CITY MANAGER'S REPORT
APRIL 8, 2024 CITY COUNCIL REGULAR MEETING

ITEM: **PUBLIC HEARING (PUBLISHED NOTICE) TO CONSIDER ADOPTING THE LATHROP ACTIVE TRANSPORTATION PLAN, CIP PS 22-17**

RECOMMENDATION: **Council to Consider the Following:**

1. **Hold a Public Hearing; and**
2. **Adopt Resolution Certifying and Adopting the Lathrop Active Transportation Plan, CIP PS 22-17**

CEQA STATUS: **The Project is Exempt from further Environmental Review Pursuant to Public Resources Code Section 21083.3 and California Environmental Quality Act (CEQA) Guidelines Section 15183**

SUMMARY:

The Lathrop Active Transportation Plan (ATP) Capital Improvement Project (CIP) PS 22-17 (Project) was created to identify a network of bicycle and pedestrian facilities that improve safety and mobility. The ATP provides a strategy to develop citywide connectivity through walking and biking between residential neighborhoods, schools, transit, and job centers.

On November 15, 2022, City Council approved a professional engineering consulting services with GHD, Inc. (GHD) to prepare the ATP. The planning process engaged the public in developing goals, policies, and programs to improve walking and biking conditions within the community. The plan evaluated all forms of non-vehicular transportation by reviewing the existing facilities, identifying deficiencies, developing and prioritizing potential projects, holding public meetings and receiving public comments.

On March 1st, 2024, GHD and the City issued a Draft Lathrop Active Transportation Plan to review and provide comments for a 30-day period. All comments received during the circulation period were reviewed & addressed and are included in the final Lathrop Active Transportation Plan (Attachment B).

Staff is requesting that City Council hold a public hearing, consider all information and public testimony and, if determined to be appropriate, adopt a resolution approving and certifying the Lathrop Active Transportation Plan.

BACKGROUND:

On September 12, 2022, City Council created the Lathrop Active Transportation Plan, CIP PS 22-17 to update the adopted 1995 Bicycle Master Plan and include all forms of non-vehicular transportation. The ATP can present a focused, achievable action plan for improvements to biking and walking facilities, and provide both short-term priority projects and long-term improvements. On November 14, 2022, City Council awarded a professional services agreement to GHD for preparation of the ATP.

The Project initiated in January 2023 with collection and analysis of existing citywide multimodal transportation data. Through a community engagement plan, GHD detailed outreach steps, activities and efforts needed to provide project information to residents. The City and GHD held public workshops and pop-up events where the community had the opportunity to provide feedback to the pedestrian and bicycle network. A project website was generated and residents were able to view interactive maps and take surveys on bike and pedestrian enhancements.

With feedback and recommendations received, GHD drafted the ATP that was circulated for public review from March 1, 2024 to April 1, 2024. The draft ATP included maps, tables, graphics, and a project summary evaluating all forms of non-vehicular transportation. All comments received during the circulation period were reviewed and addressed by the City and incorporated within the Final ATP.

REASON FOR RECOMMENDATION:

Staff requests that City Council hold a public hearing, consider all information and public testimony and, if determined to be appropriate, adopt a resolution certifying and adopting the Final Lathrop Active Transportation Plan.

CEQA STATUS:

The City finds that the Project is exempt from further environmental review pursuant to Public Resources Code Section 21083.3 and California Environmental Quality Act (CEQA) Guidelines Section 15183.

FISCAL IMPACT:

The City has been allocated funding by the Active Transportation Program through the San Joaquin Council of Governments (SJCOG) to fund (90%) of the Professional Consulting Services Agreement with GHD. Sufficient funds (10%) have been included in the adopted fiscal year 2023-24 budget under CIP PS 22-17 to complement the agreement with GHD and prepare the ATP. No fiscal impact is anticipated.

ATTACHMENTS:

A. Resolution Certifying and Adopting the Lathrop Active Transportation Plan, CIP PS 22-17

B. Lathrop Active Transportation Plan, CIP PS 22-17 (Dated, January 2024)

APPROVALS:

Angel Abarca
Assistant Engineer — Date: 03-25-2024

Brad Taylor
City Engineer — Date: 3/25/2024

Cari James
Director of Finance — Date: 3/28/2024

Michael King
Assistant City Manager — Date: 3.27.2024

Salvador Navarrete
City Attorney — Date: 3-27-2024

Stephen J. Salvatore
City Manager — Date: 4.1.24

RESOLUTION NO. 24-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LATHROP CERTIFYING AND ADOPTING THE LATHROP ACTIVE TRANSPORTATION PLAN, CIP PS 22-17

WHEREAS, the Lathrop Active Transportation Plan (ATP) Capital Improvement Project (CIP) PS 22-17 (Project) was created to identify a network of bicycle and pedestrian facilities that improve safety and mobility; and

WHEREAS, the ATP provides a strategy to develop citywide connectivity through walking and biking between residential neighborhoods, schools, transit, and job centers; and

WHEREAS, on November 15, 2022, City Council approved a professional engineering consulting services with GHD, Inc. (GHD) to prepare the ATP; and

WHEREAS, the planning process engaged the public in developing goals, policies, and programs to improve walking and biking conditions within the community; and

WHEREAS, the plan evaluated all forms of non-vehicular transportation by reviewing the existing transportation infrastructure, identifying deficiencies, developing and prioritizing potential projects, holding public meetings and receiving overall comments; and

WHEREAS, on March 1st, 2024, GHD and the City issued a Draft Lathrop Active Transportation Plan to review and provide comments for a 30-day period; and

WHEREAS, all comments received during the circulation period were reviewed & addressed by GHD and the City and are included in the final Lathrop Active Transportation Plan; and

WHEREAS, staff is requesting that City Council hold a public hearing, consider all information and public testimony and, if determined to be appropriate, adopt a resolution approving and certifying the Lathrop Active Transportation Plan.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Lathrop hereby certifies and adopts the final Lathrop Active Transportation Plan, CIP PS 22-17.

The foregoing resolution was passed and adopted this 8th day of April 2024, by the following vote of the City Council, to wit:

AYES:

NOES:

ABSTAIN:

ABSENT:

Sonny Dhaliwal, Mayor

ATTEST:

Teresa Vargas, City Clerk

APPROVED AS TO FORM:

Salvador Navarrete, City Attorney

ATTACHMENT

City of Lathrop

Active Transportation Plan

APRIL 2024

Lathrop

Prepared for the City of Lathrop by GHD Inc.

ACKNOWLEDGMENTS

City Council

Mayor Sonny Dhaliwal

Vice Mayor Paul Akinjo

Diane Lazard

Minnie Diallo

Jennifer Torres-O'Callaghan

Planning Commission

Gloryanna Rhodes

George Jackson

Tosh Ishihara

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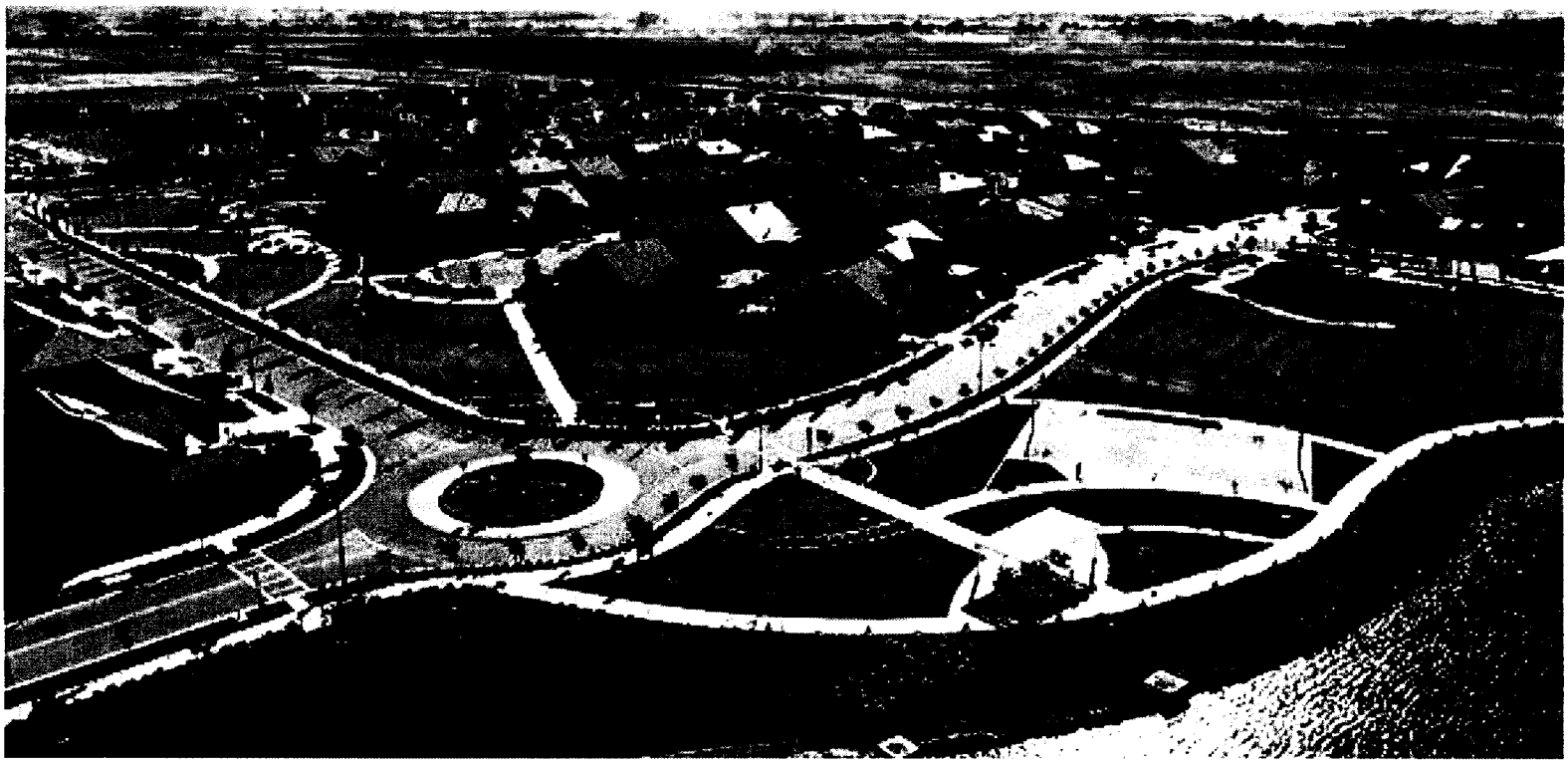


INTRODUCTION

The City of Lathrop (City) is ready to move into the next stage of its commitment to supporting active transportation modes with the development of this Active Transportation Plan (ATP). While historical development patterns did not always provide dedicated facilities for bicycling and walking, the City seeks to cater to the diverse transportation needs of its residents, workers, visitors, and stakeholders. Further, the City imagines a future where its mobility network allows people of all ages and abilities to get to and from their destinations safely, efficiently, and, as often as possible, without the use of single occupancy vehicles.

As a community with fresh ideas on expanding the local bicycle and pedestrian network, Lathrop has a built environment that offers untapped potential to shift commuting patterns to active modes such as walking, bicycling, and rolling, reducing congestion, and promoting healthy lifestyles. Recent development of residential communities has included enhanced pedestrian and bicycle facilities, from multi-use trails to accessible sidewalks. These facilities help to encourage more residents and visitors to try active alternatives to driving when traveling to their destinations while also beginning to illustrate the vibrant, multimodal future that is possible in Lathrop. By building upon the City's vision for community bikeways and pedestrian facilities outlined in the General Plan and specific plans, targeted investments in upgraded pedestrian and bicycle infrastructure will result in a safer, more connected network for users of all ages and abilities.

This ATP is a critical tool for the City and the broader Lathrop community as they shape a balanced transportation system for Lathrop. It provides a baseline understanding of the current status and long-term vision for the active

Source: www.pedbikeimages.org / Dan Burden

transportation network, as well as supportive policies and programs which can be implemented in Lathrop. It also provides the necessary information for the City to seek grant funding support to build the projects that will effectively complete this vision. This ATP presents a focused, achievable action plan for improvements to bicycling and walking facilities, providing both short-term priority projects and longer-term improvements.

The primary objectives of the Lathrop ATP include:

- Improving resident quality of life
- Providing a safe and connected pedestrian and bicycle network
- Enhancing access to area amenities and destinations
- Reducing greenhouse gas (GHG) emissions
- Promoting healthy lifestyles

A view of several bridges crossing the San Joaquin River in Lathrop

Purpose of the Plan

This Active Transportation Plan will establish a long-term vision for improving walking and bicycling within Lathrop and identify a short-term action plan of implementable projects, programs, and policies.

The ATP provides a strategy to develop connected citywide walking and bicycling facilities that provide access between residential neighborhoods, schools, transit, and jobs. These network improvements are combined with options for recommended education, encouragement, and evaluation programs to provide a comprehensive approach to improving active transportation in Lathrop. The ATP also identifies a plan to implement these projects and programs through prioritization and phasing to ensure implementation is manageable and achievable.

This Plan represents an aspirational vision for walking and bicycling in Lathrop, recognizing that limited funding and resources may require strategic phases of implementation over many years.

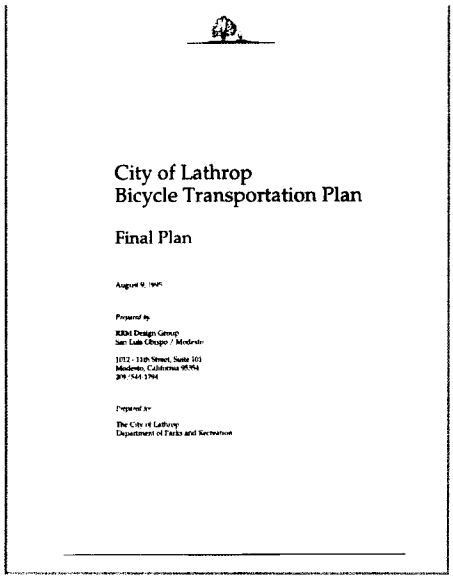
The City has established four goals for this ATP:

1. Enhance mobility by providing a comfortable, connected network of facilities for people to walk, bike, and roll
2. Encourage active transportation within Lathrop
3. Foster a safe ped/bike environment
4. Prioritize implementing active transportation infrastructure projects that meet the needs of Lathrop's growing population and reduce Vehicle Miles Travelled (VMT) and GHG emissions

Relationship to Other Documents

A variety of local, regional, and state documents relevant to the development and implementation of the Active Transportation Plan were reviewed. These documents set an overall trajectory for the City and include policies and strategies the ATP must be consistent with, while others provide a foundation for the ATP and will effectively be incorporated into the ATP. Documents reviewed, and the guidance relevant to the ATP, are discussed briefly below; the Planning and Policy Context Chapter will include additional detail on consistency and recommended updates to relevant documents.

Lathrop


City of Lathrop
Bicycle Transportation Plan

Final Plan

BICYCLE TRANSPORTATION PLAN (2004)

The City of Lathrop's Bicycle Transportation Plan, initially adopted in 1995 and updated in 2003 and 2004, guides the development of the City's bikeway network in coordination with regional plans and state law. The purpose of the plan is to improve and expand bicycling opportunities in Lathrop, providing direction for the development of new bikeways alongside future city growth and outlining a long-term goal of a comprehensive system of bikeways that provide safe and convenient bicycle travel throughout the community. Policy priorities include:

- The bikeway system shall consist of Class I and Class II bikeway facilities. Use Class III bike routes only to provide route connections where constraints make other bikeways infeasible[1].
- Provide bikeway access to all key destinations; all neighborhoods should be within ¼ mile of a Class II bicycle lane, at minimum.
- Bikeway facilities shall be installed on new streets at the time of improvement.
- Develop a perimeter bikeway loop around the City and a recreational bike path system along the San Joaquin River corridor.
- Provide class II bicycle lanes along all existing major arterial streets; consider class I bicycle paths for all linear parks, green belts, and parkways.
- Bicycle facility implementation can be flexible and use alternative locations if consistent with General Plan and relevant Specific Plan(s).
- Specific Plans and development plans for future annexations must each include a "Bicycle Circulation Plan (BCP)" consistent with the City of Lathrop Bicycle Transportation Plan.
- New development must provide bikeway connections to the existing City core, including across/under I-5.
- Provide class II bicycle lanes on all future arterials, boulevards, and parkways.
- Provide bicycle connections to the City of Manteca's bicycle network, regional

[1] *See the Bicycle Facilities section of the Existing Conditions chapter for definitions of bikeway facilities*

bikeways in the San Joaquin County Bicycle Plan, and the I-205 Bikeway.

- Bikeway improvements should be consistent with Caltrans Highway Design Manual, Chapter 1000 as well as typical sections indicated in the City of Lathrop Bicycle Transportation Plan.
- Maximize safety for bicyclists at bikeway crossings of all major streets and railroad tracks.
- Maintain bikeway pavement to provide a smooth riding surface without potholes, inlet grates, utility covers, road debris, or obstructions.
- Provide adequate lighting along bikeways.

Bikeway projects identified in the plan are divided into three categories, as depicted in the tables below. Table 1 lists Category 1 bikeway projects or those within 1995 City limits:

Table 1: Bicycle Transportation Plan – Category 1 Bikeway Projects

Street Segment	Bikeway Class	Priority*
Harlan Road	Class II	2
D'Arcy Parkway	Class II	1
Tesla Way	Class II	3
McKinley Avenue	Class II	3
Louise Avenue	Class II	1
5th Street	Class II	1
Woodfield Drive – Jasper Street	Class II	2
Thomsen Road[2]	Class II	1
Roth Road	Class II	3

**Priority 1: 1-5 years, Priority 2: 5-10 years, Priority 3: 10-20 years*

[2] *Class II Bicycle Lanes have been installed on Thomsen Road.*

Table 2 lists Category 2 bikeway projects or those within the unincorporated General Plan sphere at the time of plan adoption.

Table 2: Bicycle Transportation Plan – Category 2 Bikeway Projects (within unincorporated General Plan Sphere)

Street Segment	Bikeway Class
Manthey Road	Class II
Golden Valley Parkway	Class II
River Islands Parkway	Class II
Lathrop Road	Class II
Connector Streets[3]	Class II
San Joaquin River Path	Class I
Paradise Cut Pathway	Class I
Old River Pathway	Class I
Greenbelt Pathways	Class I

Note: Projects have not been assigned priority because each will occur in conjunction with annexation and development within the sphere

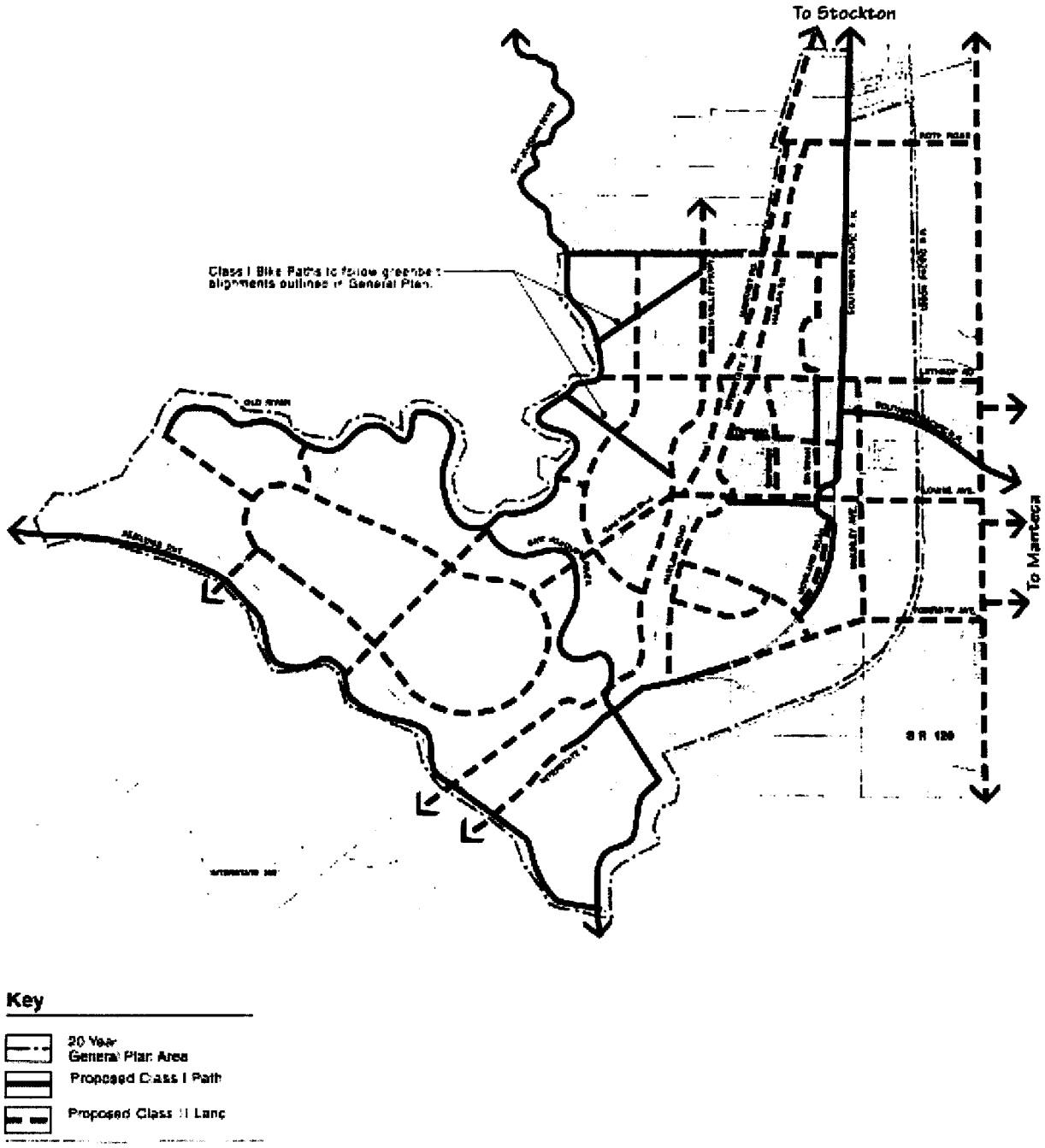
Table 3 shows Category 3 projects, which includes all administrative programs and procedures to be adopted by the City.

Table 3: Bicycle Transportation Plan – Category 3: Administrative Programs and Procedures

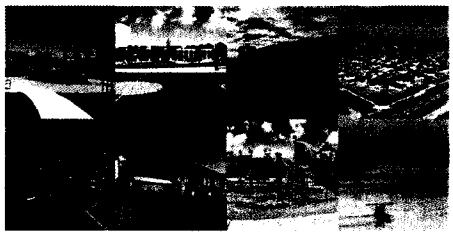
Administrative Programs and Procedures
Bicycle Parking and Storage Ordinance
Public Works Bikeway Standards
General Plan Amendment
Bicycle Circulation Plan Requirements
Uniform Bicycle Signage Program

[3] *Short street segments connecting longer bikeways.*

Figure 1: Bicycle Transportation Plan – Bicycle Circulation Diagram



Source: Lathrop Bicycle Plan



GENERAL PLAN (2022)

Lathrop's General Plan identifies the community's vision for the future and provides a framework to guide decisions on growth, development, and conservation of open space and resources in Lathrop. The General Plan is intended for use by City decision-makers and staff as well as developers, and community members to identify goals and policies that articulate and facilitate a coherent and progressive vision and strategy for the future of the City and its residents. Relevant Elements of the General Plan are discussed in the following sections.

LAND USE ELEMENT

The Land Use Element provides goals and policies to support local job growth and economic development opportunities, a range of housing types, and community services that are accessible to all residents through its vision for open space, commercial, industrial, residential, and other land uses in the City. Policy priorities include:

- Ensure all residents have access to community amenities, transportation choices, and safe places to walk and bike.
- Support regional VMT reduction via land use and site design decisions that promote active transportation and public transit.

CIRCULATION ELEMENT

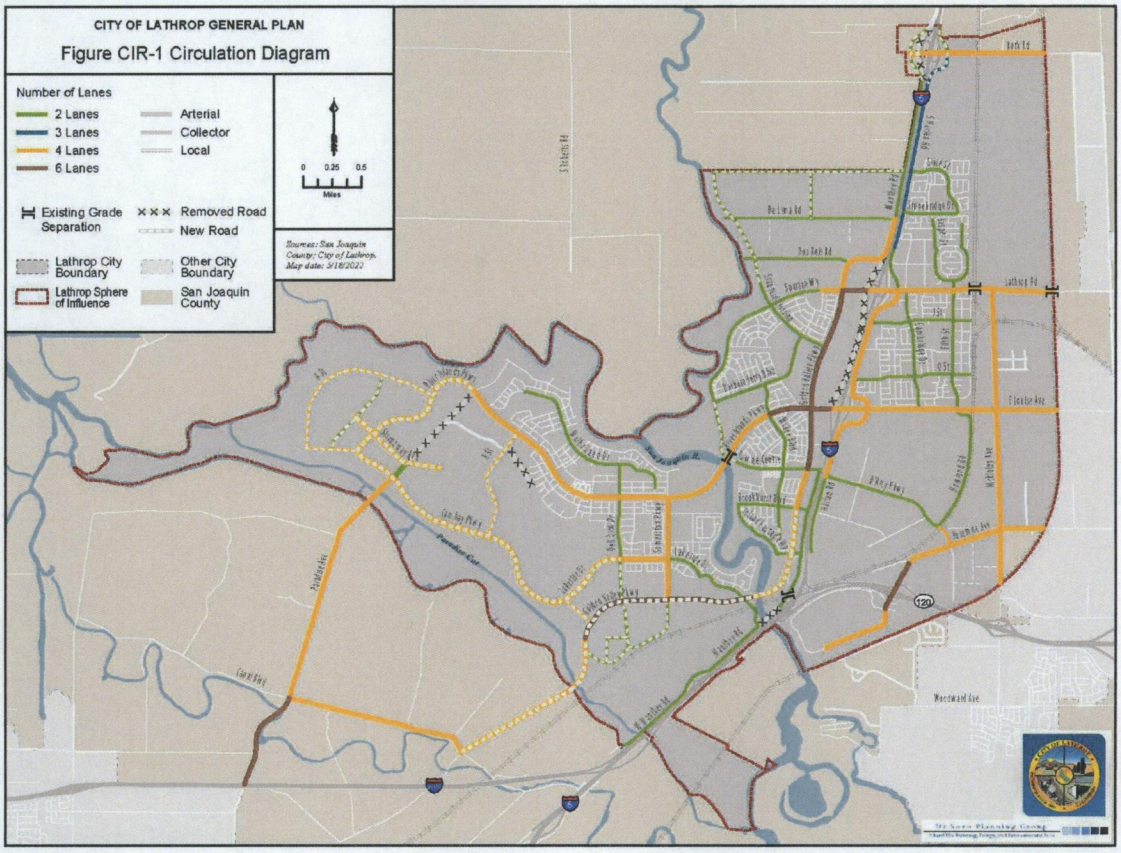
The Circulation Element provides the framework for the development and improvement of the City's multi-modal transportation system, including driving, walking, bicycling, transit, and freight. It notes that improving the City's walking and bicycling networks, and improving connections to transit, will help more Lathrop residents use these modes, improving health, recreational opportunities, and quality of life for residents as well as help the City meet statewide goals for the environment. Policy priorities include:

- Provide a roadway network that is consistent with the Circulation Element Map.
- Create infrastructure that supports all transportation modes.
- Try to achieve intersection Level of Service (LOS) D or better, except where this disincentivizes walking, bicycling or transit; is incompatible with adjacent land uses; prevents the City from achieving Vehicle Miles Traveled reduction goals; or is too expensive.
- Fully fund new roadway construction via the Capital Facilities Fee (CFF) program or with new development and ongoing roadway maintenance via Community Facilities Districts (CFDs).
- Establish a network of active transportation routes connecting residential areas with key destinations and employers.
- Improve safety, efficiency, and comfort for bicyclists and pedestrians with shade trees, lane narrowing, and other traffic calming.
- Prioritize walking and bicycling to school over vehicular travel.
- Provide safer, more convenient access to transit service.

- Provide amenities like pedestrian-scale lighting, bicycle parking, shade trees, landscaping, and bus shelters and benches to support active transportation.
- Support land use with increased densities and mixed uses, to reduce vehicle miles traveled and promote walking, biking, and transit.
- Encourage employers to provide programs and support for alternative commutes and work schedules to reduce driving.

Figure 2 shows the City's circulation network by road classification and number of lanes.

Figure 2: General Plan – Circulation Diagram



Source: General Plan – City of Lathrop

RECREATION AND RESOURCES ELEMENT

The Recreation and Resources Element provides goals and policies related to parks and recreation, regional and local open space, cultural resources, biological resources and habitat, mineral resources, air quality and greenhouse gas emissions, the Bay Delta, and water conservation. Relevant policy priorities include:

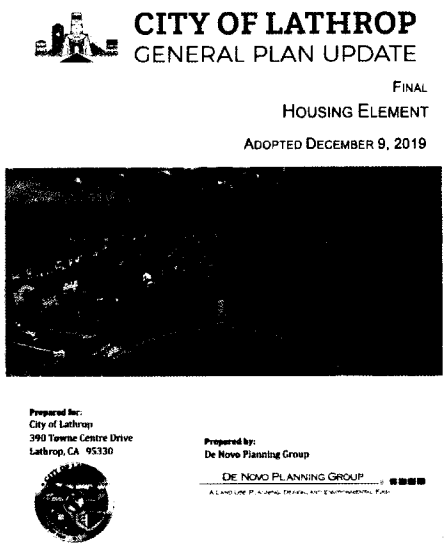
- Provide a wide variety of parks, recreational facilities, open space, and trails within a comprehensive system.
- Maintain a public park, open space, and trail system that is accessible to all parts of the city.
- Maintain and update facility design standards based on proven best practices to support active transportation and recreation.
- Work with school districts to provide open space on school sites, collaborating to provide additional public park space at public schools.

- Promote connectivity by expanding Lathrop's trail system, connecting local and regional bikeways, equestrian trails, and hiking trails with key destinations.
- Develop an urban forest along the City's major corridors and in residential neighborhoods.
- Consider and implement new policies and programs to improve energy efficiency and reduce dependency on fossil fuels.

ENVIRONMENTAL JUSTICE ELEMENT

The Environmental Justice Element provides goals and policies related to protecting sensitive land uses and prioritizing the needs of disadvantaged communities. Policy priorities include:

- Increase street lighting for pedestrians, especially in areas where crimes and illegal dumping are likely.
- Create pleasant public spaces to support community and physical activity.
- Support walking and bicycling by requiring complete streets in transit priority areas, in environmental justice communities, and in new communities and developments.
- Provide safe, interesting, and convenient streetscapes, trails, paths, parks, and open spaces for pedestrians and bicyclists to reduce automobile use.
- Parks should be easily accessible to the surrounding neighborhood and beyond, especially to those with limited mobility.
- Promote active transportation as safe, easy, healthy, and fun alternatives to driving.
- Encourage school district activities that support physical activity and wellness.



GENERAL PLAN UPDATE – HOUSING ELEMENT (2019)

The Lathrop Housing Element identifies the community's housing needs, states the community's housing goals and objectives to meet those needs, and defines the policies and programs to achieve those goals and objectives. Policy priorities include:

- Develop housing with easy access to shopping, services, and jobs.
- Support accessible projects for persons with disabilities.
- Preserve and enhance existing neighborhoods.
- Prioritize rehabilitation and infrastructure improvements in underserved and disadvantaged areas.

