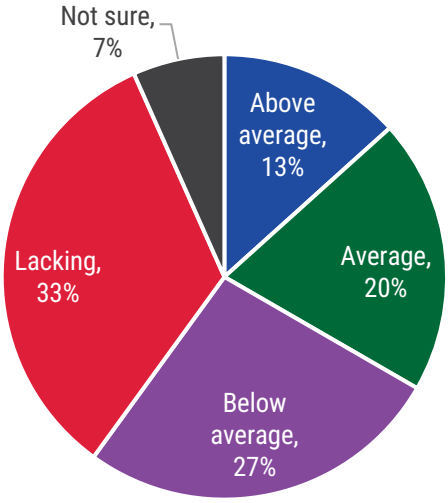
QUESTION 1

What pedestrian facilities do you currently use? (Select all that apply)



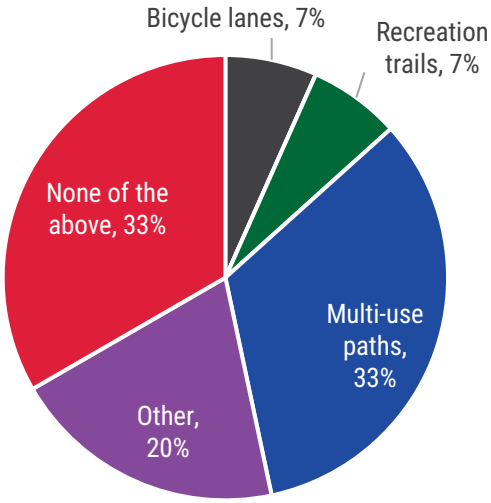
QUESTION 2

How would you rate the quality of pedestrian facilities in San Luis? (Select all that apply?)



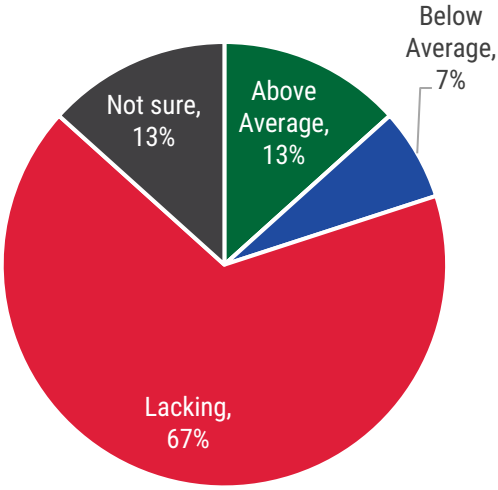
QUESTION 3

What bicycle facilities do you currently use? (Select all that apply)



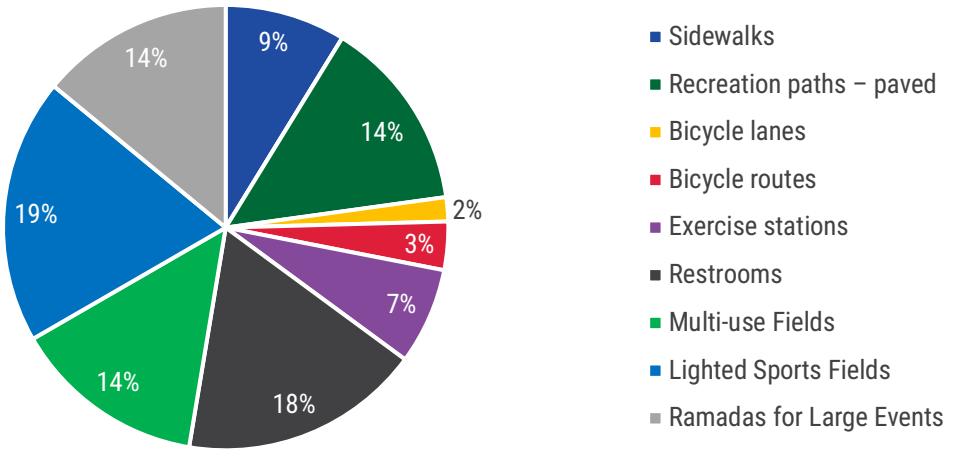
QUESTION 4

How would you rate the quality of bicycle facilities in San Luis?



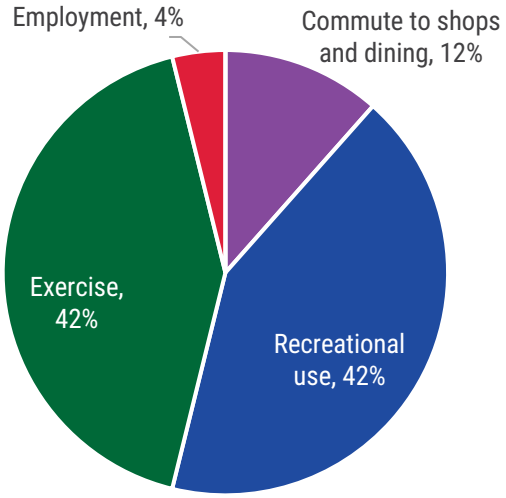
QUESTION 5

What are the top 3 facilities most important to you?



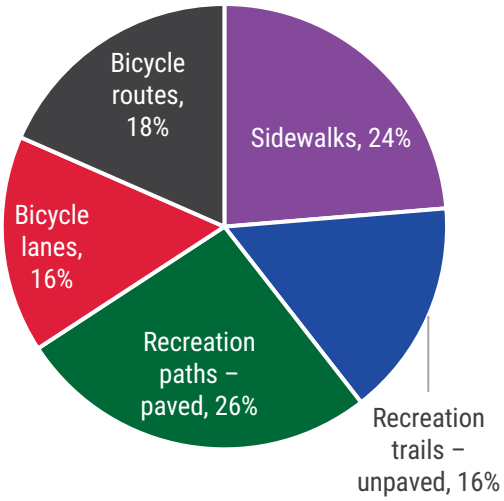
QUESTION 6

What is the purpose for your use/future use of the bicycle and pedestrian network? (Select all that apply)



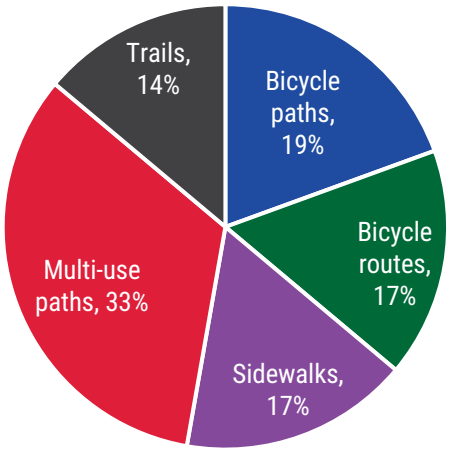
QUESTION 7

Which facility would you likely use? (Select all that apply)



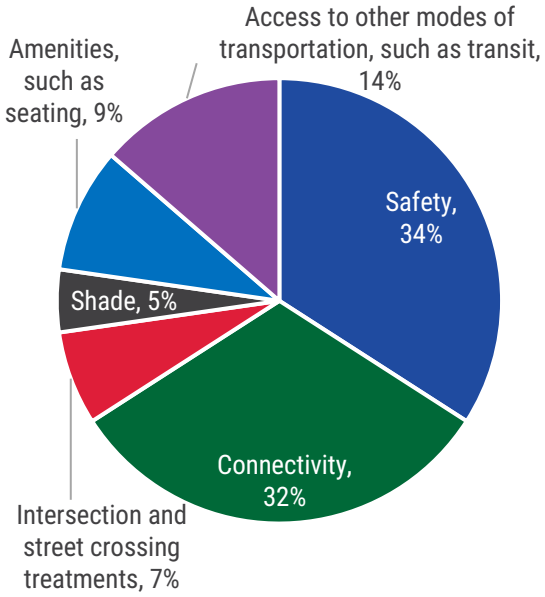
QUESTION 8

Which of the following does San Luis need more of? (Select all that apply)



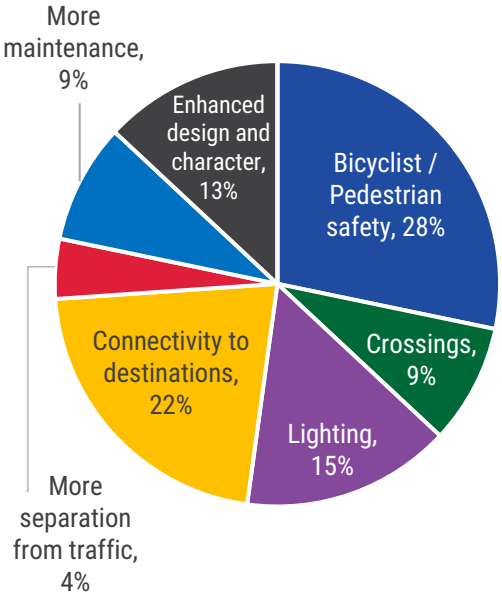
QUESTION 9

What are the top 3 priorities for the bicycle/pedestrian network in San Luis?



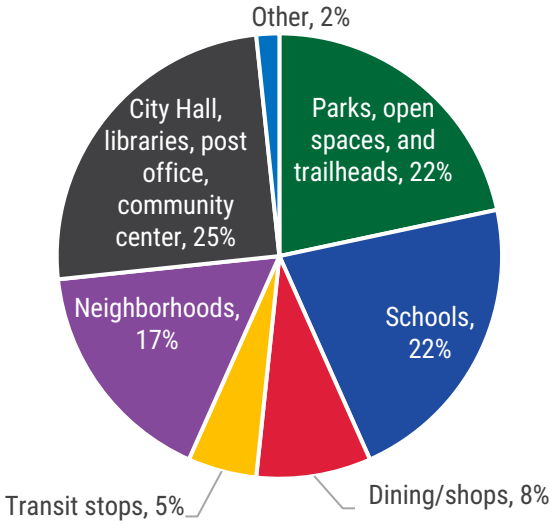
QUESTION 10

What are the top 3 improvements needed?



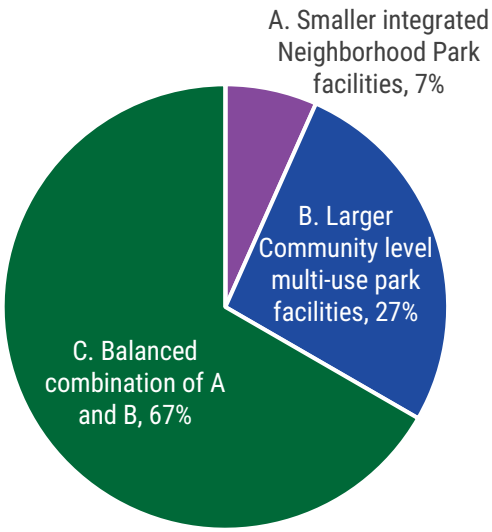
QUESTION 11

What destinations should bicycle/pedestrian facilities connect to (Select all that apply)



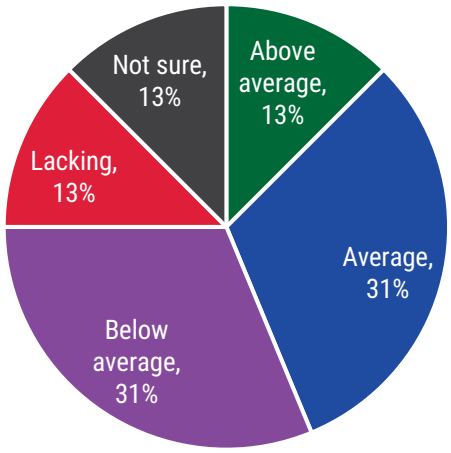
QUESTION 12

The priority in San Luis is to build: (Select all that apply)



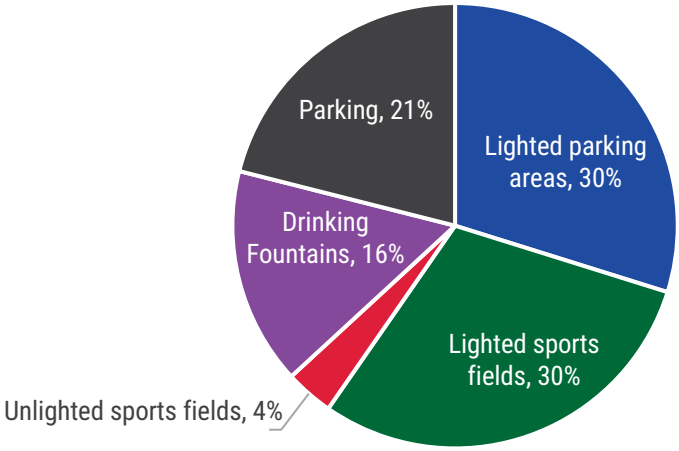
QUESTION 13

How would you rate the quality of parks in San Luis?



QUESTION 14

Parks should always include: (Select all that apply)



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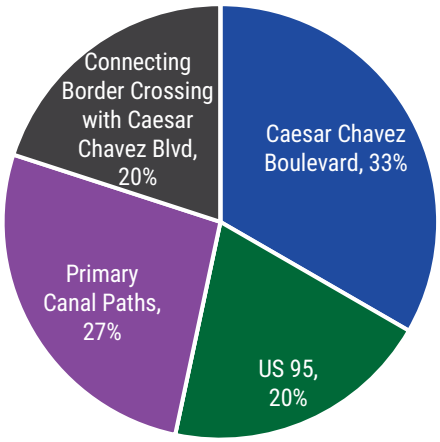
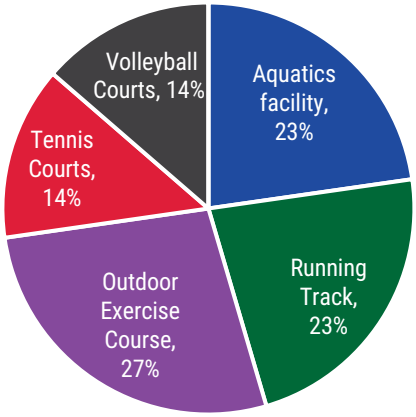
QUESTION 1

In terms of bicycle/pedestrian facilities, San Luis should make a priority for: (Select 3)



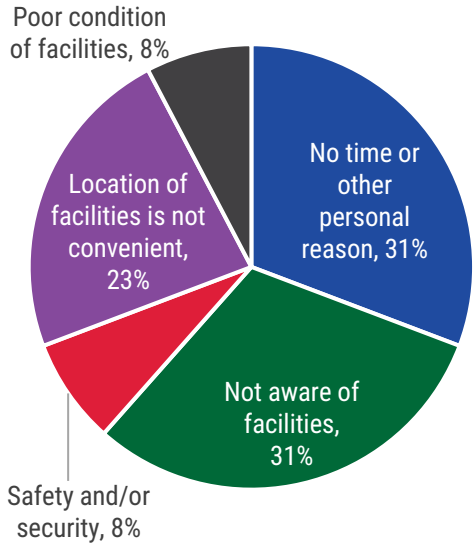
QUESTION 2

In terms of special facilities, San Luis should make a priority for: (select 3)



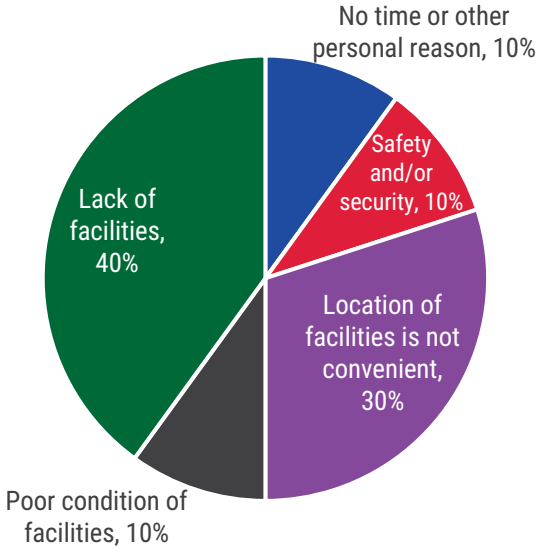
QUESTION 3

If members of your household do not use parks in San Luis, why not? (Select all that apply)



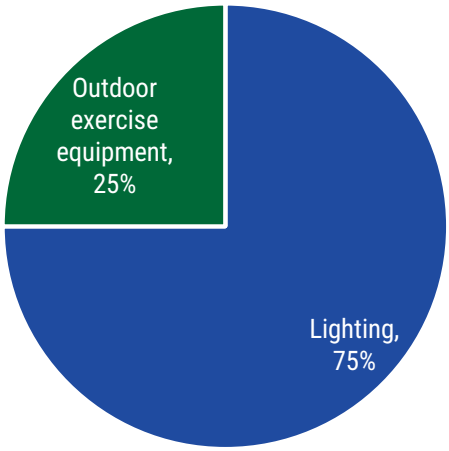
QUESTION 4

If members of your household do not use bicycle and pedestrian facilities in San Luis, why not? (select all that apply)



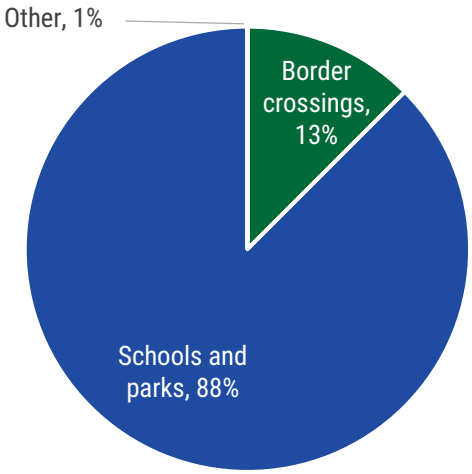
QUESTION 5:

If the City was to improve existing parks, the following should be a priority:



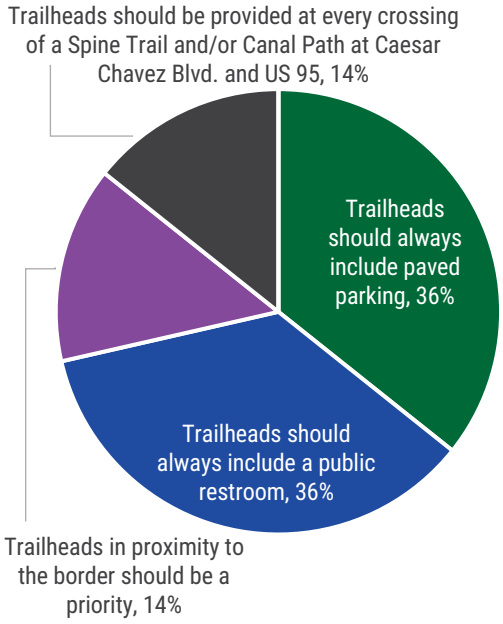
QUESTION 6

A priority should be made to connect bicycle and pedestrian facilities to:



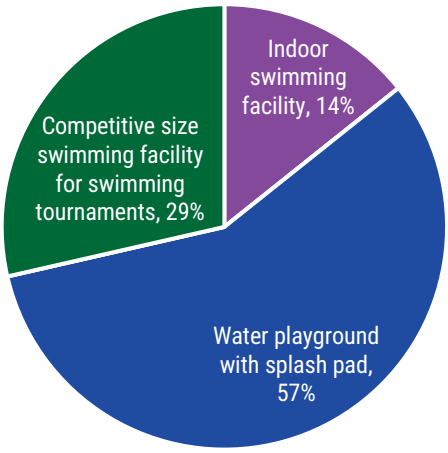
QUESTION 7

In regard to trailheads? (Select all that apply)



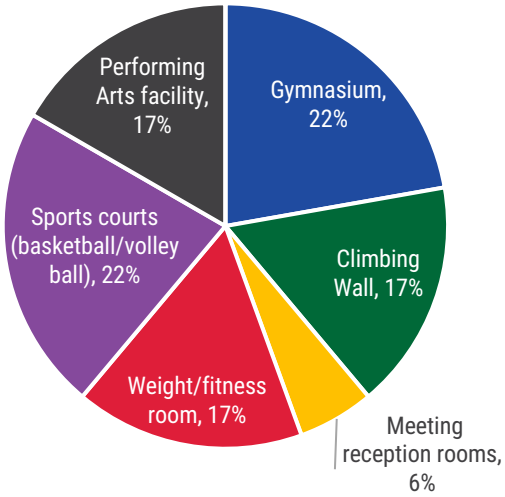
QUESTION 8:

If a public swimming facility is needed in San Luis, what type of facility is needed?



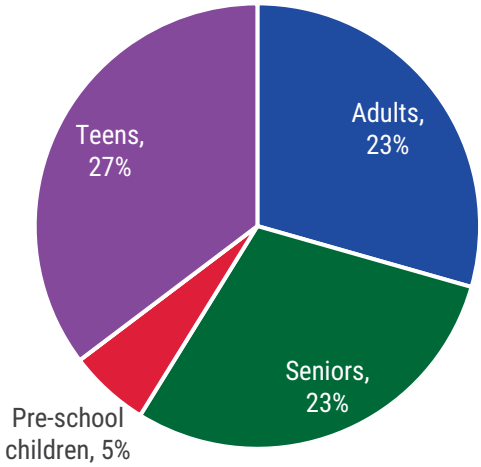
QUESTION 9

The top three indoor recreation spaces most needed in San Luis include (Select up to 3)



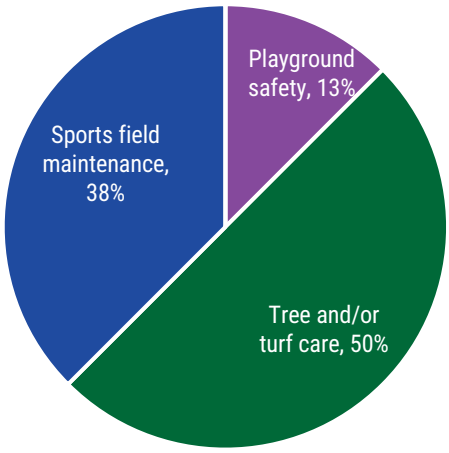
QUESTION 10

Which populations have the greatest need for recreational facilities (Select 3)



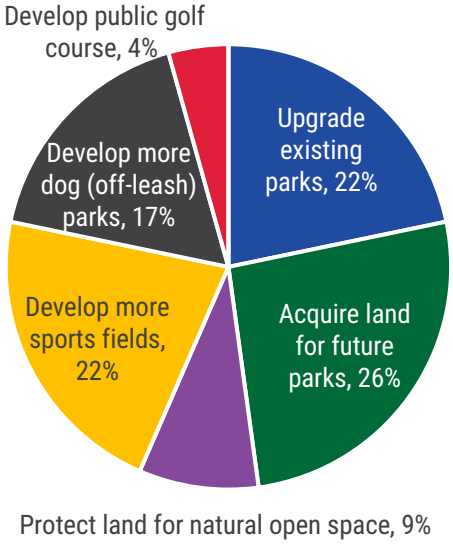
QUESTION 11

What is the highest priority for maintenance activities in the parks in San Luis?