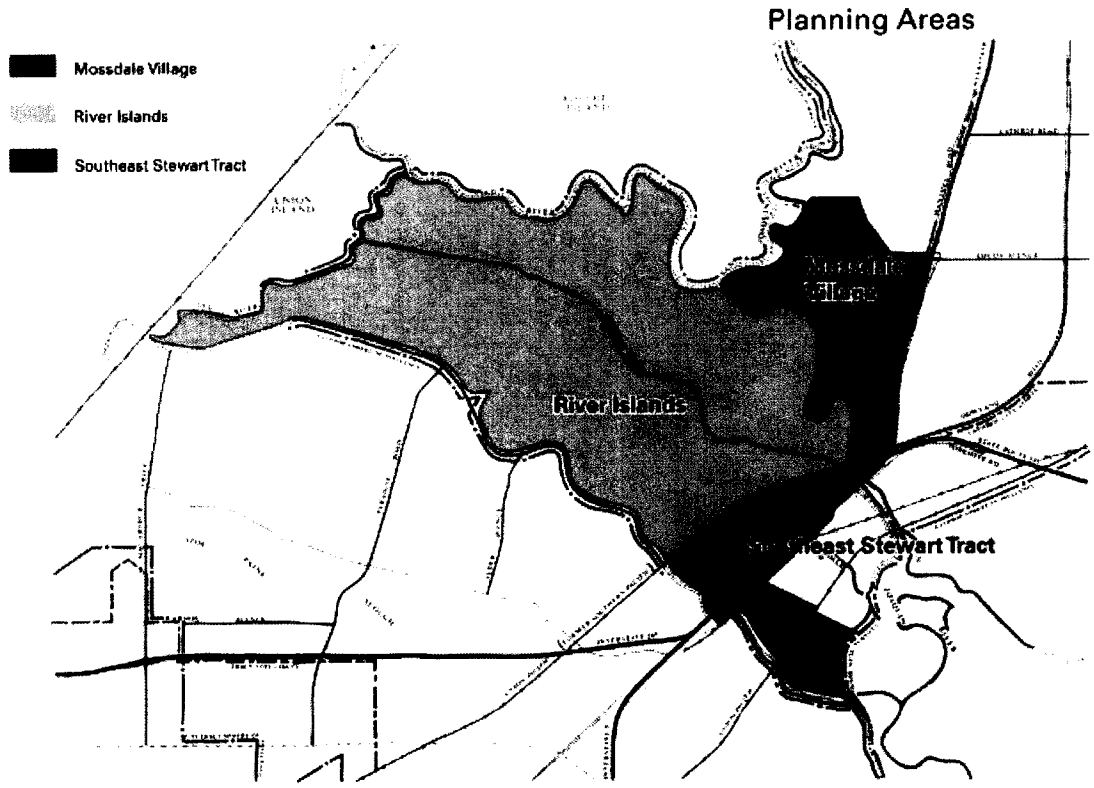
WEST LATHROP SPECIFIC PLAN (2002)

The 2002 West Lathrop Specific Plan is a planning document that acts as a blueprint for the development of the West Lathrop Specific Plan area, found in the southwestern portion of the City of Lathrop. West Lathrop is made up of two large areas: Stewart Tract (itself composed of River Islands and Southeast Stewart Tract) and Mossdale Village. Stewart Tract and Mossdale Village are both bounded by the waterways of the San Joaquin River delta. The West Lathrop Specific Plan interprets the Lathrop General Plan specifically for West Lathrop, describing its proposed land use patterns, circulation, transit, public services, and utility systems required to serve the area. It also sets development regulations and standards for West Lathrop, including for architectural design, site planning, landscaping, signage, and exterior building and site maintenance. Policy priorities include:

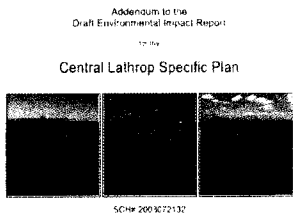
- Link key destinations (schools, parks, retail) with landscaped pedestrian-oriented corridors to encourage non-vehicular travel.
- Create spaces for public gatherings that can support entertainment, education, relaxation, and recreation for West Lathrop residents.
- In Mossdale Village, focus neighborhoods around local schools and parks that are linked along a network of non-vehicular rights-of-way.
- Create attractive landscaped parkways and waterways to help define West Lathrop.
- Locate higher-density residential areas within walking distance of the village or town center areas and/or other commercial areas.
- Provide access to the village or town center areas for all travel modes.
- Develop recreational facilities for visitors and residents, especially along the San Joaquin River.
- Use the West Lathrop levees for recreational travel.
- Create a multi-modal transportation system serving West Lathrop.
- Accommodate necessary car trips but prioritize easy, convenient alternative travel modes (bicycle, pedestrian, transit, boat).
- Create a safe and efficient network of major and minor streets within West Lathrop.
- Plan for circulation improvements that benefit West Lathrop.

Figure 3 shows the planning areas of the West Lathrop Specific Plan.

Figure 3: West Lathrop Specific Plan – Vicinity Map



Source: West Lathrop Specific Plan



CENTRAL LATHROP SPECIFIC PLAN (2004)

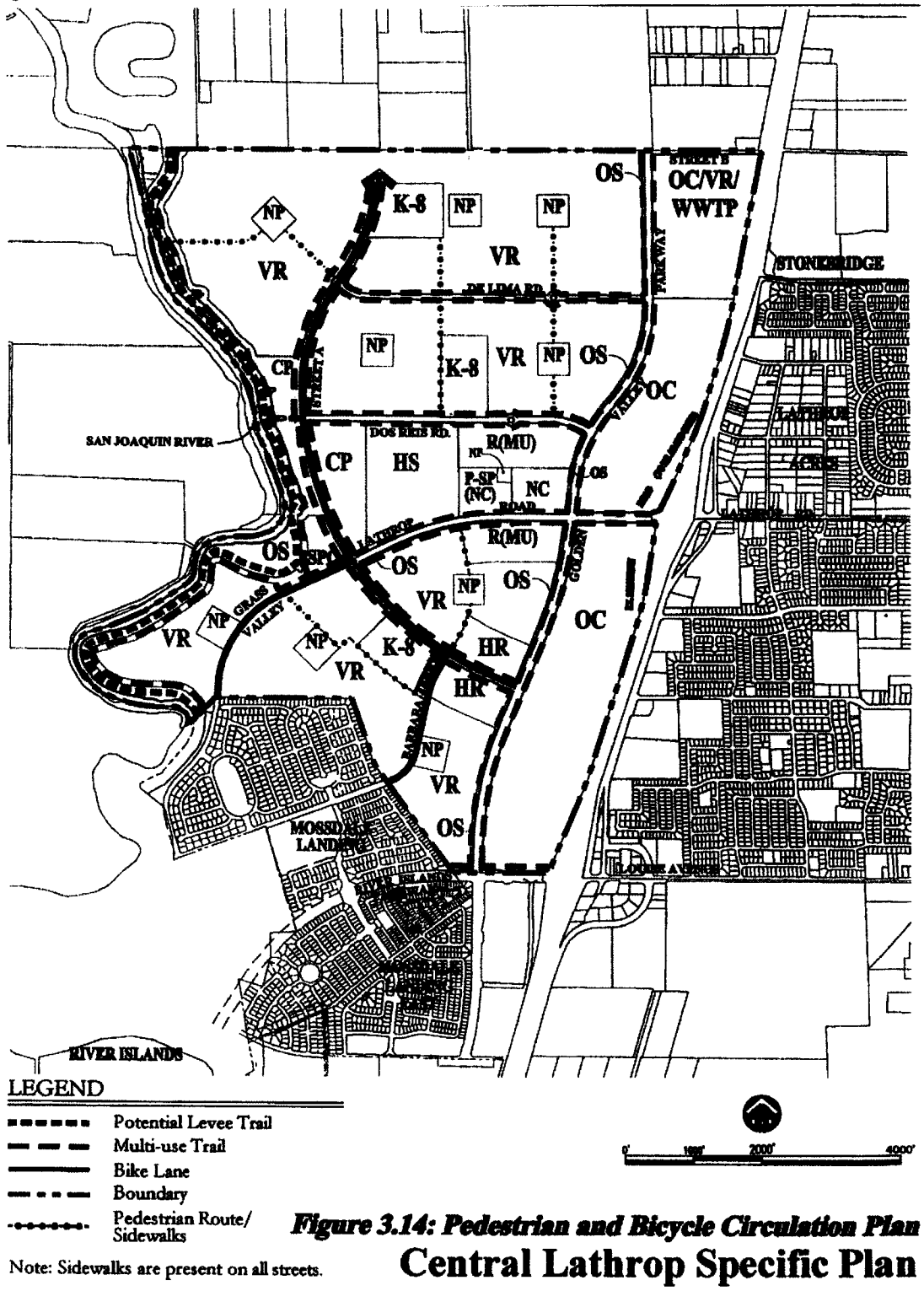
The Central Lathrop Specific Plan is a planning document that guides development of the 1,520-acre Central Lathrop Specific Plan area. This plan is designed to address the needs of current and future residents of Lathrop. The plan envisions a vibrant and livable community offering a balanced mix of land uses; a pedestrian-oriented central city core; regional commercial uses near the I-5 freeway corridor; traditional neighborhoods surrounding neighborhood parks and schools as well as higher residential densities, incorporating "smart growth" elements; an extensive active transportation network connecting neighborhoods to each other as well as parks, schools, and the city center; a comprehensive park systems that includes neighborhood-serving parks and a linear park adjoining the San Joaquin River; and quality design and aesthetic standards. Within the Circulation and Transportation chapter, the plan provides for off-street and on-street bicycle and pedestrian facilities, with off-street facilities including 8 foot multi-use trails located adjacent to major arterials and many collector streets; a 12 foot

multi-use trail as part of the linear park, connecting to current and planned trails; another multi-use trail located along the San Joaquin River levee; dedicated sidewalks between 5 feet and 15 feet, with wider sidewalks located along the proposed Main Street. Policy priorities include:

- Anchor the plan area with a pedestrian-oriented, centrally located City center.
- Connect the Central Lathrop Specific Plan neighborhoods to the city center, parks and schools (and to each other) through an interconnected system of pedestrian and bicycle pathways.
- Maximize recreation opportunities by creating a comprehensive public park program, including a linear park and open space system adjacent to the San Joaquin River.
- Reduce motor vehicle trips and climate impacts by locating residential and job centers near each other.
- Provide an integrated, efficient, and safe circulation system for pedestrians, bicyclists, transit and vehicles.

Figure 4 on the following page shows the pedestrian and bicycle circulation plan from the Central Lathrop Specific Plan.

Figure 4: Central Lathrop Specific Plan – Pedestrian and Bicycle Circulation Plan Map



Source: Central Lathrop Specific Plan

LATHROP GATEWAY BUSINESS PARK SPECIFIC PLAN (2010)

The Lathrop Gateway Business Park Specific Plan (LGBPSP) is a planning document that guides development for the Plan Area. It provides policy direction, sets zoning designations, and includes detailed design standards for the projects and properties within the Plan Area to create the planned development with an appropriate balance of land uses – particularly land uses with a variety of business opportunities supportive of Lathrop's skilled and educated workforce – and infrastructure to support that development. The LGBPSP encompasses nearly 384 acres in unincorporated San Joaquin County, adjacent to the City of Lathrop. Its boundaries include the Union Pacific Railroad right-of-way (ROW) to the east and west, State Route 120 (SR 120) to the south, and Vierra Road and Yosemite Avenue to the north. Consistent with the General Plan's pursuit of deemphasizing reliance on the automobile, where feasibly, this plan incorporates multi-modal transportation, including proximity and direct access to the Lathrop-Manteca Altamont Corridor Express (ACE) commuter rail station, inclusion of transit stops and pick-up locations, and a system of off-street and on-street bikeways to and through the site, all tailored to encourage modes of travel other than the automobile. Policy priorities include:

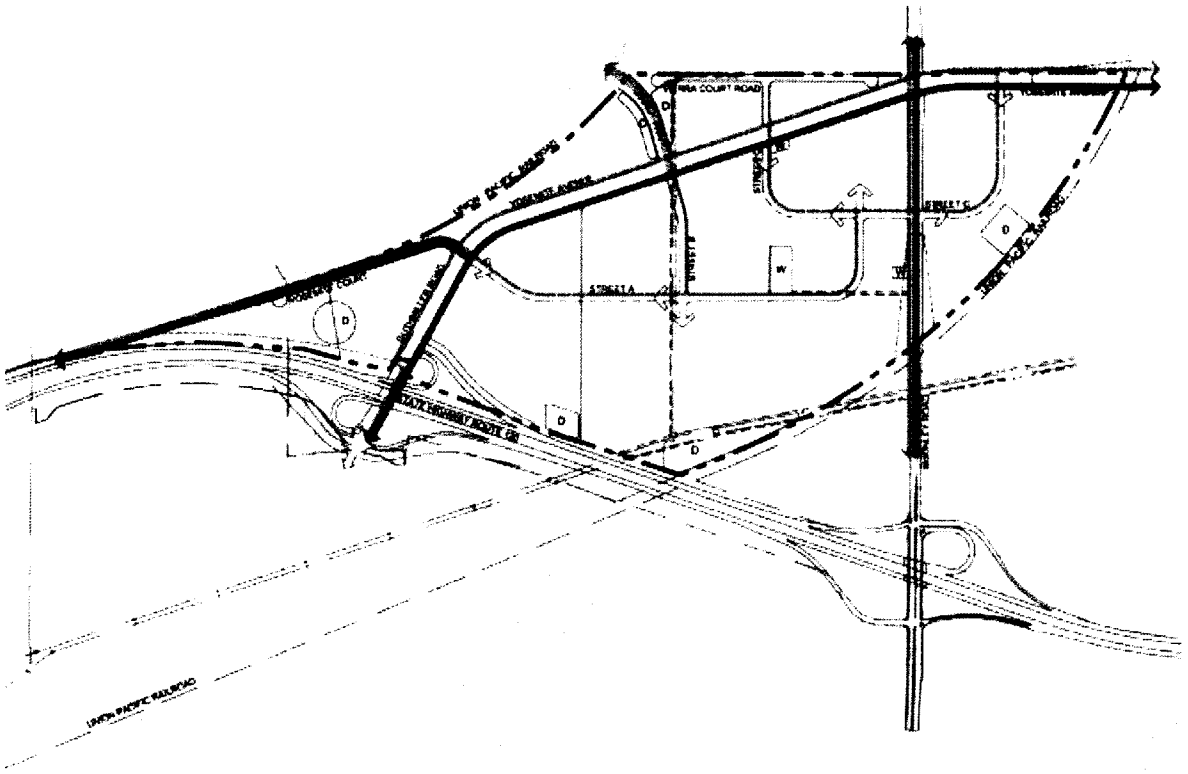
- Auto-oriented land uses should minimize conflict between pedestrians, bicycles, and cars.
- Each district should provide pedestrian and bicycle connections to adjacent uses within the Lathrop Gateway Business Park Specific Plan.
- Parking areas should be designed for efficiency and safety of all users.
- Loading and delivery areas should be located to minimize visibility, potential circulation, noise, and light conflicts.
- Pedestrian connections and resting areas should be created within projects and districts.
- Pedestrian amenities (benches, drinking fountains, trash receptacles, etc.) are encouraged.

Planned bicycle facilities include:

- Eight feet Class I Bike Paths in the Plan Area:
    - Along the open space adjacent to the Union Pacific Railroad ROW, continuing on Yosemite Avenue (south side only) to the eastern boundary of the Plan Area
    - Along the south side of Yosemite Ave (formerly Guthmiller Road)
    - Along McKinley Avenue
- Six feet Class II Bike Lanes in the Plan Area along minor arterials, connecting with Class I facilities.
- Class III Bike Routes in the Plan Area along local streets to provide connectivity between bikeway facilities and key destinations and land uses.

Figure 5 shows the bicycle and pedestrian circulation map and Figure 6 shows typical cross-sections for 5-lane and 6-lane arterials for the LGBPSP.

Figure 5: Lathrop Gateway Business Park Specific Plan - Circulation – Bicycle & Pedestrian Map

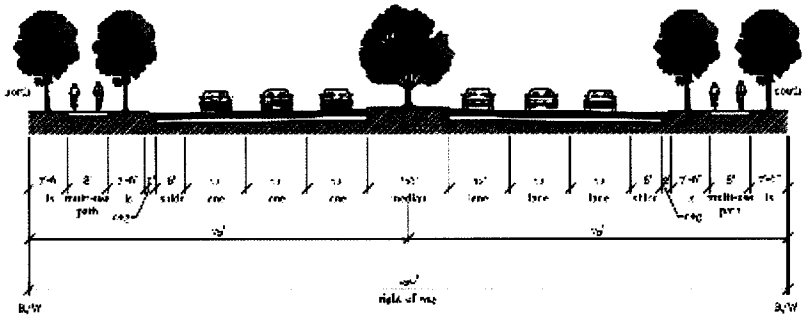


Legend

- Proposed Bicycle Path, Off-Street (Class I)
- Proposed Bicycle Path, On-Street (Class II)
- Proposed Pedestrian Path
- Project Boundary

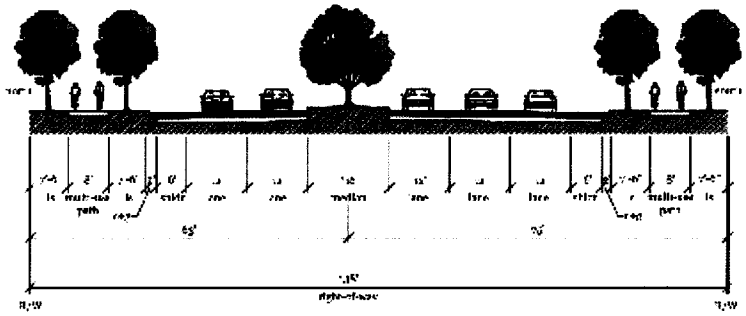
Source: Lathrop Gateway Business Park Specific Plan

Figure 6: Lathrop Gateway Business Park Specific Plan – 6-Lane & 5-Lane Arterial Sections



6-Lane Arterial

(Guthmiller/Yosemite Avenue, Highway 120 to Yosemite Court)
150' Right-of-Way



5-Lane Arterial

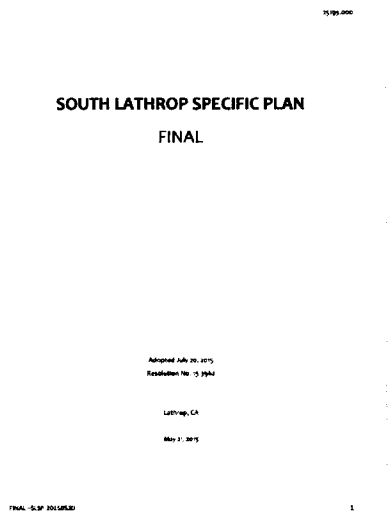
(Yosemite Avenue, Yosemite Court to D'Arcy Parkway)
138' Right-of-Way

Legend

sw	sidewalk
ls	landscape
c-g	curb and gutter
bl	bike lane
lane	driving lane
shldr	shoulder
R/W	right-of-way

* Median to be reduced from 16' to 4' where turn lanes are required.

Source: Lathrop Gateway Business Park Specific Plan


SOUTH LATHROP SPECIFIC PLAN

FINAL

SOUTH LATHROP SPECIFIC PLAN (2015)

The South Lathrop Specific Plan (SLSP) is a planning document that guides development of the approximately 315-acre South Lathrop Specific Plan area, located in unincorporated San Joaquin County to the southeast of the City, bounded by SR 120 in the north, the Union Pacific Railroad right of way to the south and east, and the San Joaquin River to the west. This plan is designed to establish local land uses with a variety of business opportunities that can support the skilled and educated workforce of Lathrop and the local area, specifically by slating land for industrial and commercial development. The plan provides for multiple modes of transportation including automobile, truck, bus transit, bicycle, and pedestrian. The plan, consistent with the General Plan, provides for a biking/pedestrian trail system that will allow safe and efficient navigation to, from, and through the project site with minimum conflict between automobiles and bicyclists/pedestrians. Policy priorities include:

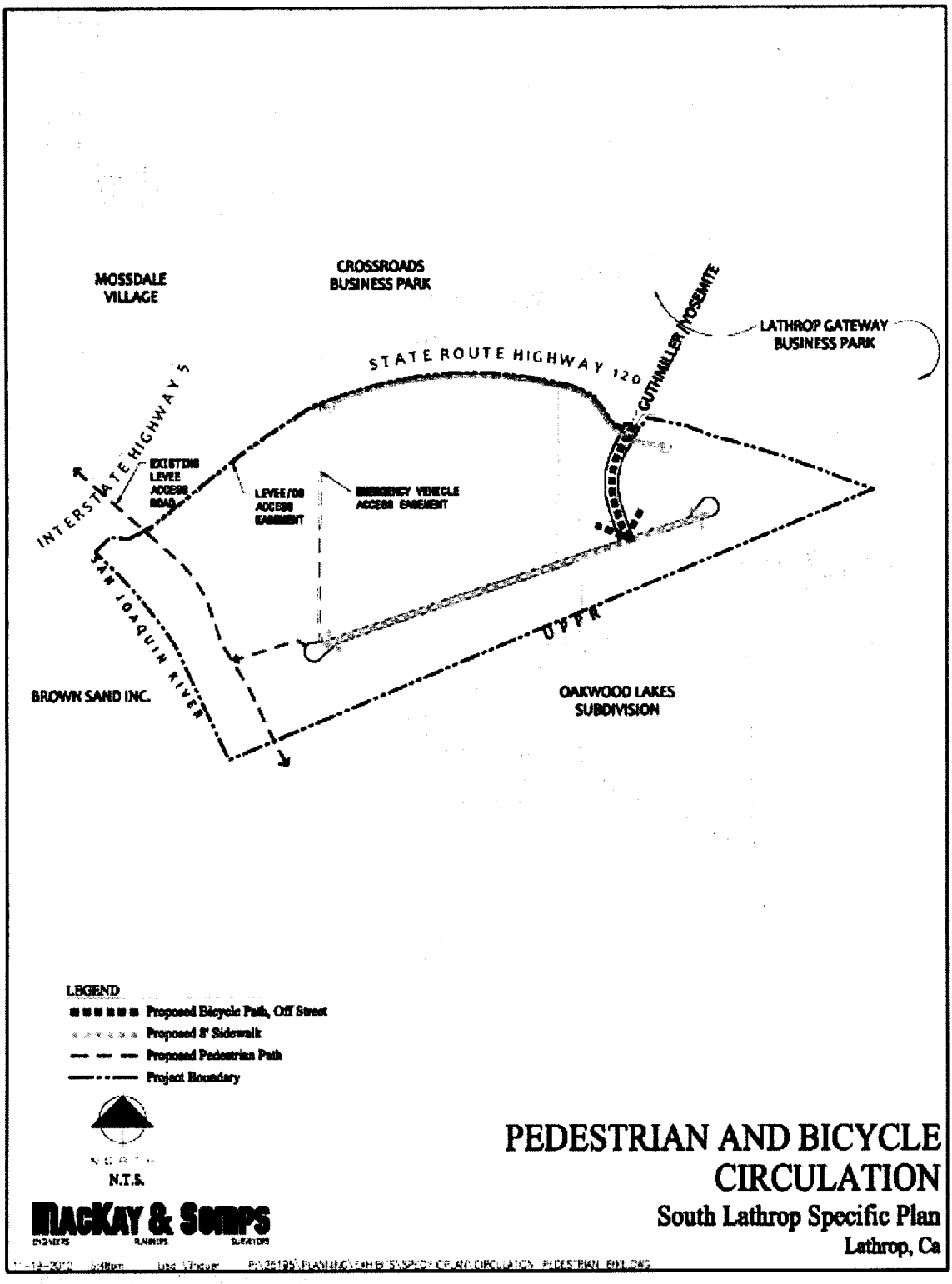
- Projects should provide a safe environment for all transportation modes.
- Pedestrians should have continuous, obstruction-free sidewalks.
- Encourage pedestrian connections between buildings, parking, and adjoining uses.
- Provide consistent access for bicycles to and around each development area.
- Auto-oriented land uses should minimize conflict between pedestrians, bicycles, and cars.
- Each district should provide pedestrian and bicycle connections to adjacent uses.
- Bicycle and pedestrian connections should be well lit and marked.
- Accessible building entrances for all modes.
- Lighting should be designed appropriately as to not create hazardous glare for pedestrians, bicyclists, and vehicles.

Planned bicycle and pedestrian facilities include:

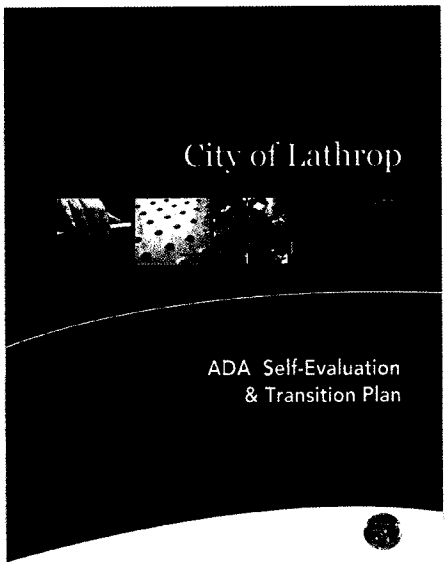
- Eight feet Class I (off-street) bikeways (with two feet graded shoulder) along arterial roadways
- Eight feet sidewalks along both sides of the street along arterial and local streets

Figure 7 shows the bicycle and pedestrian circulation map for the SLSP.

Figure 7: South Lathrop Specific Plan – Pedestrian and Bicycle Circulation Map



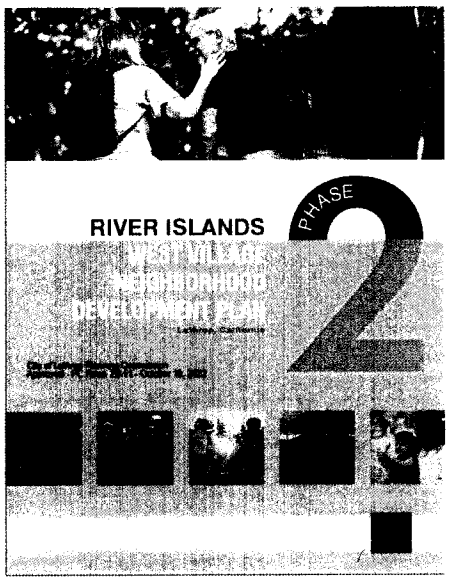
Source: South Lathrop Specific Plan



CITY OF LATHROP ADA SELF-EVALUATION & TRANSITION PLAN (2023)

The City of Lathrop Americans with Disabilities Act (ADA) Self-Evaluation & Transition Plan is document prepared to partially fulfill the requirements of Title II of the ADA. Per the ADA, a city or public entity like Lathrop must reasonably modify its policies, practices, or procedures to avoid discrimination against people with disabilities and this report assists the City in identifying policy, program, and physical barriers to accessibility and it develops barrier removal solutions, facilitating opportunity of access for all. This plan is also required by the federal government as part of Rehabilitation Act of 1973 implementation, as all organizations receiving federal funds must make their programs available without discrimination toward people with disabilities. This plan assesses current policies, practices, and procedures and identifies and makes recommendations to correct policies and practices that are inconsistent with Title II requirements. This plan creates a list of physical barriers to accessibility, details the methods that will be used to remove these barriers and make city facilities accessible, includes a planning level cost estimate for barrier removal, includes a schedule for barrier removal, and includes the name of the person responsible for plan implementation. Policy recommendations in the plan include:

- Provide accessible facilities (like parking) at customer service locations.
- Ensure that temporary pedestrian access routes are provided during construction.
- Reference the ADA as a recognized standard of construction.
- Vegetation in the public right of way must be maintained to provide adequate clearance.
- Prioritize planned pedestrian rights of way projects in the following order:
    - Government offices and facilities
    - Bus stops and transportation facilities
    - Commercial and business areas
    - Employment centers
    - Other areas (residential, underdeveloped)



RIVER ISLANDS WEST VILLAGE NEIGHBORHOOD DEVELOPMENT PLAN PHASE 2 (2022)

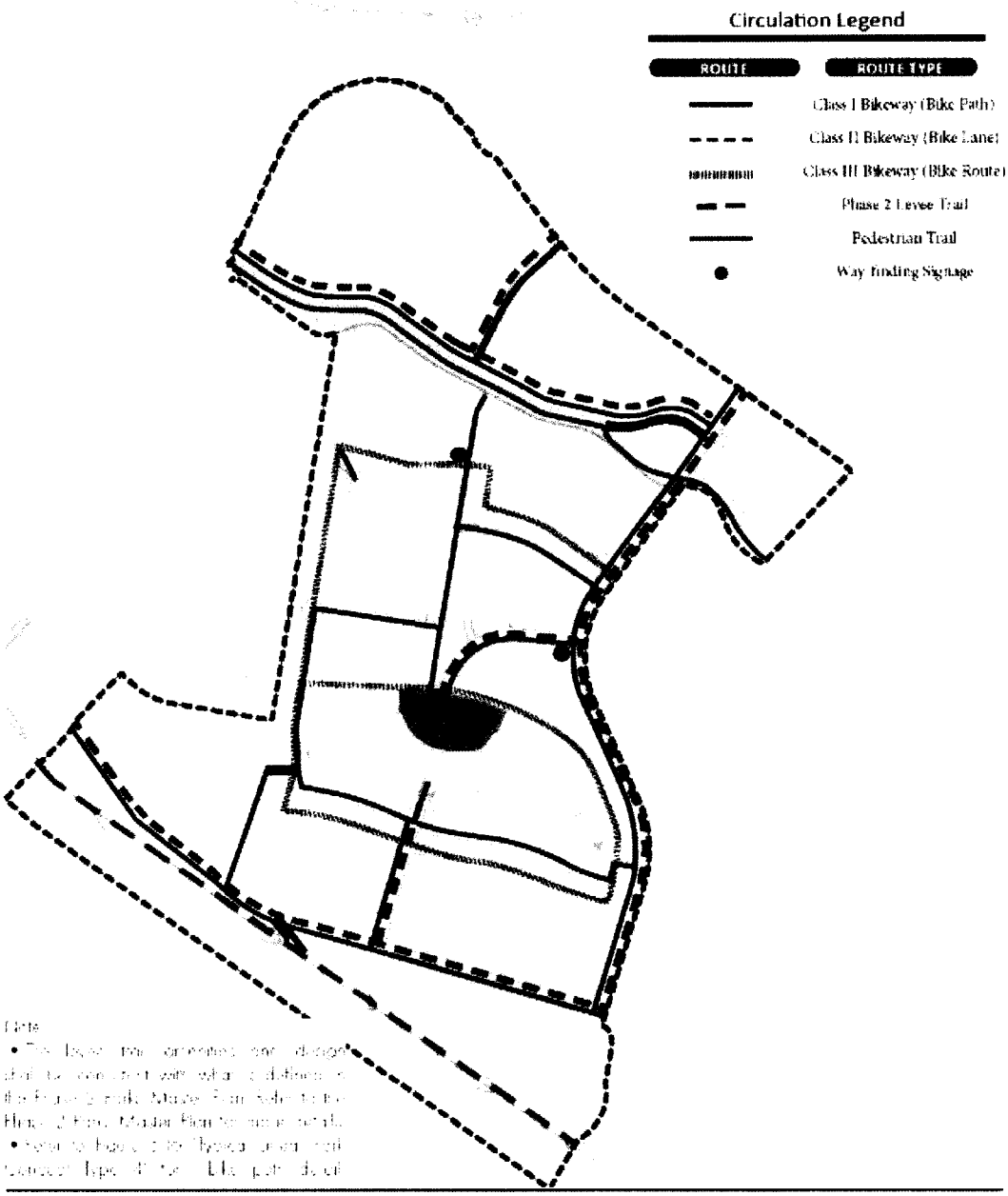
The River Islands West Village Neighborhood Development Plan (NDP) Phase 2 is a document that guides development for the active adult community and other neighborhoods within West

Village. It considers and defines distinct design areas, including neighborhood concept, circulation, streetscapes and entries, parks and open space, landscape and planting, fencing and walls, and site furnishings. The NDP fulfills City requirements for the project at the River Islands at Lathrop Master Planned Community as outlined in the West Lathrop Specific Plan and as specified in the Lathrop Municipal Code. The plan directs the use, development, implementation, and maintenance of developer-constructed portions of the River Islands project. Policy priorities include:

- Pedestrian and bicycle facilities are laid out to provide safe non-vehicular circulation between the community and key destinations, including park sites. Locations of parks and open spaces ensure that recreational amenities are accessible to all community members, including pedestrians and bicyclists.
- Local neighborhood streets are scaled to support lower volumes of traffic and encourage pedestrian and bicycle use.
- Streets within West Village also serve as important neighborhood gateways for pedestrians and bicyclists with safe and walkable sidewalks, landscape buffers, and wide trails to encourage non-motorized mobility throughout the community.
- Bike/pedestrian facilities are also designed to promote easy access to open space for recreational use.

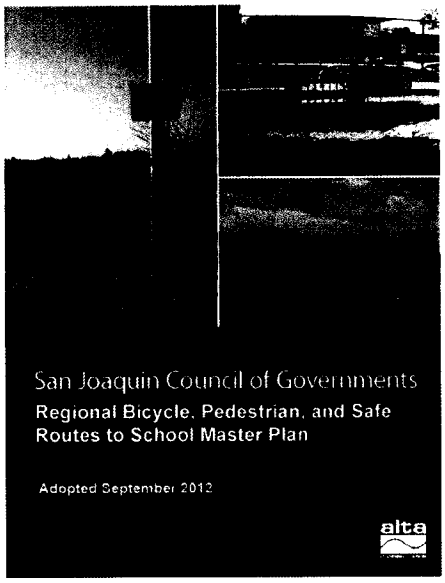
Figure 8 on the following page shows the West Village bicycle and pedestrian circulation concept plan as part of the River Islands West Village NDP.

Figure 8: River Islands West Village NDP – Circulation Bike and Pedestrian Concept Map



Source: River Islands West Village Neighborhood Development Plan Phase 2

Regional



SAN JOAQUIN COUNCIL OF GOVERNMENTS REGIONAL BICYCLE, PEDESTRIAN, AND SAFE ROUTES TO SCHOOL MASTER PLAN (2012)

This Bicycle, Pedestrian and Safe Routes to School (BP-SRTS) Plan recommends bicycle and pedestrian projects for San Joaquin County and its cities (Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop). It identifies bikeways and pedestrian projects of regional significance to prioritize funding and facilitate project implementation. It also helps set Measure K – a bicycle and pedestrian safety and infrastructure funding measure for San Joaquin County – funding priorities. The goal of the BP-SRTS Program Guidelines is to ensure that Measure K funds (Competitive / Non-Competitive) are used to deliver projects that are valued throughout the region.

Table 4 shows the priority bikeway projects for Lathrop, as outlined in the BP-SRTS.

Table 4: SJCOG Regional BP-SRTS – Lathrop Priority Bikeway Projects

Location	Class	Start	End	Miles
Golden Valley Parkway [4]	2	Paradise Cut	Dos Reis Road	5.28
Yosemite Avenue[5]	2	End of Street	Yosemite Avenue (former terminus)	0.57
Harlan Road	2	Louise Avenue	Roth Road	3.30
Lathrop Road	2	San Joaquin River	Lathrop-Manteca City Limit	2.56
Louise Avenue	2	Golden Valley Parkway	Lathrop-Manteca City Limit	2.10
Manthey Road	2	Sadler Oak Drive	San Joaquin River	0.62
W. Yosemite Avenue	2	San Joaquin River	W. City Limits	1.21

Source: San Joaquin Council of Governments Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

Table 5 shows the Vision bikeway network projects, which were developed with guidance from the community's adopted planning documents at the time of BP-SRTS creation. Lathrop Vision and priority projects are shown in Figure 9.

[4] *Golden Valley Parkway already includes Class I bikeway facilities.*

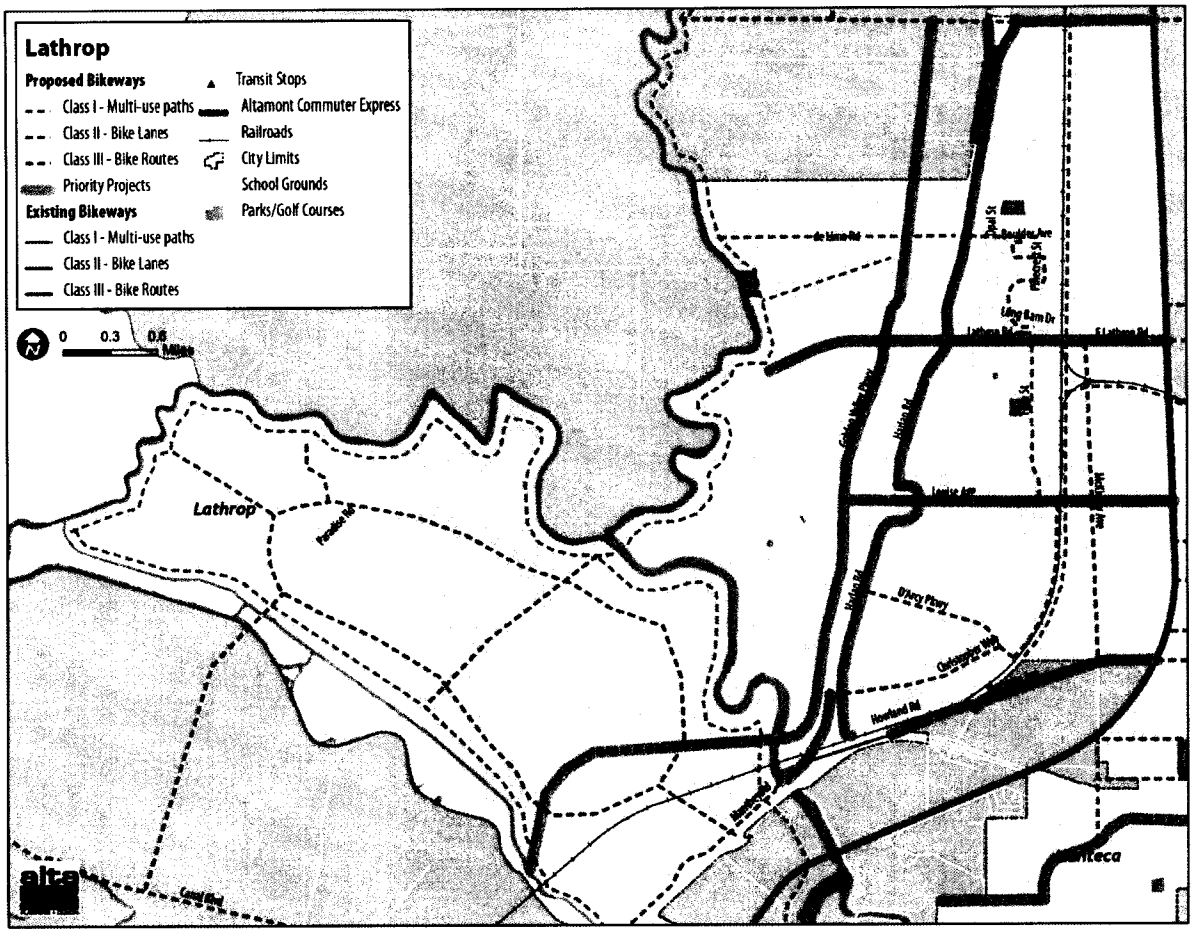
[5] *Formerly Guthmiller Road.*

Table 5: SJCOG Regional BP-SRTS – Lathrop Vision Bikeway Projects

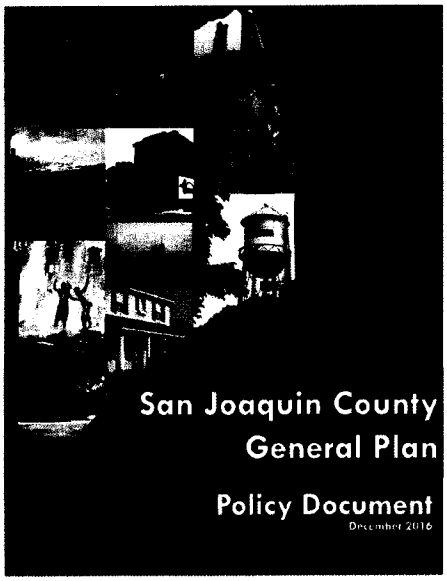
Location	Class	Start	End	Miles
5th Street	2	Lathrop Road	Thomsen Road	0.52
5th Street	2	Thomsen Road	Louise Avenue	0.49
7th Street Trail	1	D'Arcy Parkway	Roth Road	4.11
Canal Boulevard	2	Paradise Road	Manthey Road	3.92
Cedar Valley Drive	2	Stonebridge Road	Woodfield Road	1.10
Christopher Way	2	Harlan Road	D'Arcy Parkway	1.06
D'Arcy Parkway	2	Harlan Road	Yosemite Avenue	1.08
De Lima Trail	1	Manthey Road	San Joaquin River	1.50
Howland Road	2	D'Arcy Parkway	Louise Avenue	1.06
Manthey Road	2	Sadler Oak Drive	San Joaquin River	1.81
Mckinley Avenue	2	Lathrop Road	Yosemite Avenue	2.02
Paradise Cut Bike Lanes	2			10.48
Paradise Cut Trail	1	Old River	San Joaquin River	5.76
Paradise Road	2	Canal Boulevard	Paradise Cut Loop	2.13
Rail Trail	1	7th Street Trail	Airport Way	1.27
Roth Road	3	San Joaquin River	I-5	2.13
San Joaquin River Greenbelt	1	Paradise Cut Trail		10.50
San Joaquin River Greenbelt	1	Dos Reis Road	Golden Valley Parkway	0.86
San Joaquin River Greenbelt	1	Thomas Paine Slough	Paradise Cut	4.45

Source: San Joaquin Council of Governments Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

Figure 9: SJCOG Regional BP-SRTS – Lathrop Proposed Bikeways



Source: San Joaquin Council of Governments Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

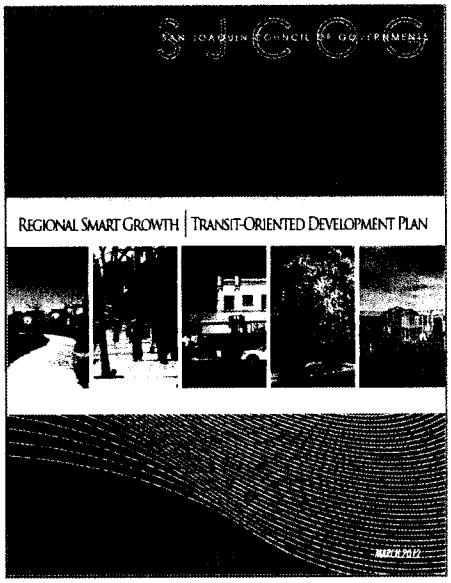


SAN JOAQUIN COUNTY GENERAL PLAN (2016)

PUBLIC FACILITIES AND SERVICES ELEMENT

The Transportation and Mobility section of the Public Facilities and Services Element of the San Joaquin County General Plan provides the framework for decisions in San Joaquin County concerning the countywide transportation system. It promotes the safe and efficient movement of people and goods in and around the county through a variety of travel modes. It encourages a multi-modal transportation system while also acknowledging the rural character of San Joaquin County. Policy priorities include:

- Encourage the development of a multi-modal transportation system to reduce air pollution and greenhouse gas emissions.
- Close gaps in roadways, bikeways, and pedestrian networks.
- Require new streets within Urban Communities to be designed and constructed as complete streets.
- Encourage complete streets in rural areas for both new and reconstructed roadways.
- Encourage complete streets along private roadways.
- Require new roadways in Urban Communities to be complete streets.
- Implement speed management policies that support safety for pedestrians and bicyclists.
- Support bicycle safety programs for kids and commuters in the County.
- Support safe pedestrian crossings at intersections with appropriate facilities and treatments.
- Encourage bicycle storage facilities at all new major transportation terminals and employment centers.
- Support connectivity of bicycle facilities and routes between unincorporated areas and cities.
- Support connectivity of bicycle facilities between residential and commercial areas, employment centers, educational facilities, recreational facilities, and major attractions.
- Ensure adequate roadway width for planned bicycle facilities on County roads.
- Ensure safe and convenient pedestrian access to new motor vehicle parking facilities.
- Maintain the Bicycle Master Plan and implement it as funding is made available.
- Consider pedestrian safety and accessibility when producing transportation plans, studies, and reports.
- Require sidewalks be ADA compliant in Urban Communities and City Fringe Areas.
- Provide bicycle parking at park-and-ride lots to encourage bicycling to them.
- Encourage new, large employers to provide bicycle racks.



SJCOG REGIONAL SMART GROWTH | TRANSIT-ORIENTED DEVELOPMENT (TOD) PLAN (2012)

The Regional Smart Growth | Transit-Oriented Development (TOD) Plan provides important contextual information for smart growth development in San Joaquin County. It summarizes local and regional policies, existing and forecasted greenhouse gas emissions, and economic and demographic trend information, all to assist the jurisdictions of San Joaquin County to plan for an environmentally sustainable future. The plan defines smart growth in San Joaquin County as growth that revitalizes central cities and older suburbs, supports and enhances public transit, promotes walking and bicycling, preserves open space and agricultural land, and is context-specific to communities found in San Joaquin County. Smart growth development locates a variety of land uses near each other, making it easier to reach destinations on foot or by bicycle. Smart growth promotes the inclusion of sidewalks, bicycle lanes, pleasant pedestrian

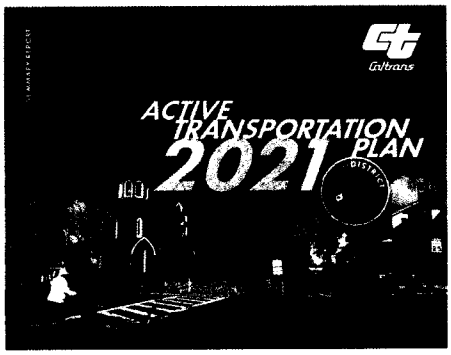
environments, and overall neighborhood design (e.g., streets on a connected grid) that makes it easier to choose active transportation.

REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS) (2022)

The RTP/SCS is a long-range transportation planning document that provides the sustainability vision for San Joaquin County through 2046. It defines what the region wants the future transportation system to look like, what types of decisions will help the region attain its visions, and the performance measures by which the region can assess its progress. Policy priorities include:

- Improve air quality by reducing transportation-related emissions.
- Provide transportation improvements to facilitate nonmotorized travel, including the incorporation of complete streets elements.
- Facilitate projects that reduce the number and severity of traffic incidents.
- Support local and state efforts for transportation network resiliency, reliability, and climate adaptation.
- Prioritize projects that make more efficient use of the existing road network.
- Support transportation improvements that improve economic competitiveness, revitalize commercial corridors and strategic economic centers, and enhance travel and tourism opportunities.
- Enhance public health through active transportation projects.

California



CALTRANS DISTRICT 10 ACTIVE TRANSPORTATION PLAN (2021)

The California Department of Transportation (Caltrans) District 10 Active Transportation Plan implements the vision of "Toward an Active California," identifying and prioritizing locations with bicycle and pedestrian needs in Caltrans District 10 with the plan goals of safety, mobility, equity, and preservation.

Caltrans evaluated data about the State Highway System (SHS) from its own inventories, regional plans, local plans, and public engagement, determining where gaps and barriers to walking and bicycling exist along or across the SHS. Location-based needs adjacent to the study area are identified in Table 6 on the following page.

Table 6: Caltrans District 10 Active Transportation Plan – Location-Based Needs

Road Segment	Extents	Crossing or Corridor	Mode
Yosemite Avenue	Crossing of SR 120	Crossing	Bicycle and Pedestrian
Louise Avenue	Crossing of I-5	Crossing	Bicycle and Pedestrian
Lathrop Road	Crossing of I-5	Crossing	Bicycle and Pedestrian
Roth Road	Crossing of I-5	Crossing	Bicycle and Pedestrian

Source: Caltrans District 10 Active Transportation Plan

Locations with needs on the SHS were evaluated and prioritized based on how they align with the goals of Toward an Active California. Scored segments were ranked and sorted into tiers, with Tier 1 representing the highest intensity of need. Prioritization of location-based needs adjacent to the study area are included in Table 7.

Table 7: Caltrans District 10 Active Transportation Plan – Needs Prioritization

Road Segment	Extents	Crossing or Corridor	Tier (intensity of need)
Yosemite Avenue	Crossing of SR 120	Crossing	Tier 3
Louise Avenue	Crossing of I-5	Crossing	Tier 3
Lathrop Road	Crossing of I-5	Crossing	Tier 3
Roth Road	Crossing of I-5	Crossing	Tier 3

Source: Caltrans District 10 Active Transportation Plan

TOWARD AN ACTIVE CALIFORNIA (2017)

Toward an Active California is the State's first bicycle and pedestrian plan that provides policies and actions for Caltrans and partner agencies to undertake to improve comfort, connectivity, safety, and feasibility of travel by walking and bicycling.

- By 2040, people in California of all ages, abilities, and incomes can safely, conveniently, and comfortably walk and bicycle for their transportation needs

Organization of this Plan

This ATP is organized into the following chapters:

- **Introduction** sets the planning context and vision for this plan.
- **Goals, Objectives, and Strategies** identifies the active transportation aspirations for Lathrop and the actions needed to achieve those aspirations.
- **Existing Conditions** documents the current walking and bicycling environment.
- **Stakeholder Engagement** catalogs the public outreach and engagement activities utilized throughout the development of this Plan.
- **Needs Assessment** highlights areas in the City needing the most attention to improve mobility for people walking and bicycling.
- **Recommendations** lists potential infrastructure improvements to the active transportation network.
- **Implementation Plan** provides strategies for activating the Plan, acknowledges potential challenges, and incorporates cost estimates and funding opportunities.

In addition, several appendices provide detailed data, analysis, or documentation:

- Appendix A: Stakeholder Engagement Documentation
- Appendix B: Recommendations
- Appendix C: Bicycle Level of Traffic Stress Analysis
- Appendix D: Resolution of Plan Adoption

Together, these elements—the Plan and appendices—will guide the City of Lathrop as it works to improve bicycling and walking in the community

GOALS, OBJECTIVES, AND STRATEGIES

This ATP outlines a plan of action to guide the City and its partners as they work to improve walking and bicycle in the Lathrop community.

The goals, objectives, and strategies included in the ATP reflect needs and priorities expressed by members of the community through public outreach activities, as well as City priorities and policies. These goals inform the selection and prioritization of projects, programs, and policies, Milestones set specific targets against which the City can measure success as they implement the recommendations in the ATP.

Goal 1: Enhance mobility by providing a comfortable, connected network of facilities for people to walk, bicycle, and roll.

OBJECTIVE 1

Work to reduce gaps in active transportation networks throughout Lathrop.

STRATEGIES

- Locate and close active transportation network gaps (both bicycle and pedestrian facilities), prioritizing high stress areas and areas close to key destinations. Implement low stress bicycle and pedestrian facilities up to a half of a mile around schools, transit stops (including the Lathrop-Manteca ACE commuter rail station), major shopping areas, and other key locations.
- Increase connectivity between the River Islands Community and greater Lathrop through existing and planned active transportation networks.
- Increase active transportation connection to local employers, supporting employees and industries such as Tesla, CBC Steel Buildings, and other important employee destinations.
- Increase connectivity to commercial destinations, benefiting residents and visitors frequenting businesses local businesses.

OBJECTIVE 2

Increase comfort and community connectedness.

STRATEGIES

- Where feasible, implement bicycle parking, water fountains, benches, shade trees, and other amenities along active transportation networks that increase comfort and usability.
- Work with local community groups to encourage and train people with group skill rides for families and their children to improve comfort while bicycling.

OBJECTIVE 3

Increase accessibility to recreational activities.

STRATEGIES

- Locate and close gaps in the active transportation trail network, connecting greater Lathrop to existing and planned recreational activities.

- Develop wayfinding signage and maps on site to assist user navigation.
- Implement technologies that highlight active transportation routes. Examples could include interactive digital maps located on the city website, maps user can access via their mobile devices, or other technologies that increase accessibility to recreation information.
- Host community engagement activities that highlight trail networks.

Goal 2: Encourage active transportation within Lathrop.

Current estimates show that 0.4% of Lathrop residents walked to work and 0.3% bicycled to work in 2021[6]. Creating educational programs or encouragement events focused on active transportation, especially when paired with infrastructure, helps to increase the share of users that walk and bicycle to work.

OBJECTIVE 1

Increase the percentage of people walking and bicycling to work by 5% by 2030.

STRATEGIES

- Expand bicycle safety education to be a routine part of education for students of all ages and abilities.
- Encourage employers to incentivize commuting via active transportation modes.
- Promote community-oriented walking and bicycling encouragement activities. Activities could be oriented around new recreational active transportation networks, routes to school, or on networks that aim to support the connection to the River Islands.
- Implement a pedestrian and bicyclist evaluation program to track how users respond to infrastructure improvements and non-infrastructure programs. Examples of evaluation programs include an annual pedestrian and bicycle program, and an annual report card and ride along to track program process.
- Host open streets events for new developments that highlight the denser, mixed use town center Lathrop is developing in the River Islands community.

Goal 3: Foster a safe environment for pedestrians and bicyclists.

OBJECTIVE 1

Aim to reduce pedestrian and bicyclist deaths and severe injuries by 50% by 2030.

STRATEGIES

- Develop a Vision Zero Action Plan with emphasis on the Safe Systems approach, which is designing infrastructure that proactively reduces risks and decreases the severity of crashes for all people. Components of the plan should include gathering relevant pedestrian and bicycle safety data, develop community engagement activities that support the creation of Vision Zero initiatives and projects, and create a plan that is context specific with actionable goals and projects to create safer roadways in Lathrop.
- Prioritize and implement projects that increase safety for bicyclists and pedestrians, especially in areas with historical bicycle and pedestrian fatalities and severe injuries.

OBJECTIVE 2

Where possible, implement complete streets practices that reduce the Level of Traffic Stress (LTS) on streets and roadways from LTS 3 and 4 to 1 and 2.

STRATEGIES

- Pinpoint segments that historically have collisions or have a high Level of Traffic Stress that disincentivizes people from

[6] *https://data.census.gov/table?q=means+of+transportation+to+work&g=160XX00US0640704&tid=ACSDT5Y2021.B08006*

walking and bicycling or creates an uncomfortable environment for active transportation users.

- Implement Complete Street strategies when possible, including, but not limited to:
  - Reductions in number of lanes and lane widths, adding protected bicycle lanes or multi-use paths and wider sidewalks, where applicable, for safer facilities that encourage people to walk or ride a bicycle more often.
  - Increase crossing opportunities, high visibility crosswalks, and curb extensions that shorten crossing distances that allow pedestrians more mobility and safer crossing.
  - Construct medians in junction with lane reduction to create opportunities to plant trees and increase greenspace, provide pedestrian refuges across wide streets, reduce capacity and slow traffic speeds.

OBJECTIVE 3

Improve safety for children and families walking and bicycling to school.

Building knowledge around traffic safety and pride in using active transportation modes at a young age influences children's travel habits for the rest of their lives, so safety programs at school are important to building a bicycling and walking community.

STRATEGIES

- Prioritize, where possible, Safe Routes to School infrastructure projects within two miles of schools to create safer opportunities for people walking or bicycling to school.
- Implement non-infrastructure (NI) projects and programs around the five Es of NI - education, encouragement, equity, engineering, and evaluation.
- Implement crossing guard programs at schools with active transportation infrastructure to encourage usage. Supplement with Safety Patrol programs that allow students to assist their peers with traffic safety.
- Support school assemblies and classroom education opportunities, as well as outdoor activities like bicycle rodeos and walking school buses or field trips that provide a variety of ways for students to engage in active transportation.

Goal 4: Prioritize implementing active transportation infrastructure projects that meet the needs of Lathrop's growing population and reduce vehicle miles traveled and greenhouse gas emissions.

OBJECTIVE 1

Prioritize creating active transportation networks near medium and high-density housing and mixed-use residential developments.

STRATEGIES

- The SJCOG Regional Transportation Plan/Sustainable Communities strategy references the California Air Resource Board (CARB) and SB 375, which set a regional goal of reducing GHG emission by 16% of 2005 level by 2035,[7] and CARB asserts that policies and programs resulting in per capita VMT reduction are partly responsible for emission reductions.[8] As Lathrop develops the River Islands community as well as adds housing throughout other areas of Lathrop, developing pedestrian and bicycle networks, and implementing complete streets practices in areas zoned for medium to high

[7] *https://www.sjcog.org/DocumentCenter/View/7282/Ch-1-Introduction-Final*

[8] *https://ww2.arb.ca.gov/resources/documents/carb-2017-scoping-plan-identified-vmt-reductions-and-relationship-state-climate*

residential density and mixed-use designations will help Lathrop meet VMT and GHG emission reduction goals, even as the population rises.

- Establish bicycle parking with a focus on mixed use and higher density residential areas.
- Consider park and ride facilities for bicycles and cars at train stations to encourage rail travel, or near recreational sites to improve access to the outdoors.

EXISTING CONDITIONS

Understanding the existing conditions, current challenges, and prime opportunities helps lay the foundation for strategic active transportation project, program, and policy recommendations that meet the needs of the Lathrop community. This chapter supports these recommendations by first providing a detailed record of the City as we find it today, including local context, transportation behavior, existing transportation network, safety, level of traffic stress (LTS), and current programs.

Local Context

The City of Lathrop is currently experiencing tremendous growth. In May 2022, Lathrop was identified by the California State Department of Finance as the second "fastest growing city with a population over 30,000," attracting a significant number of new residents. These new residents are relocating from the Bay Area and elsewhere, likely benefiting from flexible work-from-home policies begun during the COVID-19 pandemic and seeking lower housing costs. In one example, the mixed-use master-planned River

Islands community within Lathrop is an area where former Bay Area dwellers now make up a high proportion of new residents. Amenities such as walking trails, recreational facilities, new schools, and proximity to the San Joaquin River add to the desirability of the community. River Islands' developers are also seeking to encourage relocation of established corporate businesses from the Bay Area and elsewhere by marketing mixed-use campus sites ready and prepped for ground-breaking and development. Lathrop is growing.

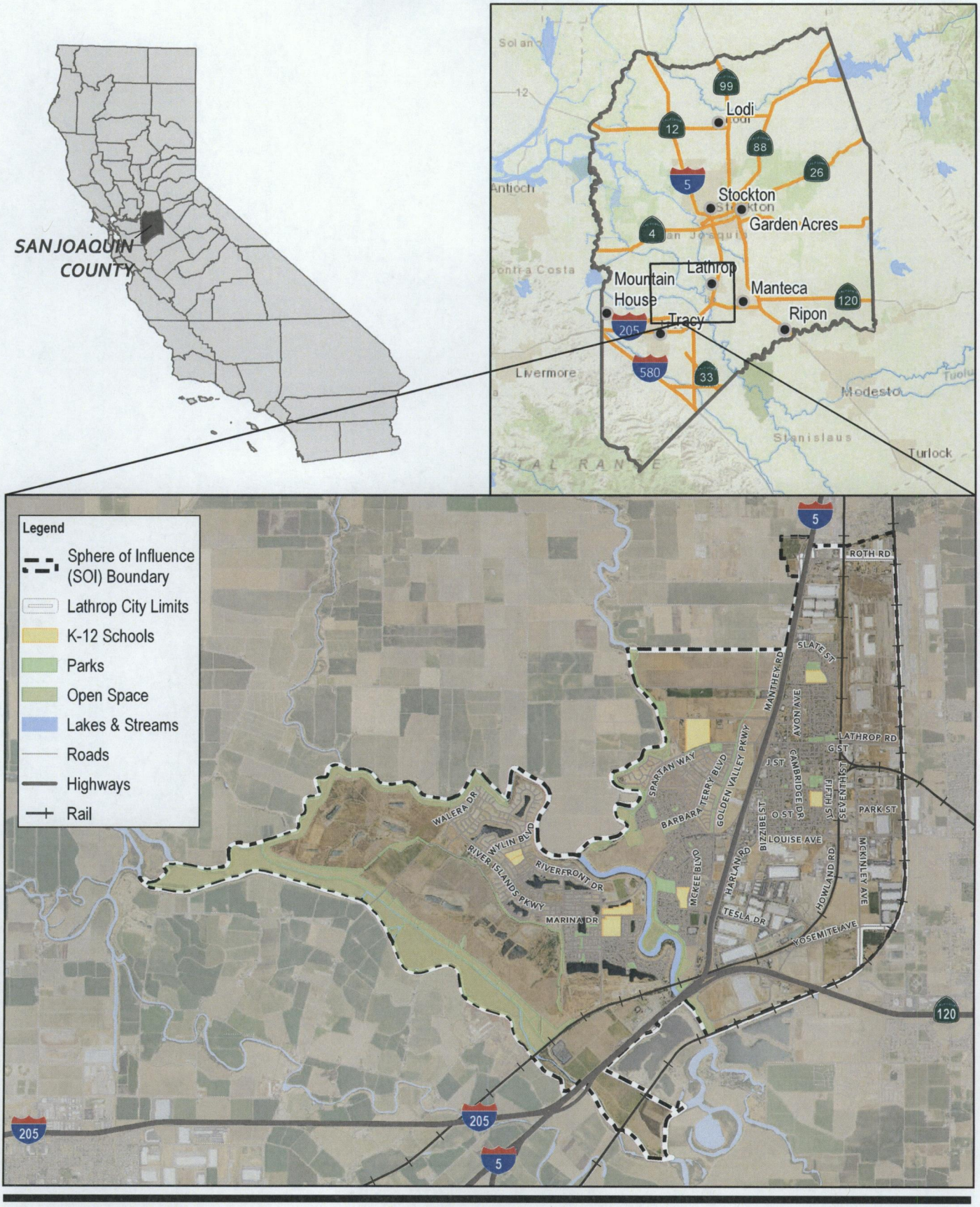
The City's business-friendly environment is home to leading technology, e-commerce, and food-related companies including Tesla, Wayfair, and In-N-Out who have established large-scale operations in Lathrop. Though these conditions make the City attractive, they also bring challenges. The combination of new residents and jobs will undoubtedly increase motor vehicle trips and traffic within and through the City if changes to the transportation network do not accompany this growth.

Land Use and Major Destinations

The City of Lathrop is in the Northern San Joaquin Valley – near the crossroads of Interstate 5 (I-5), Interstate 205 (I-205), and State Route 120 (SR 120) – nine miles south of the city of Stockton. Lathrop, divided by the San Joaquin River, I-5, and the Union Pacific Railroad right of way, is approximately 23 square miles in geographic area. Lathrop is the fifth most populous city in San Joaquin County and is located within California's largest agricultural region, the Central Valley. The communities of French Camp and Stockton are located to the north, Manteca to the east, and Tracy to the southwest. For additional location context, see the vicinity map in Figure 10.

Lathrop's agricultural origins and relatively recent incorporation in 1989 are reflected in its current development pattern. Neighborhoods of auto-oriented, lower-density residential areas surrounded by open space and agricultural uses flow into commercial and industrial tracts that abut interstate highway and freight rail corridors. Lathrop's more recent development patterns did not grow from a centralized urban downtown core with a street grid pattern. Instead, the community has utilized master planning and strategic annexations as it matures (see Figure 12), resulting in residential subdivisions with discontinuous street networks, often with loop streets and cul-de-sacs. These subdivisions are frequently bisected by north-south and east-west collector streets, with connections between each larger residential area provided by wider, multi-lane arterial streets.

Large commercial and industrial employment centers are concentrated along I-5, SR 120, and the Union Pacific ROW. Schools, parks, and open space are scattered throughout the City, within walking distance for some residents (see Figure 11). The San Joaquin River is the most significant geographic feature within the community, providing many current and future opportunities for neighborhood-accessible recreation and an important resource for local and migratory wildlife.