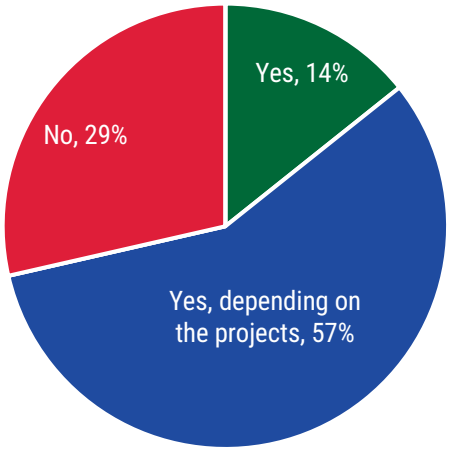
QUESTION 12

Please choose the three (3) most important park improvements in San Luis:



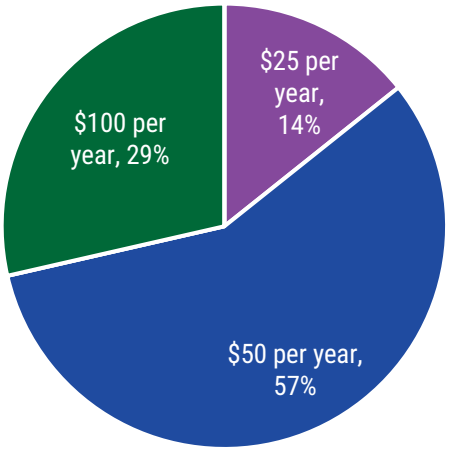
QUESTION 13

Would the voting-age members of your household generally support a 2 year temporary tax levy for park improvements?



QUESTION 14

If you would support a 2 year temporary tax levy for park improvements, how much would your household be willing to pay?



Facts, Trends, and Benefits

Parks, paths, and trails create value in many ways within a community. Parks, paths, and trails encourage healthy communities by creating an avenue for physical activity, which has a measurable impact on physical, mental, and emotional health.

In this section of the Plan, data were evaluated to provide informed guidance to San Luis and its future endeavors related to parks and greenways. A significant amount of information is derived from the National Recreation and Parks Association (NRPA). A goal of this Plan is to evaluate existing programs by providing a vision as to how the City could benefit from community features like parks, paths, and trials. This section outlines the social benefits parks and recreation amenities can have on a community, and the resonating health, economic, and other benefits that come with parks and trails, framed by recreation trends from across the country and within Arizona.

Recreation in the Community

Social equity derived from parks is one of the most significant factors in impacting communities overall according the NRPA:

> *"Our nation's public parks and recreation services should be equally accessible and available to all people regardless of income level, ethnicity, gender, ability, or age. Public parks and recreation services and programs including the maintenance, safety, and accessibility of parks and facilities, should be provided on an equitable basis to all citizens of communities served by public agencies. Social equity is a critical responsibility borne by every public park and recreation agency and the professionals that operate them. It is a right, not just a privilege, for people nationwide to have safe healthful access to parks and recreation. The NRPA believes park and recreation agencies, through the provision of equal access to parks and recreation, should cultivate community ties through programs and services for all which produces public benefits by connecting people more deeply to the fabric of the community. This sense of connectedness makes communities livable and desirable."*

Community Events

Community celebrations like Fourth of July and Memorial Day, and regular events like farmer's markets and craft fairs cater social enjoyment and interaction and contribute to "sense of place" within a community. A NRPA survey indicates that the following events are the most popular nationally:

- 46% indicated that they plan to attend a farmer's market
- 34% indicated that they plan to attend an outdoor movie/concert
- 33% indicated that they plan to attend a carnival/fair
- 31% indicated that they plan to attend a food festival
- 56% indicated that they plan to attend a Fourth of July or other holiday celebration

Community Support for Parks and Recreation

Parks and recreation services are some of the services residents feel most connected by and passionate about. Community support for parks and recreation is reflected in the NRPA's report, *Americans' Broad-Based Support for Local Recreation and Park Services*:

- Parks are a great value: 4 in 5 Americans concur that local parks are well worth the tax dollars spent on them.
- This passion for local parks has gone unabated over the past 25 years, even with dramatic demographic shifts in the United States and the ways technology transformed how we interact with others and entertain ourselves.
- Support for local parks is widespread, spanning different age groups, income strata, household types and political affiliations.
- An overwhelming majority of Americans assert that they personally benefit from local parks and that their communities' benefit from local parks.
- Americans are in agreement that Conservation, Health & Wellness and Social Equity—are chief priorities for local parks, according to the NRPA.

Park Trends

Current trends in parks operations reflect the economic climate in the country with more parks departments needing to stretch limited resources to meet the parks and recreation needs of residents. Maintenance and operations of diverse park facilities and associated costs have been added to traditional parks responsibilities have proven challenging for parks and recreation departments with current economic conditions. Cities are increasingly turning to collaborative partnerships with other departments, nonprofit entities, and businesses to provide community services and facilities. Trends in the state of Arizona notably include:

- Community organization partnerships or contracting with vendors to provide facilities, maintenance and programs to residents
- Nonprofit partnerships to provide recreation programs in large neighborhoods.
- Homeowners Association partnership to provide parks, trails, and recreational amenities in master planned communities
- Regional jurisdiction partnerships for trail development and connectivity
- Private sector contracts for parks and recreation facility maintenance and operations
- Program and facility support from volunteer organizations
- Joint use agreements with school district for playground use outside of school hours
- When many people think of parks, they think of playgrounds, open spaces, and conventional sports facilities. Parks facilities are evolving to meet the needs of community members and residents, and some less common but increasingly popular park components are outlined below:

One-Stop-Shop Facility

These multi-generational facilities can meet the resident's needs for a variety of activities. The one-stop shop facility features programming spaces, classrooms, gymnasiums, sports courts, multi-purpose rooms, fitness centers, swimming pools, libraries, etc. These centers are multi-generational with space available for all age groups and are usually located adjacent to a park so activities can spill outdoors.

Dog Parks

Nearly 40% of American households now own at least one dog and there are more households with dogs (43 million) than children (38 million). Between 2005 to 2010, America's 100 largest cities saw a 34% increase in the number of dog parks according to a 2011 article in USA Today. People are spending more and more money on their pets with the market expanding at a steady rate of 4-6% a year since the American Pet Products Association started keeping records in 1996.

Open Community Labs and Workspaces

These community workspaces are places where people with common interests can come together to socialize and collaborate on projects. Also known as Hackerspaces, Makerspaces, or Community Sheds, these places are similar to workshops, machine shops or studios that allow people to learn from their peers and share resources and knowledge to build and make things. Some examples of Community Labs include spaces for wood working, machining, technology, digital art, or other crafts, such as sewing. Well-equipped labs may have machine tools, equipment and raw materials for people to use.

Extreme Adventure Parks and Programs

Extreme adventure parks and programs are gaining traction for those seeking a thrill. These include BMX courses, skate parks, paintball arenas, obstacle courses, artificial climbing walls, ziplines, and trampoline play centers. Oftentimes these facilities are provided by the private sector; however, cities and towns have the opportunity to offer the facilities themselves or contract with a concessionaire as a potential revenue stream.

'Doing More with Less'

A trend in parks and recreation in Arizona, as well as across the country, is to partner with community organizations or contract with vendors to outsource facilities maintenance, programs or services to meet the community's recreational needs while adhering to standards of fiscal responsibility. Examples of Arizona's jurisdictional partnering or outsourcing include:

- Partnering with non-profits to provide programming in neighborhood centers.
- Partnering with Homeowners Associations to provide neighborhood park amenities or trails through residential planned area development.
- Partnering with regional jurisdictions to develop trails and regional connectivity.
- Contracting with the private sector for maintenance or operations of parks or recreation facilities.
- Enlisting volunteers for program and facility support.
- Leasing facilities to user groups (e.g. leasing aquatics centers to swimming teams or baseball tournament sites to tournament providers).
- Developing joint use agreements with the community's public schools to provide public park access to playgrounds when school is not in session.

Health Benefits of Parks

Local parks and recreation staff are taking steps to ensure their communities are more active and healthier, as eighty-four percent (84%) of those surveyed had already implemented recreation programs that encourage active living in their community. Eighty-nine percent (89%) of respondents' parks and recreation department should take the lead in developing communities conducive to active living. Additionally, in the same survey, the highest selected category for having the greatest impact on community health and physical inactivity was a cohesive system of accessible parks and trails.

Public Health and Wellness

Public health and wellness are major pillars of the National Recreation and Parks Association program for impacting communities. Public park and recreation agencies create healthy communities and play a fundamental role in enhancing the physical environments in which we live. Through facilities, outdoor

settings, and services provided, they support good health for people of all abilities, ages, socio-economic backgrounds, and ethnicities. They foster change through collaborative programs and policies that reach a vast population to help reduce obesity and incidence of chronic disease by providing opportunities to increase rigorous physical activity in a variety of forms; provide a connection to nature which studies demonstrate relieves stress levels, tightens interpersonal relationships, and improves mental health; aid in reducing hunger in America and increasing access to nutritious food options; and, foster overall wellness and healthful habits, such as becoming tobacco-free and engaging in enrichment opportunities that add balance to life.

Economic Benefits of Parks

The industry for parks and recreation has a substantial impact on local and regional economies, with the ability to transform quality of life, property values, and even tourism variables in communities. In 2017, the Outdoor Industry Association estimated $887 billion was spent nationally on outdoor recreation and directly supported 7.6 million jobs. The economic considerations and benefits of outdoor recreation are reflected in the following findings:

- U.S. Forest Service research indicated that parks, trails and playgrounds are among the most important community amenities considered when selecting a home.
- Also indicated by the U.S. Forest Service, the economic benefit produced by trees are assessed, the total value can be two to six times the cost for tree planting and care according to Benefits of Community Trees by David J. Nowak.
- Nearly one-half of active Americans regard outdoor activities as their main source of exercise, according to the Outdoor Recreation Participation Report of 2016.

A report from the Trust for Public Land "The Benefits of Parks: Why America Needs More City Parks and Open Space", provides the following observations about the economic, social, and environmental benefits of parks and open space by Paul M. Scherer in 2005[5]:

- Residential and commercial property values increase in proximity to open space.
- Parks add value to community and economic development sustainability.
- Parks and open space enhance tourism.
- Trees improve air quality and act as natural air conditioners.
- Trees improve storm water control and erosion.
- Parks and open space reduce crime and juvenile delinquency.
- Stable neighborhoods and communities are created by parks and open space.

A national trend toward quantifying the benefits of parks and recreation to the economic health of a community is outlined in NRPA's study, 'Economic Impact of Parks'. The study provides "America's local and regional public park agencies generated nearly $140 billion in economic activity and supported almost 1 million jobs from their operations and capital spending alone in 2013. When the spending at local and regional parks is combined with that of national and state parks, public parks are responsible for more than $200 billion in annual economic activity." The study provides:

- Operations spending by park agencies generated nearly $80.0 billion in total economic activity, boosted the gross domestic product (GDP) by $38.8 billion and supported nearly 660,000 jobs that paid in excess of $24 billion in salaries, wages and benefits.

- Local and regional public park agencies directly provided more than 356,000 jobs in the United States during 2013, equating to nearly $32.3 billion in operations spending.
- In total, the nation's local and regional public park agencies spent nearly $54.7 billion in 2013, leading to $139.6 billion in economic activity, just under $68.0 billion in contributions to the GDP, and nearly 1 million jobs that generated labor income of $43.8 billion in 2013.
- Local and regional park systems spent an estimated $22.4 billion on capital programs, leading to about $59.7 billion in economic activity, a contribution of $29.2 billion to the GDP, $19.6 billion in labor income and more than 340,000 jobs.

Benefits of Bicycle and Pedestrian Paths and Trails

A comprehensive bicycle and pedestrian network provide significant benefits for residents including health, safety, accessibility, recreation, transportation, economic, quality of life and environmental aspects of the community.

- **Health and Safety.** Consistent physical activity has been proven to provide many health benefits such as reduced risks of heart disease, stress, obesity, and other chronic health challenges. Regular biking and walking improve the overall health of residents and the community.

- **Transportation.** Traffic volume and congestion are reduced by residents riding or walking and include a variety of benefits such as increased traffic efficiency, reliable travel times, traffic delay reductions, and a reduction in overall transportation cost to the community.

- **Accessibility.** A connected bicycle and pedestrian network increase public access to parks, libraries, schools, recreation areas, activity centers, city facilities and city services. A convenient and connect bicycle and pedestrian network serves all ages and abilities and provides access to destinations for residents and visitors.

- **Environmental.** A significant number of local trips can be made using a connected bicycle and pedestrian network to many destinations including shopping, education facilities and recreation. Reducing the number of cars on the road reduces traffic congestion and positively impacts air quality and the environment.

- **Economic.** Local businesses, business sales, and economic development in a community are positively impacted by a convenient and connected bicycle and pedestrian network. Instead on spending money far away, people walking or riding a bicycle tend to spend money locally. Bicycle and walking paths have been shown to positively impact residential home values and are one of the primary considerations when purchasing a home.

- **Quality of Life.** Increased bicycling and walking in a community increases opportunity for social interaction, improving the overall quality of life in a community. Increased social interaction enhances sense of place for users and strengthens community ties, improving overall quality of life for residents.

Recreation Areas as Transportation

The report, 'Active Transportation and Parks and Recreation', published by the NRPA, assesses the benefits of active transportation which include:

- Active transportation stimulates local economies through job creation, commercial business development and real estate values.
- Active transportation infrastructure builds healthy communities by encouraging physical activity as part of daily life.
- Active transportation promotes conservation and environmental sustainability by reducing air and water pollution and minimizing congestion.
- Active transportation provides transportation access to all citizens regardless of age, gender, socioeconomic status or disability

Perception of Safety

People's willingness to walk or ride a bike is directly influenced by their perception of safety. People differ in their level of comfort for riding or walking in areas where they do not perceive they are safe – some people (very few) feel comfortable riding a bicycle with the speed of traffic on a busy road, whereas most people avoid placing themselves in or very close to fast moving trucks and vehicles.

Traffic stress is the perceived sense of danger associated with using the bicycle and pedestrian network adjacent to vehicular traffic. Transportation systems throughout the United States are designed with the overarching goal of decreasing the perception of danger. This concept is relevant and important to bicycle and pedestrian system planning as many people avoid riding a bicycle due to lack of perceived safe routes. There are two common methods for classifying cyclists relative to bicycling facilities – one is skilled-based and the other is based on rider typologies.

Skill-Based

American Association of State Highway and Transportation Officials (AASHTO)[1] and the Federal Highway Administration (FHWA) [2] classify cyclists based on skill as follows:

Class A. Advanced cyclists whose greater skill enables them to share roads with motor traffic. Moreover, they are unwilling to sacrifice speed for separation from traffic stress.

Class B. Basic adult cyclists who lack the "skill" to confidently integrate with fast or heavy traffic.

Class C. Children cyclists, less capable than Class B at negotiating traffic and are more prone to irrational and sudden movements.

[1] American Association of State Highway and Transportation Official (AASHTO). Guide for the Development of Bicycle Facilities, 1999, Washington, DC: AASHTO

[2] W.C. Wilkinson, A Clarke, B. Epperson and R. Knoblauch. Selecting Roadway Design Treatments to accommodate Bicycles, US Department of Transportation, Publication No. FHWA-RD-92-073, 1994.

Four Types of Cyclists

A second method of classification is based on a rider's tolerance of stress versus skill. Tolerance of stress was explored through community surveys and documented by City of Portland Bicycle Coordinator Roger Geller in a publication titled "Four Types of Cyclists"[3]. The numerous community surveys established four broad categories of people relative to their views on bicycling as provided in **Table 2-1**.

Table 2-1 Four Types of Cyclists

Strong and Fearless	This small group of the population is willing to ride a bicycle on any roadway condition. The Strong and Fearless rider is comfortable taking the lane and riding in a vehicular manner on major streets without designated bicycle facilities.
Enthusiastic and Confident	This group of riders is comfortable riding in most roadway situations but prefer to have a designated bicycle facility. They are comfortable riding on major streets with a bike lane.
Interested But Concerned	This type of rider has an inclination toward biking, but ultimately chooses not to with concern over sharing the road with vehicles. These riders are not very comfortable on major streets, even with a striped bike lane, and prefer separated pathways or low traffic neighborhood streets.
No Way, No How	This type of cyclist is not interested at all in bicycling, may be physically unable to, or do not know how to ride a bicycle. This group is unlikely to adopt bicycling in any way.

Source: Roger Geller, City of Portland Bureau of Transportation, Four Types of Cyclists.

These original typologies have been incorporated into academic research[4] [5] and utilized nationally by numerous cities in generally assessing residents' attitudes toward bicycle riding. The results of the Portland surveys established a generalized distribution of the population relative to their attitudes towards riding a bicycle as a mode of transportation. Overall, a small percentage (1%) of the population self-classify themselves as "Strong and Fearless" and another 7% of the population self-classify themselves as "Enthusiastic and Confident". The Strong and Fearless and Enthusiastic and Confident types represent the percentage of the population that generally will ride a bicycle for transportation.

The majority of the population classify themselves as Interested and Concerned (60%) and approximately 33% of the population will not a ride a bicycle for any reason. While the percentages range from region to region, people broadly relate to the four typologies to describe their concerns with bicycling relative to the perception of safety. A comparison of the survey results from four large U.S. and Canadian cities is shown in **Figure 2-1.**

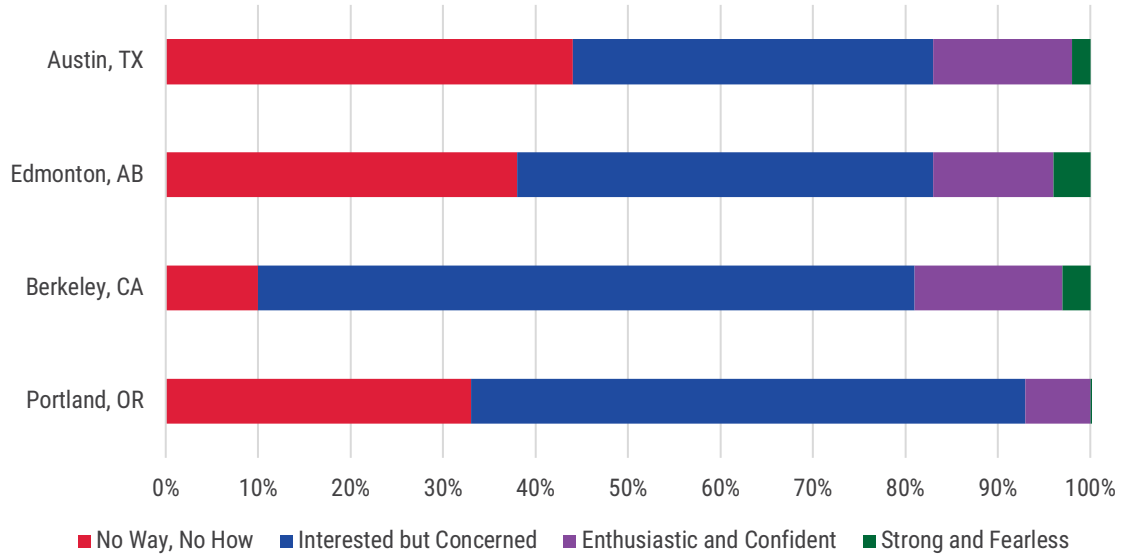
> **"Riding a bicycle should not require bravery. Yet all too often, that is the perception among cyclists and non-cyclists alike."**
>
> Roger Geller, Bicycle Coordinator, Portland Office of Transportation

[3] Geller, Roger. Four Types of Cyclists. Portland, OR: City of Portland Office of Transportation, 2009, https://www.portlandoregon.gov/transportation/article/237507. Accessed May 22,2019.

[4] Mekuri, Firth and Nixon, Low Stress Bicycling and Network Connectivity, Mineta Transportation Institute 2012.

[5] Dill, J., McNeil, N. Four Types of Cyclists? Testing a Typology to Better Understand Bicycling Behavior and Potential. 2012.

Figure 2-1 Four Types of Transportation Cyclists



Source: Roger Geller, City of Portland Bureau of Transportation, Four Types of Cyclists.

Level of Traffic Stress

The Geller classification scheme has been adopted and applied through academic research to quantify the level of traffic stress into a rating system. Levels of Traffic Stress (LTS) is a rating indicating the traffic stress created on bicyclists from a segment of a street or street crossing. LTS criteria, first published in 2012 in a report by Mekuri, Firth and Nixon through the Mineta Transportation Institute, classify levels of traffic stress on a four-level rating system from low to most stressful as provided in **Table 2-2.**

Table 2-2 Levels of Traffic Stress

Stress Level 1	Presenting little traffic stress and demanding little attention from cyclists and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane in either direction or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.
Stress Level 2	Presenting little traffic stress and therefore suitable for most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a steam of traffic) with a low speed differential. Where a bike lane lies between a through lane and a right-turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speed. Crossings are not difficult for most adults.
Stress Level 3	More traffic stress than LTS 2, yet markedly less than the stress of integrating with multi-lane traffic, and therefore welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multi-lane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2 but are still considered acceptably safe to most adult pedestrians.
Stress Level 4	Most stressful. A level of stress beyond LTS 3

Source: Mekuri, Firth and Nixon, Mineta Transportation Institute 2012.

The Mineta Study indicates that identifying tolerance for stress (such as Geller's Four Typologies), rather than skill (such as AASHTO and FHWA), has more utility in bicycle network planning. This method is consistent with studies that show people's increasing affinity for low-stress bicycling environments and indicate that perceived traffic danger is the chief impediment to bicycling.

To illustrate the application of the rating system, **Table 2-3** from the Mineta Transportation Institute study shows the increase level of stress that is felt by a bicyclist in crossing varying widths of streets at varying traffic speeds.

Table 2-3 LTS Criteria for Mixed Traffic (Bike and Vehicle)

Speed Limit	Street Width		
	2-3 Lanes	4-5 Lanes	6+ Lanes
Up to 25 mph	LTS 1	LTS 3	LTS 4
30 mph	LTS 2	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4

Source: Mekuri, Firth and Nixon, Mineta Transportation Institute 2012.

In application, the Mineta study established that design and infrastructure improvements can reduce the level of traffic stress in a particular location, such as a street crossing. The comparison in **Table 2-4**, which was published in the research, is an example demonstrating that the addition of a crossing island has a significant reduction on the level of traffic stress for speeds of traffic less than 30 mph.