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

CITY OVERVIEW & REGIONAL VICINITY

Project No. 12594140
Revision No. A
Date Jun 2023

FIGURE 10

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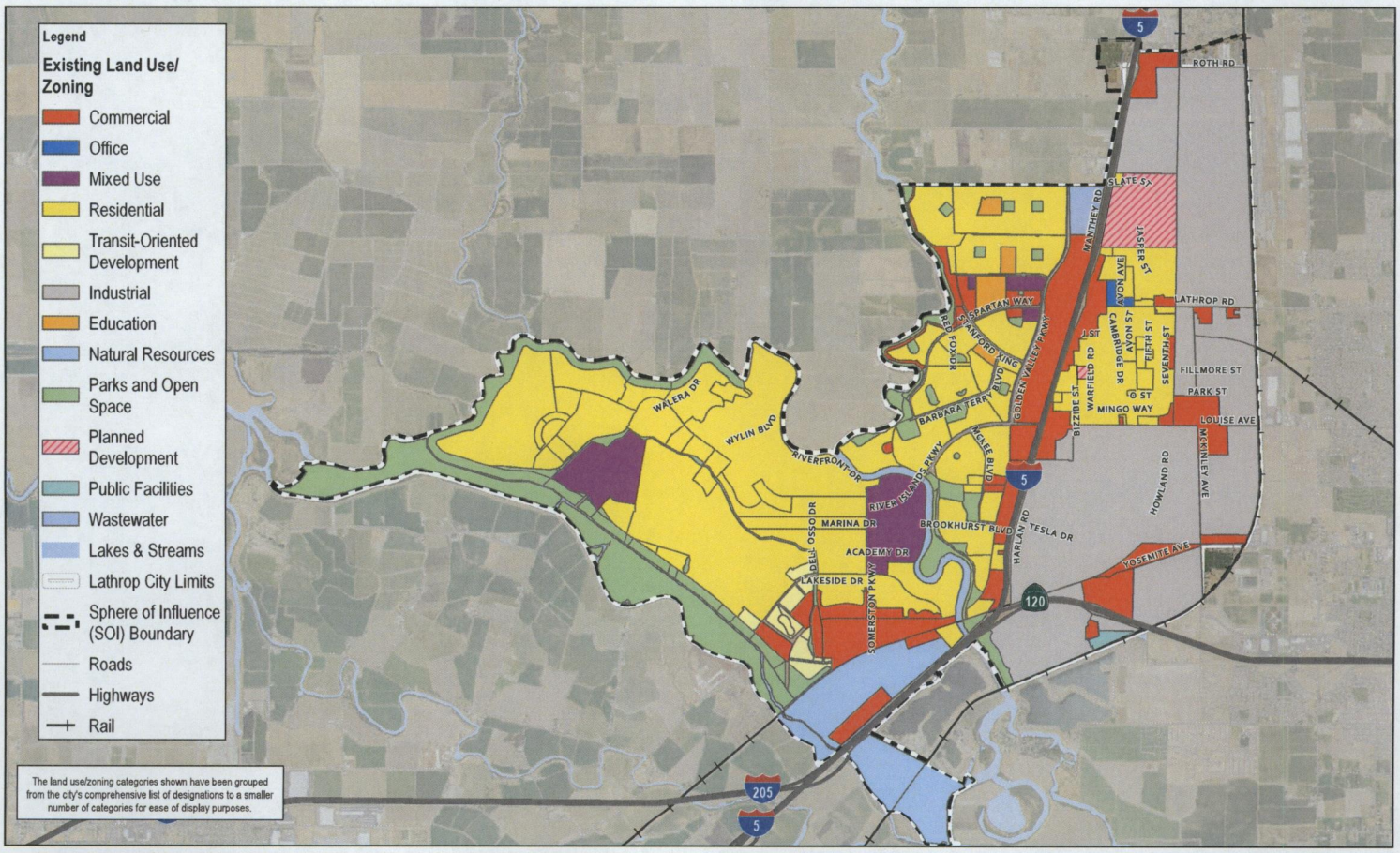
Data source: World Topographic Map - labelless: San Joaquin County GIS/Planning, California State Parks, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS; EnerGov/Aerials_2020: City of Lathrop; Geographic Technologies Group.; World Topographic Map: Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS. Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

EXISTING
LAND USE/ZONING

Project No. **12594140**
Revision No. **A**
Date **Jun 2023**

FIGURE 11

\\ghdnet\ghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 11 LU-ZONING
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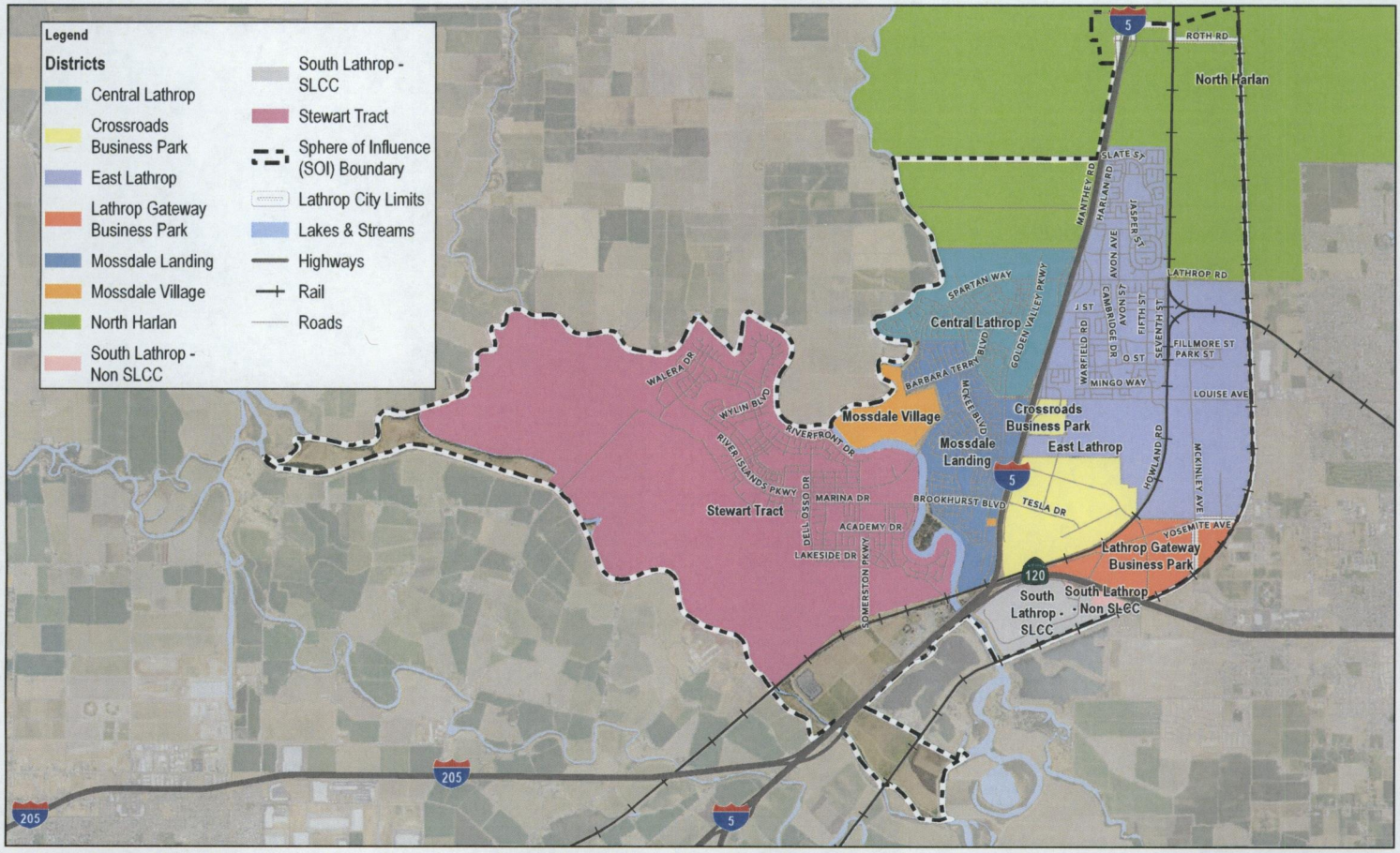
Data source: EnerGov/Aerials_2020: City of Lathrop; Geographic Technologies Group.; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

SPECIFIC AREA BOUNDARIES

Project No. 12594140
Revision No. A
Date Jun 2023

FIGURE 12

\\ghdnetfgh\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 12 Specific Area Boundaries
Print date: 23 Jun 2023 - 20:56

Data source: EnerGov\Aerials_2020: City of Lathrop; Geographic Technologies Group, ; Highways: TIGER, 2021, ; Parks, Schools: San Joaquin County, 2023, ; Roads: City of Lathrop, 2023, San Joaquin County, 2023, ; SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeel

Demographics

All demographic data reflects 2021 American Community Survey 5-year Estimates from the United States Census Bureau, unless otherwise indicated.

POPULATION

Lathrop is home to roughly 33,670 residents,[9] an average household size of 4.02 or 7,349 households, with a growth rate of 6.63 percent per year.

AGE

As shown in Table 8, residents 19 years of age and under account for nearly one third of the City of Lathrop's population. A majority of those 19 and under are unable to drive themselves in personal vehicles, suggesting a sizable need for safe places to walk, bicycle, or take transit to their destinations.

Table 8: Age of Lathrop Residents

Age Group	Percent
19 years and under	31.9%
20-44	35.5%
45-64	22.1%
65 and over	10.4%

American Community Survey 2021 5-year Estimates

INCOME

Median household income in Lathrop is $99,632, which is both greater than the San Joaquin County median of $80,681 as well as the California median of $84,907.

ACCESS TO CARS

The California Healthy Places Index (HPI) ranks the City of Lathrop within the 69.7 percentile for automobile access,[10] greatly exceeding the San Joaquin County average of 32.1. Using HPI's latest data source (ACS 2015-19), just under 3 percent, or nearly 648 Lathrop residents, do not have access to a car. If extrapolated to today's population, that's about 909 people that may rely on walking, bicycling, or taking transit for their daily transportation needs.

DISADVANTAGED COMMUNITIES

Disadvantaged communities are often burdened by a lack of appropriate facilities for bicycling and walking.[11] The presence of disadvantaged communities, including those with lower socioeconomic status, communities of color, and communities faced with environmental or pollution burden, can be measured in several ways. In 2019, the City prepared a General Plan Existing Conditions Report as part of the General Plan Update using the California EnviroScreen 3.0 tool from the State Office of Environmental Health Hazard Assessment. Using data analysis, the report notes that all areas within the General Plan Planning Area are designated as disadvantaged communities.

This Plan identifies disadvantaged communities using the updated California EnviroScreen 4.0 tool, providing a spatial assessment of the environmental health hazards present in different areas of the City. These hazards are mapped and scored based on the pollution burden from things like diesel engine particulate matter, drinking water contaminants, and hazardous waste as connected to the characteristics of the local population, including rates of asthma, cardiovascular disease, poverty, and unemployment.

Figure 13 shows the range of CalEnviroScreen 4.0 results for census tracts in the City of Lathrop, with the red color indicating a score of

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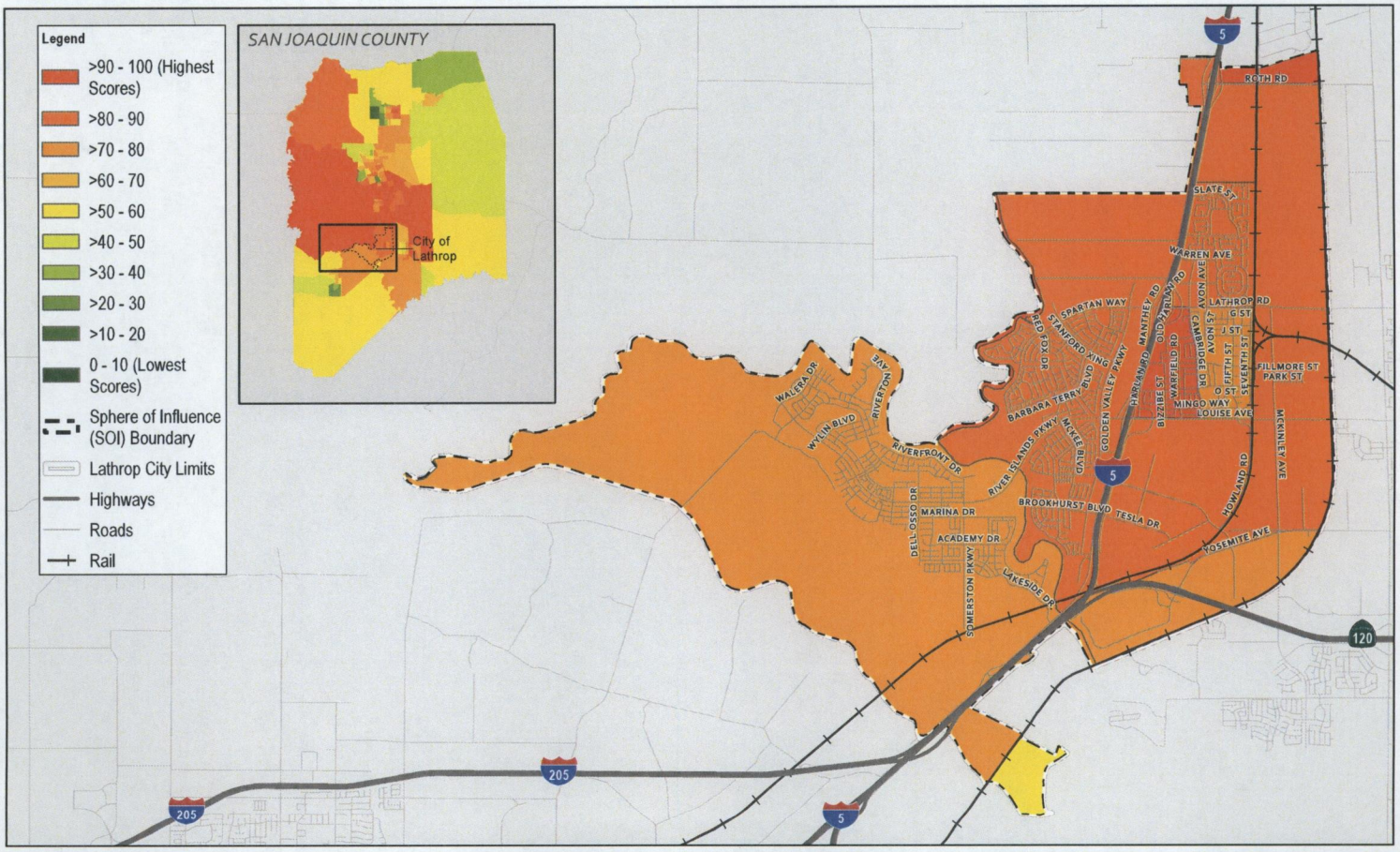
9 US Census Bureau, Population Estimates, July 1, 2022 (V2022)

10 California Healthy Places Index. https://www.healthyplacesindex.org

11 California Environmental Protection Agency. Proposed SB 535 Disadvantaged Communities. October 2021. https://oehha.ca.gov/calenviroscreen/sb535

greater than 90 to 100, areas with the most serious environmental health hazards. As all census tracts in the City are within the 25% highest scoring census tracts, all areas in the City of Lathrop are again designated by the California Environmental Protection Agency as disadvantaged communities.

Figure 14 depicts Median Household Income for Lathrop, providing additional context for important disadvantaged community indicators.



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

CALENVIROSCREEN (CES) 4.0 RESULTS

Project No. 12594140
Revision No. A
Date Jun 2023

FIGURE 13

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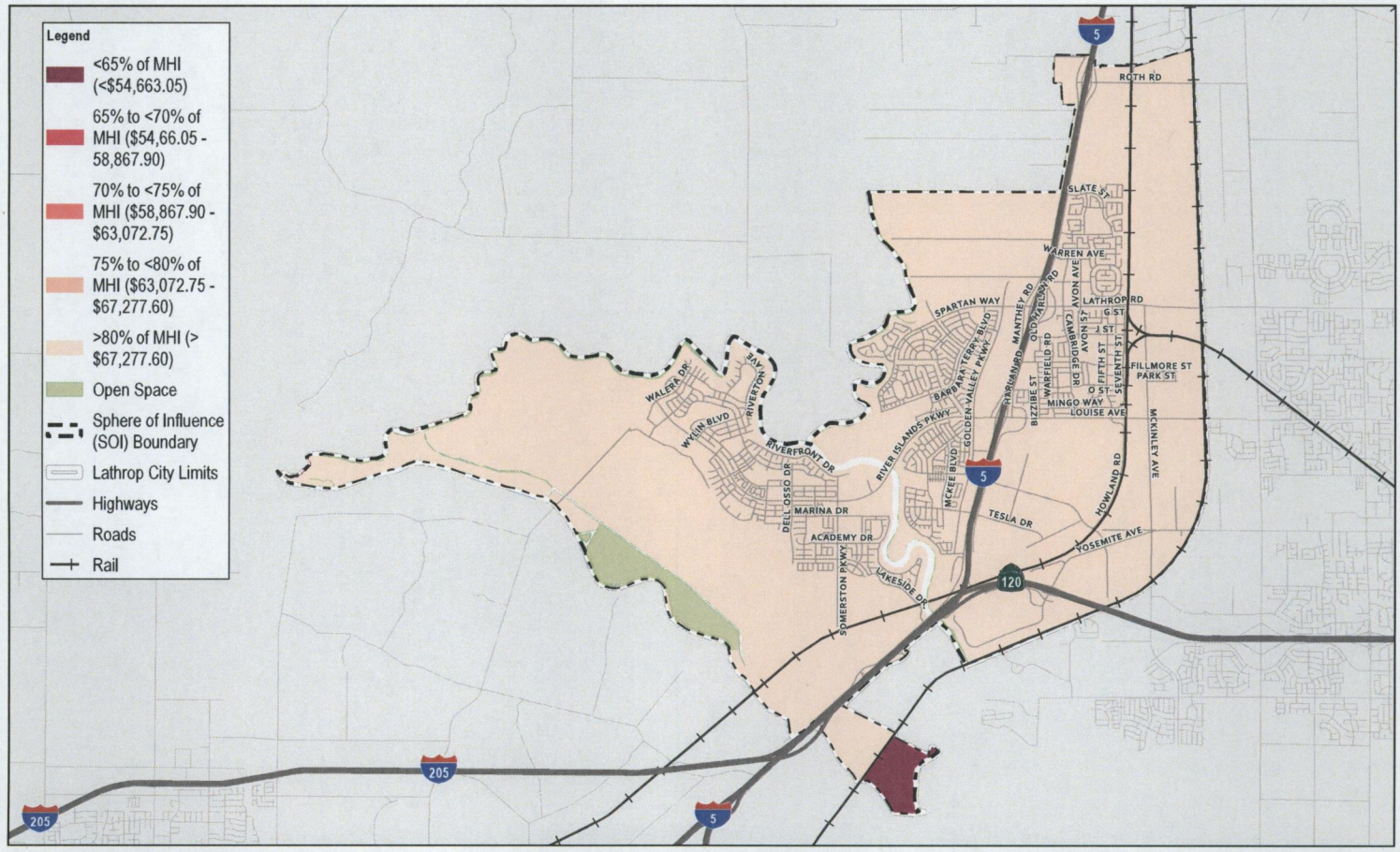
Data source: ; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023, CES 4.0: CA OEHHA, 2021.
Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

MEDIAN HOUSEHOLD INCOME (MHI)

Project No. **12594140**
Revision No. **A**
Date **Jun 2023**

FIGURE 14

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Print date: 09 Jun 2023 - 13:57

Data source: ; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023; MHI: U.S. Census ACS 2017-2021 5-year estimates, Table B19013.
Created by: ppeal

Transportation Behavior

Commute to Work

MODE OF TRANSPORTATION

Over 75 percent of employed residents in Lathrop drive alone to work, according to 2021 5-year estimates from the American Community Survey. The City, however, does exhibit a noticeably higher carpool rate than the county or state, at over 13 percent, possibly due to its reputation as a bedroom community for the jobs-rich Bay Area and Silicon Valley.

Very few people walk or bicycle to work in Lathrop, with under 2.5 percent using these modes. Table 9 provides a comparison of rates in Lathrop with San Joaquin County and the state as a whole. Travel time to work, discussed in the next section, may provide some context for the low active transportation commute rates.

Table 9: Mode of Transportation to Work

	Lathrop	San Joaquin County	California
Drive alone	75.4%	75.4%	70.6%
Carpool	13.2%	10.4%	9.6%
Public transit	1.1%	0.7%	4.0%
Walk	0.4%	0.7%	2.1%
Taxicab, motorcycle, bicycle, other	2.0%	1.6%	2.4%
Work from home	8.0%	11.2%	11.3%

American Community Survey 2021 5-year Estimates

TRAVEL TIME TO WORK

Travel time to work is aggregated in ten-minute increments. More than 64 percent of workers who live in Lathrop travel 60 minutes or more to their workplace, suggesting most workers who live in Lathrop commute to employment centers in Silicon Valley, the Bay Area, and Sacramento.

While long commutes may be unlikely candidates to shift to walking or bicycling, about 0.9 percent of workers in Lathrop, or nearly 4,000 people, travel less than 10 minutes to work each day. An additional 8.2 percent, or more than 35,000 people, travel between 10 and 20 minutes to work. If improved connections between residential neighborhoods and employers within Lathrop are created, these short commutes represent opportunities to increase walking and bicycling trips.

San Joaquin RTD County Hopper

Transportation Network

Streets and Highways

Most of Lathrop is organized into residential, agricultural, and industrial subdivisions bisected by a handful of major arterials. Many of these arterials are four to six lanes wide and typically intersect with other arterials at signalized intersections.

Within the subdivisions, collector streets provide access to residential neighborhoods characterized by cul-de-sac and loop streets in some neighborhoods. Older neighborhoods east of I-5 exhibit a pattern of streets mostly oriented north-south and east-west, but without the frequent intersections of a grid pattern.

I-5 runs north-south, and SR 120 runs east-west from the I-205 terminus toward Manteca and

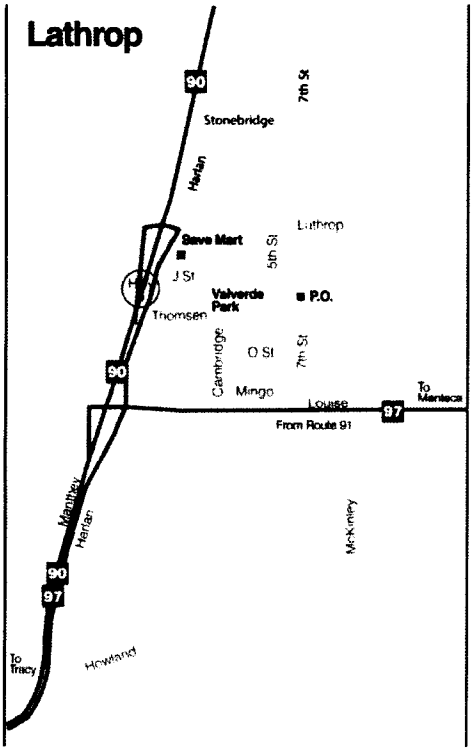
points east, providing regional connections. I-5 bisects east and west Lathrop and SR 120 bisects northeast and southeast Lathrop, which present connectivity and safety challenges for people walking and bicycling.

Transit

Lathrop does not have its own transit system, unlike some neighboring communities. San Joaquin Regional Transit District (RTD) is San Joaquin County's public transit system, which operates 63 transit routes countywide and provides transit service to Lathrop, in addition to the communities of Lodi, Ripon, Thornton, French Camp, Manteca, and Tracy as well as local and regional service to the city of Stockton.

RTD operates three transit routes serving the City of Lathrop: 90, 97, and 150. shows routes 90 and 97 within Lathrop.

Figure 15: Lathrop Service Area Map

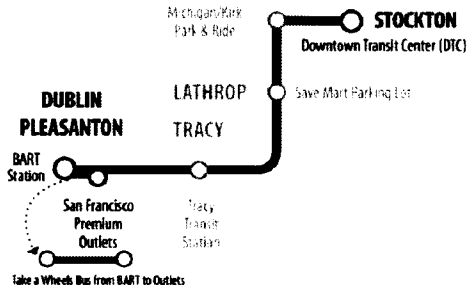


Source: SJCOG/San Joaquin RTD

Route 90 is an intercity County Hopper route providing deviated fixed-route service. It connects Stockton, Lathrop (at Lathrop Road and Harlan Road), and Tracy and it accommodates passengers who are not able to reach their destinations in more rural areas by allowing route deviations of up to one mile. Reservations are required. Route 97 is also a County Hopper route with deviated fixed-route service. It connects Tracy, Lathrop (at Louise Avenue and Harlan Road), and Manteca.

Figure 16 shows route 150, a commuter bus service connecting Stockton's Downtown Transit Center and the Dublin/Pleasanton BART heavy rail station in the Tri-Valley via Lathrop (at the Save Mart Parking Lot on Harlan Road).

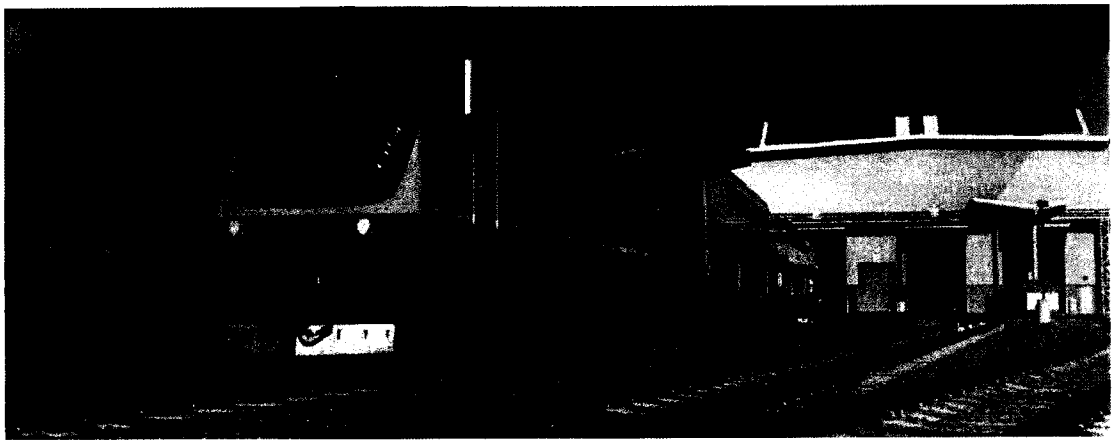
Figure 16: RTD Route 150 Map



Source: San Joaquin RTD

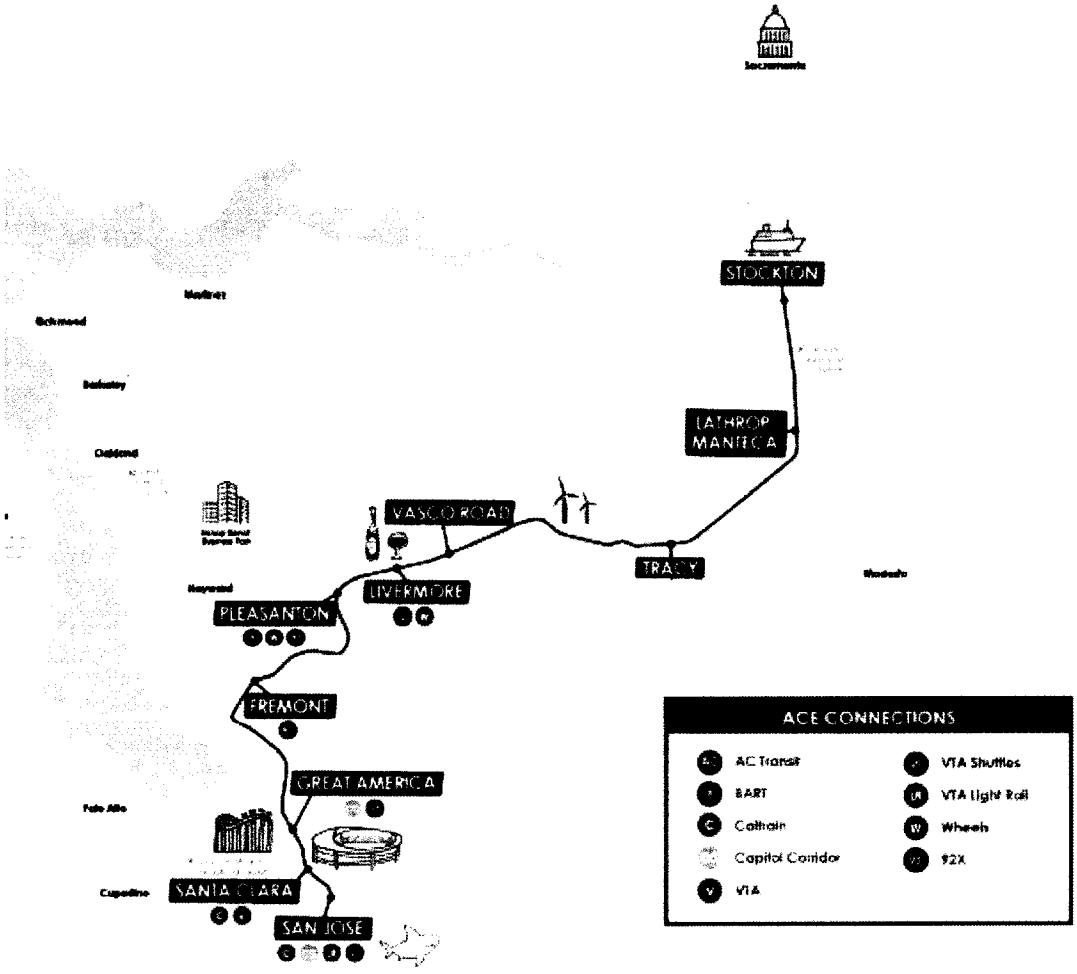
RTD operates a Dial-A-Ride ADA paratransit service to meet the needs of seniors and people with disabilities. It also operates a pilot program called RTD Van Go! that provides on-demand rideshare service (demand-response) countywide that can be booked up to 48 hours in advance via desktop or mobile app.

Lathrop is also served by commuter rail via the Lathrop/Manteca Altamont Corridor Express (ACE) Station, located near W Yosemite Ave and Shideler Pkwy, along the border between Lathrop and Manteca. ACE provides four westbound trains in the morning and four eastbound trains in the evening connecting Stockton to Silicon Valley and San Jose via Lathrop and surrounding communities as well as via the Tri-Valley. Figure 17 shows the ACE route map and regional connections. Figure 18 shows major destinations and transit in Lathrop.

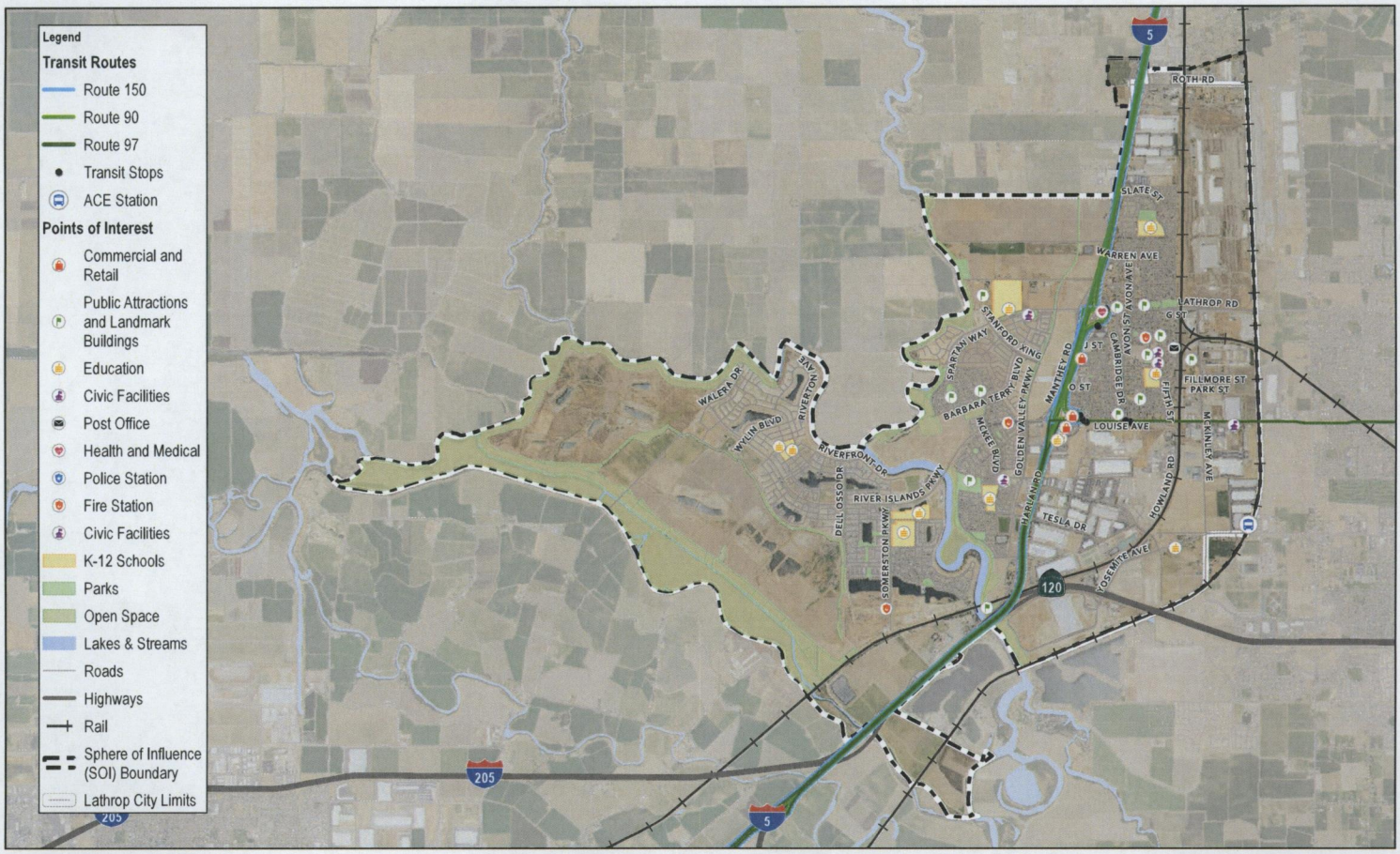


Source: ACE

Figure 17: ACE Route Map and Connections



ACE provides regional connections north to Stockton and southwest to the Tri-Valley and Silicon Valley. Source: ACE.



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

MAJOR DESTINATIONS & TRANSIT

Project No. **12594140**
Revision No. **A**
Date **Jun 2023**

FIGURE 18

\\ghdnet\ghd\US\Sacramento - 2200 21st\Projects\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 17 Major Destinations-Transit
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Data source: EnerGov\Aerials_2020: City of Lathrop; Geographic Technologies Group:_Highways: TIGER, 2021:_Parks, Schools: San Joaquin County, 2023:_Roads: City of Lathrop, 2023, San Joaquin County, 2023:_SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeal

The City of Lathrop is served by Altamont Corridor Express (ACE) commuter rail at the Lathrop/Manteca Station.

SJCOG UNMET TRANSIT NEEDS ASSESSMENT FY 23-24 DRAFT

As administrator for Transportation Development Act (TDA) funds for San Joaquin County, SJCOG is tasked with performing an annual Unmet Transit Needs (UTN) Assessment, including extensive public outreach. Unmet Transit Needs are "those trips required - but not currently provided and not scheduled to be provided within San Joaquin County - for residents who use or would use public transportation to meet their life expectation."

The Unmet Transit Needs Assessment noted that RTD and the City were working together on a Community Needs Public Transit and Apportionment Study to evaluate existing routes and identify new community areas to provide transit service. This study will include significant attention to enhancing transit connections between River Islands and the Lathrop/Manteca ACE Station.

The 2023-24 Draft review allowed significant public outreach, including public hearings, presentations, as well as the public distribution of UTN flyers at key locations throughout the county, including Lathrop City Hall. SJCOG's findings determined that there are no Unmet needs identified for the City of Lathrop during this assessment, as no Lathrop-related public input was provided.

Bicycle Facilities

The City of Lathrop has an existing network of bikeways throughout the community, consisting of Class I shared-use paths and Class II bicycle lanes. Class I facilities are located west of I-5, especially throughout the River Islands community. Class II facilities are primarily along the same roadways as the Class I facilities west of I-5; east of I-5 they serve as the primary bicycle facilities. With this existing bikeway backbone, however, high-stress routes and crossings as well as gaps and barriers remain.