Table 2-4 LTS For Unsignalized Road Crossing With and Without Crossing Island

Speed Limit	Without Crossing Island			With Crossing Island		
	Up to 3 Lanes	4-5 lanes	6+ lanes	Up to 3 Lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1	LTS 2	LTS 4	LTS 1	LTS 1	LTS 2
30 mph	LTS 1	LTS 2	LTS 4	LTS 1	LTS 2	LTS 3
35+ mph	LTS 2	LTS 3	LTS 4	LTS 2	LTS 3	LTS 4
40+	LTS 3	LTS 4	LTS 4	LTS 3	LTS 4	LTS 4

Source: Mekuri, Firth and Nixon, Mineta Transportation Institute 2012.

The conclusion of the Mineta study was that people have varying levels of tolerance for traffic stress, which is comprised of perceived level of safety and other stress impacts such as pavement quality, vehicle noise, vehicle exhaust, crime, etc. Although there is small segment of the population willing to share a busy arterial street with large trucks, buses, fast speeds and heavy traffic volume, many people are "traffic intolerant" and are only willing to tolerate a small degree of traffic stress.

Reducing the perceived level of danger felt by bicyclists and walkers and encouraging more people to walk or bike in San Luis is the foundational goal of the Parks, Paths and Trails Master Plan. The Master Plan provides for separate facilities on parkway and arterial streets and identifies improvements that can increase the perception of safety such as bike boxes, striped buffers, median crossing refuge areas, and street bulb-outs which is further discussed in Chapter 5 of this Master Plan. The best practices referenced herein were incorporated into the bicycle and pedestrian network and design standards to support the broad vision and goals of the Parks, Paths, and Trails Master Plan.

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Inventory and Analysis

The San Luis Parks, Paths, and Trails Plan builds off the City's current conditions to plan for the future. These current conditions include the demographic profile of the City; the existing park, path, and trail facilities within the community, as well as the recreational facilities the City maintains; and the City's current operations and maintenance procedures for parks, paths, and trails. Additionally, this chapter compares the assessed conditions in the City of San Luis to other similar communities.

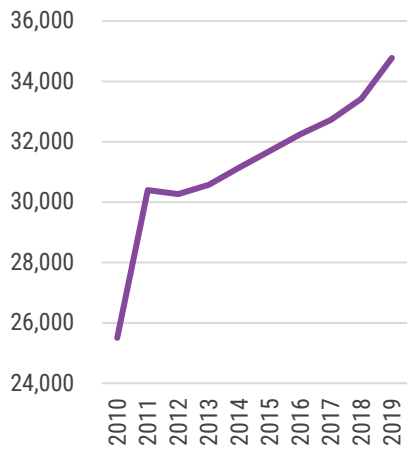
Demographic Profile

Parks, paths, and trails are planned and designed for its users, or those living and working in the community. Demographic data for San Luis was analyzed to better understand community needs today and in the future. The demographic data analyzed in this section includes population growth, age, race, income, and commuting characteristics.

Population Growth

Parks, paths, and trails should be developed in conjunction with future growth to maintain an adequate level of service. San Luis is one of the fastest-growing communities in Arizona since 2010. The City experienced a 36% population growth between 2010 and 2019, increasing from 25,505 to 34,778. Only Queen Creek, Marana, and Buckeye have experienced a population growth rate higher than the City of San Luis during this timeframe. The population growth rate in San Luis is also far greater than the statewide and countywide averages of 14% and 9% respectively. This rapid growth is expected to continue through 2040. According to Yuma County, the population in San Luis is expected to reach 72,566 by 2040, which is more than double the City's 2019 population. The population growth in San Luis through the year 2019 is depicted on **Figure 3-1**.

Figure 3-1 San Luis Population Growth 2010-2019



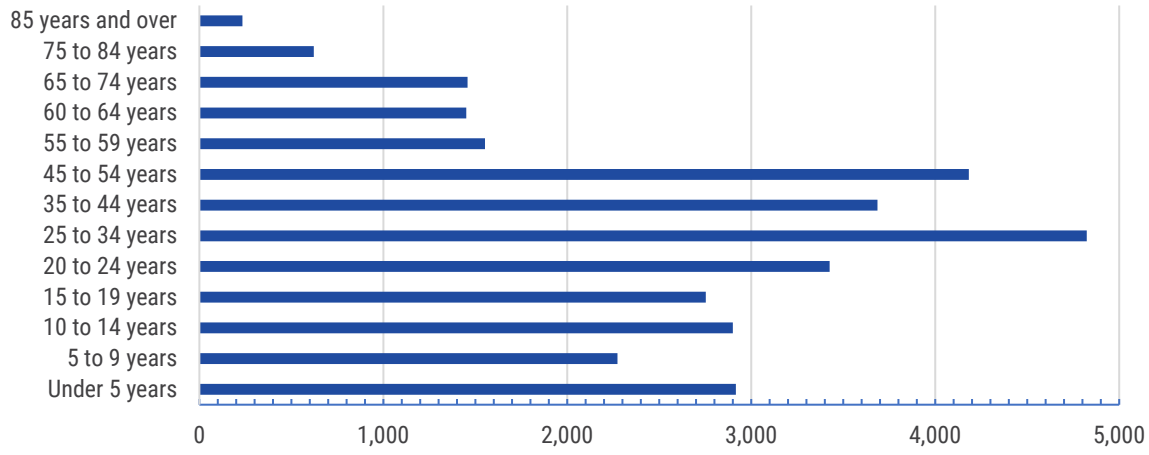
Age

Understanding the general age range of a community is important to planning parks, paths, and trails for its residents. Different age groups have differing needs for the type of programs and facilities. Younger age groups typically require active recreational facilities, such as playgrounds and sporting facilities, whereas older age groups generally enjoy more leisure and passive activities, such as walking trails and natural open space.

The population in San Luis is relatively young. The median age of San Luis residents in 2018 was 28.6, which is nearly nine years younger than the statewide average (37.4), and nearly six years younger than the countywide average (34.3). The young population in San Luis is largely attributed to a higher percentage of young children than older adults. Approximately a third (33.6%) of the population in San

Luis is under 20 years of age, compared to only 16.5% of residents that are 55 years of age and older. Population by age categories within San Luis is provided on **Figure 3-2**.

Figure 3-2 San Luis Population by Age Category



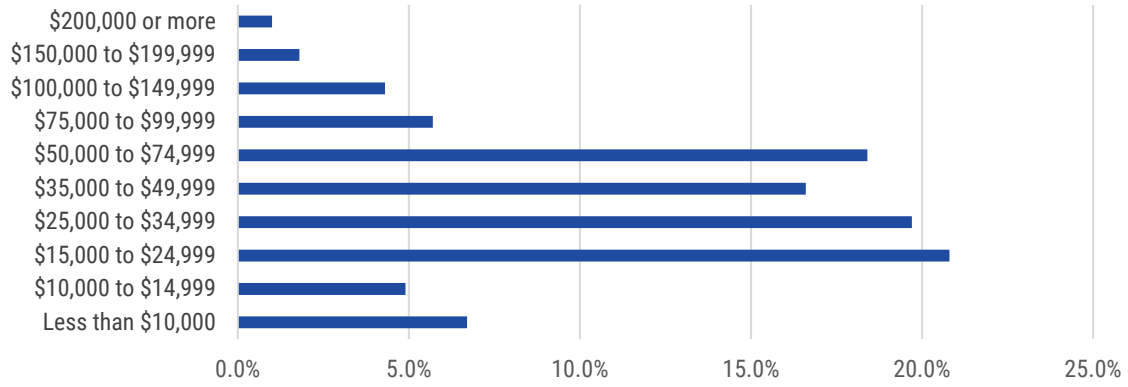
Race

Culture can greatly influence the type and character of parks, paths, and trails within a community. As a border community, San Luis maintains a strong connection to Mexico. Over 96% of residents identified as Hispanic or Latino of Mexican decent as of the 2018 American Community Survey. Only 2% of residents identified as White alone. No other racial demographic exceeded 1% of the San Luis population.

Income

Not all residents or families have the same resources for recreating and/or commuting. Parks, paths, and trails can contribute to a more equitable community for all residents, providing a means of commuting to work and/or school, recreating, and enjoying the great outdoors. The median household income in San Luis as of 2018 was $34,122. Although incomes in the City have greatly increased since 2010 (33%), the median household income in San Luis was approximately $10,000 less than the countywide average ($44,058) and $22,000 less than the statewide average ($56,213) in 2018. Household income by percentage of the San Luis population is provided on **Figure 3-3**.

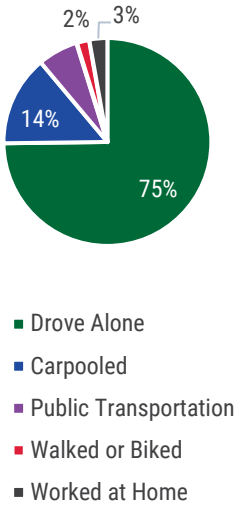
Figure 3-3 Household Income by Population Percentage



Commuting Characteristics

In additional to the recreational benefits, bike and pedestrian paths can assist commutes to work, school, or other destinations, particularly for those with less resources. Although San Luis has a relatively lower incomes compared to the State of Arizona and Yuma County, most residents still have access to a personal vehicle. Consistent with the statewide and countywide averages, the vast majority of San Luis residents had access to and drove a personal vehicle to work in 2018. Only 1.3% of residents claimed they walked to work and 0.7% claimed they biked to work in 2018. However, over 6% of San Luis residents claimed they took public transportation to work, which is over 4% more than the statewide and countywide averages (1.9% each). This could suggest most residents would walk or bike to work if provided adequate facilities. Percentage of commuting modes of travel within San Luis are provided in **Figure 3-4**.

Figure 3-4 Commuting Modes by Percentage of Population



Parks

Existing Park Facilities

The City of San Luis owns and operates numerous parks and recreational facilities throughout the community. In total, there are 81.5 acres of park land across 31 parks of various sizes, many of which are used as retention basins. This equates to 1,159 parks per 1,000 residents and 2.3 acres per 1,000 residents.

Parks in San Luis are classified into five categories based on size and service areas, described in **Table 3-1**.

Table 3-1 Park Categories

Pocket Parks		
Pocket parks are typically small open spaces dispersed throughout a community that provide light recreational activities.	Facility Size: Service Area:	< 3 acres ¼ mile
Neighborhood Parks		
Neighborhood parks are often centrally located within a neighborhood, and provide for a mix of recreational activities.	Facility Size: Service Area:	3 to 12 acres ½ mile
Community Parks		
Community parks are located in easily accessible areas between multiple neighborhoods, and support multiple recreational facilities.	Facility Size: Service Area:	12 to 30 acres 3 miles
Regional Parks		
Regional parks typically serve the broader community and are often nature preserves or major sport complexes.	Facility Size: Service Area:	> 30 acres 10+ miles
Special Use Parks		
Special use parks may be indoor or outdoor recreational facilities dedicated to a specific purpose or activity, such as historic or cultural sites.	Facility Size: Service Area:	NA NA

Table 3-2 identifies each park in San Luis and the acreage organized by the type of park. It should be noted that the City of San Luis does not currently contain any regional or special use parks. The recreational amenities provided by each park is identified in **Table 3-3** on the following page.

Level of Service

There are a number of methods for determining level of service (LOS) for parks, or the need for park facilities. Level of service is typically reflected as the total number of parks or total park acreage per measurable population segment. The National Recreation and Park Association (NRPA) maintains a comprehensive database of parks and recreation agencies across the U.S. According to the NRPA, a typical community of similar size to San Luis (20,000 to 49,999 residents) maintains 1,963 parks per 1,000 residents and 9.6 acres of park land per 1,000 residents. The City of San Luis is below this NRPA benchmark with 1,159 parks per 1,000 residents and 2.3 acres per 1,000 residents.

Although San Luis maintains a below average LOS for parks per the NRPA, each community is created differently and has different needs. It is important for the City of San Luis to increase its park LOS and ensure there is sufficient park space for its current and future residents.

Table 3-2 San Luis Park Inventory

Parks by Type	Acreage
Pocket Parks	
7th Place Retention	1.3
Arden Avenue Retention	0.3
B Street Retention	1.2
Beach Street Park	0.1
Cuatemoc Park	1.6
D Street Park	2.2
Garcia Lane Retention	1.5
Genevive Street Retention	0.6
Guerrero Avenue Retention	1.1
Independence Park	0.7
Kennedy Lane Retention	0.9
Kennedy Park	0.2
Kristal Street Retention	0.8
Liberty Street Retention	0.7
Los Olivos Park	0.8
Los Portales Avenue Retention	0.5
Olivos Retention	1.6
Rio Sonora Street Retention	0.7
San Luis Lane Retention	2.6
Sinoff Avenue Retention	1.1
Stephens Street Retention	0.5
Teresitas Avenue Retention	1.2
Torres Street Retention	0.8
Neighborhood Parks	
Alegria Park	3.0
Bienestar 9B Retention	5.3
Eligio Ramirez Park	3.9
Friendship Park	6.1
Joe Cabello Park	3.1
Los Alamos Park	2.9
Moctezuma Park	6.8
Community Parks	
Joe Orduño Park	27.1
Total	**81.2**

Table 3-3 Recreational Amenities by Park

Park	Baseball/Softball Fields	Basketball Courts	Benches	Grills	Playgrounds	Pool	Ramadas	Restrooms	Skate Parks	Soccer Fields	Tennis Courts	Volleyball Courts	Walking Paths	Lighting
7th Place Retention			2	1	1		1			½				
Arden Avenue Retention			4	1	1									
B Street Retention					1					1				
Beach Street Park			1		1									
Cuatemoc Park							2			1				
D Street Park					1					1				
Garcia Lane Retention			2		1					1				1
Genevive Street Retention					1		1							
Guerrero Avenue Retention				1	1		1			½				
Independence Park		1			1		2							
Kennedy Lane Retention			3		1									
Kennedy Park					1									
Kristal Street Retention				1	1		1			1				
Liberty Street Retention										1				
Los Olivos Park					1									
Los Portales Avenue Retention					1									
Olivos Retention			3	1	1									1
Rio Sonora Street Retention		1					2		1					
San Luis Lane Retention			1		1		1			1				1
Sinoff Avenue Retention				1	1		1			½				
Stephens Street Retention				1	1		1							
Teresitas Avenue Retention			1				1			1				
Torres Street Retention				1	1		1							
Alegria Park			2	1	1		1			1			1	
Bienestar 9B Retention					1		1			1			1	
Eligio Ramirez Park			3	2	1		2	1		1			1	
Friendship Park	1						2	1						
Joe Cabello Park		1		3	1		3	1	1				1	
Los Alamos Park										1		2		
Moctezuma Park		1	1	4	2		4	1		1		1	1	1
Joe Orduno Park	3	2	3	3	1	1	3	1		2	3		1	3

Bike and Pedestrian Paths

Existing Bike and Pedestrian Network

The existing bike and pedestrian network in San Luis solely consist of sidewalks. The City does not contain any bike paths; however, most developed areas in San Luis do contain sidewalks. The most notable streets that lack sidewalks on either on side of the street or both sides of the street include the following:

- 10th Avenue
- San Luis Plaza Drive
- Juan Sanchez Boulevard east of William Brooks Avenue
- North 4th Avenue north of E Street
- County 22nd Street between Merrill Avenue and U.S. Route 95
- Urtuzuastegui Street between 1st Street and 2nd Avenue
- Urtuzuastegui Street between North 4th Avenue and 6th Avenue
- William Brooks Avenue between E Street and Juan Sanchez Boulevard
- Cesar Chavez Street between E Street and Juan Sanchez Boulevard
- 5th Avenue between California Street and Juan Sanchez Boulevard

These streets and street segments include collector and arterial streets located in the population core of the City and in Downtown San Luis. Providing adequate sidewalks along these key corridors is important for pedestrian safety and connectivity.

Trails

Existing Regional Trail Network

A trail network is most effective when connected regionally. Although the City of San Luis does not currently contain any off-street trails, assessing regional off-street trails is important to begin planning future trails within the City.

The City of Yuma maintains trails along the East Main Canal and West Main Canal, both of which travel to the City of San Luis. The City of Somerton, although does not currently have any off-street trails, developed plans for future off-street trails along Avenue E and Avenue F. These future connections will require close coordination with both the cities of Yuma and Somerton, as well as Yuma County and the Yuma Metropolitan Planning Organization.

Sports Field Inventory and Analysis

Sports fields are an essential component to a community's parks system, particularly for a community with a younger population like San Luis. Sports fields contribute to a healthy, active lifestyle by providing spaces for programmable recreational activities. Additionally, sports fields attract users from other communities to participate in recreational games and tournaments.

The City of San Luis maintains the following sports fields:

- 4 baseball/softball fields
- 5 basketball courts
- 14 full soccer fields and 3 half soccer fields
- 3 tennis courts
- 3 volleyball courts

San Luis High School also contains four baseball/softball fields, four full soccer fields, six tennis courts, and two football fields. However, these are owned and maintained by the school district and not the City itself.

- San Luis Middle School maintains three full basketball courts and two full soccer fields.
- Desert View Elementary School has three full basketball courts.
- Cesar Chavez Elementary School has three full basketball courts.
- Ed Pastor Elementary School has two full basketball courts.
- Arizona Desert Elementary School has three full basketball courts.
- Rio Colorado Elementary School has two full basketball courts.

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Plan Influences

San Luis's parks locations and the planned paths and trails network are influenced by a variety of conditions including planned land uses, planned circulation, origins and destinations, and trends in bicycle and pedestrian usage. This Chapter explores the influencing elements to the development of the San Luis Parks, Paths and Trails Plan.

Previous Plans and Studies

Previous plans and studies related to parks and bicycle / pedestrian network in San Luis and the larger region were analyzed for relevant information to inform the development of the San Luis Parks, Paths, and Trails Plan. Plans and studies completed by the City of San Luis, ADOT, City of Yuma, Yuma Metropolitan Planning Organization (YMPO) and Yuma County were reviewed for regional information on parks, paths, and trails, including regional practices and design considerations. The previous plans and studies summarized in this section include:

- San Luis 2040 General Plan
- San Luis Small Area Transportation Study
- ADOT Bicycle and Pedestrian Plan Update, 2013
- ADOT Binational San Luis Transportation Study, 2013
- Yuma Metropolitan Planning Organization (YMPO) – Regional Transportation Plan (RTP)
- YMPO Bicycle and Pedestrian Study
- Yuma County Comprehensive Plan

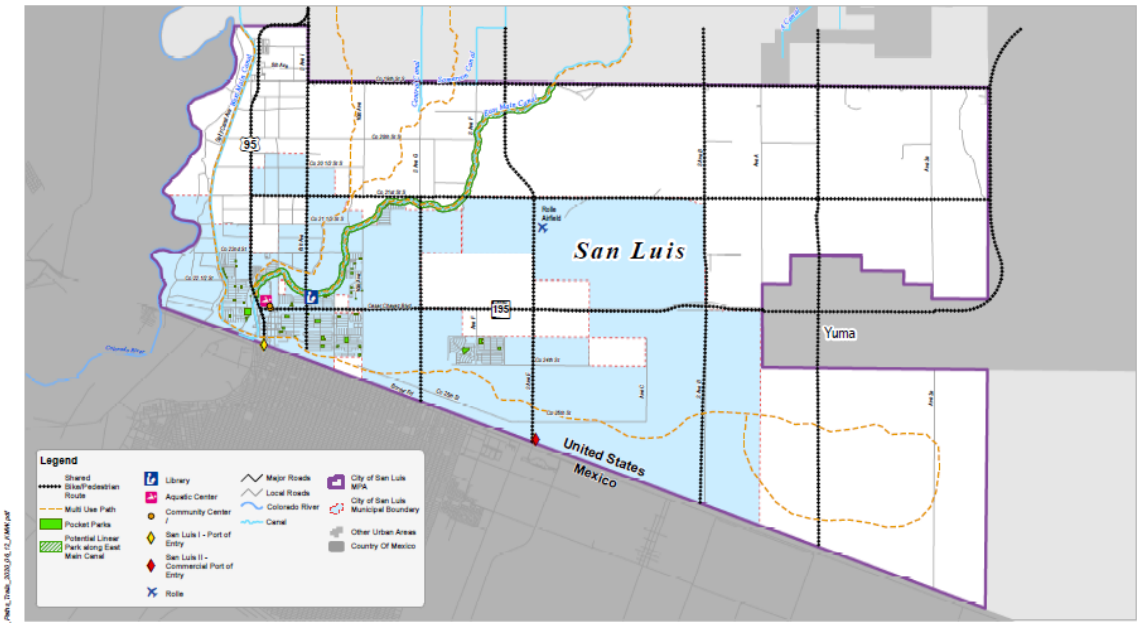
San Luis General Plan

The San Luis 2040 General Plan was approved by the San Luis Mayor and City Council and ratified by a majority of voters in the City of San Luis, The San Luis 2040 General Plan identified goals, policies, and strategies addressing parks and open space to enhance passive and active recreational opportunities, the enjoyment of the outdoors. The Plan also provided policies and strategies to create a connected and safe network for active transportation facilities including bicycle and pedestrian travel. A primary recommendation of the Plan was to fund, develop, and implement this Parks, Paths, and Trails Plan to address parks and the active transportation network for walkers and bicyclists.

The San Luis 2040 General Plan identifies numerous goals and policies relative to parks and recreation and bicycle and pedestrian facilities in the City of San Luis. These policies were intended as the starting point for this Parks, Paths, and Trails Plan and were used to guide and inform the development of the parks system and bicycle and pedestrian network. Notable Goals, with associated policies from the San Luis 2040 General Plan are listed below.

The San Luis 2040 General Plan established an interim Parks, Paths, and Trails Plan, which was intended to be superseded by this Parks, Paths and Trails Plan. This interim plan from the San Luis 2040 General Plan is shown in **Figure 4-1**.

Figure 4-1 Parks, Trails, and Paths Plan



City of San Luis Small Area Transportation Study

The purpose of this study was to inventory the existing conditions and characteristics of the roadway network in San Luis and to identify potential areas of improvement. The Plan focuses on a "Complete Streets" approach to future development of multi-modal facilities and suggests that San Luis is ideal for walking and bicycling due to its small geographic area and large volume of pedestrians and bicyclists crossing the US-Mexico border on a daily basis. The Plan suggests the following general recommendations for bicycle and pedestrian facilities:

- Improved crosswalks
- Pedestrian signals at major intersections
- Improved curb cuts at crosswalk locations
- Pedestrian amenities such as landscaping for shade
- Bulb outs or pedestrian refuge areas in appropriate locations
- Pedestrian crossing between Main Street and 1st Avenue
- Bicycle Lanes on Main Street and Juan Sanchez Boulevard
- Establish other low volume, low speed roadways as shared vehicle-bicycle facilities

ADOT Bicycle and Pedestrian Plan Update, 2013

The Arizona Department of Transportation developed this plan to provide a long-term vision for a statewide system of interconnected and shared roadways integrating bicycle and pedestrian facilities. The ADOT Bicycle and Pedestrian Update is intended to guide ADOT transportation decisions related to bicycle and pedestrian travel, planning, and facility development. This plan identifies opportunities for sidewalk and shoulder improvements on state highways. The following policies are relevant to the state highway system through the City of San Luis:

Arizona Department of Transportation State Transportation Board 1. A stated policy of the ADOT State Transportation Board 1 is to encourage bicycling and walking as viable transportation modes, and actively work toward improving the transportation network so these modes are accommodated, by:

- Promoting increased use of bicycling and walking, and accommodating bicycle and pedestrian needs in the planning, design, and construction of transportation facilities along state highways.
- Developing design guidelines and measures that give the roadway designer flexibility in accommodating the needs of all users of the transportation facility.
- Develop design guideline implementation policies that balance the needs of motorists, bicyclists, and pedestrians.
- Pursuing the use of federal funds that are available for alternative modes.

Arizona Department of Transportation, MGT 02-1 Bicycle Policy. The ADOT Bicycle Policy, MGT 02-01 2, establishes uniform guidelines for accommodating bicycle travel on the state highway system. The ADOT Bicycle Policy Update in 2013 included provisions for bicycle travel in all new major construction and reconstruction projects on the state highway system and as part of pavement preservation, utility, and minor and spot improvement projects if the costs of accommodation are reasonable and feasible.

Arizona Department of Transportation, Roadway Design Guidelines, 107.2 – Pedestrian Facilities. The ADOT Roadway Design Guidelines3 state that ADOT does not normally construct sidewalks as part of an ADOT highway project. However, in urban areas, the highway cross section should be designed to provide space for sidewalks to be constructed in the future by local agencies. The guidelines state that ADOT may construct additional sidewalks along local streets or urban arterial highways at the request of the local government, provided there is an agreement with the local government to pay ADOT's additional costs for design, construction, and right-of-way. Agreements with the local government for sidewalk maintenance must be executed before advertising the project for bids.

1 http://www.azdot.gov/Board/PDF/Board_Policies_010411.pdf

2 http://tinyurl.com/ayrhf7g

3 http://tinyurl.com/59pmrr, Page 100-13

ADOT Binational San Luis Transportation Study, 2013

The ADOT Binational San Luis Transportation Study (BSLTS), 2013 was a joint effort by the City of San Luis, Cuidad de San Luis Rio Colorado and the Arizona Department of Transportation (ADOT). The primary objective of the study was to prepare a long-range multimodal transportation plan that addresses the most critical current and future transportation issues for the cities of San Luis, Arizona and San Luis Rio Colorado, Sonora, Mexico. The primary focus of the plan was to update the San Luis Small Area Transportation Study to provide an integrated transportation plan specifically addressing travel demands for all modes of travel to reflect changes in population and the economic interdependency of the two Cities, the resurgence of the maquiladora industry, the opening of San Luis Commercial Point of Entry II, and changes to future land use contemplated in the updated City of San Luis General Plan. The ADOT Binational San Luis Transportation Study objectives included:

- Enhance the mobility and connectivity of the transportation system at an international, regional, and local level
- Address pedestrian and bicycle needs
- Determine validity of current and planned bicycle and pedestrian infrastructure
- Enhance connectivity between modes of travel; vehicular, transit, and pedestrians
- Identify funding sources and strategies
- Communication with the advisory committee and the public

The BSLTS focused on students, employees, and recreational users of the international border crossing and identified the need for sidewalk connectivity and bicycle lanes and other facilities near and surrounding the "core activity area". The BSLTS identifies examples of unsafe pedestrian crossings and lists low-cost intersection improvements through restriping pedestrian crosswalk areas. Three key short-term recommendations are highlighted relating to bicycle and pedestrian facilities:

- Conduct study to address pedestrian safety and mobility throughout the city, potential improvements could include pedestrian signal crossing locations and devices and/or pedestrian refuge islands
- Conduct study to review and research bicycle users travel patterns
- Review and research pedestrian and bicycle amenities specific to the needs of San Luis Rio Colorado.

Yuma Metropolitan Planning Organization (YMPO) – Regional Transportation Plan (RTP)

The Yuma Metropolitan Planning Organization (YMPO) is a nonprofit metropolitan planning organization for the Yuma region. YMPO develops and implements the Regional Transportation Plan (RTP) with the overarching goal of development of a multimodal transportation system in the organization boundary. Jurisdictions that make up YMPO are the City of Yuma, Yuma County, the Cocopah Indian Tribe, the Town of Wellton, the Quechan Indian Tribe, the cities of San Luis, Somerton, and the Arizona Department of Transportation (ADOT). The RTP is a coordinated system of capital-intensive roadways projects, transit improvements, and pedestrian/bicycle facilities needed through 2041. The core mission of the RTP is to minimize impacts to society and the environment while providing for enough capacity and transportation choices to ensure the region's economy continues to grow.

YMPO 2018-2041 Regional Transportation Plan

The 2018-2041 Regional Transportation Plan applicable to the City of San Luis provides the following:

City of San Luis – Over two million pedestrians annually cross the U.S./Mexico border at San Luis POE I, giving the downtown area of the City of San Luis the highest level of pedestrian activity in the region. In 2015, the San Luis Street improvement project was completed, which included pedestrian improvements. The project included rerouting San Luis POE traffic away from the busy business district, which has significant pedestrian and bicycle traffic. POE traffic was moved to two local roads that were converted to one-way streets in an effort to relieve some of the traffic congestion and enhance safety.

By rerouting vehicle traffic from the San Luis POE away from Main Street, access to businesses along Main Street was improved to better accommodate pedestrians and bicyclists. It also allowed for additional parking, benches, new pavement, pavement striping, and landscaping.

ADOT installed the first pedestrian-activated signalized crosswalk in Yuma County, located at the intersection of US 95 (Main Street) and Urtuzuastegui Street. This special type of traffic light, known as the Pedestrian Hybrid Beacon, is a system of indicator lights and signs that controls vehicle traffic to assist pedestrians in safely crossing a major street or highway at a marked cross-walk that does not have a standard traffic signal.

The San Luis General Plan includes policies that promote the installation of new pedestrian facilities such as sidewalks, overpasses, pedestrian signals at major intersections, improved curb cuts at crosswalks, and pedestrian refuge areas.

The YMPO 2018-2041 Regional Transportation Plan identifies existing and planned improvements to the two international border crossing to improve pedestrian and bicycle facilities. The narrative from the 2018-2041 RTP is as follows:

Border Infrastructure – International POEs in the Region

The YMPO region is currently served by two international POEs. Combined, the two POEs represent the highest level of border activity in the State of Arizona. About 30 percent are passenger vehicles and 11 percent are commercial vehicle crossings. Historically, POEs in the YMPO region account for approximately five percent of the value of all goods crossing the Arizona-Sonora border.

San Luis POE I was constructed in 1930 and later expanded in 1984 and 1991. It is located in the downtown commercial center in the City of San Luis at the terminus of Main Street (US 95) provides cross-border patrol inspection of passenger vehicles, bicycles, and pedestrians. Vehicular congestion exists along US 95 as a result of U.S. Customs and Border Protection (CBP) inspection protocols for southbound vehicles exiting to Mexico. Congestion at the San Luis POE I increase during the agricultural produce season. A reconstruction of the San Luis POE I is planned, which will improve pedestrian processing pace and reduce wait times for cross-border travelers entering the U.S. in a safe manner consistent with security measures in place by agencies operating the POE. In 2014, almost 229 million pedestrians used this border crossing. This proposed project will not change either the ingress or egress points to the POE. Pedestrians coming into the US from Mexico would, upon leaving the new processing building, utilize the existing sidewalks leading north to Urtuzuastegui Street.

ADOT completed a San Luis Street improvement project to improve traffic and pedestrian mobility through the San Luis POE, to reduce conflicts between motorists, bicyclists and pedestrians, to improve drainage in the project area, and to enhance and revitalize the business district on Main Street. The project included:

- Constructing two roundabouts: D Street at US 95 and Urtuzuastegui Street at US 95
- Converting Archibald Street (SB) and 1st Avenue (NB) to one-way streets
- Reconfiguring NB traffic from the POE directly to 1st Avenue with accessibility to US 95 from Urtuzuastegui Street (EB and WB)
- Converting US 95 from a five-lane facility between the planned Urtuzuastegui Street mini-roundabout and D Street roundabout into a two-lane local road.
- Constructing a transition road from the F Street/US 95 intersection, which is north of the D Street roundabout, west to Archibald Street

- New construction, reconstruction, and widening of Archibald Street from a two street to a three-lane one-way SB facility from F Street to Urtuzuastegui Street
- Construct an additional EB lane on Urtuzuastegui Street from Archibald Street to the LPOE
- Provide amenities on US 95 to accommodate pedestrian and bicycle traffic

San Luis POE II, built in 2010, is located approximately five miles east of San Luis POE I at the terminus of Avenue E. It provides commercial vehicle inspection and direct access to SR 195. San Luis POE II was designed with the potential for expansion to accommodate up to 650 commercial vehicles per day, as well as the potential to add facilities for passenger vehicles, pedestrians, and bicyclists.

Arizona-Sonora Border Master Plan

ADOT, in cooperation with the State of Sonora, Mexico and numerous bi-national federal, state, and local stakeholders, completed the Arizona-Sonora Border Master Plan (2013), which identified and ranked a series of POE, multimodal infrastructure, and rail projects that would enhance travel across the border.

Arizona Sonora Master Plan Recommendations. A number of projects evaluated during the Arizona-Sonora Master Plan were among the necessary capital improvement projects that have been completed or are in planning and design. Highly ranked projects recommended in the Arizona-Sonora Border Master Plan are shown on **Table 4-1**. As described previously, improvements to the POE I are currently being planned.

Table 4-1 Arizona-Sonora Border Master Plan Highly Ranked Projects

POE Project Description	2016 Status
San Luis I - SENTRI Primary Booth Project	In Process
San Luis I - Pedestrian Pop-out Project #1	In Process
San Luis I - Pedestrian Pop-out Project #2	In Process
San Luis II POV/Pedestrian Processing Facility	Not currently in development
San Luis I - Outbound Technology Project	In Process
San Luis I - SENTRI Secondary Inspection Area	In Process
San Luis I - Expansion and Modernization	In Process
San Luis I Outbound Inspection Infrastructure	In Process
San Luis I - Primary Booth Replacement Project	In Process
San Luis II - New Rail POE	Not currently in development

YMPO Bicycle and Pedestrian Study

The 2020 YMPO Bicycle and Pedestrian Study was assessed for relevant information to the development of bicycle and pedestrian network within the City of San Luis. This study was funded by the Yuma Metropolitan Planning Organization (YMPO) in March 2020 and provides recommendation for enhanced bicycle and pedestrian facilities, including design guidelines. The purpose of the study was to evaluate existing bicycle and pedestrian facilities within the YMPO region and determine additional facilities that would promote walking and biking in the YMPO region.

Yuma County Comprehensive Plan

The purpose of the Plan is to conserve natural resources of Yuma County in addition to promoting the health, safety and convenience of the general public through the development of unincorporated Yuma County. The Plan identified opportunities for linking natural resources within the County. The Plan does not identify any specific proposed pedestrian or bicycle facilities but does include policy guidance to better accommodate pedestrian and bicycle traffic in road design, construction, or reconstruction.

Land Use Analysis

Future Land Use

Future land use is an important consideration in the development of an integrated park system and a connected bicycle and pedestrian network. Park service areas are located within future projected residential areas and the bicycle and pedestrian network links shopping, employment and residential areas of the community. This section explores future land uses in San Luis to identify areas appropriate for parks, paths, and trails.

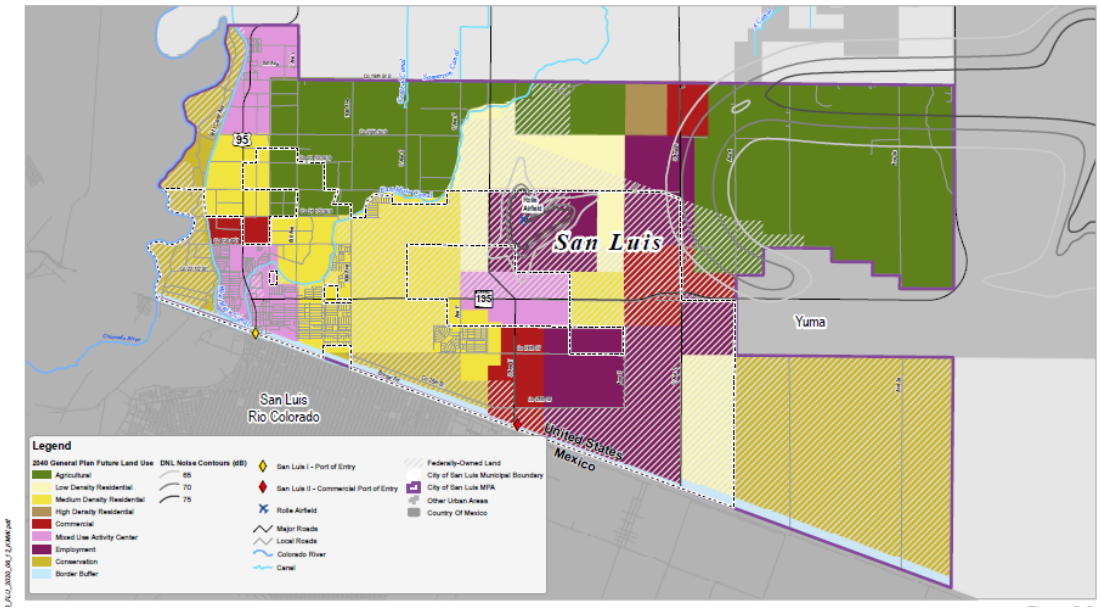
The San Luis 2040 General Plan establishes the planned land uses to provide for future growth and development of the community. The Future Land Use Map (FLUM) is provided as **Figure 4-2** and depicts the location of future residential, commercial, employment, agricultural, and open space uses for the planning area, and summarized as follows:

- **Residential.** Planned future residential land uses are located primarily in central and western portions of the planning area and are comprised of varying residential densities serving a range of future residential land uses. Community and neighborhood parks should be focused primarily in the area to provide accessible park locations to serve existing and future residents of the city.
- **Commercial and Mixed-Use Activity Areas.** The FLUM designates three primary areas for commercial and mixed-use development in the central, northwest, and within the downtown area of the city. Community and neighborhood parks are appropriate in areas in proximity to high-density residential land uses but are not consistent with the intended development character of commercial and office development areas. Open space and recreation areas within non-residential development should be focused in smaller urban parks and plazas integrated with commercial and office development to provide for passive recreation areas for entertainment and social interaction.
- **Employment.** Areas for future employment uses are planned primarily in the central portion of the planning area in proximity to San Luis II Commercial Port-of-Entry. These areas are planned for employment uses focused on manufacturing, distribution, light industrial and logistics. Open space needs within these areas should be provided with plaza areas integrated with the employment use to provide for passive open space uses for relaxation of employees within the development.

- **Agricultural.** 28% of the planning area is designated for agricultural uses. The San Luis economy is significantly influenced by agriculture, a major economic driver in Yuma County. Agricultural designated areas are located in the northeast, northwest and western portions of the planning area and policies established by the San Luis 2040 General Plan intend to conserve these areas for agricultural production and protect them from intrusion of future development. As such, these areas do not require community and neighborhood park development based on the intended agricultural land use.

- **Airfield Operations.** Rolle Airfield and Auxiliary Field #2 (AUX-2) impact the character and type of future land uses in the north-central and northeast portion of the planning area. These areas are impacted by noise from air operations from these facilities and as a result, planned land uses within noise impacted areas are limited to employment, commercial, and agricultural land uses. The need for future community and neighborhood parks in these areas is limited based on the influence of air operations from these facilities and the non-residential land use character of these areas.

Figure 4-2 Future Land Use Map

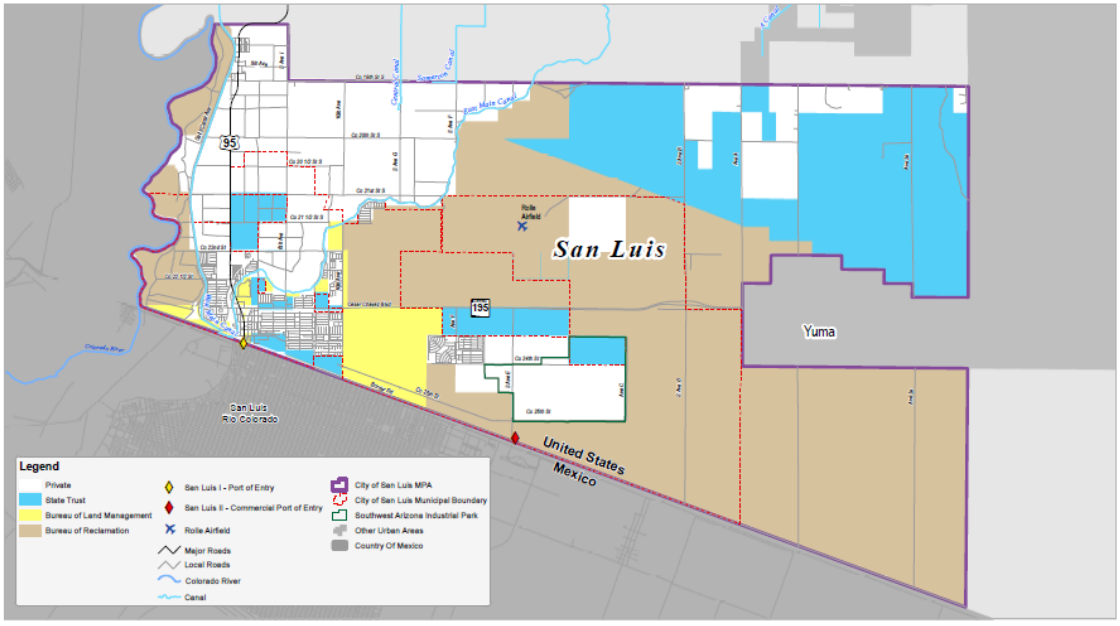


Land Ownership

Land ownership patterns influence where future development is possible and therefore where future community and neighborhood parks are needed to serve residents. A significant portion of land within San Luis is under public ownership, with 81% of the Planning Area Boundary under state or federal ownership and management. The potential location of future parks to serve San Luis is influenced by this characteristic of publicly owned land as a significant amount of land may remain under public ownership and therefore not be available for future development, including future community and neighborhood parks. **Figure 4-3** illustrates the location of private, state and federally owned land, which is summarized as follows:

- **Bureau of Reclamation (BOR).** 56% of the San Luis Planning Area Boundary is owned and managed by the Bureau of Reclamation, located in the southeast and east-central portion of the planning area. A large tract of BOR held land in the southeast portion of the planning area is reserved as a conservation area for the Flat-tailed Horned Lizard and may preclude future development in this area. As such, future community and neighborhood parks will not be needed in this area reserved for conservation and species protection. BOR held land within the east-central portion of the planning area is not a conservation area and discussions should be held with the BOR to determine the potential for sale or lease for future residential and non-residential development.
- **Arizona State Land Department (ASLD).** 21% of the San Luis Planning Area Boundary is owned and managed by the Arizona State Land Department. The ASLD manages this land for the benefit of public trusts, such as the public-school system, and therefore this land located in the northeast portion of the planning area may eventually sold or leased for private development. As such, the ASLD land should be considered as ultimately available for private development and community and neighborhood parks should be planned to serve future residential development in this area.
- **Bureau of Land Management (BLM).** 4% of the Planning Area Boundary is owned and managed by the Bureau of Land Management. This BLM held land is located in the southwestern portion of the planning boundary adjoining the international border with Mexico. BLM policies on land sales or land trades vary and depend on the size of the tract of land and contiguity with other BLM land to fulfill the land management goals and policies of BLM. Discussions should be held with the BLM to determine the potential for sale or lease of this land for future residential and non-residential development, which would necessitate the need for community and neighborhood parks in this area.
- **Private Land.** 19% of land within the Planning Area Boundary is privately held, located primarily in the central and western portion of the planning area. Existing and future development within San Luis is located in this area and future community and neighborhood parks should be focused in this area to serve the residents of San Luis.

Figure 4-3 Land Ownership

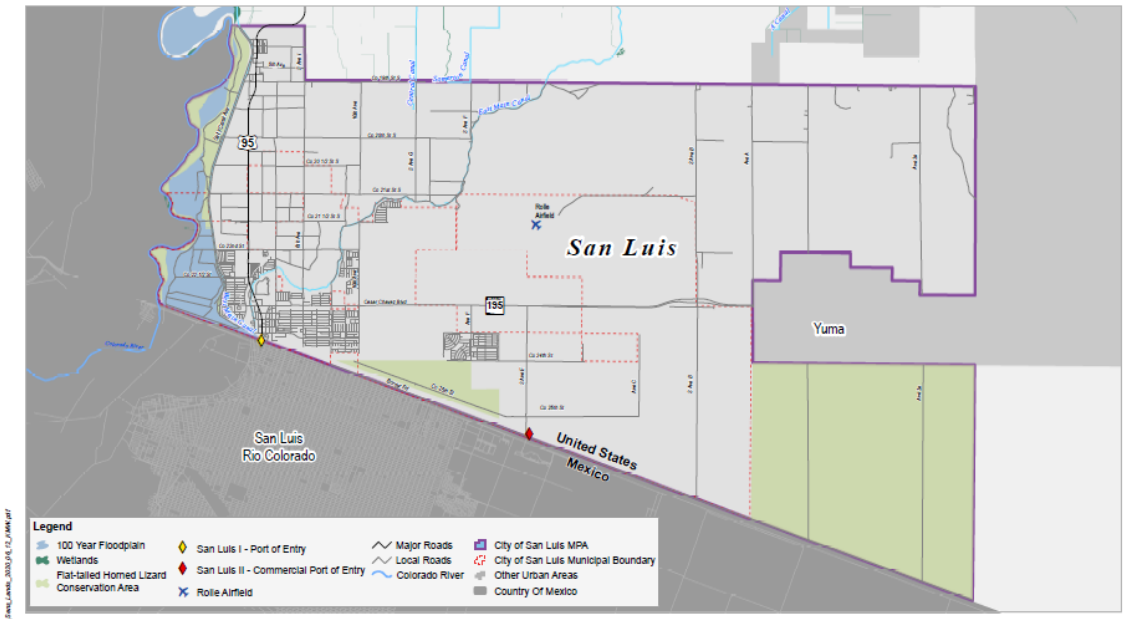


Natural and Cultural Resources Assessment

Some natural and cultural resources are compatible, or even complementary to a parks, paths, and trails system. In fact, parks often serve as a means to conserve important natural and cultural resources in a community. The National Recreation and Parks Association (NRPA) addresses conservation as one of three pillars for parks in communities. It is the NRPA's mission that: "Public parks and recreation at all levels should support the conservation and stewardship of land, water, and natural resources. Parks and public lands serve an essential role in preserving natural resources and wildlife habitat, protecting clean water and clean air, and providing open space for current and future generations."