Bikeway planning and design in California typically relies on guidelines and standards established in the Caltrans *Highway Design Manual*. There are four "classes" of bicycle facilities that provide varying levels of separation and comfort for bicyclists. These classes are described below. Existing bikeways in Lathrop, by class, are summarized in Table 10 and illustrated in Figure 19.

Table 10: Existing Bikeway Miles

Bikeway Class	Existing Miles
Class I Shared Use Path	25.46 mi
Class II Bicycle Lanes	14.5 mi
Class III Bicycle Routes	0.0 mi
Class IV Separated Bikeways	0.0 mi

Source: SJCOG's San Joaquin County Bike Maps

CLASS I SHARED USE PATHS

Class I shared use paths are paved trails completely separate from the street. They allow two-way travel by people walking and bicycling and are considered the most comfortable facilities for children and inexperienced bicyclists as there are few potential conflicts with people driving.

CLASS II BICYCLE LANES

Class II bicycle lanes are striped preferential lanes in the roadway for one-way bicycle travel. Some bicycle lanes include a striped buffer on one or both sides of the lane to increase

separation from the traffic lane or from parked cars, where people may open doors into the bicycle lane.

CLASS III BICYCLE ROUTES

Class III bicycle routes are signed routes where people bicycling share a travel lane or shoulder with people driving. Because they are shared facilities, bicycle routes are typically appropriate only on quiet, low-speed streets with relatively low traffic volumes.

Some bicycle routes include shared lane markings or "sharrows" that recommend proper bicycle positioning in the center of the travel lane and alert drivers that bicyclists may be present. Others include more robust traffic calming features to promote safety and comfort for people bicycling and are known as "bicycle boulevards."

CLASS IV SEPARATED BIKEWAYS

Class IV separated bikeways are on-street bicycle facilities that are physically separated from motor vehicle traffic by a vertical element or barrier such as curbs, bollards, or vehicle parking aisle. They can allow for one- or two-way travel on one or both sides of the roadway.

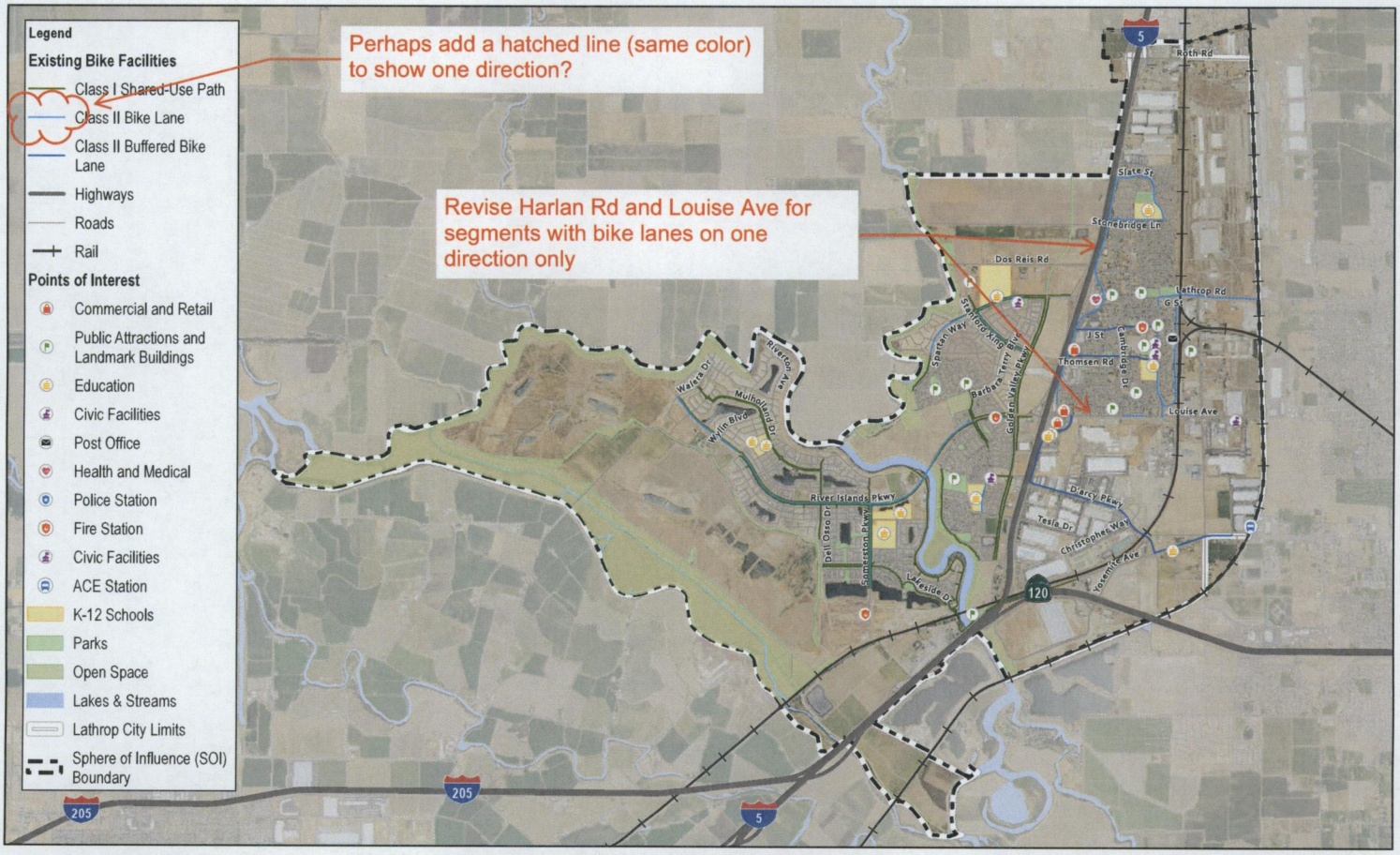
Additional Bicycle Facilities

BENNIE AND JOYCE GATTO HISTORIC TRAIL

The City of Lathrop's location along the San Joaquin River is made possible by levees that prevent the river from overflowing and inundating adjacent agricultural land and neighborhoods, particularly the community of River Islands. While providing environmental protection, these levees also provide outdoor recreation and connectivity opportunities for local and regional residents and visitors through the creation of parks and trails.

In May 2023, the Bennie and Joyce Gatto Historic Trail opened to trail users, honoring a remarkable couple dedicated to the betterment of the City and its people. This trail provides the initial mileage of what is to be the longest urban trail in the northern San Joaquin Valley. Open to people walking, jogging, and bicycling, trails like the Bennie and Joyce Gatto Historic Trail will also provide the future regional active transportation network backbone, connecting the City of Lathrop to other communities throughout the San Joaquin Valley.

The Bennie and Joyce Gatto Historic Trail connects residents and visitors to recreation and park facilities, residential neighborhoods, as well as other active transportation facilities Source: O'Dell Engineering Inc.



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

Project No. **12594140**
Revision No. **A**
Date **Jan 2024**

EXISTING BIKE FACILITIES

FIGURE 19

\\ghdnetghd\US\Sacramento - 2200 21st\Projects\56\11\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 19 Bikeways
Print date: 19 Jan 2024 - 15:40

Data source: EnerGov\Aerials_2020. City of Lathrop; Geographic Technologies Group.; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeel

Support Facilities

In addition to a network of bikeways, support facilities are also needed to attract and maintain dedicated bicyclists by considering their needs throughout their journey. People are less likely to ride their bicycles to destinations without secure bicycle parking. Other support facilities include showers or lockers at destinations, repair stations with basic tools, and wayfinding signs to help bicyclists navigate to routes and destinations.

BICYCLE PARKING

Secure bicycle parking is a critical part of a complete bicycle network. Bicycle parking is typically divided into two categories serving different purposes: short-term convenient bicycle racks and longer-term higher-security parking.

Short-term bicycle parking consists of bicycle racks placed in highly visible, convenient locations near the entrances to destinations. They serve bicyclists who need to park for a few hours or less, including visitors, customers, or other short-term users.

Long-term bicycle parking consists of bicycle lockers or secure parking areas like bicycle cages or bike rooms. They are intended for bicyclists who need to park for longer periods of time or overnight, including employees, students, transit riders, or residents in multifamily buildings.

The City of Lathrop Bicycle Transportation Plan (1995, 2003, 2004) featured a bicycle parking inventory (including bicycle lockers) within the Lathrop urban area, noting parking locations at area schools, employment hubs, community facilities, and commercial areas. The assessment, completed in 1995, noted the citywide supply of bicycle parking facilities as inadequate at that time, with only 112 bicycle parking spaces.

The Lathrop Municipal Code (17.76.120) requires bicycle parking to be provided for all commercial, professional office, and industrial uses, as well as public and quasi-public (institutional) uses, at a rate of 1 bicycle parking space for every 20 motor vehicle parking spaces (5 percent). For certain residential facilities, like single room occupancy developments, Lathrop Municipal Code (17.73.010) requires the provision of 1 bicycle parking rack for every 5 rooms at such developments.

SHOWER AND CHANGING FACILITIES

For bicycle commuters, having access to a place to shower, change, and securely store their belongings makes bicycling to work easier and more attractive.

The Lathrop Municipal Code (17.76.120) states that employers with 100 or more employees shall provide changing facilities for employees commuting by bicycle, including lockers located in a secure room equal to the minimum number of bicycle parking stalls required (5 percent). The provision of showers is not specified, however.

TRANSIT INTEGRATION

All buses serving RTD's Metro and Intercity routes provide easy-to-use front-loading bicycle racks, while RTD Interregional buses allow bicycles in the cargo area. RTD allowing bicycles onboard assists with regional connectivity and first- and last-mile connections that transit riders may need to make between their homes and destinations.

All ACE trains allow bicycles onboard, providing designated "bike cars," which contain 14 bicycle parking stalls with 2 more stalls on the lower level. The Lathrop/Manteca ACE Station also offers bike lockers that can be reserved ahead of time with a $60.00 refundable deposit and signed registration form.

Pedestrian Facilities

SIDEWALK

Together with Class I shared use paths, sidewalks form the backbone of the pedestrian transportation network. Given the age of the City, sidewalks are present in all residential and

commercial areas west of I-5, while they are not present in some older residential neighborhoods east of I-5. While most sidewalks, particularly along area arterials, are not overly wide, they are mostly free of obstructions from objects like light poles, overhead utilities, utility boxes, and outstanding repair needs.

Sidewalks are incomplete or non-existent in industrial areas, such as those in East Lathrop and South Lathrop. Where narrow sidewalks are present immediately adjacent to high-speed arterials, it can be challenging for pedestrians to comfortably navigate.

CROSSWALKS

Crosswalks are an extension of the sidewalk and provide guidance for pedestrians by defining a path of travel across the roadway at intersections. Crosswalks are not required to be marked, but marked crosswalks alert drivers to the crossing and increase yielding for pedestrians.

Marked crosswalks can use standard parallel lines or "ladder-style" high visibility markings that include bold perpendicular markings between crosswalk edge lines. In school zones, crosswalks are yellow.

CURB RAMPS

Curb ramps are necessary for people using wheelchairs and other mobility devices to access sidewalks and crosswalks as well as people pushing strollers or who may have difficulty stepping onto a raised curb. Under the Americans with Disabilities Act (ADA), curb ramps are required to be installed with all new or retrofitted sidewalks.

At corners, two curb ramps should be provided that align with each crosswalk.

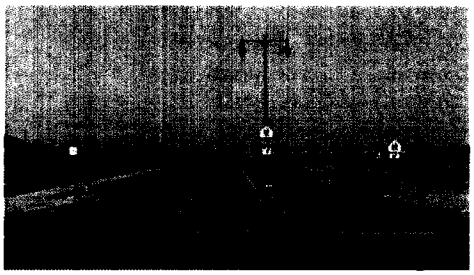
"Ladder-style" crosswalk adjacent to the roundabout near Michael Vega Park.

PEDESTRIAN SIGNALS AND RECTANGULAR RAPID FLASHING BEACONS

Pedestrian signals and rectangular rapid flashing beacons (RRFBs) are pedestrian activated devices used to facilitate crossings at midblock or uncontrolled locations (locations without a traffic control device such as stop sign or traffic signal).

Pedestrian signals control traffic at midblock crossing locations. The traffic signal rests on green for vehicles until a pedestrian pushes a button to cross the street. The signal changes to yellow and then red to stop traffic, and pedestrians are shown a "walk" signal.

RRFBs include bright amber rectangular lights that flash in an alternating pattern when a pedestrian pushes a button. The beacon is dark when not activated. RRFBs increase visibility of the crosswalk, and alert drivers when a pedestrian is crossing the street.



In-road warning lights on Spartan Way at Crespi Street

A few different pedestrian activated warning lights can be found in Lathrop today:

- Midblock crossing with illuminated signs on 5th Street and N Street

- In-road warning lights on Spartan Way at Crespi Street

ACCESSIBILITY INVENTORY

As part of the City's 2014 ADA Self-Evaluation & Transition Plan, the City of Lathrop completed a Pedestrian Rights-of-Way (PROW) report that surveyed high priority pedestrian facilities to identify hazards. The city will repair these hazards over a 30-year time frame through an approved prioritization methodology. This framework allows the City to target barriers that most limit accessibility by prioritizing government offices and facilities first, bus stops and transportation facilities second, places of public accommodation third, facilities containing employers fourth, and other areas like residential and underdeveloped regions fifth.

Safety

Collision data involving people walking and bicycling in Lathrop was sourced from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS) and from UC Berkeley's Transportation Injury Mapping System (TIMS). Ten years of data was evaluated, from January 2012 to December 2021. Findings related to bicycling and walking collisions are highlighted in the following sections.

A total of 3,496 collisions were reported within the City's sphere of influence during this period, including 31 resulting in fatality, 82 resulting in severe injury, 292 resulting in other visible injury, and 644 resulting in injury with complaint of pain, and 2,447 resulting in property damage only (PDO). Of the 3,496 reported collisions, 1.1 percent involved bicycles and 1.5 percent involved pedestrians.

Of the 3,496 collisions, 53.6 percent, or 1,874 collisions, occurred on state highways or ramps, and 46.4 percent, or 1,621 collisions occurred on non-state highway roads within the City's sphere. Of the 1,621 collisions occurring on non-state highway roads, 4.6 percent, or 74 collisions, involved a bicyclist or pedestrian.

While walking is prohibited along the state highways within the City (as is bicycling), 11.3 percent of collisions reported as occurring on state highways or ramps involved a pedestrian. Some of these collisions were associated with an intersection with a state highway ramp, however, several collisions were reported to have occurred on the state highway, where walking in prohibited.

Findings related to bicycling and walking collisions are highlighted in the following sections.

Bicycle-Related Collisions

During this ten-year period, 39 reported collisions involved a bicyclist. Of these, 1 resulted in severe injury (1.2 percent of all severe injury collisions), 11 resulted in visible injury (3.8 percent of all visible injury collisions), 13 resulted in injury with complaint of pain (2 percent of all complaint of pain injuries), and 14 resulted in PDO (0.6 percent of all PDO collisions).

Bicycle collisions are mapped by severity in Figure 20 and by collision density in Figure 21.

AGE

Among bicycle collisions where the age of the victim was reported, over 48 percent of victims were under 19 years old. Children under 19 make up 25 percent of the Lathrop population, suggesting youths are overrepresented among collision victims.

DETERMINATION OF FAULT

Of the 38 reported collisions involving a bicyclist where fault determination was stated, bicyclists were determined to be at fault in 61.5 percent of collisions, while motor vehicles were determined to be at fault in 35.9 percent of collisions. Bicyclists, however, were the collision victims in 24 of the 32 collisions (75 percent).

PRIMARY COLLISION FACTORS

In collisions where the bicyclist was determined to be at fault, 50 percent were attributed to traveling on the wrong side of the road. Among all bicycle collisions, the most common factors were bicyclists or drivers traveling on the wrong side of the road (31 percent) and automobile right of way (28 percent), followed by unsafe speed, improper turning and traffic signals and signs (all at just over 10 percent).

COLLISION TYPE

Of the 39 bicycle-involved collisions, the most common collision type was broadside collisions (also known as "T-bone" collisions), at 61.5 percent of all collisions involving a bicyclist.

TIME OF DAY

Most bicycle collisions occurred in daylight, and almost all occurred with some sort of illumination.

- Almost 77 percent (30 collisions) occurred in the daylight.
- 4 collisions (10 percent) occurred at dusk or dawn.
- 2 collisions (5 percent) occurred during darkness, but with the roadway illuminated by streetlights.
- 3 collisions (8 percent) occurred during darkness, and without illumination from streetlights.

Of all bicycle collisions, over one-third occurred in the afternoon, between noon and 6 p.m.

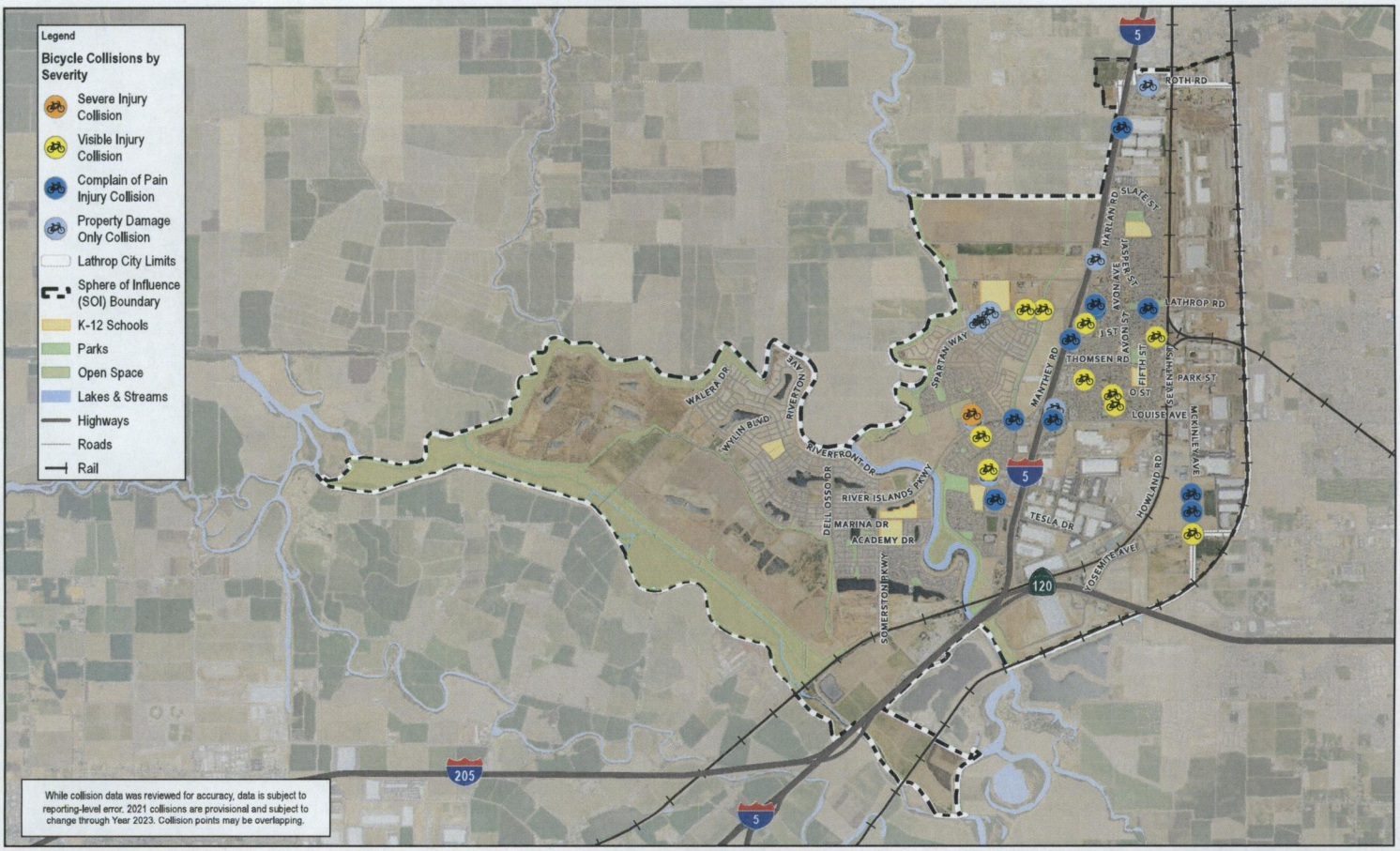
- 8 percent (3 collisions) occurred in the early morning, between midnight and 6 a.m.
- Almost 36 percent (14 collisions) occurred in the morning, between 6 a.m. and noon.
- Over 28 percent (11 collisions) occurred in the afternoon, between noon and 6 p.m.
- Another 28 percent (11 collisions) occurred in the evening, between 6 p.m. and midnight.

Tuesdays and Thursdays had the most bicycle collisions, with 9 collisions occurring on Tuesday and 8 occurring on Thursday, and the highest number occurring on Tuesday between 6 a.m. and noon (4 collisions).

ADDITIONAL FINDINGS

A plurality of collisions (64 percent, or 25 collisions) occurred along or near Lathrop's busier arterial and collector streets, including:

- Louise Avenue
- Lathrop Road
- Harlan Road
- McKinley Avenue
- McKee Boulevard
- Spartan Way



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

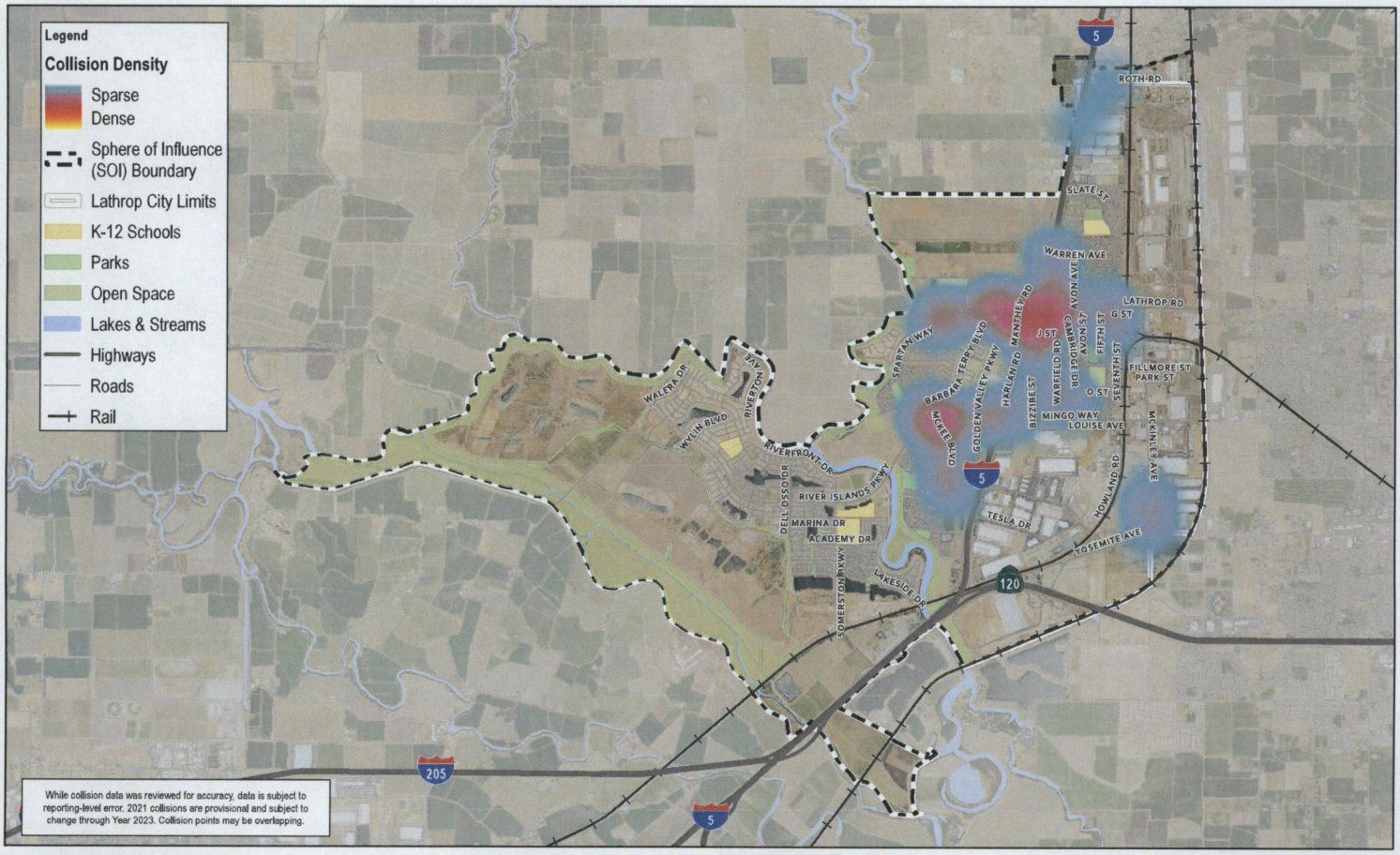
BICYCLE COLLISIONS BY SEVERITY (2012 - 2021)

Project No. 12594140
Revision No. A
Date Jun 2023

FIGURE 20

\\ghdnet\ghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 19 Bike Collision - Severity
Print date: 23 Jun 2023 - 21:04

Data source: Collision Data: TIMS & SWITRS: 2012 - 2021; Schools, Parks, County Roads, Lakes & Streams: San Joaquin County, 2023; Open Space: City of Lathrop Land Use; Highways: TIGER, 2021. City Roads: City of Lathrop, 2023; SOI Boundary, City Limits : City of Lathrop, 2023 EnerGovlAerials_2020: City of Lathrop; Geographic Technologies Group.
Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

DENSITY OF BICYCLE COLLISIONS (2012 - 2021)

Project No. **12594140**
Revision No. **A**
Date **Jun 2023**

FIGURE 21

\\ghdnet\ghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 20 Bike Collision - Density
Print date: 23 Jun 2023 - 21:06

Data source: Collision Data: TIMS & SWITRS: 2012 - 2021; Schools, Parks, County Roads, Lakes & Streams: San Joaquin County, 2023; Open Space: City of Lathrop Land Use; Highways: TIGER, 2021. City Roads: City of Lathrop, 2023; SOI Boundary, City Limits : City of Lathrop, 2023 EnerGovAreas_2020: City of Lathrop; Geographic Technologies Group.
Created by: ppeel

Pedestrian-Related Collisions

During the study period, 53 reported collisions involved a pedestrian. Of these, 8 were fatal (25.8 percent of all fatal collisions), 8 resulted in severe injury (9.8 percent of all severe injury collisions), 13 resulted in visible injury (4.5 percent of all visible injury collisions), 15 resulted in injury with complaint of pain (1.8 percent of all complaint of pain collisions), and 9 resulted in PDO (0.4 percent of all PDO collisions).

Pedestrian collisions are mapped by severity in Figure 22 and by collision density in Figure 23.

AGE

Among collisions where the age of the pedestrian was reported, 36 percent of victims were under 19 years old. Youth under 19 make up 25.4 percent of the Lathrop population, suggesting young people are, like bike collisions, overrepresented in pedestrian collisions.

FAULT DETERMINATIONS

Of the 53 analyzed collisions, 41.5 percent (22 collisions) were determined to be the fault of the pedestrian and 47 percent (25 collisions) were determined to be the fault of a motor vehicle. No fault determination was made in the remaining 11 percent (6 collisions) of reported collisions. Pedestrians, however, were the collision victims of injury in 45 of the 53 collisions (85 percent).

PRIMARY COLLISION FACTORS

In pedestrian collisions where the pedestrian was determined to be at fault, 95 percent of collisions were attributed to a pedestrian violation. This could include crossing against a pedestrian signal, crossing outside of a legal crosswalk, or other behaviors.

Pedestrians, however, have often been mistakenly deemed at fault for crossing outside of a crosswalk in locations without marked crosswalks (whether or not the pedestrians were crossing in a legal crosswalk) [12], and where there is a long stretch of roadway without a crosswalk, marked or otherwise.

Among collisions where drivers were determined to be at fault, the most reported collision factors were violation of pedestrian right-of-way (40 percent), and unsafe speed (16 percent), followed by improper turning, unsafe start or backing, and improper turning (all at 8 percent).

TIME OF DAY

Most pedestrian collisions occurred in daylight, and nearly all occurred with some sort of illumination.

- 49 percent (26 collisions) occurred in the daylight.
- 2 collisions (4 percent) occurred at dusk or dawn.
- 21 percent (11 collisions) occurred during darkness, but with the roadway illuminated by streetlights.
- 26 percent (14 collisions) occurred during darkness, and without illumination from streetlights.

Of all pedestrian collisions, a slight majority occurred in the early morning, between midnight and 6 a.m., or in the morning, between 6 a.m. and noon.

- More than 24 percent (13 collisions) occurred in the early morning, between midnight and 6 a.m.
- 38 percent (20 collisions) occurred in the morning, between 6 a.m. and noon.
- 11 percent (6 collisions) occurred in the afternoon, between noon and 6 p.m.
- 26 percent (14 collisions) occurred in the evening, between 6 p.m. and midnight.

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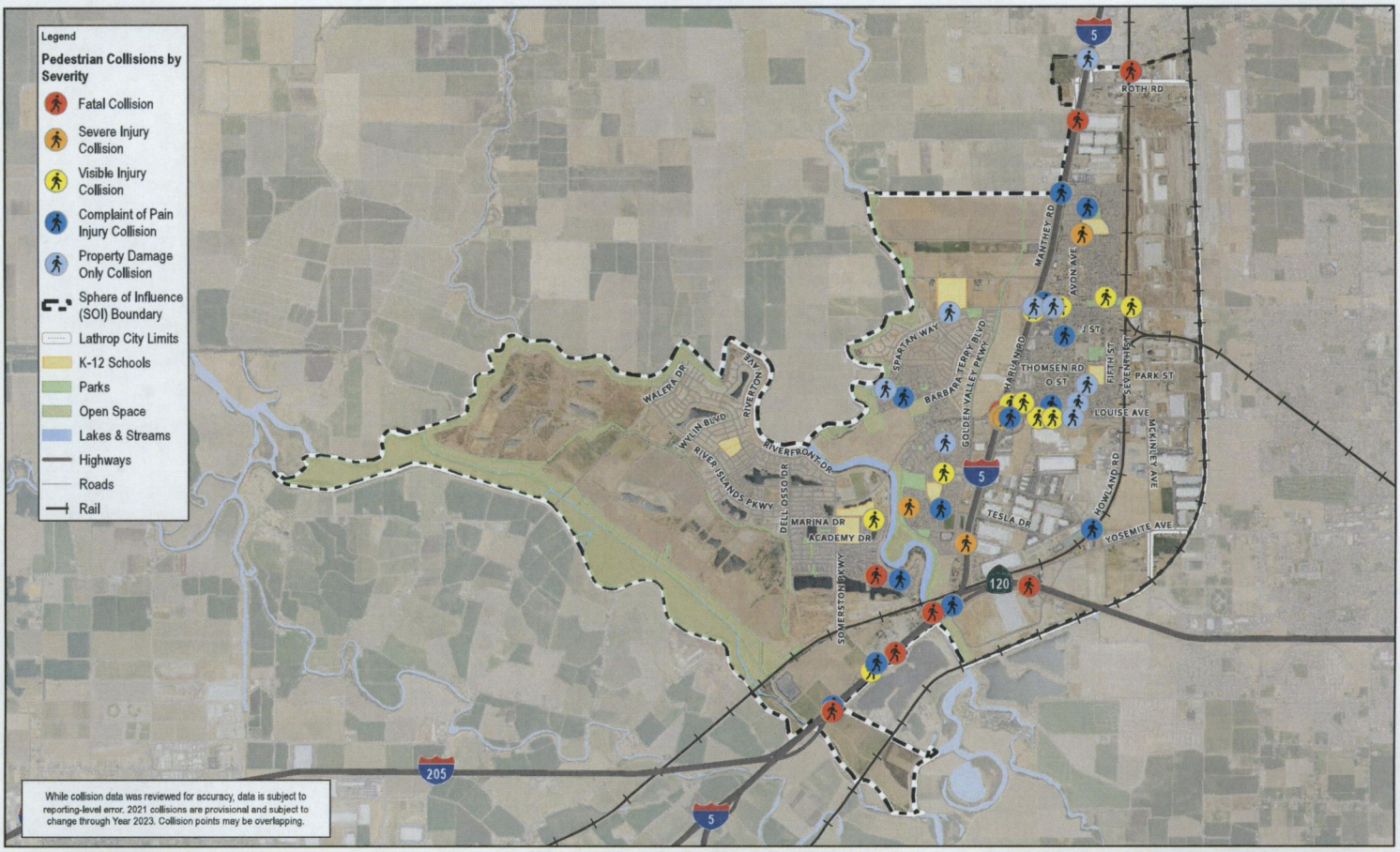
[12] *Pedestrians have the right-of-way in both marked and unmarked crosswalks. California Department of Motor Vehicles (DMV). California Driver's Handbook: Section 7: Laws and Rules of the Road.*



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Map Projection: Lambert Conformal Conic
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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

PEDESTRIAN COLLISIONS BY SEVERITY (2012 - 2021)

Project No. **12594140**
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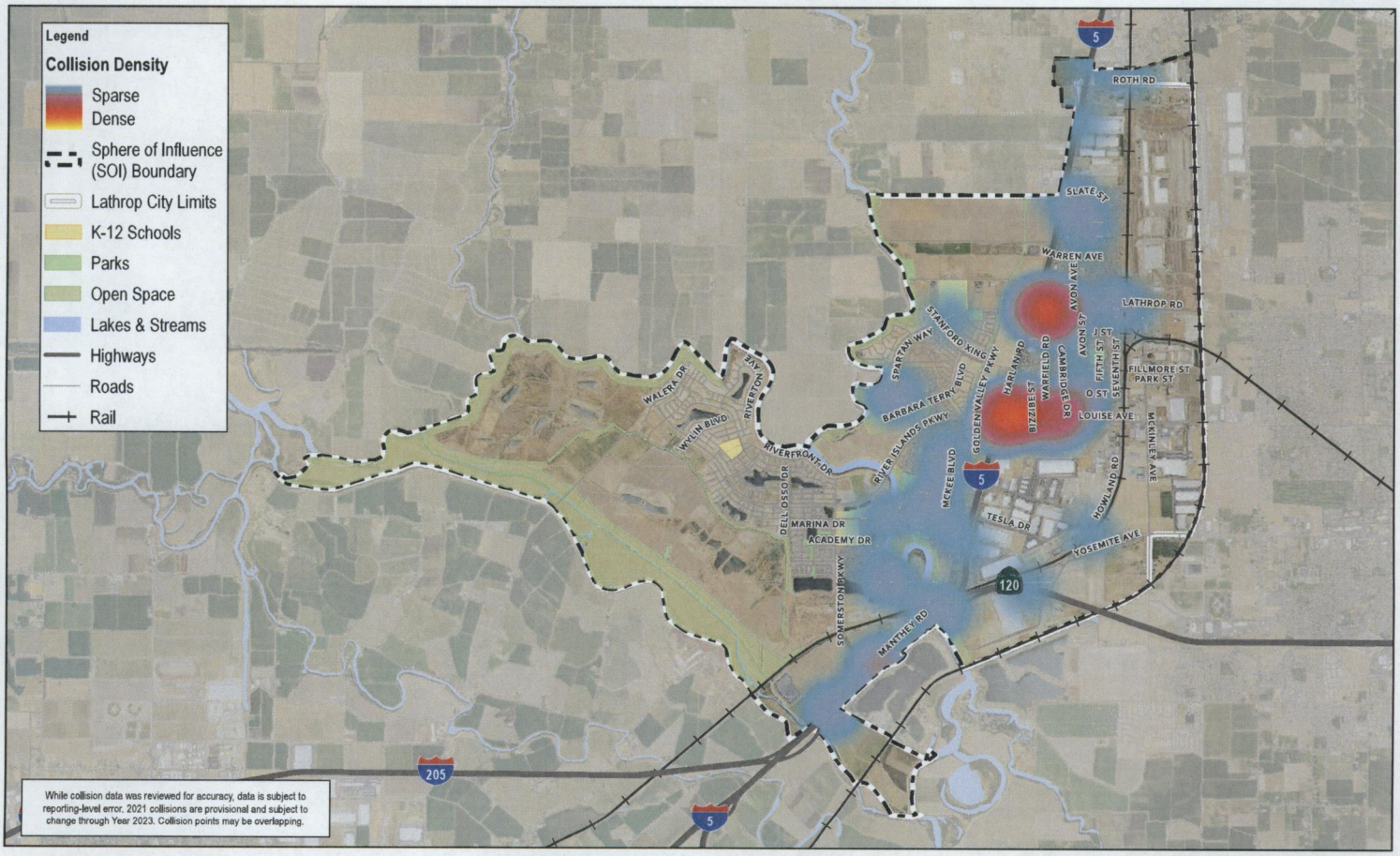
Date **Jun 2023**

FIGURE 22

lghdnetlghdUS\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 21 Ped Collision - Severity
Print date: 23 Jun 2023 - 21:07

Data source: Collision Data: TIMS & SWITRS, 2012 - 2021; Schools, Parks, County Roads, Lakes & Streams: San Joaquin County, 2023; Open Space: City of Lathrop Land Use; Highways: TIGER, 2021. City Roads: City of Lathrop, 2023; SOI Boundary, City Limits : City of Lathrop, 2023 EnerGovAerials_2020: City of Lathrop; Geographic Technologies Group.
Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

DENSITY OF PEDESTRIAN COLLISIONS (2012 - 2021)

Project No. 12594140
Revision No. A
Date Jun 2023

FIGURE 23

\\ghdnetghd\US\Sacramento - 2200 21st\Projects\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 22 Ped Collision - Density
Print date: 23 Jun 2023 - 21:09

Data source: Collision Data: TIMS & SWITRS: 2012 - 2021, Schools, Parks, County Roads, Lakes & Streams: San Joaquin County, 2023; Open Space: City of Lathrop Land Use, Highways: TIGER, 2021; City Roads: City of Lathrop, 2023; SOI Boundary, City Limits : City of Lathrop, 2023 EsriGovAerials_2020; City of Lathrop; Geographic Technologies Group.
Created by: ppeel

Level of Traffic Stress

This section provides information about the level of traffic stress (LTS) analysis and results for the bicycle network in Lathrop.

LTS is the perceived sense of danger associated with bicycling or walking in or adjacent to vehicle traffic. Studies have shown that traffic stress is one of the biggest deterrents to bicycling and walking.[13] The less stressful the experience, and the lower the LTS score, the more likely it is to appeal to a broader segment of the population.

A bicycle and pedestrian network will attract a large portion of the community if it is designed to reduce stress associated with potential motor vehicle conflicts and connects people to their destinations.

Bicycle and pedestrian facilities are considered low stress if they have few interactions with vehicle traffic (such as slow, low-traffic neighborhood streets) or if greater separation is provided between people walking or bicycling and vehicle traffic.

LTS scores were used to develop project recommendations that would create a lower stress network for people of different ages, abilities, and comfort with bicycling in Lathrop. Using the LTS scores presented here, the Project team was able to select facility recommendations to increase separation between bicyclists and vehicle traffic, especially on higher-speed, multi-lane arterials. LTS scores were also used as a metric to prioritize the composite list of recommendations. Prioritization is discussed in greater detail in the Financial Analysis Chapter.

Types of Bicyclists

Research conducted by the Portland Bureau of Transportation indicates the majority of people in the United States would bicycle if dedicated bicycle facilities were provided. Based on their skill level and confidence, most people self-identify as one of the four "types of bicyclists" shown in Figure 24 below.[14] Only a small percentage of Americans are willing to ride if no facilities are provided—the so-called "Strong and Fearless" bicyclists.

To better meet the needs of the "Interested but Concerned" bicyclists, it is recommended that communities work to decrease stress and improve comfort on their bikeway network. LTS 1 and 2 roads are typically appealing to these bicyclists.

Bicycle Level of Traffic Stress

The Bicycle LTS analyzed as part of this Plan assigns a score from 1 to 4 to roadways segments, off-street paths and intersection crossings within the City, based on a variety of roadway infrastructure characteristics, including, but not limited to:

- Posted speed limit
- Number of vehicle lanes
- Roadway functional classification
- Type of bikeway, if applicable
- Separation between bicycle facility and vehicles
- Presence of parking alongside on-street bike lanes
- Width of bike lanes and parking aisles
- Intersection control (stop signs, traffic signals, roundabouts)
- Presence of median refuge

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13 Mekuria, M. C., Furth, P. G., & Nixon, H. (2012). Low-stress bicycling and network connectivity.

14 Dill, J., & McNeil, N. (2013). Four types of cyclists? Examination of typology for better understanding of bicycling behavior and potential. Transportation Research Record, 2387(1), 129-138.

A score of LTS 1 indicates a street with low stress and higher comfort for people bicycling. LTS 4 reflects a more stressful experience. For the purposes of this Plan, segments, and intersection crossings are analyzed, and the worst-case score between a given segment and a connecting intersection crossing is taken as the overall score. A lower-stress network means all bicyclists, regardless of age or ability, can comfortably ride to their destination.

Detailed methodology and results are provided in Appendix C.

Figure 24: Types of Bicyclists

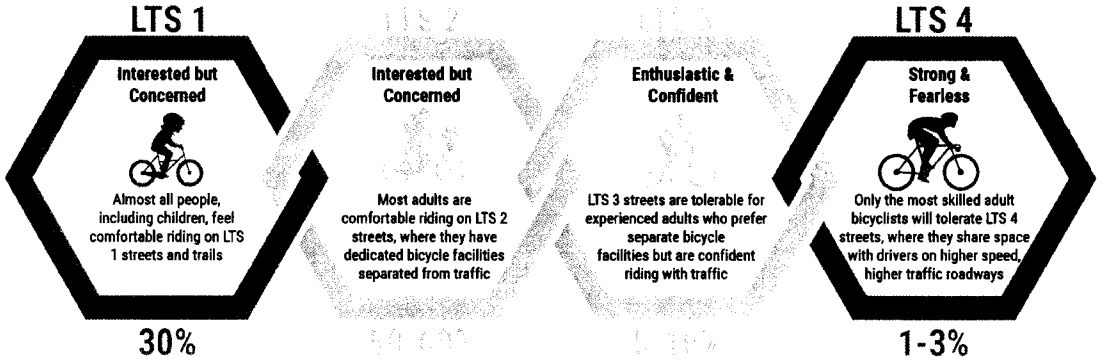


Image created by GHD, using PBOT data.

SEGMENTS

Figure 25 shows segment LTS scores. For this analysis, roadway segments are defined as a portion of a roadway from one intersection to the next, or to the end of the roadway if no intersections are present. Class I Shared-Use Paths are also considered as segments.

Across all of the analyzed segments within the City, scores were as follows:

- 68 percent scored LTS 1
- 3 percent scored LTS 2
- 11 percent scored LTS 3
- 17 percent scored LTS 4

Bicycling is prohibited on freeways (I-5, SR 120), including on- and off-ramps, so those were excluded from this calculation.

These scores illustrate low-stress bicycle connections, and gaps, as they exist in Lathrop today. Much of the network in the City scored LTS 1, with about 68 percent of facilities scoring LTS 1. However, these facilities are primarily minor local roads, residential streets, or off-street paths. In many parts of the City, low-stress islands are surrounded by high-stress arterial roadways, where most average adults would not feel comfortable riding a bicycle.

Along segments where bicycle lanes are present, vehicle speeds greater than 35 mph, narrow bike lanes and/or bike lanes closely adjacent to parking result in higher stress scores, despite the presence of bike lanes.

Arterial roadways serve as the direct connection to many destinations. When only arterial roadways are examined, about 17 percent are LTS 3. A further 83 percent are LTS 4. While some arterial segments feature Class I Paths adjacent to the roadway, none of the arterial segments within the City were assigned score of LTS 1 or LTS 2. This indicates that many residents may not feel comfortable bicycling on arterial roadways, even if a bicycle lane is present. Thus, many City residents may only feel comfortable bicycling in their immediate neighborhood, on low-stress local streets, and may not be able to comfortably reach major destinations from residential areas.

CROSSINGS

Crossing LTS scores, shown in Figure 26, illustrate LTS at the City's intersection crossings, which includes unsignalized, signalized, and roundabout locations. Locations with traffic signals are generally assumed to be low stress and are assigned LTS 1, However, some signalized intersections feature characteristics that could increase traffic stress, such as more than 6 through and turn lanes a bicyclist must cross. At these locations, it can be difficult for a bicyclist to cross the intersection within the green time allotted by the signal coordination and the LTS score is increased to LTS 2.

Across all City roadway crossings, scores were as follows:

- 87 percent scored LTS 1
- 4 percent scored LTS 2
- 4 percent scored LTS 3
- 5 percent scored LTS 4

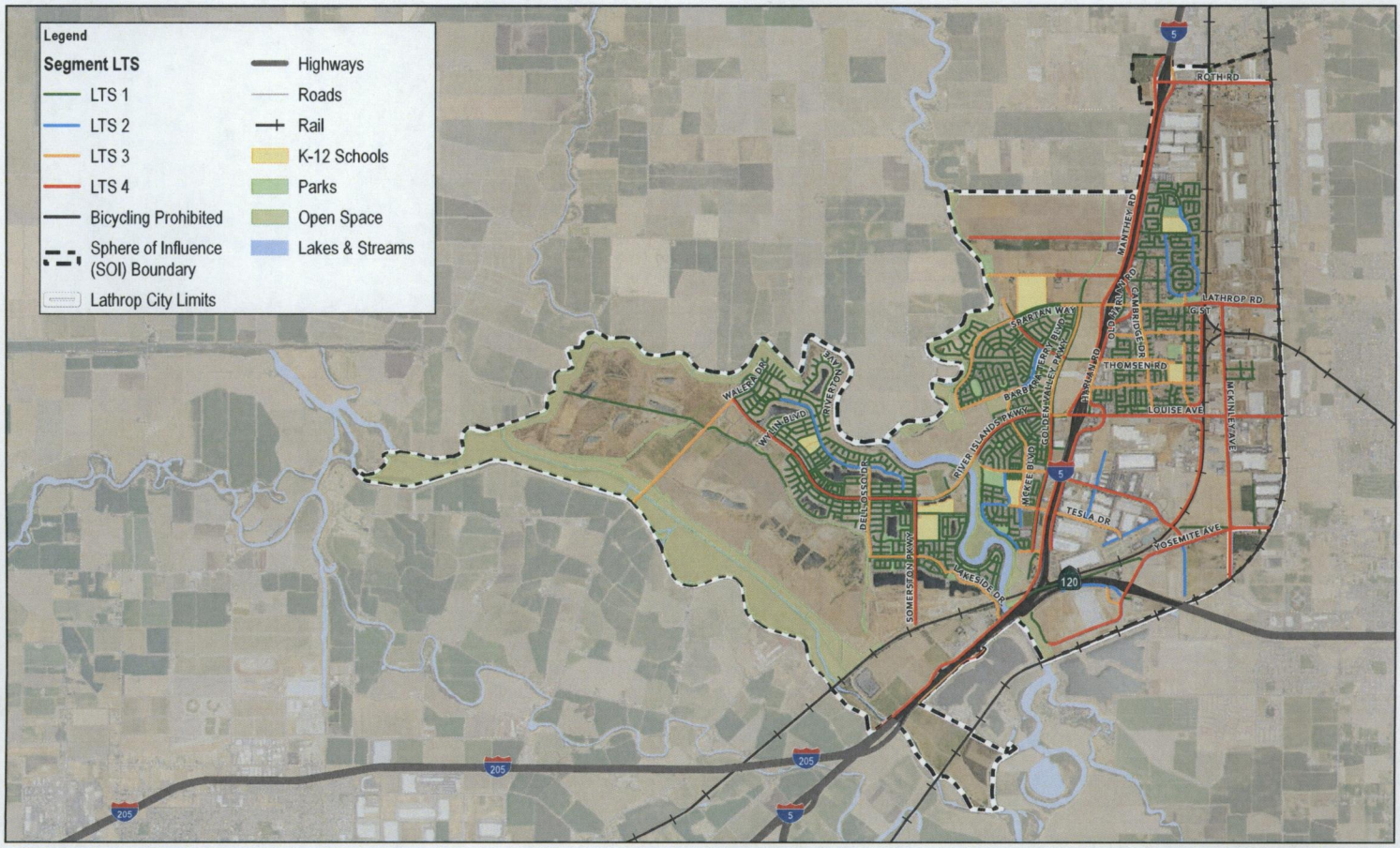
These data reflect that many crossings were typically found to be low stress. However, low stress crossings were mostly found to be intersections of two local or residential streets, where vehicle speeds, number of travel lanes and average daily traffic volumes are low. These are likely to be easy for most adults and children on bicycles to navigate.

Some moderately stressful LTS 3 crossings, and high-stress LTS 4 crossings were identified as well. These are primarily along collector and arterial roadways, especially at locations were local or residential streets intersect with larger, high-speed roadways. When only crossing locations at arterial roadways are considered, scores were as follows:

- 28 percent scored LTS 1
- 5 percent scored LTS 2
- 2 percent scored LTS 3
- 65 percent scored LTS 4

These contribute to the perception of larger streets as barriers to low-stress connectivity. A stressful crossing can discourage a potential bicyclist, even if the roadways along the route are otherwise low stress.

The overall LTS score, shown in Figure 27, reflects the worst-case score between a given segment and the crossing locations the segment intersects with. This underscores the effect a high stress crossing can have on an adjacent segment and the impact to connectivity throughout the City.



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

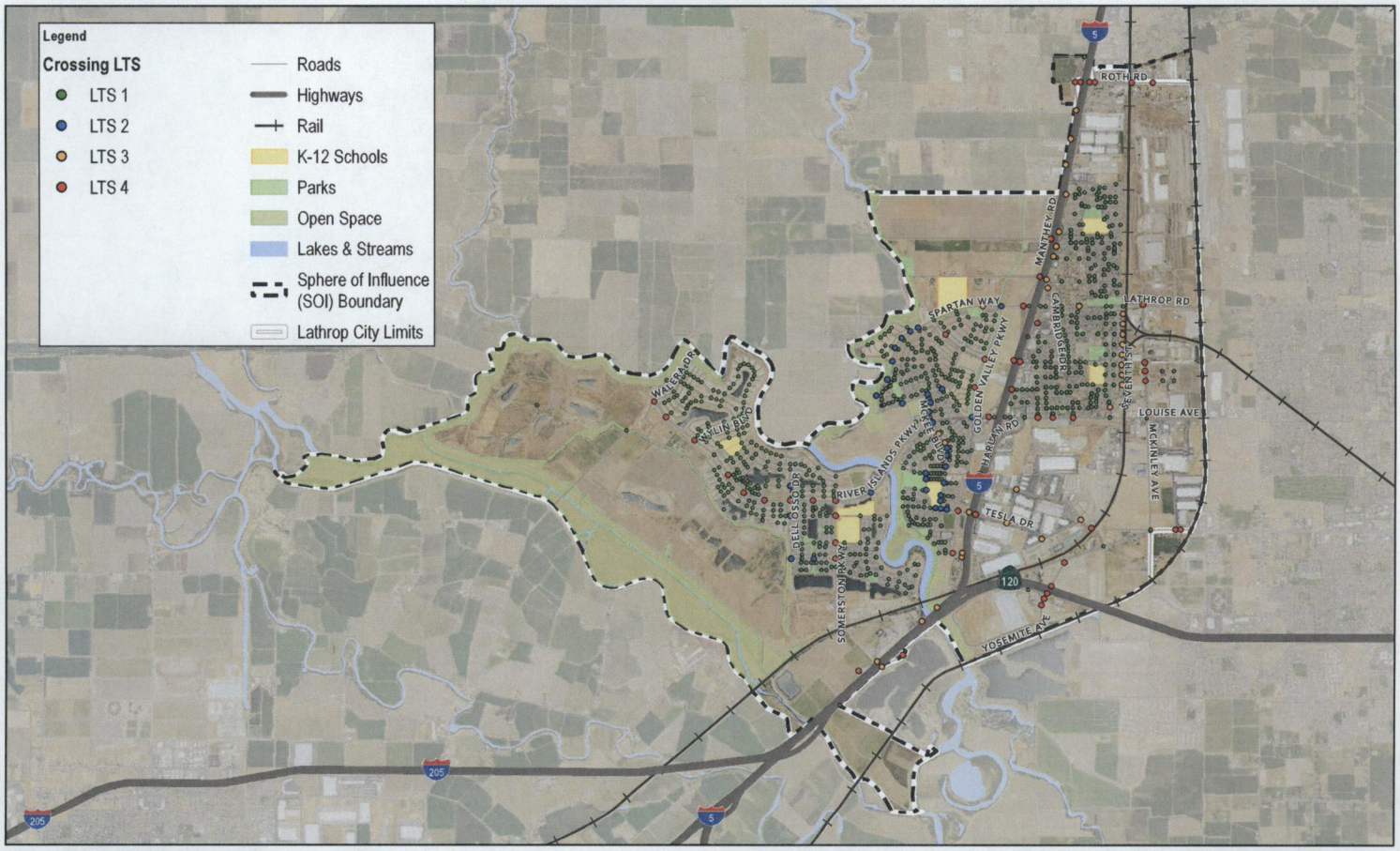
Project No. **12594140**
Revision No. **A**
Date **Sep 2023**

EXISTING SEGMENT LTS

FIGURE 25

\\ghdnetlghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 24 Segment LTS
Print date: 07 Sep 2023 - 16:48

Data source: EnerGov/Aerials_2020: City of Lathrop; Geographic Technologies Group.; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeel



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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

Project No. **12594140**
Revision No. **A**
Date **Jun 2023**

EXISTING CROSSING LTS

FIGURE 26

\\ghdnet\ghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 25 Crossing LTS
Print date: 25 Jun 2023 - 14:34

Data source: EnerGov/Aerials_2020: City of Lathrop; Geographic Technologies Group.; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023.
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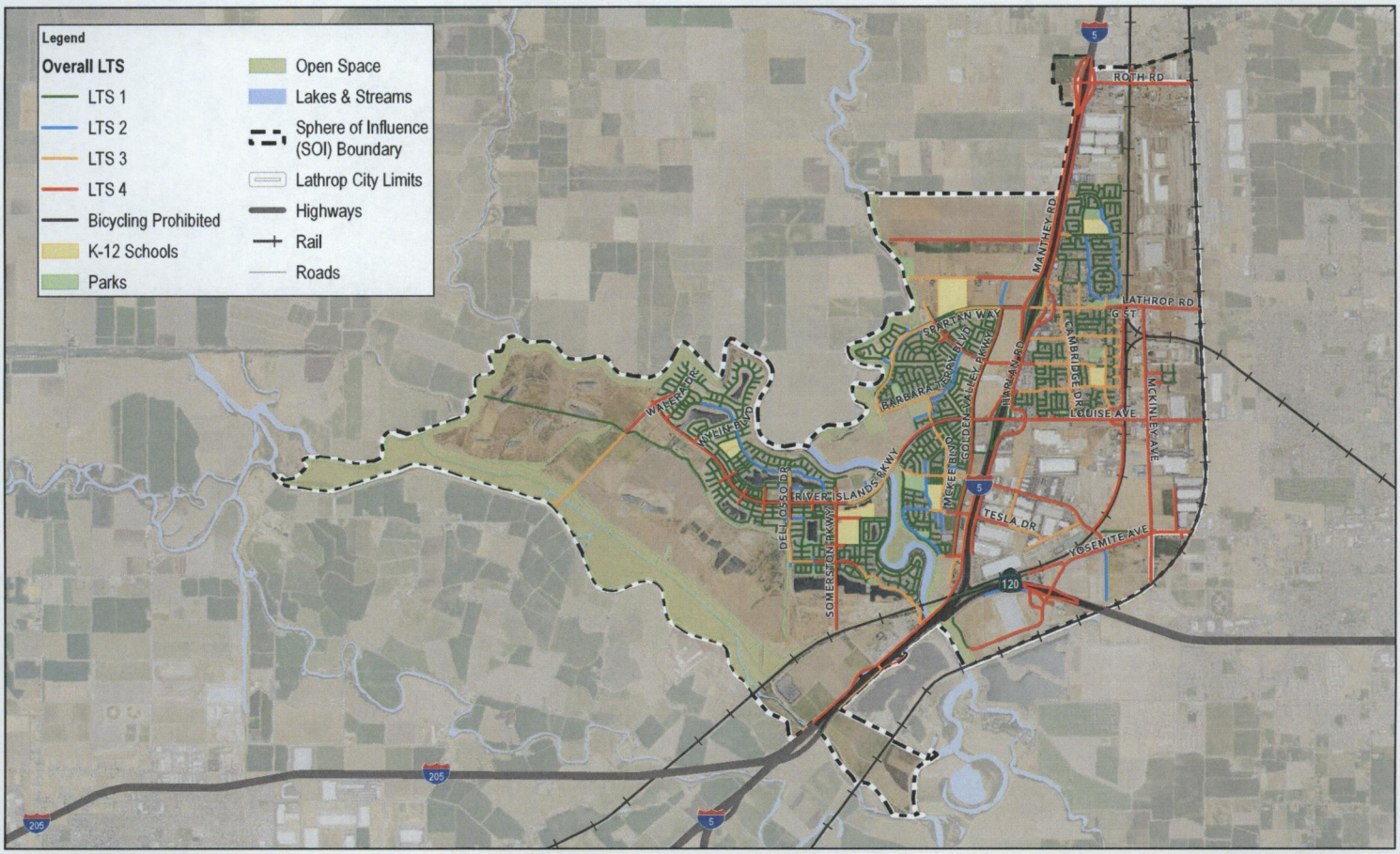

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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN

EXISTING
OVERALL LTS

Project No. **12594140**
Revision No. **A**
Date **Sep 2023**

FIGURE 27

\\ghdnetghd\US\Sacramento - 2200 21st\Projects\56\12594140\GIS\Maps\Deliverables\001_ExistingConditions\001_ExistingConditions.aprx - 12594140_001_Figure 26 Overall LTS
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Data source: EnerGov\Aerials_2020: City of Lathrop; Geographic Technologies Group, ; Highways: TIGER, 2021.; Parks, Schools: San Joaquin County, 2023.; Roads: City of Lathrop, 2023, San Joaquin County, 2023.; SOI & City Boundaries: City of Lathrop, 2023.
Created by: ppeel

Programs

Programs support walking and bicycling in a community by sharing information, promoting safety, and fostering a vibrant active transportation culture.

Communities with high rates of walking and bicycling often use a "Five E's" approach, with education, encouragement, evaluation, and equity complementing **engineering** improvements.

- **Education** programs share information about safety, benefits of active transportation, and resources or facilities available in the community. They should address people bicycling, walking, and driving.
- **Encouragement** programs promote bicycling and walking as fun, convenient, and enjoyable modes of transportation and recreation.
- **Evaluation** programs monitor success through counts, surveys, and data review to inform adjustments or modifications to programs, policies, and the built environment.
- **Equity** is a lens through which all programs and infrastructure projects should be viewed to ensure disadvantaged members of the community have access to and benefit from the City's investments in active transportation.

The City and its partners have been carrying out the following programs in recent years to support bicycling and walking:

Safe Routes to School

Safe Routes to School (SRTS) programs offer education and encouragement activities intended to increase the number of children who walk or bicycle to school and reduce traffic congestion in school areas.

The Manteca Unified School District has in the past partnered with the Lathrop-Manteca Fire Department and Lathrop Elementary School to implement SRTS programs, like Walk to School Day.[15] Likewise, the City has partnered with Lathrop Police Services to offer an annual bicycle rodeo and bicycle helmet giveaway program at Mossdale Elementary School.[16]

- **Walk to School Day** is celebrated each October and Bike to School Day is celebrated each May. Both activities provide incentives and encourage students to walk to school. Students who participate receive free goodies and are eligible for larger raffle prizes.
- **Bike Rodeos** sponsored by Butte County offer hands-on training, assisting students with navigating a technical course. With the help of safety educators, students learn how to properly wear a helmet, navigate obstacles, use hand signals and be predictable bicyclists.

Community Education & Encouragement

Several local entities contribute to educational and encouragement campaigns targeting Lathrop residents, such as the City and the San Joaquin Bike Coalition (SJBC), the local bicycle advocacy organization. Community events and rides sponsored by SJBC include weekly "family fun" bike rides, monthly "long, slow distance (LSD)" rides, and night rides to encourage the use of bicycles throughout San Joaquin County. As a not-for-profit community organization, SJBC seeks to provide educational resources for bicyclists (and motorists) and advance the use of bicycles for transportation and recreation.

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[15] *https://www.mantecabulletin.com/news/education/lathrop-school-students-participate-in-walk-to-school-day-cancer-effort/*

[16] *https://www.mantecabulletin.com/news/lathrop-pedaling-safety-for-bicyclists-with-rodeo/*

STAKEHOLDER ENGAGEMENT

This Plan and its recommendations were shaped through public feedback throughout the Plan process, as outlined in the Public Participation Plan found in Appendix A.

The public was engaged with the project using several different methods, including:

- An online interactive mapping tool, which received nearly 110 public comments
- A public comment form on the project website where community members could provide specific comments about active transportation in Lathrop
- 3 community workshops during different stages of the Plan process, with more than 75 people participating
- A series of presentations to stakeholders

Community Workshop

JUNE 15, 2023

The first community engagement event, an in-person community workshop, was held on June 15th, 2023, at the Generations center from 6 pm to 8 pm. The purpose of the workshop was to introduce community members to the project, gather ideas and concerns, and familiarize the public with possible active transportation design solutions.

Feedback was gathered from about 20 people during the engagement. Images are included below of the event set-up, including depictions of the engagement boards. Engagement boards and activities were printed in English and Spanish and included:

- A **Project Area Map** where people identified areas of concern and could make location-based comments on sticky notes to attach to the map.
- An **Information Board** with project's background, goals, and timeline.
- **Potential Design Element Boards** that highlighted pedestrian and bicycle infrastructure design options.
- A **Getting Around Lathrop Dot Exercise** that asked 1) what prevents you from walking, bicycling, or rolling (e-bike, scooter, skateboard, etc.) in Lathrop? and 2) what would you like to prioritize in Lathrop. Participants were encouraged to place dots indicated their response to each question.

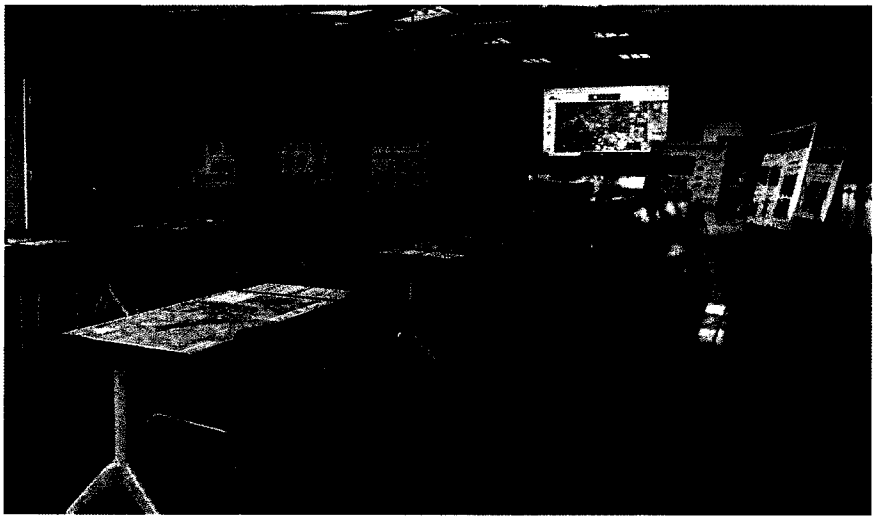
While the engagement itself did not draw many participants, comments were taken from people utilizing the skate park, basketball courts, and tennis courts, playing on the playground, or walking around the park. Overall, participants from the community desired an increase in safety and accessibility for individuals walking, biking, and rolling throughout Lathrop. Some comments include:

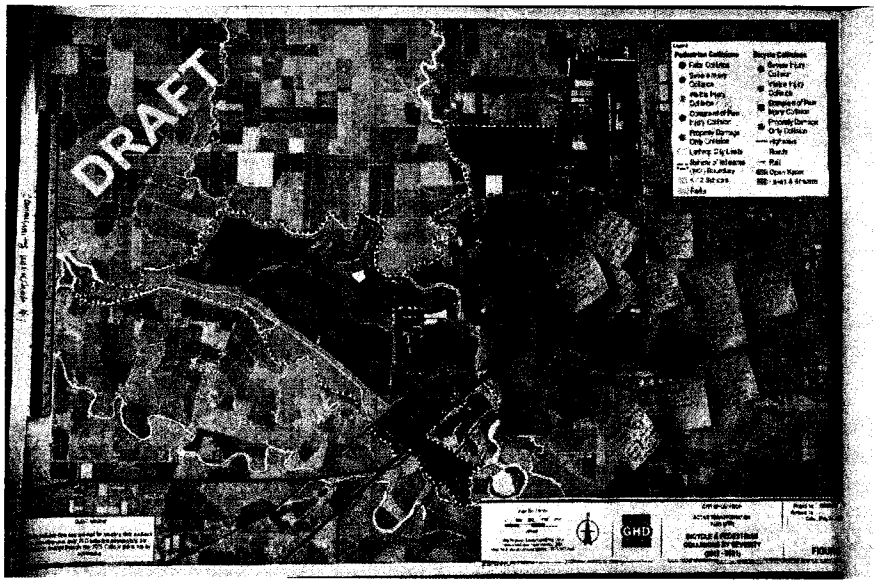
- A desire for new bicycle facilities between Lathrop and Manteca
- An interest in more pedestrian amenities like shade, seating and benches, sidewalks, lighting, and crosswalks. People requested

amenities near the skate park, but also throughout Lathrop to increase comfort when walking.