The most iconic natural resource in San Luis is the Colorado River. Unfortunately, access to the Colorado River corridor is blocked by a border wall between the U.S. and Mexico. There are also two Flat-tailed Horned Lizard Conservation Areas within the City; one of which is located in the Colorado River corridor blocked by the international border wall. The other Flat-tailed Horned Lizard Conservation Area is located south of the County 24th Street alignment and generally between Avenue F and 10th Avenue. There is an additional Flat-tailed Horned Lizard Conservation Area west of the Avenue A alignment and south of the County 24th Street alignment. This area is outside of the city limits, but within the City of San Luis General Plan Municipal Planning Area. The Flat-tailed Horned Lizard Conservation Areas were dedicated as part of the 2003 Rangewide Management Strategy to protect Flat-tailed Horned Lizard habitats. Although these habitats are impacted by urban development, agricultural activities, and motorized vehicles, non-motorized nature trails may be suitable in these locations. The Flat-tailed Horned Lizard Conservation Areas are illustrated on **Figure 4-4**.

Figure 4-4 Environmentally Sensitive Lands



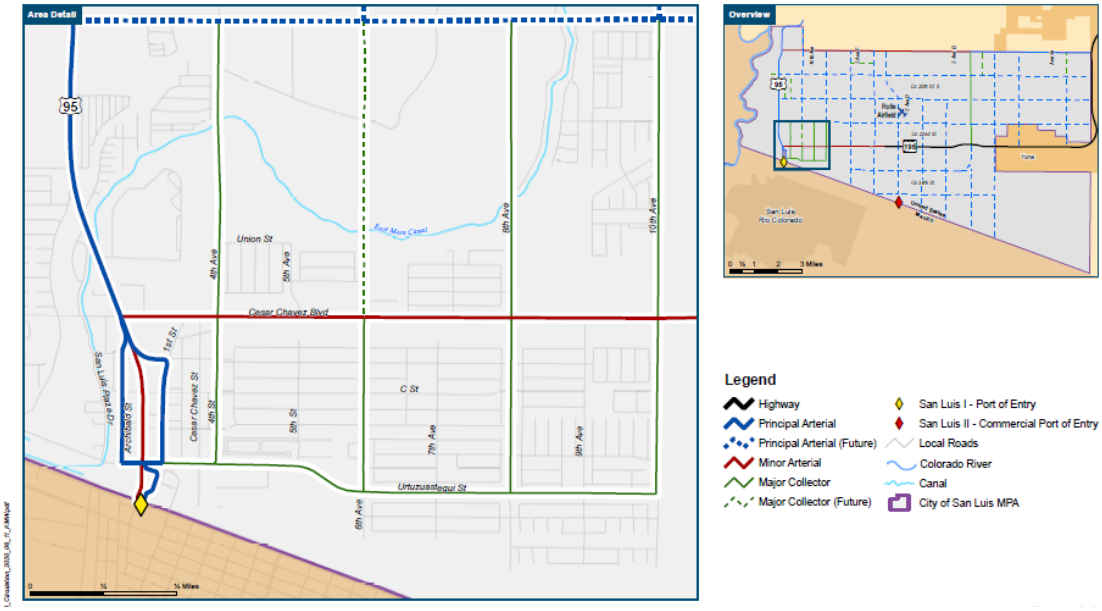
Corridor Analysis

The major streets and intersections in San Luis shape and define future land uses, providing for primary vehicular circulation, bicycle routes, and pedestrian corridors to support higher density and intensity land uses. Two primary circulation routes serve the San Luis area, US Highway 95 (US-95) and State Route 195 (SR-195). This section explores the planned future functional classifications of roadways in San Luis, analysis of primary travel corridors, and primary trip generators which are utilized in the creation of a connected bicycle and pedestrian network to serve the community.

Future Roadway Network

The San Luis 2040 General Plan provides a future Circulation Plan which establishes the framework for development of the future roadway network, bicycle and pedestrian network, and public transit services. The future roadway network was coordinated with the Future Land Use Plan to assure the future roadway network accommodates project increases in travel demand, traffic volumes, pedestrian movements, bicycle usage, and transit services associated with planned land uses. Existing and proposed major roadways anticipated to be needed to support forecasted travel demand are depicted on **Figure 4-5**.

Figure 4-5 Circulation Plan



Functional Classification of Roadways

The San Luis 2040 General Plan establishes five functional classifications of roadways to serve the future growth and development of San Luis. These functional classifications are consistent with regional and federal guidelines and approved by the State of Arizona and the Federal Highway Administration (FHWA). This plan utilizes these roadway classifications to establish the connect bicycle and pedestrian network to serve existing and future residents of the City of San Luis. The characteristics of these functional classifications are included within the descriptions of each class of roadway provided below.

- **Interstate and National Highways.** The Interstate Highway (IHS) and National Highway System (NHS) of U.S. Routes represent the highest functional order in that these facilities are intended to support high speed travel over long distances and, therefore, offer the greatest mobility while eliminating direct access.

- **Principal Arterial.** Principal Arterials are capable of carrying large traffic volumes and form the primary roadway network within and throughout the City, MPA, and greater southeastern Yuma County region. These facilities provide a continuous road system supporting longer-distance trips at relatively high speeds, connecting major destinations and activity centers, such as the downtown, major suburban centers, commercial districts, and industrial areas.

- **Minor Arterial.** The minor arterial system connects with the principal arterial system and supports trips of moderate length at relatively higher speeds. Minor Arterials do not penetrate residential neighborhoods, but these facilities do aid in distributing vehicles to the collector system, which serves such neighborhoods more directly. Minor arterials typically are spaced at one-half mile and provide limited access to adjacent or abutting properties.

- **Major Collector.** Major Collectors support traffic circulation within lower density areas and provide connectivity with the arterial system. Major collectors carry a higher traffic volume than minor collectors. Unlike arterials, these facilities generally have low side friction traffic resulting from some permitted access to adjacent or abutting properties and, therefore, lower speeds are attained compared to the arterial system.

- **Local Roadways.** The remainder of the roadway network in the MPA is formed of Local Roadways. These facilities generally support short trips and maximize access to adjacent or abutting properties. Local roads connect traffic movements primarily with the collector system, although some may have access to the arterial system. Local roads have the lowest speed limit and carry low volumes of traffic. In some areas, these facilities may be unpaved and connect adjacent lands involving relatively short distances.

Roadway Characteristics

Roadway physical characteristics including cross-sections and design features vary based on location, traffic flows, and travel demand. The San Luis 2040 General Plan establishes the generalized roadway characteristics for each functional roadway, recommended cross-sections, and other design features. **Table 4-2** provides the physical characteristics for the five functional classification designations for the City of San Luis.

Table 4-2 Roadway Functional Classifications and Physical Characteristics

Facility Classification	Minimum Right-of-Way (ROW)*	Travel Path	Median Width	Sidewalks
Interstate and National Highways	Varies	Varies	Varies	Varies
Principal Arterial	130 feet	42'/42' – 2 lanes	14' raised	Both sides
Minor Arterial	110 feet	39'/39' - 2 lanes	14' raised	Both sides
Major Collector	80 feet	27'/27' – 1 lane	14' left turn lane	Both sides
Minor Collector	60 feet	20'/20' – 1 lane	None	Both sides
Local Roads	50 feet	36'	None	Both sides

**Also referenced as the "Cross-Section"*

Bicycle and Pedestrian Network Integration

An important part of daily life in San Luis is the bicycle and pedestrian network which serves resident travel and cross-border commuting associated with the U.S.-Mexico border. A convenient and connected bicycle and pedestrian network is essential for residents who use bicycles and pedestrian linkages to get to work, school, and other locations within the community. As such, integration of bicycle and pedestrian facilities with new roadways is essential to support community-wide travel and accessibility. Additionally, many people access available YCAT transit services for travel outside the city and therefore safe and secure bicycle storage facilities should be included adjacent or within YCAT transit facilities to accommodate bicyclists utilizing the network.

Trip Generators and Corridor Opportunities

Primary origins and destinations within the City of San Luis are important to understand to determine where bicycle and pedestrian trips are generated and the primary destinations where trips need to reach. Understanding areas within San Luis that have the highest opportunity for bicycle and pedestrian trips is essential for developing a convenient a connected network to serve the community. Corridor opportunities are natural or man-made features are linear elements that traverse the city such as canals or river corridors that provide a significant opportunity to connect origins and destinations for bicycle and pedestrian travel. These primary trip generators and corridor opportunities were utilized in the creation of the bicycle and pedestrian network of this plan and include the following:

Areas of Planned Development

The City of San Luis 2040 General Plan Future Land Use Map was evaluated to identify higher density residential, higher intensity non-residential, and mixed-use activity centers that generate trips or serve as primary destinations to the bicycle and pedestrian network. Additionally, known areas of planned development were considered and reflected in the development and refinement of the planned bicycle and pedestrian network.

Growth Areas and Activity Canters

Three primary growth areas were identified by the San Luis 2040 General Plan based on existing and projected attributes of these areas. These growth areas include the three designated Activity Centers on the FLUM and reflect the primary community focal areas for community gathering, shopping, entertainment, and employment and are located in areas supported by existing or planned infrastructure and services.

Planned Employment Areas

The location of major future employment areas, as established on the Future Land Use Map of the City of San Luis 2040 General Plan were integrated into the planned bicycle and pedestrian network as potential destinations for bicycle and pedestrian travel.

Schools

Bicycling or walking to school is part of daily life in San Luis and therefore education facilities were considered in the development of the bicycle and pedestrian network. Currently, San Luis is served by seven elementary/middle/junior high schools, one high school and two charter schools. As of 2019, enrollment in these schools was 8,565 students. San Luis is served by one post-secondary college, Arizona Western College.

Community Facilities

Community facilities include libraries, post offices, recreation centers and government service where residents are likely to visit. These facilities were integrated into the planned bicycle and pedestrian network to provide convenient access to these facilities and surrounding neighborhoods to ensure residents have optimal access to city and community services.

Parks

The existing park and recreation facilities in San Luis were integrated into the planned bicycle and pedestrian network to provide convenient access for residents to these community recreation areas and facilities.

Transit Nodes

Existing and planned transit stops were considered in the development of the future bicycle and pedestrian network to provide connectivity for last-mile trips. The first-last-mile describes the gap in the public transportation system where the user must travel further to their ultimate destination after they have arrived at the transit stop. This makes it necessary to provide sidewalks and paths from bus stops and transit nodes that connect destinations to neighborhoods.

Border Crossings

San Luis contains two international border crossings between the United States and Mexico. A significant number of people crossing the border use bicycles or walking as a mode of travel and therefore the bicycle and pedestrian network provides primary linkages to both international border crossings.

Irrigation Canals

San Luis is traversed by a number of irrigation canals which are privately owned and operated. These canals run in a generally linear orientation, making them a significant opportunity for path and trail linkages if coordinated with private property owners. Paths and trails along irrigation canals must serve a dual purpose providing for connectivity and facility maintenance access.

Primary Origin and Destinations Summary

Table 4-3 below provides a summary of primary origin and destinations within the City of San Luis.

Table 4-3 Active Travel Origin and Destination Locations

Origins	Destinations
Population Density	Schools
Employment Density	Transit Stops
Low- and Moderate-Income Groups	Community Facilities
Percent Who Walk, Bike or Use Transit to Commute to Work	Commercial Land Use
Percent of Zero-Vehicle Households	Employment Land Use
Density of Children (16 and Under)	Parks and Open Space
Density of Seniors (65 and Older)	Activity Centers
Density of People with Disability	
Border Crossings	

Border Influences

San Luis is advantageously located along the international border between the U.S. and Mexico. There are two international land ports of entry (LPOE) located in the City. San Luis LPOE I is located in Downtown San Luis near the intersection of Main Street and Urtuzuastegui Street. This LPOE supports personal vehicle, bus, truck, and pedestrian crossings. San Luis LPOE II is located approximately five miles east near the intersection of Avenue E and County 25th Street, but only supports truck crossings.

However, the City envisions San Luis LPOE II to open to personal vehicle, bus, and pedestrian crossings in the future.

The San Luis LPOE I delivers millions of people each year into Downtown San Luis. In 2019, 2.8 million vehicles drove through the San Luis LPOE I, along with nearly 5.1 million passengers. These numbers are actually down from 2018 when approximately 3.3 million vehicles and 5.9 million passengers passed through the San Luis LPOE I. Although not all personal vehicles and their passengers remain in San Luis after crossing the border, it can be assumed that a portion of those do. Those that do should be included as potential parks, paths, and trail users.

In addition to the 2.8 million vehicles in 2019, over 2.5 million pedestrians passed through the San Luis LPOE I from Mexico to San Luis. This averages to nearly 7,000 people per day arriving from Mexico by foot. These people often rely on the City's pedestrian paths and trails to reach their destinations in the community.

Six E's

The planning of bicycle and pedestrian networks and programs is guided by six core elements. Program funding for bicycle and pedestrian programs including the Safe Routes to Schools Program and the Bike and Walk Friendly Communities Program is evaluated based on these six criteria which must be addressed in order to receive funding for bicycle and pedestrian programs in a candidate community. The 6 E's are: Education, Engineering, Encouragement, Enforcement, Equity, and Evaluation1, described below.

- **Education.** Giving people of all ages and abilities the skills and confidence to ride. Providing the community with the skills to walk and bicycle with care, educating them about the benefits of walking and bicycling, and teaching them about the broad range of active transportation choices.
- **Engineering.** Providing a well-connected bicycle and pedestrian network, consisting of quiet neighborhood streets, conventional and protected bike lanes, shared use trails, and policies to ensure connectivity and maintenance of these facilities. Creating safe and convenient places for bicycling and walking through the built environment.
- **Encouragement.** Generating enthusiasm and increased walking and bicycling for students through events, activities and programs. Creating a strong bicycle culture that welcomes and celebrates bicycling through programmed activities.
- **Equity.** Ensuring that all families and people of all ages and abilities have the same access to active transportation programs and facilities. Ensuring that bicycle and pedestrian programs are benefiting all demographic groups.
- **Enforcement.** Deterring risky traffic behaviors and encouraging careful walking and bicycling habits. Ensuring safe roads for all users through local law enforcement.
- **Evaluation.** Developing a seamless network that emphasizes short trip distances, multi-modal trips and is complemented by encouragement, education, and enforcement programs to increases usage.

The Plan

Park Classifications

The San Luis 2040 General Plan establishes four broad park classifications which were intended to be refined and further developed as part of the San Luis Parks, Paths and Trails Plan. These park classifications have been redefined in this section and reflect best practice research, data analysis, aerial photography analysis, and park visits conducted as part of the Inventory and Analysis section.

Table 5-1 below reflects the new Parks Classification Descriptions established by the San Luis Parks, Paths, and Trail Plan which supersede the classification descriptions within the San Luis 2040 General Plan. The new Park Classification Descriptions classify parks based on the size, service area, scale, and types of amenities.

Table 5-1 Parks Classification Descriptions

PARK CLASSIFICATION	ACRES	MINIMUM REQUIRED AMENITIES	SERVICE RADIUS
Community Park	Greater than 30 acres	Community park amenities include all of the following amenities at a minimum: playground, picnicking, open turf areas, lighted sports fields, large group ramadas/shelters, benches, picnicking areas, restrooms, off-street parking, lighting, and walking paths/trail connections. Other amenities that may also contribute, but are not required include lighted courts, community pools, indoor gymnasiums, destination playgrounds, and splash pads	3.0 Mile
Neighborhood Park	2 to 30 acres	Neighborhood park level amenities include all of the following amenities at a minimum: open turf areas, off-street parking, lighting, restrooms, play equipment, ramada/shelter, walking paths/trail connections, and picnicking areas. Other amenities that may also contribute, but are not required include courts, large group ramadas/shelters, sand volleyball courts, practice fields. dog parks and splash pads	0.5 Mile
Pocket Park	Less than 2 acres	Park amenities that may contribute, but are not required include such uses as open turf areas, minor play equipment, ramada/shelter, lighting, and picnicking areas	0.25 Mile
Special Use Park	Varies	An indoor or outdoor park or facility dedicated to a specific or limited purpose recreational activity, including aquatic facilities, linear parks, skate parks, water parks, performing arts facilities, historic sites, and similar community uses	Varies

Park Goals and Policies

The following goals and policies were developed based on the San Luis 2040 General Plan, resident and stakeholder input, and influenced by best practice research. Goals are statements that if collectively implemented will achieve fulfilment of the vision established for this panning effort. Policies are established action steps to attain each goal. These goals and policies are intended to be implemented and applied during the development approval process for new development.

Goal 1: Develop a Comprehensive System of Parks

Develop and implement an integrated system of parks with both active and passive recreational opportunities to meet the needs of the community.

Policy 1.1 Require developers to provide for the parks needs of residents of their communities through park land dedications and proportional improvements to park areas in conjunction with the development review and rezoning processes.

Policy 1.2 Continue implementation of a park hierarchy consisting of pocket parks, neighborhood parks, community parks, regional parks, and special use parks.

Policy 1.3 Annually prioritize park improvements in the Capital Improvement Program.

Policy 1.4 Promote larger, centralized parks rather than incremental, smaller pocket parks.

Policy 1.5 Explore opportunities to develop linear parks and trails along canals and drainage channels.

Policy 1.6 Provide for the enhancement and maintenance of parks through public-public partnerships, public-private partnerships, volunteer programs, and other agencies or entities as appropriate.

Policy 1.7 Ensure required park dedications are completed at the subdivision platting stage of development.

Goal 2: Provide Convenient Park Locations.

Varying level of park types should be easily accessible to all residents.

Policy 2.1 Prioritize new park land acquisition and improvements in areas where there is a deficiency in level of service.

Policy 2.2 Require new residential developments to meet or exceed established level of service (LOS) standards for parks, including a diverse array of quality amenities.

Policy 2.3 Encourage parks to be centrally located and accessible to multiple neighborhoods. Encourage parks to capitalize on viewsheds and be collocated with schools where appropriate.

Policy 2.4 Ensure functional design of parks with pocket parks located within a ¼ mile radius and neighborhood parks located within a ½ mile pedestrian shed from neighborhoods.

Policy 2.5 Require parks in residential areas that are appropriately scaled to the size of the neighborhood served and meeting the needs of all age demographics.

Policy 2.6 Parks and recreational facilities should be linked with paths and trails to provide for ease in accessibility.

Goal 3: Develop Quality Parks with Diverse Amenities

Parks should provide a variety of amenities and services to meet needs of residents.

Policy 3.1 Ensure residential development provides quality amenities in parks to meet the diverse recreational needs of residents.

Policy 3.2 Develop parks that meet specific users group needs and with recreational amenities reflecting new and emerging recreational trends.

Policy 3.3 Provide consistent branding and theming in city parks with architectural, landscaping and signage consistency.

Policy 3.4 Provide a balance of both indoor and outdoor recreational facilities that provide relief from extreme weather conditions and thereby promoting year-round recreational opportunities.

Policy 3.5 Encourage non-residential development, such as commercial and employment developments to provide park amenities including outdoor plazas, forecourts, and open space for passive enjoyment of employees and customers.

Policy 3.6 Diversify park system with large facilities that can support tournaments, league play and community events to enhance economic development opportunities and to generate revenues.

Policy 3.7 Require private maintenance by homeowners' associations of smaller pocket parks within neighborhoods.

Future Paths and Trails Plan

The Future Paths and Trails Plan is provided as **Figure 5-1** and delineates the location of future pathways for Primary Spine, Arterial, and Canal streets. The generalized location of future trailheads are also depicted on this figure. Collector and Local Roadways are not depicted and are intended to be designated by the City of San Luis through the development approval process.

On-Street Bicycle and Pedestrian Paths Classifications

The On-street Bicycle and Pedestrian Path classifications are based on the different functional roadway classifications established by the Circulation Plan of the San Luis 2040 General Plan. These on-street classifications are described below and depicted on the following illustrative cross-sections.

Figure 5-1 Future Paths and Trails Plan

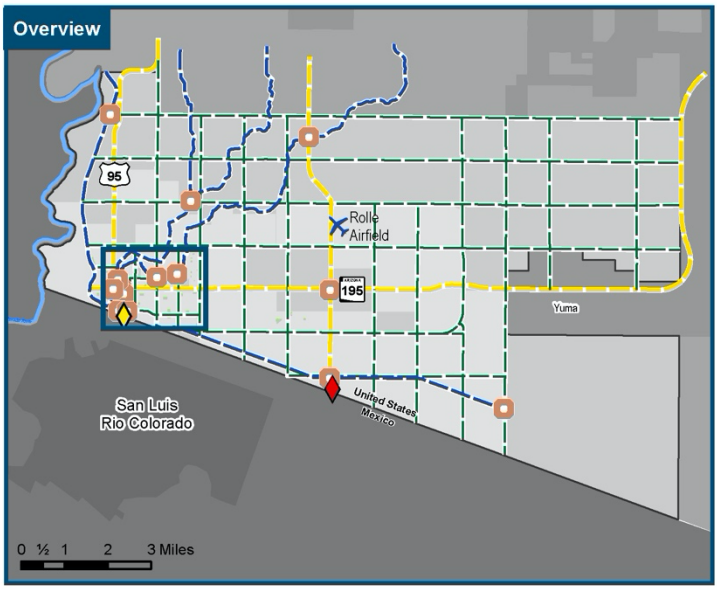
Legend

Path / Trail Tier

- Primary Spine
- Canal Trail
- Arterial Street
- Trailhead
- Park Space
- San Luis I - Port of Entry
- San Luis II - Commercial Port of Entry
- Colorado River
- City of San Luis Municipal Boundary
- City of San Luis MPA

Matrix

Source: Carlos Efraín Porto Tapiquén, Orogénesis Soluciones Geográficas, USGS, U.S. Census, OpenStreetMaps, geofabrik.de



Primary Spine Roads

Primary Spine Roads are intended for high traffic volumes at high traffic speeds, creating a high level of stress for bicyclists and pedestrians. Although Primary Spine roads produce high stress levels for bicyclists and pedestrians, Primary Spine roads may provide the best route to a destination. To reduce stress levels and foster a comfortable travel environment, bicycle facilities are separated from pedestrian facilities with a landscape buffer. A landscape buffer between the roadway and pedestrian facilities should also be provided to further separate pedestrians from high-speed traffic to reduce traffic stress and encourage facility use.

U.S. 95 North and Cesar Chavez Boulevard are the two Primary Spine roadways established by the Plan. A portion of Cesar Chavez Boulevard was designed prior to this plan and therefore this segment does not meet the full level of improvements consistent with this plan. Future roadway infrastructure improvement plans to Cesar Chavez Boulevard will be required to meet the full level of improvements specified by this Plan. The cross-sections for Primary Spine roadways is illustrated on **Figure 5-2** and provides for the sidewalk and bike path to be separated with a six foot (6') landscape buffer, and one providing for the sidewalk and bike path to be combined and separated from the roadway with a six foot (6') landscape buffer. **Figure 5-3** provides a concept for Cesar Chavez Boulevard and **Figure 5-4** provides a concept for U.S. 95.

Figure 5-2 Primary Spine

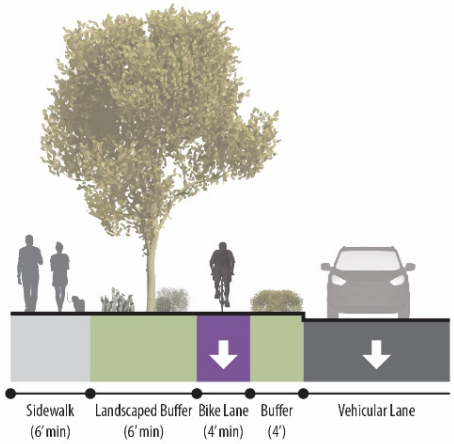


Figure 5-3 Cesar Chavez Boulevard

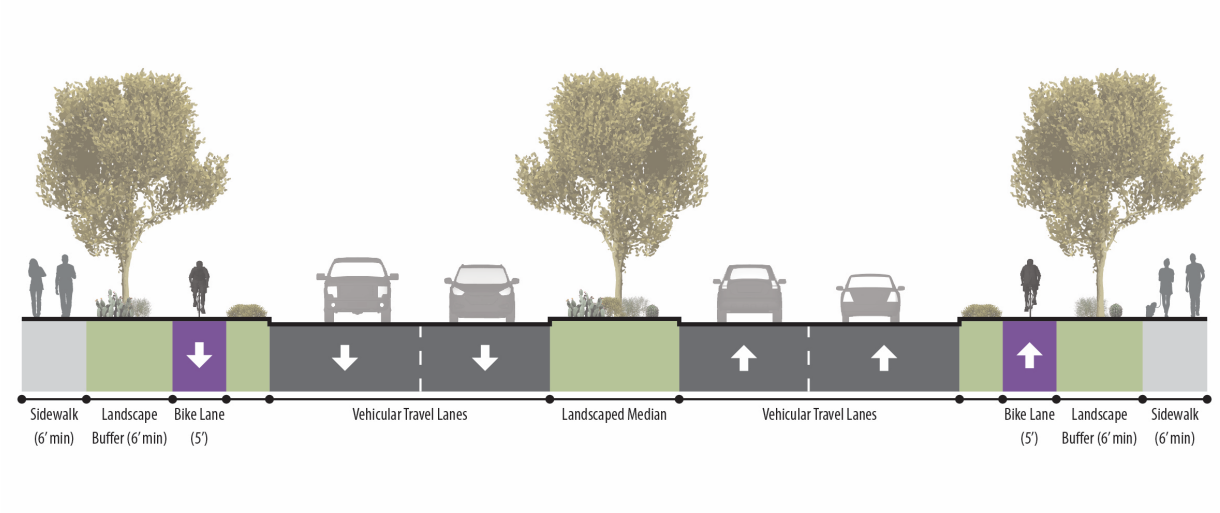
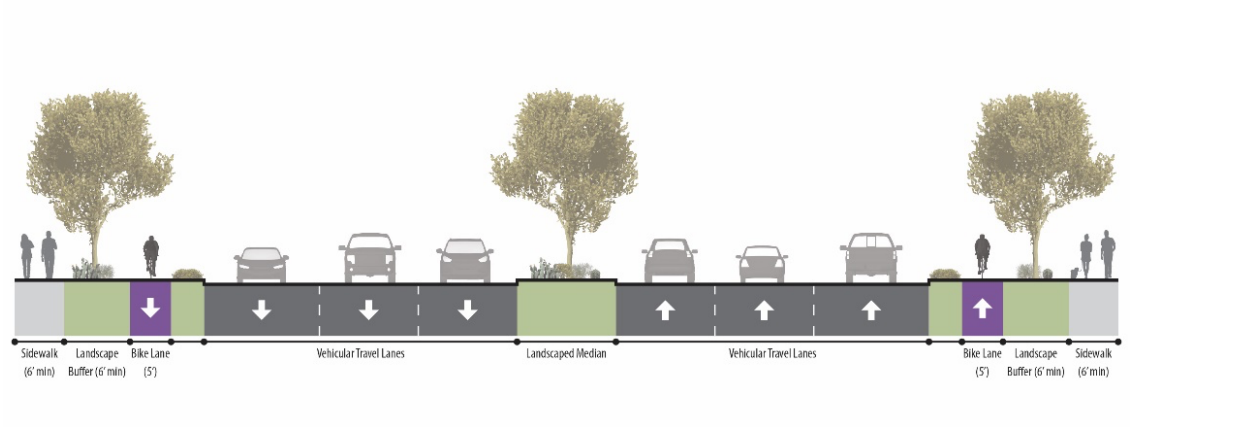


Figure 5-4 U.S. 95



Arterial Street

Major vehicular circulation throughout the City of San Luis is provided by the major and minor arterial street network. Arterial roadways are designed and intended for high traffic volumes at high traffic speeds, creating a high level of stress for bicyclists and pedestrians. Although arterial streets produce high stress levels for bicyclists and pedestrians, arterials typically provide the best and most direct route to a destination. This plan establishes an arterial street cross-section which reduces the traffic stress on a pedestrian or bicyclist, encouraging use of the networks. To reduce stress levels and foster a comfortable travel environment, bicycle facilities om Arterial Roadways are separated from pedestrian facilities with a buffered bike lane and a sidewalk separated from the roadway by a six foot (6') landscaped buffer as depicted on **Figure 5-5.**

Figure 5-5 Arterial Street

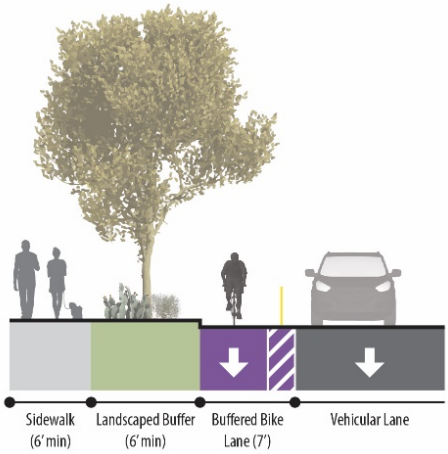
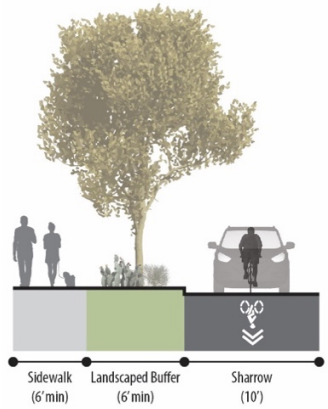


Figure 5-6 Collector Streets



Collector Street

Collector Streets are intended for neighborhood connectivity and funneling traffic from residential areas to and from Arterial Roadways. Collector Streets generate slower traffic speeds than Arterial Roadways, making Collector Street safer and more suitable for bicycle and pedestrian facilities. As Major Collector Streets contain less traffic volume at slower speeds, a Sharrow is provided allowing a shared roadway between bicyclists and motor vehicles and a sidewalk separated from the roadway by a six (6') landscaped buffer as depicted on **Figure 5-6.**

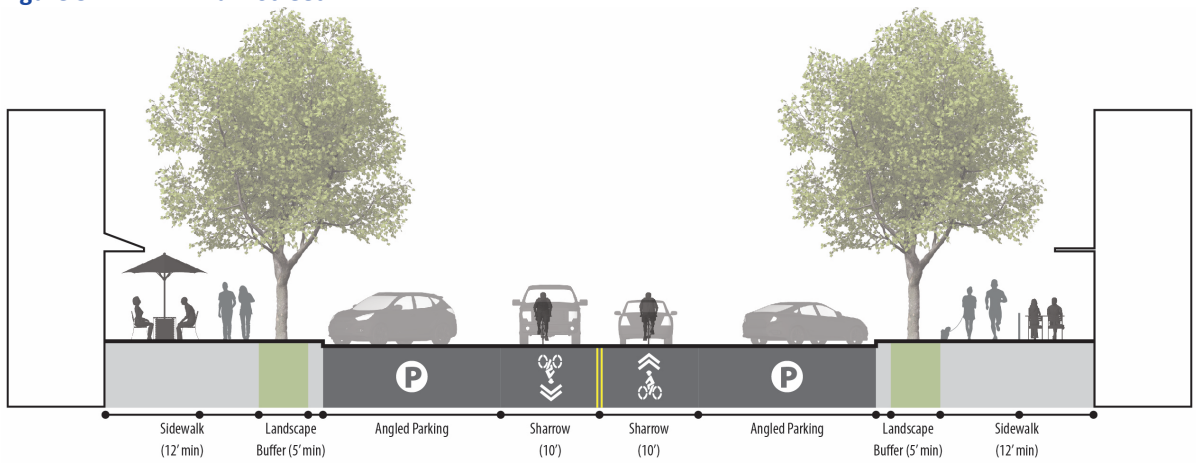
Local Roads

Local streets are intended to provide direct access to abutting land uses (typically residential uses) and connect to the Major Collector Street network. Local Roadways generate the least amount of traffic at the lowest speeds and are suitable for bicycle routes mixed with vehicular traffic. Local Roadways are not mapped as part of the bicycle and pedestrian network of this plan. The Local Roadway bicycle and pedestrian facilities are accommodated within the existing right-of-way for local roadways and a cross section is not established by this Plan.

Main Street

Main Street is characterized by narrow travel lanes, on-street vehicular parking, and outdoor uses such as outdoor seating areas and merchandise display areas sharing space with pedestrian sidewalks. Due to the slow speeds of vehicular traffic, a Sharrow is provided, allowing for bicyclists to share the roadway with vehicular traffic. The shared pedestrian sidewalk and outdoor use area is separated from angled parking and roadway travel lanes. The conceptual cross section for bicycle and pedestrian facilities in the downtown area is depicted on **Figure 5-7.**

Figure 5-7 Main Street



On-Street Bicycle Facilities

On-street bicycle facilities in the City of San Luis consist of Bike Routes, Bike Lanes, and Paved Shoulders. While the design of roadways is based on traffic speeds associated with a specific roadway classification, the use of a roadway for bicycling use shall also be designed in accordance with Arizona Revised Statutes (ARS) 28-815, which establishes regulations for bicycle use on roadways. The on-street bicycle facility types are described below.

Bike Routes

Bike Routes are designed to connect trip generating uses such as schools, residential areas, shopping centers, and recreational areas. Bike routes are designated with signage and striping in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. Bike Routes serve to provide continuity with other bicycle facilities such as bike lanes or are used to designate preferred routes through high-demand corridors.

Bike Lanes

Bike Lanes delineate separate travel lanes for cyclists and drivers. Bike Lanes can be relatively inexpensive bicycle facility improvements and can go a long way to decrease traffic stress for bicyclists. Based on roadway conditions, particularly geometry, roadway width, traffic volume, and number of travel lanes, bike lanes can be installed economically. Bike Lanes are intended to be provided on Principal and Minor Arterials and Major Collector Streets.

Paved Shoulders

Paved shoulders are often used to accommodate bicyclists and pedestrians on rural roadways where traffic volumes are low. If a roadway shoulder is frequently used by cyclists, it is recommended that supplemental bicycle signage be added, and regular street sweeping be conducted to clear debris from the road shoulders. Paved Shoulders are intended to be provided on future rural streets within the City of San Luis.

Off-Street Trail Classifications

The following sections provide descriptions and illustrative cross-sections for the Off-Street Trail Classifications within the City of San Luis. These classifications include Primary Trails, Secondary Trails, and Canal Trails.

Primary Trails

Primary Trails are intended for use by bicyclists and pedestrians with a paved surface treatment. Equestrian use can be accommodated with a horse appropriate surface treatment. Design of Primary Trails should be Americans with Disabilities Act (ADA) accessible, with trail grades less than five percent. Primary Trails include a shared use path with bicycle and pedestrian portions of the trail delineated with pavement striping or landscaped medians. Primary Trails require a safety clear zone on both sides of the trail. The cross-section for Primary Trails is provided on **Figure 5-8.**

Figure 5-8 Primary Trails

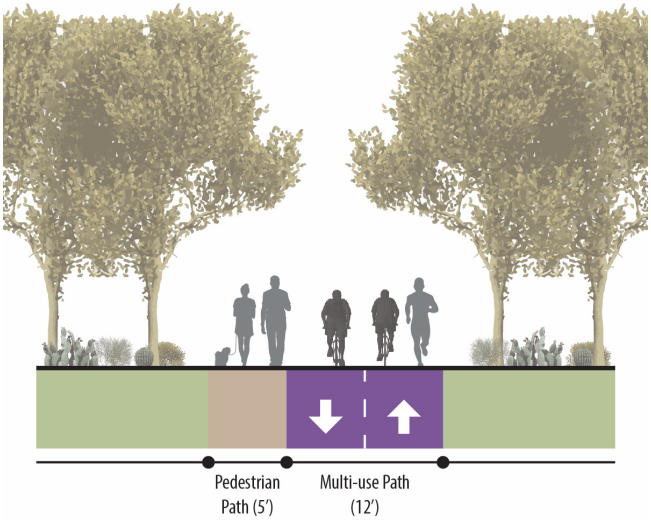
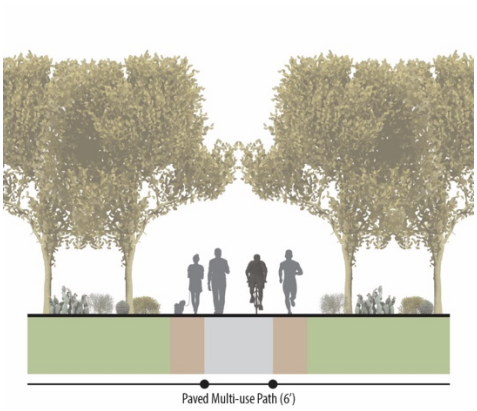


Figure 5-9 Secondary Trails



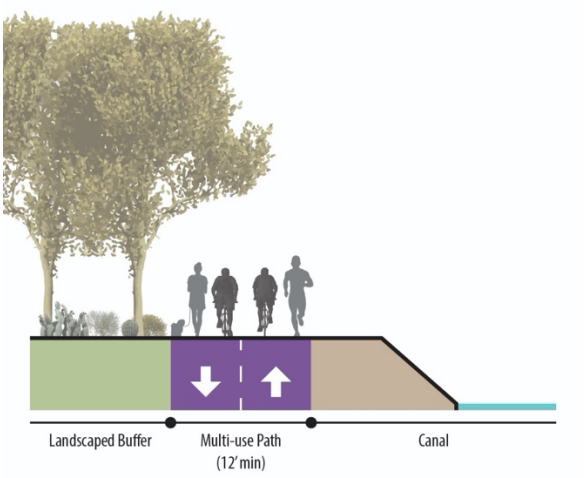
Secondary Trails

Secondary Trails are intended to provide for recreation and transportation connecting neighborhoods with Primary Trails. Design of Secondary Trails should be Americans with Disabilities Act (ADA) accessible, with trail grades less than five percent. Secondary Trails include a shared use path with bicycle and pedestrian portions of the trail delineated with pavement striping. Secondary Trails require a safety clear zone on both sides of the trail. The cross-section for Secondary Trails is provided on **Figure 5-9.**

Canal Trails

Canal Trails are shared bicycle and pedestrian paths located along irrigation canals in the City of San Luis. In cases where a canal trail cannot be accommodated in the canal right-of-way due to safety concerns or based on maintenance needs, the trail will be provided adjacent to the canal on private property within a public access trail easement. Canal Trails are shared use facilities and should be designed to accommodate canal maintenance vehicle access. The cross-section for Canal Trails is provided on **Figure 5-10.**

Figure 5-10 Canal Trails



Trailheads

Trailheads provide areas for rest and relaxation for users of the off-street trail system. Major Trailheads are typically located along Primary Trail routes and are intended to serve as a starting/ending point along the off-street trail system. Minor Trailheads are generally located along Secondary Trails or Canal Trails and are smaller in size and scale, serving as a waystation along the off-street trail system. Amenities differ between Major and Minor Trailheads with different levels of parking, lighting, ramadas, landscaping, and restrooms. Minor Trailheads may or may not include vehicular parking areas and restrooms, as determined by the City of San Luis, based on the location and function of the trailhead. The location of planned trailheads is shown on the Future Paths and Trails Plan provided as **Figure 5-1**. Illustrative examples of Major and Minor Trailheads are shown on **Figure 5-11** and **Figure 5-12**. **Table 5-2** provides design parameters and general design standards for consideration in trailhead planning and design.

Figure 5-11 Major Trailhead Example

Figure 5-12 Minor Trailhead Example

Table 5-2 Major and Minor Trailhead Design Standards

Trailhead Amenities	Major Trailhead	Minor Trailhead
Trailhead Size	5 - 15+ acres based on demand	1 - 5 acres based on demand
Parking	50 - 100+ spaces based on demand	10 - 50+ spaces based on demand
Ramadas	3 - 5+ based on demand	1 - 2 based on demand
Restrooms	Yes	Dependent on demand
Lighting	Yes	Yes
Equestrian Use	Based on demand	No
Other Amenities: Drinking Water, Directional signage, trail maps, refuse containers, bike racks	Yes	Yes

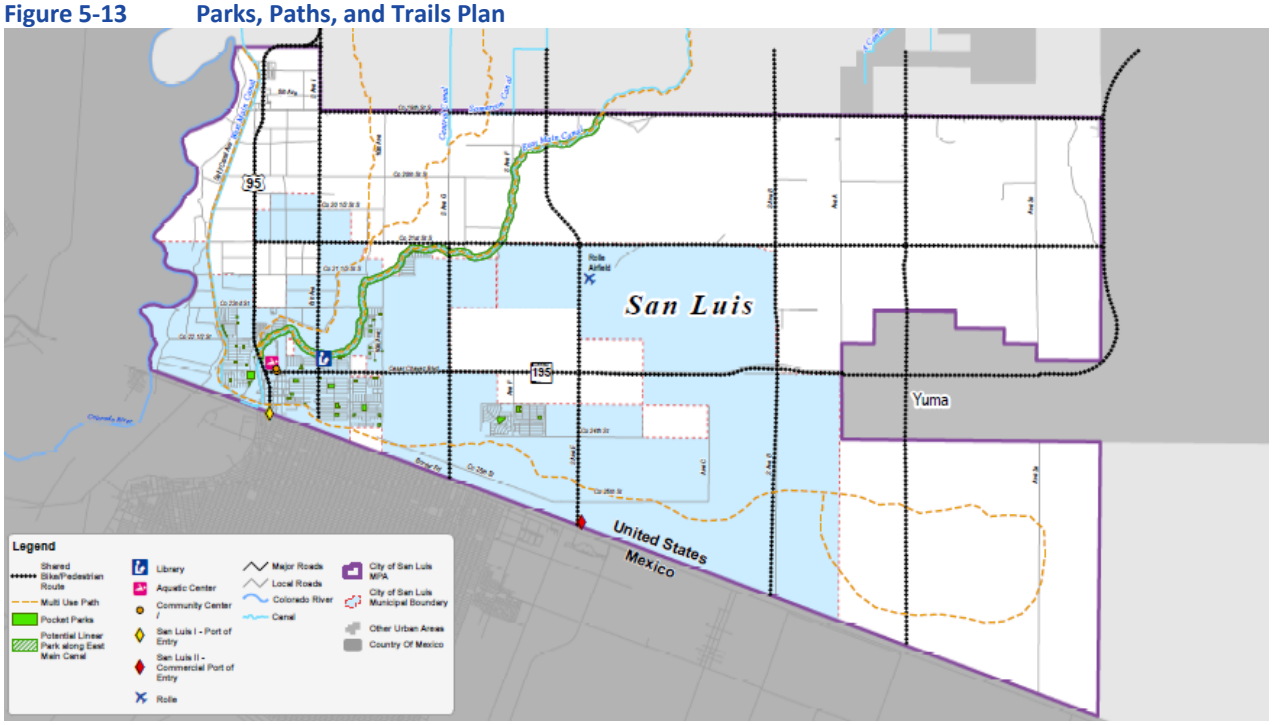
Path and Trail Surface Treatments

On- and off-street paths and trails may include different surface materials based on the specific facility type and the anticipated use of the facility. Segments of the network can provide both a hard surface material and a soft surface material to accommodate walker and bicyclist preferences. Hard materials like asphalt or concrete are typically preferred by bicyclists to accommodate wheeled traffic and to provide for a low maintenance ADA compliant surface. Hard surface materials have a higher initial construction cost but have a longer life cycle than a softer surface material. Hard surface materials can include decorative design features such as color and texture to delineate wheeled travel areas separate from walking portions of a facility. Soft surface materials such as ¼" minus compact decomposed granite provide a desired surface for equestrian use or to provide for a flexible running surface. Soft surface materials have lower initial construction costs but can have higher long-term maintenance costs. Soft surface materials can provide a surface treatment more consistent with natural or rural environments. The specific surface material, colors, and design treatment will be determined by the City of San Luis based on the function of the path or trail and adjacent visual character of the area.

Off-Street Trail Network

The Off-Street Trail Network provides for low-stress and recreational routes for hiking, walking, mountain biking, and equestrian use. The Off-Street Trail Network in the City of San Luis consists of Primary Trails, Secondary Trails, Canal Trails, and trailheads and is depicted on **Figure 5-13.**

Figure 5-13 Parks, Paths, and Trails Plan

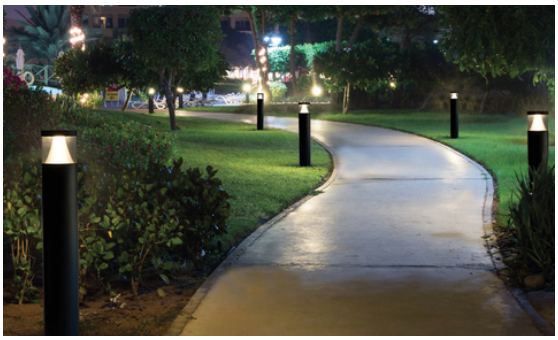


Support Facilities Toolbox

Certain improvements have the effect of increasing the perception of safety and result in increased use of bicycle and pedestrian facilities. This section provides a toolbox of bicycle and pedestrian improvements providing for user comfort and decreasing traffic stress associated with bicycling or walking near or across a busy street. The City will determine appropriate support facility improvement requirements during the development review and approval process for a project based on location and characteristics of the specific roadway. This section provides generalized descriptions and representative imagery of support facilities applicable to the on- and off-street bicycle and pedestrian networks.