- Adding benches, concrete, or other useable features to use for skating at the skate park and the removal of the fence as it is a safety hazard
- Making sidewalks safer and more comfortable to use by adding railing next to them similar to the underpass, widening the sidewalk along Spartan Way, and increased lighting
- Adding sidewalks and crossings along Louise Avenue for pedestrian accessibility and safety

Positive responses to the amenities on the River Islands trails and the generations center. People seemed interested in recreating and felt comfortable driving to recreational amenities. However, most people stated that they don't walk or bicycle to key destinations like work or running errands.





Workshop 1 Setup (top), Workshop 1 Project Area Map (bottom)

City of Lathrop - Active Transportation Plan / El Plan de Transporte Activo para la ciudad de Lathrop

About the Plan

Sobre del Plan

- Establecer una visión para mejorar caminar y andar en bicicleta dentro de Lathrop.

- Mejorar las conexiones entre los vecindarios, las escuelas, los lugares de trabajo, el transporte público, comercios, parques y otros destinos para ciclistas y peatones, construyendo infraestructura nueva para bicicletas y peatones, y brindando más opciones para viajes locales y conexiones para viajes más largos.

- Desarrollar un plan de acción completo de proyectos, programas y estrategias implementables. El Plan incluirá recomendaciones para la educación, el aliento y las estrategias para medir el éxito del Plan.

- Colaborar con la comunidad para desarrollar un plan que satisfaga las necesidades de personas de todas las edades y habilidades.

Bennie and Joyce Gatto Historical Trail

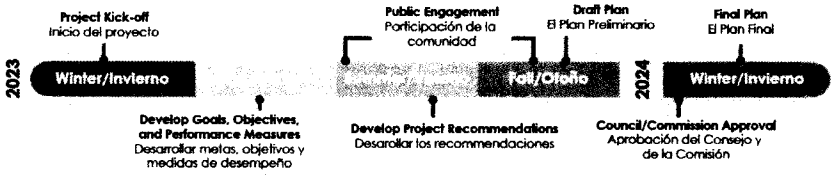
Ruta histórica de Bennie y Joyce Gatto

Class II Buffered Bicycle Lanes

Clase II ciclovía con amortiguadores

Crosswalk and roundabout on Lakeside Drive

Paso peatonal y rotonda en Lakeside Drive



Draft Goals

Objetivos Preliminares

Goal 1

Increase access to key destinations (businesses, jobs, recreation, school, etc.) and create comfortable routes for pedestrians and bicyclists.
Aumentar el acceso a destinos importantes (negocios, trabajos, recreación, escuela, etc.) y crear rutas cómodas para peatones y ciclistas.

Goal 2

Encourage active transportation (walking, bicycling, and rolling) within Lathrop.
Animar el transporte activo (caminar, andar en bicicleta y rodar) dentro de Lathrop.

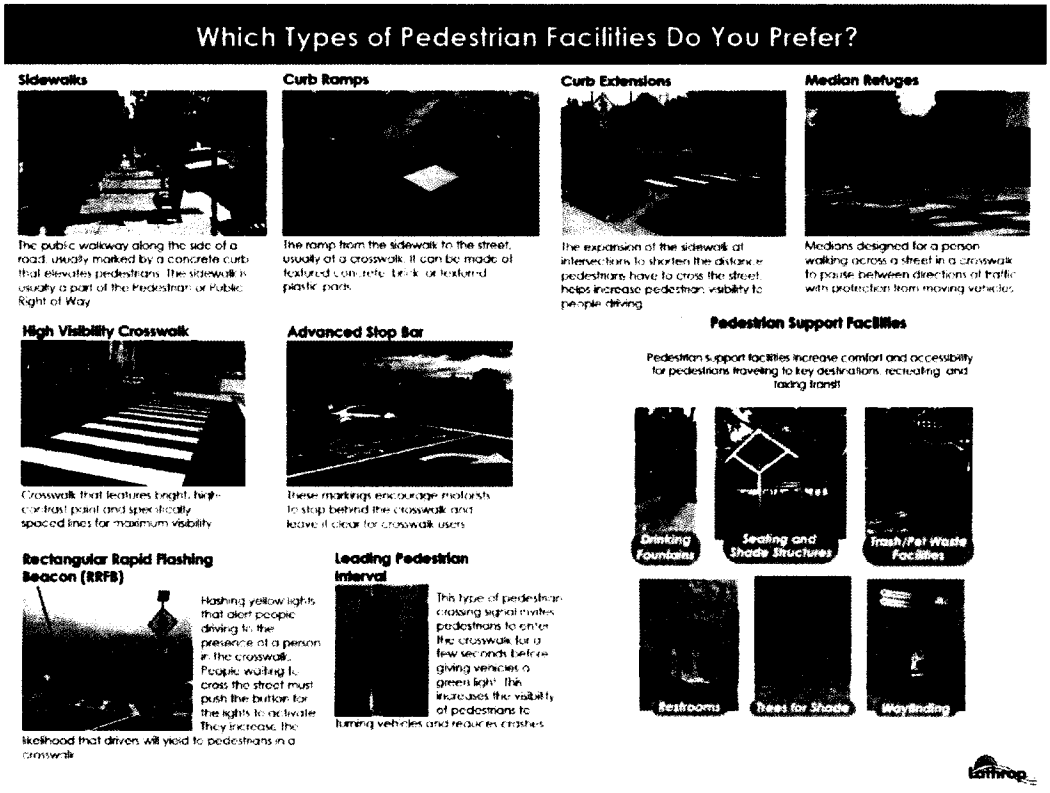
Goal 3

Foster a safer environment for pedestrians and bicyclists.
Promover un ambiente más seguro para peatones y ciclistas.

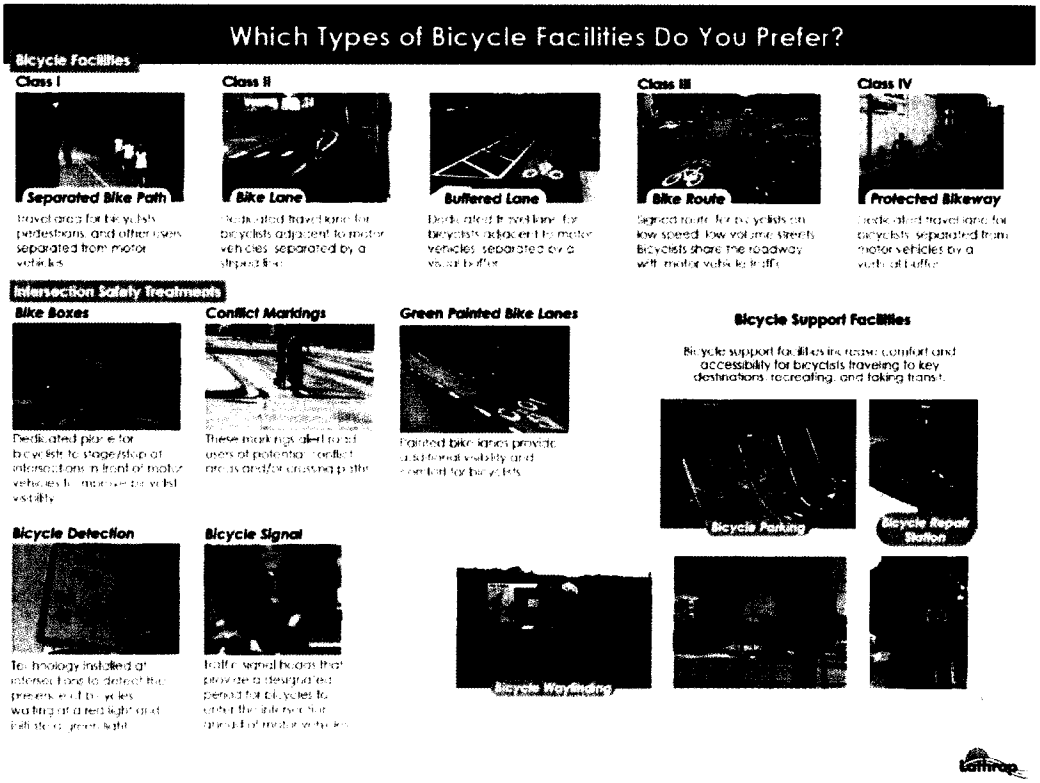
Goal 4

Support Lathrop's growing population by creating active transportation facilities near jobs, housing, and transit facilities in order to reduce vehicle trips.
Apoyar a la creciente población de Lathrop mediante la construcción de infraestructura para ciclistas y peatones cerca de los lugares de trabajo, los hogares y transporte público para reducir los viajes en vehículos.

Lathrop Active Transportation Plan Information Board



Pedestrian Design Element Board



Bicycle Design Element Board

JULY 1, 2023

The second community engagement event was an in-person pop-up held at the July 1st Celebration from 4 pm to 8 pm. The purpose of the pop-up was to engage residents and visitors with the project, introduce possible design elements, and gather feedback.

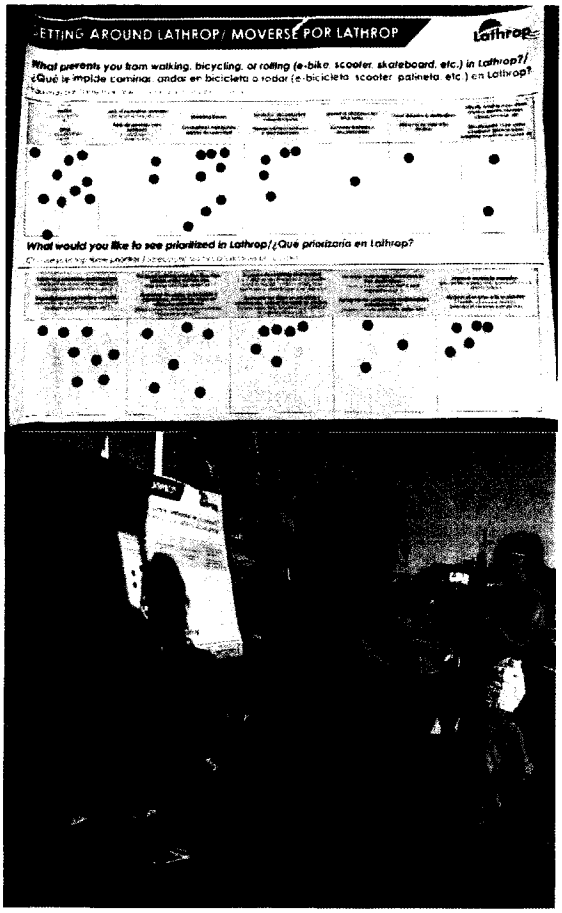
Stationed at a tent alongside other educational booths, feedback was gathered from about 40 people.

Lathrop community members who participated in the workshop showed concern for the safety of pedestrians and cyclists along high traffic roadways. Requests for increased accessibility and safer routes for pedestrians and students were also prioritized. Community requests and concerns include:

- Request for less landscaping blocking oncoming traffic along Golden Valley Parkway
- Concerned for safety of pedestrians and cyclists along Harlan Road
- Request for protected bicycle lanes
- Completing pedestrian network where sidewalks currently end
- Request for increased access to high school; new bike lanes, sidewalks, and transit system
- Improve safety, accessibility, and frequency of pedestrian crossings

Participants at the Lathrop workshop stated what prevents them from walking, bicycling, or rolling in Lathrop are due to the weather with 13 stickers (32 percent), the speed of drivers with 11 stickers (27 percent), limited or disconnected sidewalks/ paths with 7 stickers (17 percent), the lack of pedestrian amenities with 4 stickers (10 percent), difficulty crossing major streets, physical barriers, freeways, railroad crossing, etc. with 4 stickers (10 percent), limited or disconnected bike lanes with 1 sticker (2 percent), and the travel distance to a destination with 1 sticker (2 percent).

The participants also stated what they would like to see prioritized in Lathrop. The most prioritized categories were the safety of pedestrians and bicyclists with 11 stickers (32 percent), increased accessibility and comfort with 7 stickers (21 percent), and increased walking and bicycling trips and the reduction of motor vehicle trips at 7 stickers (21 percent). Improved access to recreation received 5 stickers (15 percent) and an increase of multimodal connections to key destinations received 4 stickers (12 percent).



Getting Around Lathrop Dot Exercise, Workshop 2

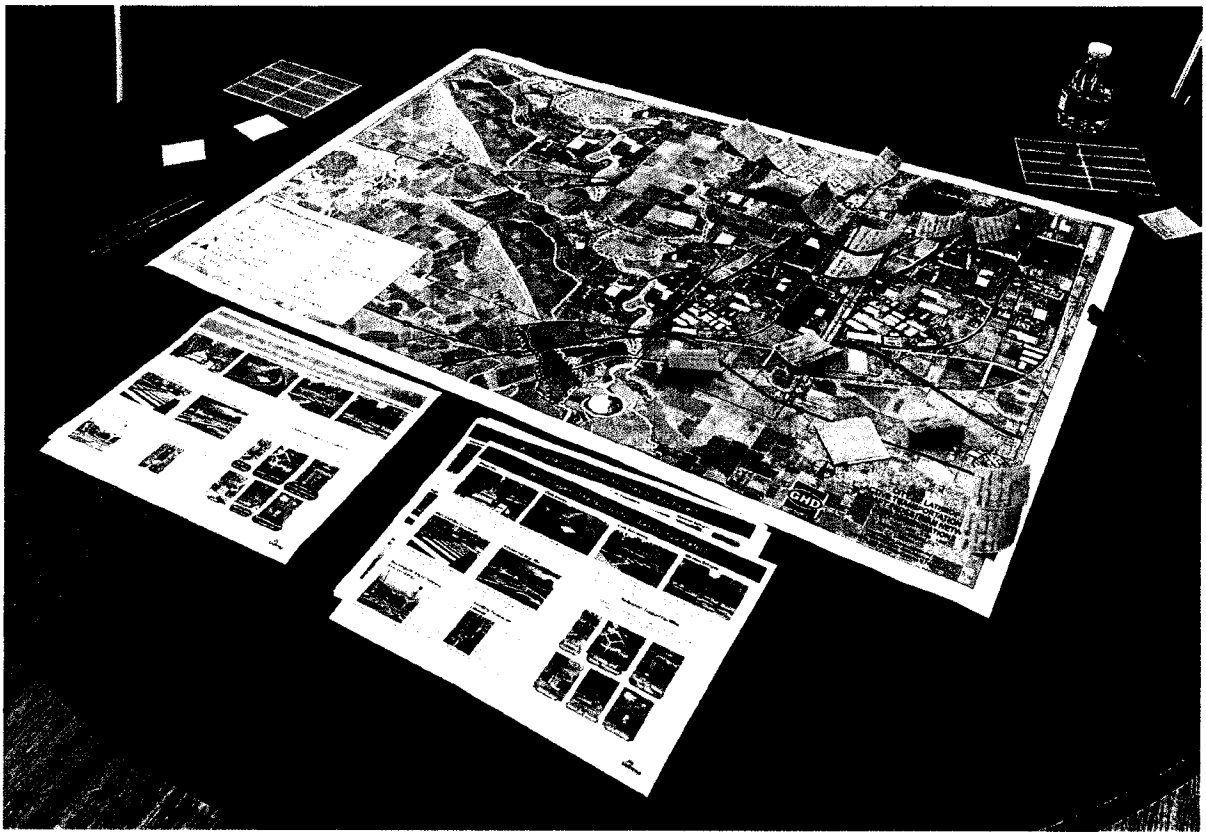
OCTOBER 24, 2023

The third community engagement event was an in-person workshop held at the Lathrop Senior Center from 6 pm to 7:30 pm. The purpose of the workshop was to introduce preliminary recommendations and gain feedback.

About 15 people provided feedback at the workshop, and participants generally

commented on lack pedestrian infrastructure, connections to key destinations, and safety for studies traveling to school. Specific concerns included:

- Sidewalks on 5th Street are too narrow. Between Louise Avenue and Lathrop Road, sidewalks have no curb and flood when it rains.
- Lots of bicycle traffic on 5th street, interest in a bicycle lane.
- Streets connecting to 5th street, like Thompson Road lack sidewalks. Participants indicated lack of sidewalks makes walking more dangerous for their children. No sidewalk connections along 7th Street to the post office.
- Walking to Lathrop high school via Lathrop Road is dangerous for students.
    - Crossing freeway onramps is unsafe. One participant stated that he had been hit by a truck turning onto the ramp while he was riding his bicycle.
    - Current pedestrian fence below the freeway underpass is ineffective for protecting students; a truck crashed into the fence recently. A new solution is needed.
- Pick up and drop off at Lathrop High School creates congestion and queuing. Parents frequently arrive early to park at the generations center. School pick-up and drop-off solutions should be explored.
- Midblock crossing needed at Slate Street north of Stonebridge Lane.



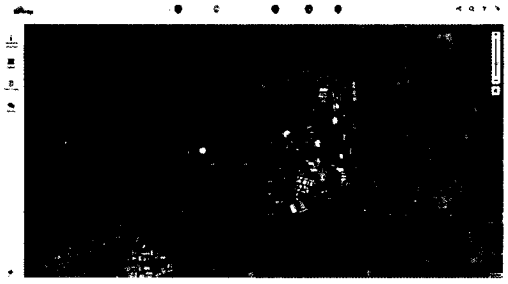
Pedestrian Recommendations Board, Workshop 3

Website

A project website was developed, containing information about the planning process, active transportation topics, and engagement opportunities. The website included an interactive map for visitors to leave location-specific comments, described below, as well as a project survey; both are described below. The Draft Plan and recommendations were also shared on the project website. The website additionally contained a public comment form, where community members could provide general or specific comments related to their experiences with active transportation in Lathrop, or the Draft Plan.

Online Mapping Tool

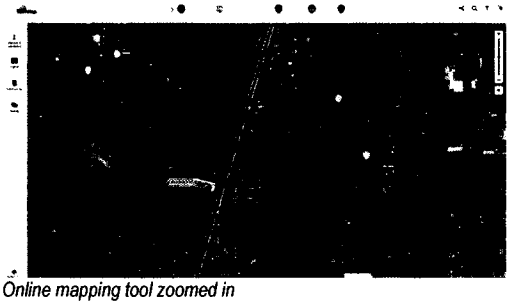
An interactive mapping tool was posted on the project website. This tool contained an interactive map of Lathrop and a tool to leave feedback on active transportation in specific areas of the City. The tool accepted input from April 2023 through November 2023.



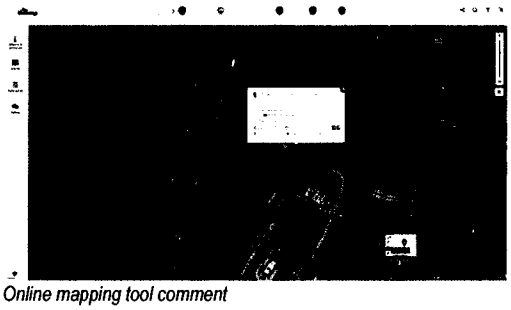
Online mapping tool

Community members were encouraged to place digital 'pins' on the map in specific locations to add concerns. These 'pins' could be categorized as walking/pedestrian, bicycling, kids/school, work/commute, traffic safety, or recreation comments. Respondents could also view and respond to pins by others. This included the ability to leave comments on pins added by others, respond to other comments, and vote on pins through a "like" or "dislike" feature.

As users navigated through the online mapping tool they could zoom in to see more precise locations.



Online mapping tool zoomed in



Online mapping tool comment

Nearly 110 comments were entered on the map by the community.

Appendix A contains a full overview of responses received via the online interactive mapping tool.

All comments were reviewed during the recommendations development process to assist in developing responsive recommendations. Figure 28 depicts a distribution of comments received in the online tool. Comments included the following themes:

BICYCLE CONNECTIONS

- Requests for Class IV protected bikeways to improve safety
- Concerns that bollards/delineators used in Class IV bikeway buffers will be maintained
- Desire for green paint in conflict areas of existing and new bicycle facilities
- Interest in improved bicycle connections between Manteca and Lathrop

PEDESTRIAN CONNECTIONS

- Requests to close sidewalk network gaps, particularly connecting to parks and skateparks
- Concerns about pedestrian safety when walking along Lathrop Road near I-5 on- and off-ramps

SAFE ROUTES TO SCHOOL

- Desire for transit to access to Lathrop High School
- Concerns that walking and bicycling to schools, particularly Lathrop High School, are unsafe
- Requests for better coordination of school pick-up and drop-off

QUALITY OF LIFE

- Desire for more entertainment options within Lathrop
- Concerns about park issues, including insects, pet waste, restrooms, lack of mature landscaping, and hours
- Desire for more shade to make walking during the hot summer months more enjoyable

LIGHTING & MAINTENANCE

- Concerns about vandalism due to lack of proper illumination in parks
- Desire for improved lighting on bicycle facilities in River Islands
- Interest in improved pedestrian lighting, particularly in areas with sidewalk gaps

CROSSING & INTERSECTIONS

- Desire for new midblock crossings
- Concerns about locations where people regularly cross outside of the crosswalk
- Concerns about drivers not yielding to pedestrians in crosswalks

ACCESSIBILITY

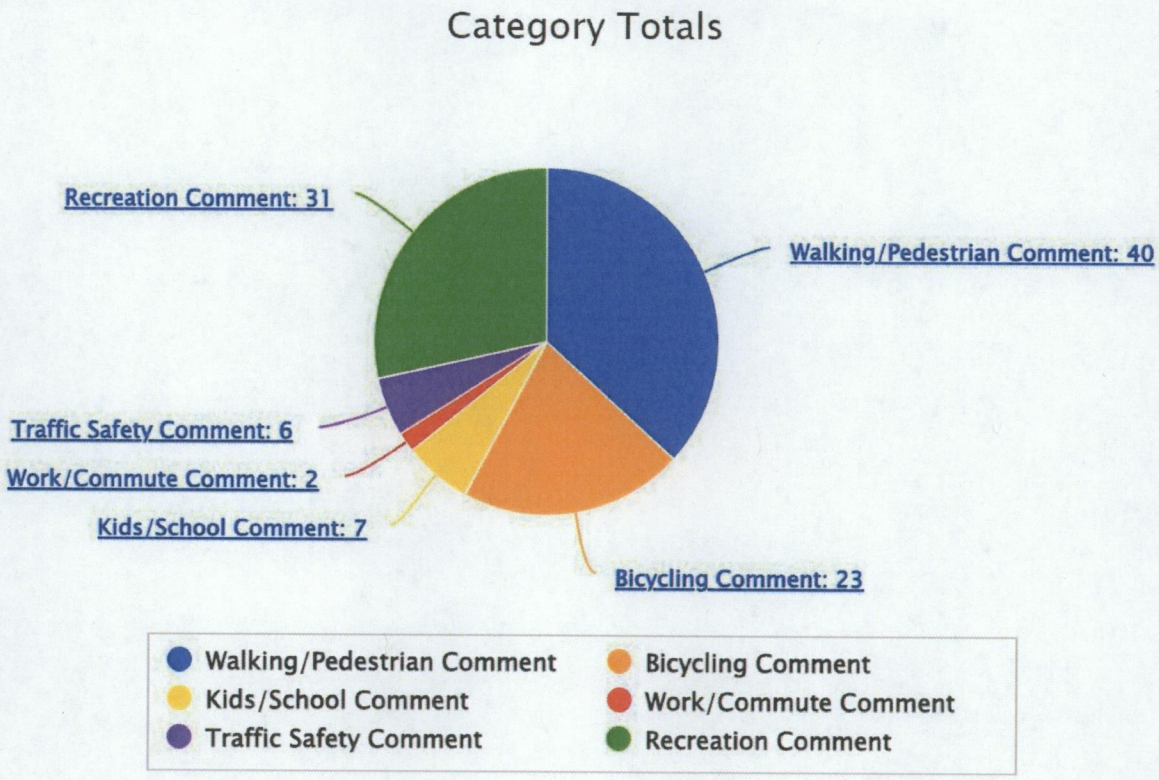
- Concerns that pedestrian crossing phases at signalized intersections are not long enough
- Frustration that some crossing locations are not ADA accessible
- Desire for ADA accessibility improvements within parks in the older areas of Lathrop

Online Survey

To gather community feedback for the Lathrop Active Transportation Plan, an online survey was posted on the project website to understand the community's perspective about the current state of walking and bicycling in the City of Lathrop. Although the City circulated information about the survey on the City website and via social media, making it available from April to November 2023, the online survey received only one response, though these questions were also provided during workshops and many people commented on the content of the survey indirectly.

Complete outreach details can be found in Appendix A.

Figure 28: Distribution of Map Comments Received



Source: Social Pinpoint

NEEDS ASSESSMENT

This chapter describes key areas within the City identified as having a high level of need based on the existing challenges and opportunities related to walking and bicycling in Lathrop. The needs assessment in this chapter builds upon the qualitative and quantitative analyses conducted as part of the existing conditions assessment and review, including asset inventories, safety and Bicycle Level of Traffic Stress analyses, and policy and plan review. In addition, these analyses are supplemented with public engagement findings to gain a deeper understanding of community needs.

The needs identified in this chapter are summarized through the lens of each of the following categories:

- Public Engagement Findings
- Safety Analysis
- Gaps, Barriers, and Level of Traffic Stress
- Future Growth Assessment

Public Engagement Findings

Engaging the communities of Lathrop has been a priority throughout the development of the Lathrop Active Transportation Plan. A variety of outreach opportunities were utilized to seek input and gather feedback from community members to ensure the Plan reflects the vision and priorities of residents.

High level summary of public input to be included here in draft plan. A full engagement chapter will also be included.

Safety Analysis

As discussed in the Existing Conditions chapter, collision data was sourced from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS) and combined with data from the Transportation Injury Mapping System (TIMS) for the 10-year period between January 1, 2012, and December 31, 2021. Collision, party, and victim records were examined to identify safety needs regarding collision hotspots and location and severity trends.

Collision data is subject to reporting-level error and accounts only for reported collisions. Near misses are not captured by the analysis of collision data, so data should be supplemented by information from the public, key stakeholders, and partner agencies on locations where there are safety concerns, or a significant number of near misses have occurred.

Between 2012 and 2021, there were 92 collisions involving a bicyclist or pedestrian that

occurred within the City. Of the 92 bicycle and pedestrian-involved collisions that occurred within the study period, 39 collisions involved a bicyclist, and 53 involved a pedestrian.

Typically, roadways that lack comfortable facilities for bicycling, have multiple travel lanes, and/or experience higher traffic speeds and volumes are more likely to experience bicycle and pedestrian crashes, especially as part of an incomplete active transportation network. Safety need findings related to bicycling and walking collisions are highlighted in the following sections.

Collision Location

HOTSPOTS

As described in the Existing Conditions chapter, the density of bicycle and pedestrian collisions are shown in Figure 21 and Figure 23, respectively, highlighting several areas as collision hotspots. The top five bicycle or pedestrian-involved collision hotspot locations were identified and are shown in **Error! Reference source not found.** for bicycle collisions and Table 12 for pedestrian collisions.

Collected data shows that 36% of bicycle collisions and 34% of pedestrian collisions occurred within an identified hotspot location. All bicycle collisions occurring within a hotspot were attributed to a vehicle code violation as the primary collision factor, and almost 79% were broadside collision types. Of the pedestrian collisions that occurred within a collision hotspot, 28% were reported on a state highway or ramp. Within hotspot locations, 39% of all pedestrian collisions resulted in a fatal or severe injury.

Table 11: Bicycle Collision Hotspots

Hotspot Location	Bicycle Collisions
Lathrop Road / Harlan Road	3
Golden Valley Parkway / Spartan Way	3
Spartan Way near Lathrop High School	3
McKee Boulevard / Homestead Avenue	3
McKee Boulevard near Towne Center Boulevard	2

Table 12: Pedestrian Collision Hotspots

Hotspot Location	Pedestrian Collisions
Louise Avenue near I-5 (overcrossing to Harlan Road)	6
Lathrop Road / Harlan Road	4
Lathrop Road at I-5 ramps / overcrossing	3
I-5 near Mossdale Road ramps	3
Louise Avenue / Warfield Avenue	2

INTERSECTION COLLISIONS

As shown in Table 11 and Table 12, all the identified collision hotspot locations are at or near intersections[17]. Of the 39 bicycle-involved collisions, almost 90% (35 collisions) occurred within 250 feet of an intersection location. Of the 53 reported pedestrian collisions, almost 72% (38 collisions) occurred within 250 feet if an intersection. Comparatively, around 53% of collisions involving a motor vehicle occurred at

[17] *An intersection collision was identified as those coded in the SWITRS data as an intersection collision, or as occurring less than 250 feet from an intersection location.*

an intersection, highlighting a disproportionate safety need for bicyclists and pedestrians at intersection locations.

Broadside collisions were the most frequently occurring collision type for bicycle collisions at intersections (63%). Of the 22 broadside bicycle collisions at intersections, the most common bicycle/vehicle movement preceding the collisions occurred when the bicyclist was proceeding straight and the motorist was turning (36%). An additional 23% occurred when bicyclist and motorist were proceeding straight, 18% when the bicyclist was entering traffic and the motorist was proceeding straight, and 14% when the motorist was turning, and the bicyclist was traveling the wrong way. An additional 5% (1 collision each) occurred when the motorist was making a right turn with the bicyclist making an unspecified movement, or when the motor vehicle was stopped, and the bicycle was entering traffic. Of the 36% of collisions that occurred when the bicyclist was proceeding straight and the motorist was turning, 75% occurred when the motorist was making a right turn, highlighting a more specific need to implement measures to avoid these crash types, also know as "right-hook" crashes.

Treatments to address "right-hook crashes" can include high visibility, green painted bike lanes, and conflict markings at bicycle/vehicle conflict zones and intersections where vehicles turn right. Additionally, bicycle boxes and bicycle detection systems can be installed so that bicyclists can wait ahead of vehicles and receive more greenlight time when traveling through an intersection.

Of all pedestrian-involved collisions that occurred at intersections, 34% occurred while the pedestrian was crossing in a marked crosswalk, and 21% occurred while the pedestrian was crossing where no marked or unmarked crosswalk exists. Safety improvements such as marked crosswalks with enhanced safety features, including high visibility crosswalk markings, warning signage and markings, and/or Rectangular Rapid Flashing Beacons (RRFB), could enhance safety at locations without existing safe crossings. While marked crosswalks alone do not make crossing safer, crosswalks coupled with enhanced safety features can better alert drivers to crossing pedestrians and guide people walking and rolling to safer crossing locations.

The bicycle and pedestrian collision data indicates that locations that already have marked crosswalks and controlled intersections may still not provide adequate safety protections for pedestrians. Of the 34% of pedestrian collisions at intersection locations where the pedestrian was crossing in a marked crosswalk, 62% occurred at a location with a functioning traffic control device while 38% occurred at an intersection location without a traffic control device.

Treatments at signalized intersections with marked crossings can include upgrading crosswalks to high visibility markings, installing pedestrian refuge islands, raised crosswalks, and upgrading signal hardware for leading pedestrian interval phasing.

Collision Severity

Collision severity is shown in Figure 20 for bicycle-involved collisions, and Figure 22 for pedestrian-involved collisions.

More than 18% of all bicycle and pedestrian collisions that occurred within the City resulted in fatality or serious injury, while only 3% of motor vehicle-involved collisions resulted in fatality or serious injury. Specifically, pedestrian collisions reflect the largest share of these fatal and severe injury collision types, with more than 30% of pedestrian-involved collisions resulting in a fatal or serious injury, while 3% of all bicycle collisions resulted in severe injury and none in a fatality.

While the safety needs of all active transportation users are important and highlighted within the City's collision history, the need to implement safety measures to help reduce the number and severity of pedestrian collisions is urgent. Strategies that decrease vehicle speeds, like traffic calming measures, increase pedestrian visibility, and separate active transportation users from vehicular traffic can help to reduce the severity of these collisions.

Gaps, Barriers, and Level of Traffic Stress

This section describes the gaps and barriers in the City's active transportation network, which can present challenges for people walking and bicycling in Lathrop. Gaps and barriers in Lathrop were identified based on a review of the City's existing bicycle and pedestrian facilities and the results of the Bicycle Level of Traffic Stress analysis completed as part of the Existing Conditions chapter.

Gaps and barriers in active transportation infrastructure can present challenges and increase stress for pedestrians and bicyclists. Stress, or Bicycle Level of Traffic Stress, in this context, is the perceived sense of danger associated with bicycling or walking in or adjacent to motor vehicle traffic. Increased stress may occur where crossing opportunities or connections are limited or active transportation facilities are stressful, interrupted, or narrowed, which can result in longer and more circuitous routes for people walking and bicycling, and discourage people from using active transportation. Gaps and barriers can be particularly burdensome for people with limited vehicle access or for those who are unable to drive, with walking or bicycling as some of their only transportation options.

High traffic volume and speeds on I-5 and SR 120 increase stress for bicyclists and pedestrians attempting to cross these facilities. Caltrans District 10's 2021 Active Transportation Plan conducted surveys where community members identified major bicycle and pedestrian needs along state highways.[18] Yosemite Avenue, Louise Avenue, Lathrop Road, and Roth Road were identified as key crossings of either SR 120 or I-5 for bicyclists and pedestrians where there was an identified need based on predetermined scoring criteria. Please see the 'Relationship to

Other Documents' section of this Plan for more details.