Lighting

The use of pedestrian scale lighting on- and off-street facilities increases the perception of safety for users, provides illumination for pedestrian paths and crosswalks, and reduces light glare to motorists. Lighting also assists in making wayfinding signage visible at night and establishes a strong edge along the sidewalk, path, or trail. Pedestrian scale lighting differs from standard street lighting, providing for lower-level lighting at the maximum height necessary to illuminate a path or trail.

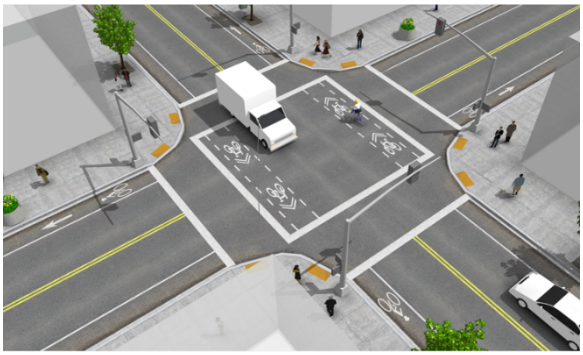


Bollard Lighting Example

Pedestrian scaled lighting example

Intersection Markings

Bicycle pavement markings provide guidance and identify the intended direct path through intersections, driveways, and ramps. Intersection markings raise awareness and visibility of both a bicyclist and motorist through clear demarcation of the boundary between bicycle and vehicular travel. Intersection markings make the movements of a bicyclist more predictable and reduce stress though a delineated bicycle zone. Intersection markings:



- Raise awareness for both bicyclists and motorists to potential conflict areas;
- Make bicycle movements more predictable; and
- Reduce bicyclist stress by delineating the bicycling zone.

Crosswalks

Crosswalks delineate marked locations for bicyclists and pedestrians to cross a street, primarily at a street intersection. Sidewalks and crosswalks are aligned at street intersections and typically include a walk signal. Crosswalks at street intersections are marked with two 12-inch-wide white retro-reflective thermoplastic stripes delineating the edges of the pedestrian walking area for standard treatments.

High-Visibility Crosswalks

High-visibility crosswalk markings such as ladder, zebra, and continental designs are preferable to standard parallel or dashed markings which are more visible to approaching vehicles and have been shown to improve yielding behavior. The use of longitudinal stripes in addition to or in place of standard transverse markings can significantly increase the visibility of a crosswalk, due to the low approach angle at which pavement markings are viewed by oncoming traffic.

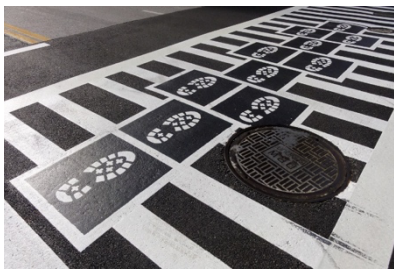
Stand parallel markings

High visibility markings

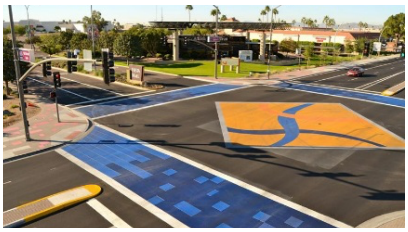
Artistic Crosswalks

Many of the common markings are a ladder design, but sometimes may incorporate an artistic design. These crosswalks may be marked in a variety of ways to signify vehicular traffic to yield. Although these artistic crosswalks are costlier due to maintenance requirements and may not be feasible at every intersection. Artistic crosswalks may be appropriate at specific intersections for added emphasis, to serve as a gateway into an area and to enhance the character of an area. Artistic Crosswalks:

- Can have high impact in functionality rather than being fully aesthetic; and
- Can be a solution for complex intersections in order to promote a truly multimodal network.



Example of an artistic crosswalk.



Example of an artistic crosswalk that reflects the character of the district.

Bicycle Box and Advance Stop Bar

A bike box is a designated area that uses pavement markings to delineate a space for bicycles at signalized intersections. This space is located at the head of a traffic lane and provides bicyclists with a visible way to get ahead of traffic during the red signal phase. Bike boxes:

Advance Stop Bar.

Bike Box.

- Help prevent 'right-hook' conflicts with turning vehicles at the start of the green indication; and
- Reduce signal delay for bicyclists.

Advance Stop Bars are used to delineate the stop line traffic and preventing vehicles from blocking a pedestrian crossing. A Bicycle Box can be used in conjunction with an Advance Stop Bar to increase visibility of a bicyclist at an intersection and reduce the potential for right hook conflicts with turning vehicles.

Advances stop bars are used to indicate the point at which vehicles must stop for a pedestrian crossing. Bicycle boxes can be used in addition to the advance stop bar. Advanced stop bars:

- Should be located eight feet in advance of the crosswalk;
- Improve visibility of crossing pedestrians; and
- Reduce vehicles from blocking pedestrian crossing.

Mid-Block Crossings

Reducing the distance a pedestrian and bicyclist must travel to cross a busy road increases comfort in the network and encourages use. Additionally, providing a controlled crossing increases the perception of safety in cross a busy road.

Midblock crossings are subject to design and application of engineering principles and therefore the specific location and design of mid-block crossings should only be established after review and acceptance of an engineering study by the City Engineer. Not all safety features are required in all locations. The street, speed, traffic volume generally determines the necessary safety features that should be incorporated. Midblock crossings should integrate appropriate safety features as approved by the City Engineer to warn motorists that pedestrian and bicyclists are crossing. **Table 5-3** provides generalized guidance on where safety features should be considered the evaluation of a traffic study to be accepted by the City Engineer.

Table 5-3 Midblock Crossing – Safety Features

Safety Features	Local	Collector	Arterial
Yield to Pedestrian Signs	■	■	
Pedestrian Crossing Signs	■	■	■
Raised Crosswalks	■	■	
Bulb out/Curb Extension	■	■	
HAWK Beacons		■	■
Pedestrian Islands			■

Yield-to-Pedestrian Stand

Yield to Pedestrian Signs are used to inform motorists the presence of pedestrians in a crosswalk and are typically located along roads with low traffic speeds.

Pedestrian crossing sign

Pedestrian Crossing Signs

Pedestrian Crossing Signs delineate the intended path for pedestrian crossing of a street. This common traffic sign warns motorists of the pedestrian crossing area. Pedestrian Crossing signs are typically installed along roads with medium to high speeds and higher traffic volumes.

Bulb-Out/Curb Extension

A bulb-out/curb extension is an improvement that narrows the width of the travel lane to slow traffic down and reducing the distance that pedestrians must travel to cross a street. Streets with on-street parking or traffic lanes which are wider than necessary are good candidate locations for the consideration of a bulb out/curb extension. This improvement can increase the overall visibility of pedestrians, encourage lower turning speeds at intersections with crossings, and increase the available space for street trees and other landscaping. Bulb-outs and curb extensions:

Example of curb extension that also provides additional landscaping in the streetscape.

- Can be located midblock and at intersections;
- Decrease the overall width of the roadway and can serve as a visual cue to drivers that they are entering a neighborhood street or area;
- Increase the overall visibility of pedestrians by aligning them with the inside of the parking lane;
- Reduce the crossing distance for pedestrians;
- Increase the available space for street furniture, benches, plantings, and street trees; and
- Can be implemented using low-cost, interim materials. In such cases, curb extensions should be demarcated from the existing road- bed using temporary curbs, bollards, planters, or striping.

High Intensity Activated Crosswalk (HAWK)

A HAWK beacon provides a controlled crossing for pedestrians with an overhead traffic light to stop vehicular traffic and allow pedestrians to cross.

HAWK Beacon

Pedestrian Island

A pedestrian island provides a pedestrian/bicyclist refuge in the middle of the street, providing for less travel lanes to cross at one time. Pedestrian Island are appropriate on Parkway and Arterial Roadways due to large right-of-way widths.

Pedestrian Island

Grade-Separated Crossings

Overpasses and Underpasses

Overpasses and underpasses facilitate unrestricted movement of bicyclists and pedestrians across major streets and watercourses, separated from vehicular traffic. The location and design of these crossings is based on engineering design standards.

Overpass

Underpass

General design standards and guidance for Overpasses and Underpasses is provided as follows:

- Crossings should have an appropriate level of lighting approaching and within/on the crossing;
- Drainage should be designed to prevent maintenance and use restrictions during storm events;
- The design should incorporate Crime Prevention through Environmental Design (CPTED) principles;
- The design should consider methods and construction techniques which reduce graffiti; and
- Entrances and exits must be clearly visible and a minimum of eight (8) feet in width.
- Should have lighting, drainage, and anti-graffiti design considerations;
- Should be designed for open and accessible environments;
- Must have entrances and exits that are clearly visible and at least eight feet wide per American Association of State Highway and Transportation Officials;
- Should be used sparingly as pedestrians/bicyclists will use the direct route if available; and
- Are appropriate for high-volume, high-speed roadways, railroad tracks, and natural barriers.

Protected Bicycle Lane

Protected bike lane with pavement marking buffer and vertical delineators.

Protected bicycle lanes provide a dedicated and protected route of travel to improve the users sense of comfort and safety. Protected bicycle lanes are physically separated from the vehicular travel lane to reduce conflicts and reduce the fear of collisions. Protected bicycle lanes are typical on high-volume, high-speed streets to make bicycling an attractive choice for more abilities.

A protected bike lane is an exclusive bike facility that is physically separated from the road and distinct from the sidewalk. The physical separation can be an elevated grade change, vegetated buffer, pavement marking buffer, or vertical delineators. Typically, protected bike lanes are installed along high-volume high-speed roads. Protected bike lanes:

- Dedicate and protect space for bicyclists in order to improve perceived comfort and safety;
- Reduce risk and fear of collisions with over-taking vehicles;
- Reduce risk of 'dooring' compared to a bike lane and eliminates the risk of a doored bicyclist being run over by a motor vehicle. Dooring occurs when bike lanes parallel a parking area;
- Prevent double-parking, unlike a bike lane; and
- Include physical separation, which makes bicycling attractive and inclusive for all levels and ages.

Signs

Signage along paths and bike routes helps guide users to their destinations. This type of signage is often referred to as wayfinding, and can feature pole-mounted signs, kiosks, and pavement markings. Pole-mounted signs typically identify bike routes, destinations, and the distance to destinations. Kiosks are typically located at important pedestrian nodes in entertainment districts and activity centers and provide more detailed information about specific destinations.

Wayfinding Signs

Examples of a wayfinding signage

Wayfinding is a type of signage that translates navigational information to pedestrians and bicyclists along their journey. Maricopa Association of Governments Valley Path Brand and Wayfinding Signage Guidelines (2015) provides guidance for designing wayfinding signs as does the most up to date version of the Manual on Uniform Traffic Control Devices (MUTCD). Both these references provide information for locations, sizes, and vertical placement of signage. While this resource provides options for wayfinding design, it is limited in its context sensitivity for the City of Surprise. However, the City could develop a wayfinding signage guide that is culturally and environmentally sensitive to the community.

Wayfinding can be explored in other design strategies beside physical signage. Paving materials and site furnishings can be embedded with information to serve as wayfinding solutions. As technology evolves, digital information infrastructure has the potential to be embedded into wayfinding strategies. Consideration should be taken to evaluate possible emerging digital information technologies.

Educational

Signage along pedestrian paths and bike routes can be an educational tool for enhancing a recreational user's experience. Educational information can include historical, cultural, or environmental descriptions of the area. These types of signs are often found along natural trails.

To enhance the overall experience throughout the network, some communities have created unique, custom wayfinding signage that reflects the character of the area.

Enhanced Bicycle Station

Enhanced bicycle stations can increase ridership by including improved features and design elements. These elements may include seating, space-defining elements, lighting, litter bins, shade, vendor kiosks, advertising panels, drinking fountains, and repair stations with air pumps.

- An enhanced Bicycle Station can be designed for different scales and is composed of three zones: Core Zone, Amenity Zone, and Expansion Zone.
- The Core Zone describes the area where a bicycle rack is mounted to a stable surface for bicycle parking.
- The Amenity Zone is a separate area adjacent to the bicycles, serving as a node for social activity, rest, and wayfinding.
- The Expansion Zone is an additional area of parking for larger tricycles, bicycle carriages, and scooters.

Shade

Shade provide comfort and shade from the harsh conditions of the desert environment and is integral to the development of a comfortable and safe active transportation network. Shade can be provided with mechanical or natural shade. The following subsection outline the benefits and considerations relative to mechanical vs natural shade.

Mechanical Shade

Mechanical shade comes from physical features, such as buildings and other independent structures. If designed properly, some buildings can provide shade over the sidewalk. Buildings that are built up to, or close to, the sidewalk can project shade over the street, depending on the time of day and orientation. Locating buildings along sidewalks also provides a barrier between the sidewalk and asphalt parking lot. This contributes to comfort as asphalt parking lots retain and radiate heat from the sun, making the surrounding area hotter, known as the Heat Island Effect. Separating and buffering sidewalks from parking lots adds another element of comfort for users.

Example of a shade structure

Building may also incorporate shade structures, such as awnings, galleries, or arcades to protect pedestrians from the sun. These shade structures may also be located along a pedestrian pathway independent of a building but are typically more costly. Benefits of mechanical shade include reduced maintenance costs compared to trees; however, lacks the ability to provide valuable ecosystem services offered by trees.

Natural Shade

One of the best forms of providing shade along bicycle and pedestrian pathways is from landscaping, more specifically, trees. Trees and other landscaping features not only reduce the amount of heat reflection, but also add to the overall aesthetic and attractiveness of the area. Adding trees back into the urban environments provides significant benefits, including improving public health, providing economic opportunities and advantages, as well as supporting a healthy environment. Benefits of natural shade include the following:

- Evapotranspiration and shade that trees provide help to cool down buildings and reduce the need for air conditioning, which then decreases energy consumption;
- Trees improve air quality by intercepting particulate matter and absorbing gaseous pollutants;

Single tree canopy with dense shade

Double tree canopy

- Trees provide significant storm water retention benefits by intercepting and absorbing rainfall and by increasing the ability of soil to store water;
- Large scale vegetated areas can be as much as 9°F cooler than non-green city centers;
- Low Biogenic Volatile Organic Compound (BVOC)-emitting trees can provide positive ecological services and benefits – contributing to better air quality and community health. Low BVOC-emitting trees for the low desert include: Acacia, Ash, Evergreen Elm, Desert Willow, Ironwood, Pistachio, Palo Verde; and
- A tree canopy and green features can improve transit experience for waiting riders, increasing comfort and reducing perceived wait time. The use of natural shade involves additional operation and maintenance costs for irrigation, pruning, and cleaning up leaves.

Trees are part of the urban fabric

Water

Access to water along active transportation network is an essential element to incorporate in appropriate locations within the active transportation network. Drinking fountains and water bottle filling stations provide for hydration during physical activity and improves comfort in the network. The following considerations are provided relative to access to water.

- Should be located in strategic locations, such as pedestrian corridors or bike trails, near schools or libraries, or within plazas or other public gathering spaces;
- May be freestanding, wall-mounted, pump-style, and/or have individual spigots for pets and filling water bottles;
- Will be code and ADA compliant;
- Offer an opportunity for placemaking and artist involvement;
- Should be integrated into buildings/spaces by the private sector; and
- Could include advertising on fountains to assist with maintenance costs.

Example of a public drinking fountain for humans and dogs.

Example of a drinking fountain

- Access to water should be provided in trailheads and along appropriate places as determined by the City along primary corridors;
- Water may be freestanding, wall mounted, pump-style. Water should be provided for animals and humans at these locations;
- The provision of water should consider maintenance costs, vandalism considerations, bug attraction, and hygiene.

Bicycle and Pedestrian Goals and Policies

The goals and policies of this section are intended to inform decision making relative to the location, design and construction of bicycle and pedestrian facilities in the City of San Luis. The bicycle and pedestrian goals and policies are based on active transportation best practices and address existing conditions and future opportunities to increase the use of bicycle and pedestrian facilities in San Luis.

Goal 1: Safety

Improve safety of the bicycle and pedestrian network and facilities.

Policy 1-1 Promote the use of level of traffic stress reducing infrastructure such as median refuge areas and advance bike bar improvements.

Policy 1-2 Develop and implement speed reduction strategies, such as speed feedback signs and increase traffic enforcement for speeding.

Policy 1-3 Increase the use of advance warning signs for vehicles entering a crosswalk.

Policy 1-4 Provide separation between bicycle and pedestrian facilities and vehicular traffic on Principal and Minor Arterial Roadways.

Policy 1-5 Analyze crash data, including the location, frequency, and severity of crashes related to bicyclists and pedestrian and direct capital improvements to address areas of safety concern.

Goal 2: Design

Utilize design and the built environment to improve function of the bicycle and pedestrian network.

Policy 2-1 Provide bicycle and pedestrian improvements to accommodate walkers and bicyclists of all ages and abilities.

Policy 2-2 Provide wayfinding signs along Primary and Secondary Paths and Trails towards community destinations in San Luis such as the downtown area, major shopping, and community uses.

Policy 2-3 Evaluate potential location of additional crosswalks to reduce and/or eliminate mid-block crossings.

Policy 2-4 Develop the bicycle and pedestrian network reflective of the context and character of the roadway and land uses.

Policy 2-5 Conduct America with Disabilities Act (ADA) compliance assessment for all sidewalks and ramps throughout the city.

Policy 2-6 Fund and construct bicycle and pedestrian facilities around schools to serve school-aged children consistent with a Safe Routes to School plan.

Policy 2-7 Develop and implement engineering design standards to such as signage, bicycle and pedestrian facilities, and pedestrian scale lighting.

Goal 3: Connectivity

Provide connectivity to destinations in San Luis and existing bicycle and pedestrian networks

Policy 3-1 Ensure developments provide a connected bicycle and pedestrian network between neighborhoods and community destinations including shopping, employment, education, and other community uses.

Policy 3-2 Provide safe routes to public schools from neighborhoods, including accessible connections between pedestrian facilities that accommodate routes used by students walking to and from school.

Policy 3-3 Provide annually updated gap analysis to identify recommended bicycle and pedestrian improvements to address gaps in the bicycle and pedestrian networks.

Goal 4: Multi-modality

Support community enhancements that increase multimodal connectivity.

Policy 4-1 Develop and implement complete streets design guidelines and standards for the City of San Luis.

Policy 4-2 Ensure the bicycle and pedestrian network provides first and last mile facility needs connecting to public transit nodes and facilities.

Policy 4-3 Identify and plan for emerging technologies related to modes of transportation, such as autonomous vehicles.

Policy 4-4 Coordinate bicycle and pedestrian facility improvements with new transit stops or hubs.

Goal 5: Programs

Develop and promote programs that support safe bicycle and pedestrian use in San Luis

Policy 5-1 In conjunction with local school districts, sponsor Safe Route to School Programs to improve safety of student walking and biking to/from school.

Policy 5-2 Promote walking and bicycle safety education to community members through events such as National Bike to Work Week and other community events.

Policy 5-3 Develop and implement programs to promote vehicle safety as it relates to the bicycle and pedestrian network.

Policy 5-4 Explore the possibility of developing a bikeshare program to regulate the use of dockless bicycles.

Policy 5-5 In coordination with law enforcement, schools, and bicycle advocacy groups, increase education of laws and responsibilities for safe bicycle and pedestrian behaviors for community members of all ages and abilities.

Policy 5-6 Organize or sponsor events related to the bicycle and pedestrian network such as a walk/bike to work or a bike rodeo.

Policy 5-7 Promote a Cicovia Event where streets are temporarily closed to allow bicyclists and walkers to use the street without vehicular conflict.

Goal 6: Maintenance

Ensure Maintenance of the bicycle and pedestrian network.

Policy 6-1 Ensure vegetation in the right-of-way is low maintenance, complements the network, and does not impede the ability to utilize the network.

Policy 6-2 Develop and implement a long-term maintenance program for the bicycle and pedestrian network.

Policy 6-3 Develop and implement am annual sidewalk condition survey for the entire sidewalk network in the City of San Luis and work to infill sidewalk where needed.

Bicycle and Trail Design Standards

The following design standards apply to on- and off-street bicycle and pedestrian facilities and are based broadly on "Complete Street" design principles. These design standards are intended to provide generalized design guidance and may be modified in application by the City of San Luis during the development review and approval process based on the specific location and characteristics of the roadway under design.

- Roadways should be developed based on the "complete streets" design model of interconnected streets, sidewalks and paths to accommodate a variety of modes of travel. All modes of travel including vehicular, bicyclists, pedestrians, and equestrian uses (where appropriate) should be considered and integrated in the design of a "complete street" roadway system.
- All streets shall be designed to comply with the Americans with Disabilities Act (ADA) requirements.
- All Principal Arterial, Minor Arterial, and Major Collector Streets should be designed with on-street bicycle lanes, a minimum of six feet (6') in width. On-street bicycle lanes on Principal Arterial and Minor Arterial streets should be designed as "fully protected bicycle lanes" through the inclusion of a vertical element, creating a completely separated bike lane from vehicular traffic. Major Collector Streets may use reflective striping to delineate the on-street bike lane.
- All Principal Arterial, Minor Arterial, and Major Collector streets should separate vehicular traffic from pedestrian through the inclusion of curb separated sidewalks creating a boulevard strip. The boulevard strip should be designed at a sufficient width to allow street trees and landscaping. Landscape plantings should not impact the vehicular drive lane or sidewalk with low branches or root upheave. The width boulevard strip should range in width between six (6) feet to twelve (12) feet. Specific street tree plantings should be established on individual streets to create character and contribute to a sense of place along the roadway.

- All existing and proposed street alignments should provide direct routes to local destinations including shopping, employment centers, activity centers, schools, parks and other common destinations.
- The pedestrian network for all new development shall incorporate both sidewalks and off-street trails located in open space tracts to provide for a convenient and connected network within the development to provide continuous direct routes to adjacent developments and community destinations.
- All developments should include sidewalks in and around the development on all Arterial and Collector roadways.
- Primary and Secondary Trails should be placed with tracts or public use easements and located outside of the right-of-way to provide alternative routes of travel through the community and separated from vehicular travel. Primary and Secondary Trails should be separated from vehicular travel with a minimum ten (10) foot wide landscaped boulevard strip.
- When Primary or Secondary Trails cross Arterial Streets, the trail should include safety measures such as bicycle and pedestrian activated signals, median refuges, warning signs for both vehicular and pedestrian users, special street markings or striping, and bollards to prevent motor vehicle access.
- Paths and trails should be designed to accommodate two-way pedestrian and bicycle movements; with either a single or split path having a minimum six (6) foot width for pedestrians and six (6) foot width for bicyclists and skaters; with the optimal width being based on intensity of use.
- Paths and trails should have a maximum grade of five percent (5%) and accommodate wheelchair users as required by the ADA. Paths and trails shall not exceed a standard cross-slope grade of two percent (2%).
- Path and trail under-crossings should be designed to provide a minimum width of fourteen (14) feet, a minimum overhead clearance of ten (10) feet and designed to provide a clear, well-lit view to the other end of the structure.

Implementation

This chapter provides the implementation plan, including potential funding sources and partners, opportunities for cooperative planning, and community programs that can be initiated to facilitate the development of a comprehensive parks, paths and trails to serve the City of San Luis. Specific park and trail improvements are intended to be established by the San Luis City Council through the adoption of the annual budget and capital improvement program.

The Implementation Plan is provided on **Table 6-1** below and establishes plan implementation actions to occur over the short-, mid-, and long-term, as well as implementation actions that should occur regularly and on-going.

Table 6-1 Implementation Plan

Short	Mid	Long	Ongoing	Implementation Item
			■	Continue to provide high-quality special events that attract many different types of residents and visitors.
			■	Continue to contract with private sector marketing and special event experts to promote San Luis's special events.
■				Create social media marketing before and after special events based on strategies described in the Marketing and Community Awareness focus area. Make San Luis's special events part of the community's branding.
			■	Direct operations resources to high maintenance levels at the community parks and allow new neighborhood parks to be delivered by private development
			■	Use social media to promote sports tournaments both as advertising before the tournament and public relations marketing after the tournament.
			■	Continue to plan and develop San Luis's path and trail system to connect everyday destinations such as, parks, neighborhoods, schools, shopping, and employment centers with the regional trail system.
			■	Host sports tournaments at San Luis community parks
			■	Respond to community growth over time by identifying future community park sites that will support the priority delivery of community-level park amenities.
			■	Strategically negotiate with the development community to provide park amenities that effectively expand level of service to park users in areas of growth. Focus on community park amenities with a 3-mile service radius as defined in the Community Park classification.

			■	Conduct routine outreach to increase public engagement.
■				Develop a communication campaign to improve the visibility of parks, facilities and events.
			■	Continue to maintain consistent, high quality park signage throughout the City.
	■			Develop a social media campaign that presents the department's voice and represents the Department's areas of focus for the next 5 years.
	■			Grow the Social Media Platform.
	■			Use social media platforms to promote the park system, events, staff and team highlights.
			■	Highlight the unique community assets such as parks with a historical or natural resource focus.
			■	Bi-annual on-line surveys advertised via social media, media releases, council newsletters and email signatures to gather public feedback on parks facilities and use of amenities.
			■	Direct Capital Improvement Program budgets to renovating neighborhood parks that are owned and operated by the City of San Luis to replace deteriorating ramadas, area lighting, irrigation, sidewalks, trash cans and BBQ grills and install shade structures over play equipment where needed.
			■	Pursue grant opportunities.
			■	Target the grant opportunities to prioritized facility reinvestment based on grant program requirements.
			■	Use capital funding sources as a match for further grant pursuits.
■				Identify gaps in existing trail and urban greenway alignments as priorities for new construction.
			■	Design the greenways to incorporate low impact design
■				Apply for multiple sources of federal funding to combine federal sources and minimize additional development costs associated with federal funding.
			■	Coordinate volunteer efforts with businesses, non-profits and civic groups.
			■	Work with partners to proactively identify, seek out and support matching funds for grants and alternative funding.
			■	Develop intergovernmental agreements with school districts that allow public use of school play areas during after-school hours and during the summer break.

			■	Strategically develop intergovernmental agreements with school districts that create a benefit to the community while protecting the financial investment made by the City of San Luis.
			■	Include in the scope of high visibility projects the renovation or replacement of underground infrastructure (irrigation/electrical) to minimize operations and maintenance impacts of new development and conserve resources.
			■	Direct Capital Improvement Program budgets to expanding and creating new walking and bicycling paths to connect San Luis's parks, schools, neighborhoods, and other everyday destinations.
■				Create a GIS map of facilities included in reinvestment planning and capital improvement plans to show distribution of targeted facilities, how improvements increase level of service and progress as projects are completed.
			■	Maintain accurate GIS inventory and complete Level of Service Analysis every three years to assess community need for new development and strategic reinvestment.
	■			Add utility locations and asset attributes to existing asset inventory (e.g. model of drinking fountain, electrical outlets at ramadas).
■				Develop project priority list for strategic fundraising.
■				Identify businesses and individuals to target for strategic fundraising.
			■	Repair or replace sidewalks that have deteriorated over time. Ensure compliance with the ADA.
			■	Remove obstacles to spray heads such as trash cans and BBQ grills to maintain turf irrigation coverage.
			■	Repair or replace area lighting that has deteriorated over time. Ensure compliance with building code.
			■	Repair or replace parking lot paving that has deteriorated over time. Ensure compliance with the ADA.
			■	Prioritize cleanliness of parks, cleanliness of restrooms and timeliness of repairs.
			■	Accurately estimate operating expenditures that will be necessary due to the construction of new amenities and facility expansion. Fully incorporate the operating impacts in the City's operating budget.

			■	Compare the estimated cost of providing grounds maintenance services using San Luis staff with the contractual cost of providing those services through a private-sector vendor.
			■	Renovate or replace irrigation systems where necessary to deliver effective coverage, conserve water and provide healthy turf and landscape material.
■				Review, update and enforce best standards in landscape irrigation and maintenance using the grounds maintenance contracts.

Bicycle and Pedestrian Education and Programs

A number of programs encourage safe design of bicycle and pedestrian networks. The City of San Luis can utilize these programs to support and advance the planning and construction of the bicycle and pedestrian network, including community education. These programs are summarized in the below subsections.

Bicycle Friendly Communities

The League of American Bicyclists established the Bicycle Friendly Communities (BFC) program in 1995, providing a framework for improving bicycling conditions within a community and provides recognition for BFC communities. Bicycle Friendly Communities initiatives include resources and information relative to creating a safe and connected bicycle and pedestrian network, including bicycle and pedestrian programs, funding, and partnership opportunities.

Walk Friendly Communities

The Walk Friendly Communities (WFC) program is operated by the UNC Highway Safety Research Center, sponsored by FedEx, and supported by the Pedestrian and Bicycle Information Center (PBIC). The Walk friendly Communities program supports the establishment of safe walking environments and provides recognition for communities where pedestrian conditions are improving related to walking, including access and comfort.

Safe Routes to School

The Safe Routes to School (SRTS) National Partnership is a not-for-profit entity that aims to encourage students to walk and bike to school, advance safe routes policy, and support active communities. SRTS programs seek to improve student health and safety by increasing physical activity and providing school children a safe route to use to get safely to and from school. Resources are provided to communities by the National Partnership to improve the bicycle and pedestrian network and to improve the safety of facilities providing access to public schools. A Safe Routes to School program request is sponsored by the city and requires the public-school district to initiate the request. Close coordination between the local school district and the sponsoring agency is essential to ensure optimal program results. Funding is provided for infrastructure and non-infrastructure activities within a community and may be used for the planning, design, and construction of projects that improve a safe route to a school and non-infrastructure funds may be used for awareness campaigns, outreach and traffic education to encourage safety in walking and bicycling to school.

Bike Education Classes

A strategy for encouraging safe bicycle use is utilizing education programs and classes to support bicyclists following traffic rules and increase awareness of motorists to share the road safely with bicyclists. Educational programs such as the Safe Routes to School Program are supported in local schools by teaching children about safe bicycling behaviors and principles, including increasing interest in riding bicycles for life. Several examples of bike education classes within the state and across the nation are summarized below.

- **City of Mesa Bike Education Classes.** Bicycle education classes for both adult and children are offered by the City of Mesa, Arizona. Classes are focused on encouraging safe bicycling habits, road safety, and the use of protective gear. Each participant receives free safety gear, including a helmet to increase participation in increase safe bicycling.
- **Boston Youth Cycling Program.** This program in Boston, Massachusetts, provides education on bicycle safety for youth between the 2nd and 12th grades. Applications available to Boston Public Schools and funded and operated by the City of Boston Transportation Department and provides bikes, helmets, and instructors to public schools for a one- to two-week period and provide lessons during gym or physical education classes.

Ciclovia Events

Ciclovia Events provide the opportunity to bring bicycle enthusiasts from the community and the region to socialize, collaborate, and encourage others to participate in bicycling. Typically, Ciclovia Events consist of temporarily closing streets to allow bicyclists to occupy the streets and promote bike safety. By temporarily closing streets, members of the community can utilize the roadway without interference from vehicular traffic. During these events, bicycling education for inexperienced bicyclists can be included to encourage safe bicycling behaviors. Several examples of annual municipal bike events which could be offered in the City of San Luis are described below.

- **CycloMesa.** An annual event in the City of Mesa, Arizona is CycloMesa, held at the downtown Convention Center and consists of several activities promoting bicycling and other forms of recreation. Activities include a bike scavenger hunt, BMX freestyle show, historic bike tour, and the El Tour de Mesa, bicycle vendors and youth activities.
- **CycloBia.** This annual bike event in the City of Brownsville, Texas temporarily closes select downtown streets to celebrate the use of bicycles and includes festival activities support safe bicycle use, bicycle vendors and youth activities.

National Bike to Work Week

This national program is sponsored by the League of American Bicyclists annually in May to encourage employers and their employees for a competition to be the most bike-friendly workplace. In the Phoenix metropolitan area, Valley Metro holds the annual Bike Month in April and includes a series of events across the region. These programs are effective at converting first-time bike commuters into regular bike commuters to decrease traffic volumes and congestion. The Maricopa County Trip Reduction Program encourages and documents bike commuting in the Phoenix metropolitan area.

Bicycle Friendly Business Programs

The League of American Bicyclists operates the Bicycle Friendly Business Program, providing awards based on the 6 E's, Education, Engineering, Encouragement, Enforcement, Equity, and Evaluation. The League recognizes businesses as a Bicycle Friendly Business and provides feedback on how to become more bicycle friendly as a business. As of 2019, 1,314 businesses across the nation were recognized as a Bicycle Friendly Business, including 17 within the State of Arizona.

Funding Sources and Partners

A variety of funding sources are available to the City of San Luis for active transportation infrastructure including City funds, private funds, and federal and state funds passed through the Yuma Metropolitan Planning Organization (YMPO). Maintenance costs associated with bicycle and pedestrian facilities are funded through local city sources, such as Highway User Revenue Fund (HURF) allocation received by the City, or through its general fund for non-HURF eligible applications. Typical funding sources for bicycle and pedestrian infrastructure improvements are included in **Table 6-2**.

Table 6-2 Potential Funding Sources

Source	Description	Eligible Project Types	Managing Agency
Congestion Mitigation & Air Quality (CMAQ)	CMAQ provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).	■ Active transportation projects or programs that have the potential to contribute to the attainment or maintenance of a NAAQS. ■ The project should be effective in reducing air pollution ■ The project should be included in regional current transportation plan and TIP	ADOT

Source	Description	Eligible Project Types	Managing Agency
Surface Transportation Block Grant (STBG)	STBG funds include two set-aside programs: Transportation Alternatives and Recreational Trails Program. The TA set-aside funds are authorized for transportation alternatives, including: The Recreational Trails Program (RTP) funding is available within the Transportation Alternative program. The RTP provides funds to develop and maintain recreational motorized and nonmotorized trails and trail-related facilities, including facilities for hiking, bicycling, equestrian use, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, and other off-road motor vehicles.	■ On- and off-street pedestrian and bicycle facilities ■ Infrastructure projects for improving non-driver access to public transportation and enhanced mobility ■ Community improvement activities such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity ■ Recreational trail projects ■ Safe routes to school projects ■ Projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways	ADOT
SRTS	The SRTS Program provides resources for schools and municipalities. projects.	■ Initiatives and activities such as: ■ Crossing Guard training workshops ■ Programming of Transportation Alternative SRTS federal aid funding ■ Administration of SRTS Studies Projects	ADOT

External Park Funding Sources

A number and variety of different external funding sources are available to park development including the following funding sources:

Partnerships

A Partnership is a joint development funding sources between two separate agencies, such as two government entities, a non-profit and a city department, or a private company and a city department. Two partners jointly develop revenue producing parks and recreation facilities and share risk, operational costs, responsibilities, and asset management, based on the strengths and weaknesses of each partner.

Corporate Sponsorships

A Corporate Sponsorship is a revenue-funding source that allows corporations to invest in the development or enhancement of existing and future facilities in parks systems. A high use of sponsorships is for the funding of program and events.

Foundations and Partner/Donations

Funding for Foundations and Partner/Donations is provided by tax-exempt, non-profit organizations established with private donation to promote specific causes, activities, or issues. Foundation and Partner/Donations offer a variety of means to fund capital projects including capital campaigns, gift catalogs, fundraisers, endowments, sales of items, etc.

Private Donations
Private Donations may be received in the form of funds, land, facilities, recreation equipment, art, or in-kind services. Private Donations from local and regional businesses as sponsors for events or facilities should be pursued.

Irrevocable Remainder Trusts
Irrevocable Remainder Trusts are available to individuals typically having over one (1) million dollars in wealth. These individuals leave a portion of their wealth to the city in a trust fund that grows over a period of time and then is available for the city to use a portion of the interest to support specific parks and recreation facilities and programs that are designated by the trustee.

Volunteerism
Volunteerism is an indirect revenue source in that persons donate time to assist the department in providing a product or a service on an hourly basis. This reduces the city cost in providing the service and builds advocacy.

Capital Fees
Capital Fees are added to the cost of revenue-producing facilities such as golf courses, recreation centers, and pool facilities to support capital improvements that benefits users of the facility.

User Fees

Recreation Service Fees
A dedicated user fee established by ordinance for the purpose of constructing and maintaining recreation facilities. A Recreation Service Fee can apply to all organized activities requiring a reservation of some type, or other purpose as defined by ordinance. Examples of such activities include special interest classes, adult basketball, volleyball, tennis, youth baseball, soccer, football, and softball leagues. This enables users of the facility to provide for the maintenance of the facility being used.

Fees/Charges
Fees/Charges must be market-driven and based on both public and private facilities. The potential outcome if revenue generation is consistent with national trends relating to public parks and recreation agencies, which generate on average 35% to 50% of operating expenditures.

Ticket Sales/Admissions
Ticket Sales/Admissions is a revenue source generated by providing access to facilities for self-directed activities such as pools, ice-skating rinks, ballparks, and entertainment facilities.

Temporary Permits
Temporary Permits, such as a Special Use Permit allow individuals to use specific park property for financial gain.

Concession Management
Concession Management generates revenue from retail sales or rentals of soft goods, hard goods, or consumable items. The city either contracts for the services or receives a set amount of the gross percentage of the full revenue dollars that incorporate a profit after expenses.

Private Management
Private Management entails contracting with a private business to provide and operate desirable recreation activities that are financed, constructed, and operated by the private sector with additional compensation paid to the City.

Naming Rights
Many cities and counties sell naming rights for new buildings or renovations of existing buildings and parks for the development cost associated with the improvement.

Private Developers
Private Developers enter into a license agreement for city-owned land through a subordinate agreement that pays out a set dollar amount plus a percentage of gross dollars for recreation enhancements. Examples include a golf course, marina, restaurants, driving ranges, sports complexes, equestrian facilities, recreation centers, and ice-skating arenas.

Easements
This revenue source is available when the city allows utility companies, businesses, or individuals to develop some kind of an improvement above ground or below ground on their property for a set period of time with a set dollar amount to be received by the City on an annual basis.

Interlocal Agreements
Interlocal Agreements involve contractual relationships entered into between two or more local units of government and/or between a local unit of government and a non-profit organization for the joint usage/development of sports fields, regional parks, and other facilities.

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Appendix

The San Luis 2040 General Plan identifies numerous goals and policies relative to parks and recreation and bicycle and pedestrian facilities in the City of San Luis. These policies were intended as the starting point for this Parks, Paths, and Trails Plan and were used to guide and inform the development of the parks system and bicycle and pedestrian network. Notable Goals, with associated policies from the San Luis 2040 General Plan are listed below.

Goal PS-1

San Luis provides high-quality public services and municipal facilities that support and efficiently serve current and future growth in a viable and sustainable manner.

Policy PS-1.4 Promote and participate in public-public and public-private partnerships for shared-use facilities and shared infrastructure development where appropriate.

Policy PS-1.6 Promote public-private partnerships and coordinate public facility, infrastructure, and public service expansions with private development as appropriate and fiscally advantageous to the city.

Policy PS-1.7 Consider the cost of maintenance and operations of public buildings and facilities in the Capital Improvements Program (CIP) and annual operating budget processes.

Policy PS-1.10 Pursue partnerships with public agencies with private interests to provide for joint-use facilities for community gathering, recreational and other public services provided to the community.

Goal PS-9

San Luis proactively plans for park and recreational facilities that meet the needs of current and future residents as the community grows.

Policy PS-9.1 Fund develop and implement a Parks and Recreation Master Plan providing for comprehensive park development, park management, and recreation programming to serve the build-out population contemplated by the FLUM of the San Luis 2040 General Plan.

Policy PS-9.2 Create an interim inventory and maintenance plan for existing parks and recreation facilities owned and operated by the City of San Luis.

Policy PS-9.3 Explore and identify funding sources for park, trail, and recreational facility development including identification of potential revenue sources and increasing public awareness of the cost to build, operate, and maintain parks, trails, and recreational facilities and programs.

Policy PS-9.4 The city should acquire land for future neighborhood and community parks through land dedications from private land developers in conjunction with the rezoning and development review process.

Policy PS-9.5 Develop and implement a strategy to fund, design, and construct community-level park facilities, including multiple athletic fields for day and nighttime use.

Policy PS-9.6 Pursue an intergovernmental agreement between the City of San Luis and the Bureau of Reclamation for potential land exchanges/transfers to support park and trail development on federally owned land.

Policy PS-9.7 Explore opportunities to develop linear parks and trails along canals and drainage channels.

Policy PS-9.8 Provide for the enhancement and maintenance of parks, trails, and open spaces through public-public and public-private partnerships, volunteer programs, and other agencies or entities as appropriate.

Policy PS-9.9 Develop and implement the findings of a funding strategy and feasibility analysis to improve and expand public services relative to parks, libraries, community education, and recreation programs for San Luis.

Policy PS-9.10 Identify and pursue funding opportunities to help Plan, develop, build, and maintain parks, including a dedicated sales tax, a special taxing district, revised development impact fees, or private sponsorship of City-owned facilities.

Goal PS-11

Park and recreational facilities are easily accessible throughout the community to all residents.

Policy PS-11.1 Integrate paths and trails through neighborhoods that link to parks, open spaces, and other recreational opportunities in the community.

Policy PS-11.2 Ensure parks and recreational facilities are American with Disabilities Act (ADA) accessible.

Policy PS-11.3 Site parks near principal arterial roadways, connected to primary bikeways and pedestrian paths.

Policy PS-11.4 Explore opportunities to enhance connectivity between POE 1 and Joe Orduño Park via a trail or linear park through Downtown San Luis.

Policy PS-11.5 Establish long-term strategies for path and trail linkages between neighborhoods, parks, and natural open space areas, management, and cooperative planning opportunities with adjacent jurisdictions.

Policy PS-11.6 Explore opportunities to repurpose land and provide additional park areas to serve residential development in the community.

Policy PS-11.7 Encourage developers to provide active and passive recreational opportunities within stormwater retention basins, where appropriate.

Policy PS-11.8 Coordinate park locations to provide access to bicycle and pedestrian linkages for a connected parks and open space system.

Policy PS-11.9 Provide for a system of parks that serves all passive and active recreational needs of the community and offers a diverse variety of park types, facilities, and activities to serve all ages and abilities.

Goal PS-12

San Luis provides an efficient and convenient multi-modal transportation system.

Policy PS-12.1 Adopt a Complete Streets Policy that considers a variety of transportation modes – automobile, cycling, walking, public transit, etc. – and promotes safe access and efficient mobility for all users of the City's publicly-supported and privately-paid transportation infrastructure elements, regardless of age or ability.

Policy PS-12.2 Improve pedestrian safety, where appropriate, feasible, and consistent with the Americans with Disabilities Act (ADA) Guidelines, through construction of new sidewalks, pedestrian overpasses, pedestrian signals at major intersections, and locations of heavy pedestrian movements, improved curb cuts at crosswalk locations, curb extensions ("bulb-outs or "neckdowns"), and pedestrian refuge areas on major streets.

Policy PS-15-1 Establish guidelines for neighborhood development requiring consideration of a well-connected, multimodal network to facilitate travel in and around the City of San Luis characterized by seamless bicycle and pedestrian infrastructure, direct routing, accessibility, few dead-ends, and few physical barriers.

Policy PS-15.3 Identify and create, as appropriate and feasible, needed connections between existing neighborhoods, schools, parks, and activity areas, especially connections that increase access to health care and other critical community goods and services.

Policy PS-15.5 Formulate and adopt a formal policy to guide a sidewalk development program to address current gaps in the system of sidewalks and connect neighborhoods and activity areas.

Policy PS-15.6 Develop a Trails Master Plan that supports pedestrian and bicycle access and mobility within the City of San Luis, especially relative to the schools, canals, and Ports of Entry. Coordinate plan development with Safe Routes to Schools (SRTS) initiative and redevelopment of San Luis POE I.

Policy PS-1.4 Promote and participate in public-public and public-private partnerships for shared-use facilities and shared infrastructure development where appropriate.

Policy PS-1.6 Promote public-private partnerships and coordinate public facility, infrastructure, and public service expansions with private development as appropriate and fiscally advantageous to the city.

Policy PS-1.7 Consider the cost of maintenance and operations of public buildings and facilities in the Capital Improvements Program (CIP) and annual operating budget processes.

Policy PS-1.10 Pursue partnerships with public agencies with private interests to provide for joint-use facilities for community gathering, recreational and other public services provided to the community.

Goal PS-15

San Luis provides connectivity between neighborhoods, schools, jobs and shopping.

Policy PS-15-1 Establish guidelines for neighborhood development requiring consideration of a well-connected, multimodal network to facilitate travel in and around the City of San Luis characterized by seamless bicycle and pedestrian infrastructure, direct routing, accessibility, few dead-ends, and few physical barriers.

Policy PS-15.3 Identify and create, as appropriate and feasible, needed connections between existing neighborhoods, schools, parks, and activity areas, especially connections that increase access to health care and other critical community goods and services.

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