Several rail lines bisect the city, including freight and passenger rail. Rail corridors can cause interruptions to safe and efficient active travel in specific locations, including lack of safe crossing facilities, long wait times due to freight train movement or switching, and other reasons. Other barriers to walking and bicycling may be context or site specific, including features like drainage facilities, large parking lots, and inadequate lighting or sightlines along trails. Bicycle theft may also act as a barrier that deters riders, particularly when bicycle parking availability is limited or inadequate at destinations.

In the following sections, gaps and barriers within the bicycle or pedestrian network are described separately. Key gaps and barriers in the pedestrian and bicycle network are shown in Figure 29.

Pedestrian Network Gaps & Barriers

While the pedestrian network is generally well developed in Lathrop, there are some locations where sidewalk gaps can be found, largely dependent upon nearby development and recency of development. In locations where adjacent areas have not yet been developed, nearby streets also are not yet fully built out, with noticeable sidewalk gaps. Most developed arterial roadways—especially those developed in recent years—feature sidewalk coverage with few gaps, accessible curb ramps, and marked crosswalks at major intersections.

SIDEWALK

In residential and commercial areas west of I-5, which has developed more recently or is experiencing ongoing development, most corridors include sidewalk. Sidewalk in these areas is typically in a state of good repair, with widths of 4 to 5 feet along local streets and up to 8 feet along arterials. Wider sidewalk in these areas were designed as shared use paths, allowing safe passage for people walking, bicycling, rolling, or any other non-motorized travel. Signage or pavement markings indicating wider sidewalk can be used by people on bicycles are missing along most segments.

Areas east of I-5 and within the City's industrial hubs, the existing pedestrian network features gaps in sidewalk coverage or lacks sidewalk entirely, especially in more established residential neighborhoods and semi-rural areas adjacent to agricultural land. In industrial areas, including those in East and South Lathrop, sidewalk is incomplete or nonexistent.

CROSSINGS

While most major intersections include marked crosswalks across one or more intersection legs, there are some arterial roadway corridors with long distances without marked or signalized crossing opportunities including:

- Golden Valley Parkway
- River Islands Parkway
- Lathrop Road

Additionally, there are several challenging intersections that feature large footprints, with seven or more lanes to cross (when including

extra road width reserved for future vehicle capacity) and high speeds (45 mph) where pedestrians have reported difficulty crossing within the provided walk time. These locations include:

- River Islands Parkway/Golden Valley Parkway
- River Islands Parkway/McKee Boulevard
- Golden Valley Parkway/Lathrop Road/Spartan Way

A lack of crossing opportunities, or crossing locations that lack appropriate treatments, may create a barrier to safe and comfortable crossing, likely deterring people from walking all together. While the presence of a marked crosswalk alone does not make a crossing location safer, marked crosswalks with added safety features can be used to enhance or highlight desired crossing locations.

Crosswalks can serve as a guide for pedestrians or a way to communicate crossings to drivers. They can also increase the visibility of pedestrians to motorists. Depending on surrounding land use context, speed, and overall roadway width, crosswalks may incorporate enhanced safety features including high visibility crosswalk markings, warning signs and markings, advance stop or yield markings, pedestrian refuge islands, raised crosswalks, and flashing beacons or pedestrian signals.

While recommended crosswalk spacing varies, the NACTO *Urban Street Design Guide* recommends 120 to 200 feet between crossings, depending on local context including block length, street width, building entrances, traffic signals, and current or projected pedestrian desire lines[19]. Further, public comments have indicated the need for more crosswalks due to motorist failure to slow for or yield to crossing pedestrians. More frequent and enhanced crossing locations are needed along the identified roadways.

Along River Islands Parkway between the San Joaquin River and Somerston Parkway (a segment nearly 3,000 feet), there are no marked crossing locations between River Islands Technology Academy and the adjacent River Islands Fields, serving as a high-speed barrier between the school and the athletic fields frequented by students. Similarly, Lathrop Road between South Harlan Road and Woodfield Drive/5th Street, there is close to 2,500 feet between signalized or marked crossing opportunities, with community parks, residential land use, and commercial land use to the north and south of Lathrop Road.

Along Golden Valley Parkway, signalized and/or marked crossing opportunities are again spaced at long distances. Lathrop Marketplace shopping center, located south of Golden Valley Parkway/River Islands Parkway, is a major attractor in the area, with commercial outfits like Target, Sprouts Market, and several restaurants.

Along Golden Valley Parkway and River Islands Parkway, there are areas that are currently undeveloped or in development. As development continues in this area over the next several years, marked crossing opportunities with additional safety features should be installed where pedestrian desire lines are expected or seen.

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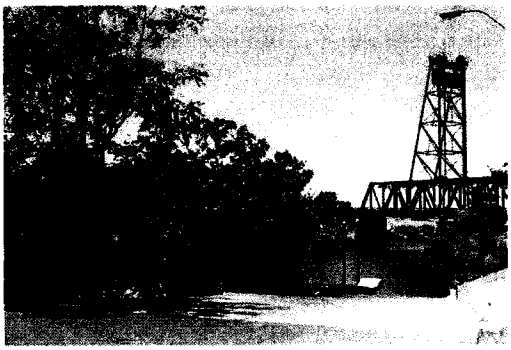
[19] *National Association of City Transportation Officials (NACTO, Urban Street Design Guide, Crosswalks and Crossings. https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/*



Mossdale Crossing Regional Park; Source: San Joaquin County Parks

Near Mossdale Crossing Regional Park, there is an additional crossing barrier at a key connection between the east and west sides of South Lathrop. Slightly north of the park entrance, there is existing Class I Path that intersects with Manthey Road to the east, which provides a vital connection under I-5 to the eastern side of the City. The Class I path to the east terminates in a dirt area and there are no sidewalks or crossings treatments to provide safe and comfortable access to nearby destinations and connections, resulting in a high stress barrier to connectivity between facilities east and west of I-5.

Mossdale Park provides access to several low-stress facilities that connect to the Park, including the Bennie and Joyce Gatto Historical Trail, and a Class I grade-separated bridge over the San Joaquin River that further connects to low-stress pedestrian and bicycle facilities along Stewart Road. There was also a fatal pedestrian collision in this location in 2015, highlighting potential safety needs at this location.

Bikeway Network Gaps & Barriers

While there are some existing Class I and II bicycle facilities in Lathrop, the network is disconnected, and gaps are present in many places. Pockets of low-stress roadways and crossings within residential neighborhoods are bisected by higher stress arterial and collector roadways, resulting in what are known as "islands of low stress connectivity". This produces gaps and barriers to safe and comfortable bicycling throughout the City's roadway network.

HIGH-STRESS SEGMENTS

Among the Class II facilities that do exist, the majority are considered high stress. Of the roughly 14.5 total miles of class II bicycle facilities in the City, almost 84% are considered high stress (assigned scores of LTS 3 or LTS 4) segments.

Arterial and collector roadways generally provide the fastest connection between key destinations within a city. While 93% of Lathrop's local roadway network is considered low stress (segments assigned scores of LTS 1 or LTS 2), 83% of the City's collector roadways and all arterial roadways are considered high stress.

Even among arterial and collector roadways with Class II bicycle lanes, none are considered low stress, with the more than 7 miles of arterial roadways with bike lanes and 57% of the more than 5 miles of collector roadways with Class II facilities considered high stress.

Along Lathrop's collector roadways with bike lanes, high levels of traffic stress are due to narrow bike lanes (less than 5.5 feet), higher speeds (greater than 35 mph), and close adjacency to parking where the parking aisle impedes on bike lane space (bike lane + parking lane width is less than 14 feet).

Along arterials with bike lanes, traffic stress is largely due to high speeds, minimal separation from vehicular traffic, and the presence of more than two vehicle lanes per direction. Roadways like this accommodate higher traffic volumes and encourage high travel speeds, especially when traffic volumes are low, creating a higher stress environment for active transportation users.

While there are paved paths adjacent to arterial roadways throughout the River Islands community categorized by the City as Class I shared-use paths (LTS 1), most of these paths do not include striping or signage, appearing more similarly to wide sidewalk, at eight feet wide. While eight feet is the minimum paved width for a two-way bike path, A width of 10 feet is the preferred width for a two-way bike path, with 12 feet or more preferred where heavy bicycle volumes and/or significant pedestrian traffic is expected [20]. Although these Class I facilities provide some low stress connectivity for active transportation users traveling along arterial segments, the widths of these paths may present challenges or create conflicts for higher-speed bicyclists and lower-speed pedestrians, especially those with wheelchairs or strollers.

High stress bicycling gaps along roadway segments in Lathrop can be addressed via the following methods:

- Along roadways with speeds greater than 40 mph, installing separated facilities, such as Class I paths at least 10 – 12 feet wide or Class IV bikeways
- Ensuring bike lanes are at least 6 feet wide on roadways with speeds of 30 mph or less
- Installing buffered bike lanes that are at least 7 feet wide along 35 mph speed roadways
- Ensuring bike lanes with adjacent parking are greater than 14 feet at 30 mph and 15 feet at 35 mph

CROSSING BARRIERS

As stated previously, I-5 serves as a major barrier between east and west Lathrop, with roadway undercrossings located only at Lathrop Road and Louise Avenue. While there is a Class I Path that traverses alongside SR 120 westbound and under I-5 near Mossdale Crossing Regional Park, as discussed in the previous section, the lack of facilities at the South Manthey Road outlet produces a barrier to safe and comfortable connectivity to the low-stress facilities on the west side of the Interstate.

Mossdale Crossing Regional Park; Source: San Joaquin County Parks

Treatments at this location could include bicycle and pedestrian facilities at the Class I path outlet that is currently an undeveloped area. Other facilities could include sidewalk and/or a Class I path connection to Mossdale Crossing Regional Park via a crossing with enhanced features such as high visibility markings, advance yield markings, and RRFBs.

Additionally, non-signalized crossing locations along arterial roadways such as Lathrop Road,

[20] *Caltrans Highway Design Manual, Chapter 1000, Topic 1003.1 (1a)*

Louise Avenue, River Islands Parkway, Standford Crossing Road, and Somerston Way, and some collector and local roadways serve has high stress barriers to connectivity, predominantly due to high-speed traffic. These high stress barriers to safe crossing can be seen in the bicycle LTS results for crossings, shown in Figure 26 of the previous chapter.

Treatments to address these high-stress crossings could be implemented at existing intersections or new midblock crossing locations if evaluated and deemed necessary. Treatments may include crossing upgrades like high visibility crosswalk and/or cross-bike markings, flashing beacons, advance stop/yield markings, and warning signage and markings. Signalized bike/pedestrian crossings could also be considered.

INTERSECTION APPROACHES: SYSTEMIC SOLUTIONS

Due to gaps in available imagery data in certain areas of the city, the level of traffic stress of intersection approaches (locations with right or left turn pockets) was not analyzed on a location-by-location basis. Rather, this Plan takes a systemic approach toward high stress intersection approach locations. To holistically address the gaps and barriers these locations may cause, potential treatments are described below.

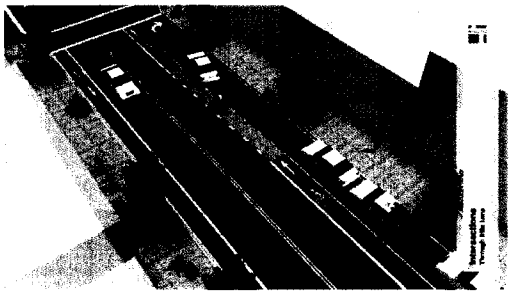
At left-turn locations, level of traffic stress is dependent upon the number of lanes crossed and speed of the roadway crossed for a bicyclist to reach the left-turn pocket. The more lanes crossed and the higher the speed of the roadway crossed, the greater the traffic stress. Typically, a bike box, or left-turn queue box markings, should be installed at left-turn locations with speeds greater than 30 miles per hour and one or more lanes crossed, especially if roadways are known to connect key bicycling routes within the City.

At right-turn locations, the length of the right-turn pocket and the presence and alignment of the bike lane at the intersection approach are the key drivers in determining traffic stress. The lowest stress scenario at a right turn location is a bike signal (LTS 1) or a straight bike lane alignment with a turn lane pocket that is less than 150 feet in length (LTS 2).

A straight bike lane alignment is where the right turn lane is placed to the right of the bike lane and the bike lane continues straight, rather than shifting the left. A straight bike lane alignment requires vehicles to move into a turn lane and yield to a bicyclist across a marked, dashed line in advance of the intersection. High visibility green markings at these conflict locations can further decrease the level of traffic stress.

South Harlan Road Class II bicycle lane at J Street, bicycle lane dropped at right turn pocket

If the bike lane is dropped at the intersection approach, or the bike lane is trapped to the right side of a right-turn pocket, the traffic stress will be high, unless the right turn lane is short (less than 100 feet including taper), or it is rarely used. These types of configurations increase the potential for bicycle/vehicle conflict and contribute to "right-hook" type crashes.



NACTO rendering of straight bicycle lane alignment at a right turn lane

Future Growth Assessment

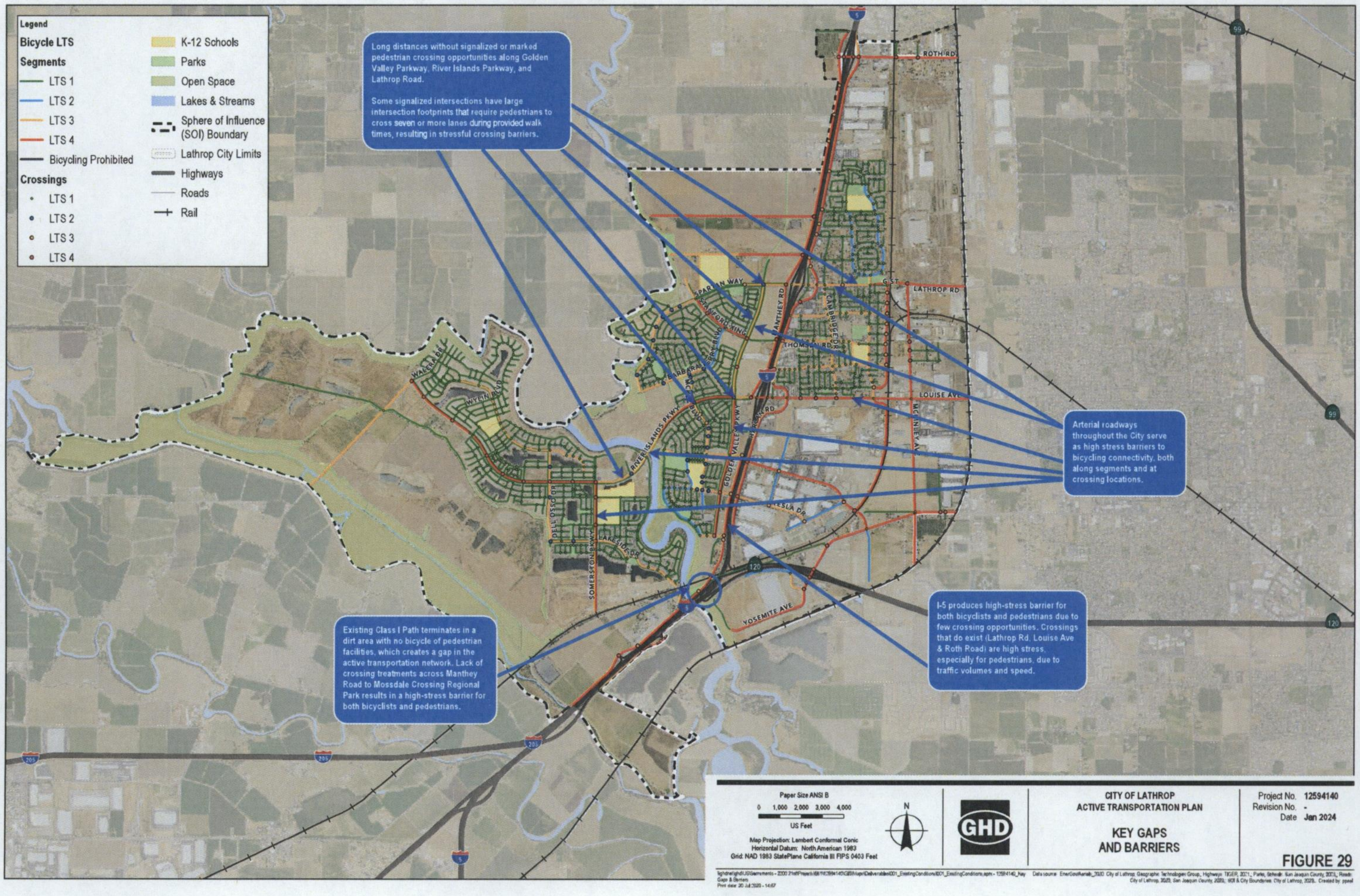
The City of Lathrop continues to experience rapid development in West and South Lathrop, specifically in the River Islands community. Some areas are still undeveloped or currently in development. While some roadways in these areas are still being built out, Bicycle LTS was examined in connection to the General Plan Circulation Element to account for expected future arterial and collector roadway characteristics.

Traffic volumes may still be low in areas where development is still expanding. While traffic volumes along many of the arterial and collector roadways in River Islands may still be low, roadway cross-sections have been built to accommodate future capacity, with roads such as Golden Valley Parkway, River Islands Parkway, and Spartan Way featuring posted speed limits between 35 and 45 mph, two to three vehicle lanes per direction, and minimal on-street bicycle facilities.

While arterial and collector roadways in these areas may not yet warrant upgrades in the immediate term, traffic conditions along these roadways should continue to be monitored to ensure bicycle and pedestrian infrastructure is appropriate for traffic volumes and posted speeds, with NACTO's *Urban Bikeway Design Guide* as one potential guidebook for bicycle infrastructure appropriateness. As development continues and daily traffic volumes increase, infrastructure improvements could include upgrading standard Class II bike lanes to Class IV bikeways or Class I shared use paths, crossing upgrades such as cross-bike markings, RRFBs, and/or bike signals, or grade-separated crossings.

Most of these roadways already have pedestrian infrastructure such as existing sidewalks or Class I paths and crosswalk markings. However, existing crossings at key locations can be upgraded with additional safety features. Further, additional crosswalk locations with enhanced safety features can be identified where pedestrians want and need to cross.

In the future, some roadways may be identified as appropriate for lane reconfiguration, reducing the number of travel lanes, and adjusting speeds to accommodate people bicycling, walking, and rolling. These improvements may include adding bicycle and pedestrian facilities, traffic calming, and other safety measures.


Legend
Bicycle LTS
Segments
LTS 1
LTS 2
LTS 3
LTS 4
Bicycling Prohibited
Crossings
LTS 1
LTS 2
LTS 3
LTS 4
K-12 Schools
Parks
Open Space
Lakes & Streams
Sphere of Influence (SOI) Boundary
Lathrop City Limits
Highways
Roads
Rail
Long distances without signalized or marked pedestrian crossing opportunities along Golden Valley Parkway, River Islands Parkway, and Lathrop Road.
Some signalized intersections have large intersection footprints that require pedestrians to cross seven or more lanes during provided walk times, resulting in stressful crossing barriers.
Arterial roadways throughout the City serve as high stress barriers to bicycling connectivity, both along segments and at crossing locations.
I-5 produces high-stress barrier for both bicyclists and pedestrians due to few crossing opportunities. Crossings that do exist (Lathrop Rd, Louise Ave & Roth Road) are high stress, especially for pedestrians, due to traffic volumes and speed.
Existing Class I Path terminates in a dirt area with no bicycle of pedestrian facilities, which creates a gap in the active transportation network. Lack of crossing treatments across Manthey Road to Mossdale Crossing Regional Park results in a high-stress barrier for both bicyclists and pedestrians.
ROTH RD
LATHROP RD
LOUISE AVE
THOMSEN RD
WALERA DR
WYLIN BLVD
RIVER ISLANDS PKWY
GOLDEN VALLEY PKWY
HARLAN RD
MCKINLEY AVE
DELL OSSO DR
SOMERSTON PKWY
LAKESIDE DR
TESLA DR
YOSEMITE AVE
Paper Size ANSI B
0 1,000 2,000 3,000 4,000
US Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California III FIPS 0403 Feet
N
CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN
KEY GAPS
AND BARRIERS
Project No. 12594140
Revision No. -
Date Jan 2024
FIGURE 29

RECOMMENDATIONS

This chapter includes the following sections:

- **Infrastructure Improvement Types** describes the various physical changes available to build a connected, comfortable, and safe roadway network for bicyclists and pedestrians.
- **Amenities** presents a menu of options to improve multimodal comfort and connections as well as "best practices" for their implementation.
- **Wayfinding** defines the system of navigational signs and markings that inform and guide users along the best route to their destinations and presents a menu of wayfinding options to improve navigation for people walking, bicycling, and rolling.
- **Infrastructure Recommendations** describes proposed engineering improvements related to the City's bicycle, pedestrian, and trail networks, including on- and off- street facilities like bicycle lanes, sidewalks, multi-use paths, trails, and crossing improvements, as well as studies for locations where further analysis or community outreach is necessary to determine the most appropriate improvement type for the location.
- **Project Priority Evaluation** presents the methodology framework used to prioritize the list of recommended projects.
- **Non-Infrastructure Recommendations** address the "how" of getting more members of the Lathrop community onto the growing active transportation network. They are guided by the 5 E's of Education, Encouragement, Engineering, Evaluation, and Equity.

Infrastructure Improvement Types

Infrastructure improvements are physical changes to the roadway network which facilitate a connected, comfortable, and safe bicycle and pedestrian network.

Infrastructure improvement types for bicycling and walking facilities are described separately in the following sections, except for those facilities that benefit bicyclists and pedestrians equally, like Class I shared-use paths.

Bikeway Network Infrastructure Types

Recommended bicycle facilities include on- and off-street bicycle lanes and bikeways, as well as crossing improvements.

Bikeway recommendations, when combined with existing local and regional bicycle facilities, are intended to create a well-connected and low-stress network for people riding bicycles. As future development and additional site and engineering assessments occur, some options may be added, changed, or removed to maximize the low-stress connectivity of the bicycle network. For instance, if further assessment determines that a specific bikeway type is infeasible at one location, it may be shifted to a nearby location or substituted for an alternate, context-appropriate bikeway type. Ultimately, bikeway projects are intended to maximize the vision and goals set forth in this Plan.

Bikeway projects are categorized based on the four classifications recognized by Caltrans, along with several sub-classifications. These include:

- **Class I Shared-Use Paths**: Dedicated paths for walking and bicycling entirely separate from the roadway.
- **Class II Bicycle Lanes**: Striped lanes for bicyclists
  - **Class II Bicycle Lanes with Green-Colored Pavement**: Striped lanes for bicyclists that include green-colored pavement, either as a corridor treatment along the length of a bike lane or in conflict areas.
  - **Class II Buffered Bicycle Lanes**: Bicycle lanes that include a striped "buffer" area either between the bicycle lane and travel lane or between the bicycle lane and parked cars.
- **Class III Bicycle Routes**: Signed routes for bicyclists on low-speed, low-volume streets where lanes are shared with motorists.
  - **Class III Bicycle Boulevards**: Bicycle routes that are further enhanced with traffic calming features or other treatments to prioritize bicyclist comfort.
- **Class IV Separated Bikeways**: On-street bicycle facilities with a physical barrier between the bicycle space and motor vehicle lanes, including bollards, curbs, or parking.

In addition to on- and off-street bicycle facilities, bikeway networks can include the following bicycle crossing improvement types:

- **At-Grade Class I Bikeway Crossings**: An intersection between a Class I Bikeway and roadway where bicyclists and motorists share the road.
- **Grade-Separated Class I Bikeway Crossings**: An intersection between a Class I Bikeway and roadway or railroad where bicyclists are physically separated from other modes via an overcrossing or undercrossing structure.
- **Bicycle-Specific Approach/Crossing Improvements** at intersections, including Conflict Markings, Bike Boxes, Bike Ramps, Bicycle Signals/Leading Bicycle Interval, Intersection Approach Improvements, and Bicycle Loop and Video Detection.

A visual guide to these bicycle network infrastructure types and more has been included below.

CLASS I SHARED-USE PATHS

*Source: **www.pedbikeimages.org** / Dan Burden*

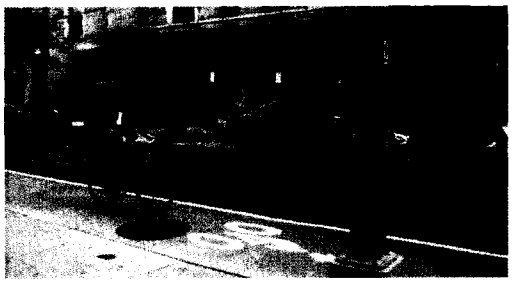
Class I shared-use paths are exclusive walking and bicycling facilities where motor vehicles are prohibited. The minimum paved width of a two-way Class I facility is 8 feet, with 10 feet preferred with a minimum of 2 feet of shoulder width on either side (3 feet preferred).

CLASS II BICYCLE LANES

*Source: **www.pedbikeimages.org** / Dan Burden*

Class II bicycle lanes are striped lanes for bicyclists that provide a designated space for bicyclists within the roadway, helping to define where motorists and vehicles are. Bike lanes are distinguished using color, lane markings, signage, and intersection treatments. Bike lanes should be 5 feet wide, at a minimum (MUTCD Figure 9C-102(CA)).

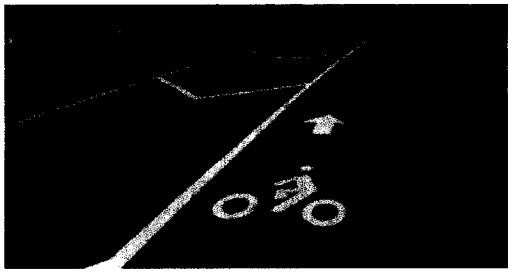
CLASS II BICYCLE LANES WITH GREEN-COLORED PAVEMENT



*Source: **www.pedbikeimages.org** / Tiffany Robinson*

Class II bicycle lanes with green-colored pavement increase awareness to vehicles that cyclists may be present and makes the bike lane more visible. The green paint can be implemented either along the entire bikeway corridor or in conflict areas, like driveways, turn lanes, and through intersections.

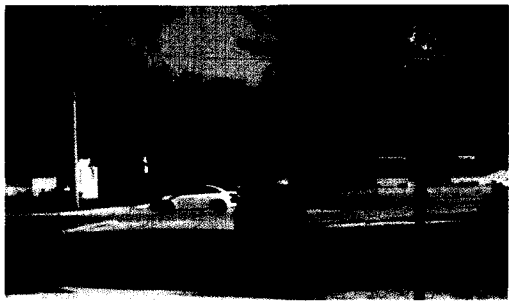
CLASS II BUFFERED BICYCLE LANES



*Source: **www.pedbikeimages.org** / Lyubov Zuyeva*

Class II buffered bicycle lanes are striped lanes for bicyclists that include a painted "buffer" areas between the bicycle lane and the travel lane or between the bicycle lane and the parking lane.

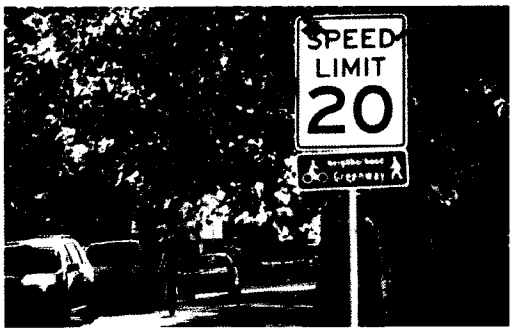
CLASS III BICYCLE ROUTES



*Source: **www.pedbikeimages.org** / Brandon Whyte*

Class III bicycle routes are signed routes for bicyclists on low-speed, low volume streets. Bicyclists share the roadway with motorists.

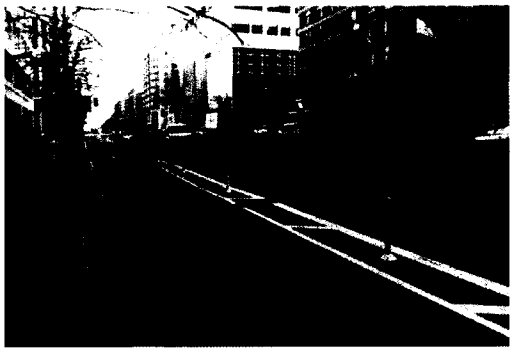
CLASS III BICYCLE BOULEVARDS



*Source: **www.pedbikeimages.org** / Russ Roca*

Class III bicycle boulevards are Class III bicycle routes that have been enhanced with traffic calming treatments that prioritize the travel and comfort of people traveling by bicycle.

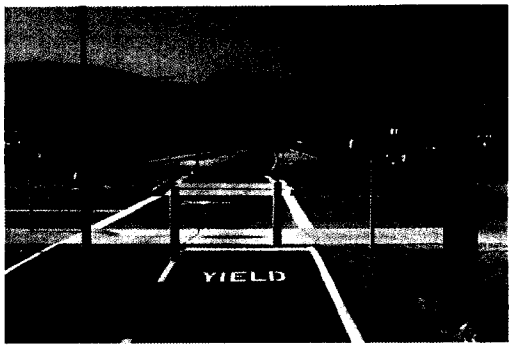
CLASS IV SEPARATED BIKEWAYS



*Source: **www.pedbikeimages.org** / Megan Kanagy*

Class IV separated bikeways are on-street bicycle facilities with a physical barrier, like a parking lane or bollards, between the bikeway and motor vehicle lanes.

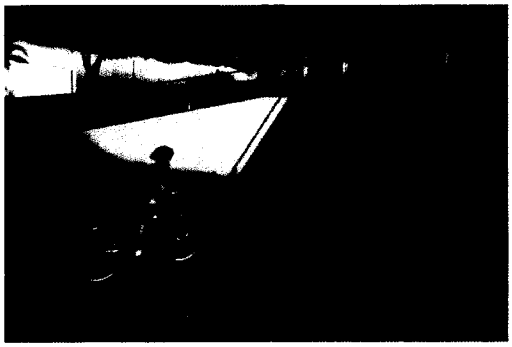
AT-GRADE CLASS I BIKEWAY CROSSINGS



*Source: **www.pedbikeimages.org / Dan Burden***

At-grade Class I bikeway crossings are intersections where a Class I bikeway meets a roadway where bicyclists and motorists share the road.

GRADE-SEPARATED CLASS I BIKEWAY CROSSINGS



*Source: **www.pedbikeimages.org / Dan Burden***

Grade-separated Class I bikeway crossings are intersections where a Class I bikeway meets a roadway or railroad, and bicyclists are physically separated from other modes by an overcrossing or undercrossing structure.

TRAFFIC CALMING

Source: Arleta Neighborhood Council

Traffic calming measures reduce motor vehicle speeds to increase safety and improve comfort for nearby pedestrians and bicyclists. Traffic calming measures include speed limit reductions, vertical deflection (speed humps or speed tables), and horizontal deflection (curb extensions, neighborhood traffic circles, chicanes, pinch points, or narrowings).

NEIGHBORHOOD TRAFFIC CIRCLES

*Source: **www.pedbikeimages.org / Carl Sundstrom***

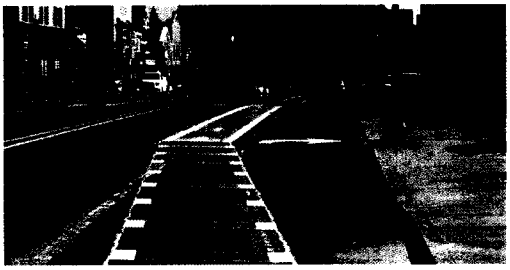
Neighborhood traffic circles are raised islands in residential intersections that help slow traffic on local and collector streets. Neighborhood traffic circles can help make crossings safer for pedestrians, encourage smoother and safer bicycle travel, and clarify right-of-way for all road users along Class III bicycle boulevards.

SPEED FEEDBACK SIGN

Source: Seattle Department of Transportation

Speed feedback signs use radar to detect and display the speed of passing cars and are typically sited on roadways with significant speeding concerns.

CONFLICT MARKINGS



*Source: **www.troutdaleoregon.gov***

Conflict markings are dashed bicycle facility markings where turning motorists cross the bicycle lane. They are most often located at intersections, driveways, and on-ramps.

BIKE BOXES

Source: City of Long Beach

Bike boxes designate an area for bicyclists to wait in front of stopped motor vehicles during a red signal phase. Bike boxes provide cyclists a safe way to be visible to motorists by getting ahead of the queue during the red signal phase and can help facilitate left turns for bicyclists.

BIKE RAMPS

Source: City of Thornton, CO

Bike ramps are ramps that allow for smooth bicycle travel between a roadway and an off-street bicycle facility, most often found at the approaches to roundabouts.

BICYCLE SIGNALS/LEADING BICYCLE INTERVAL

*Source: **www.pedbikeimages.org / Adam Coppola Photography***

Bicycle signals are traffic signal heads that provide a designated period for bicycles to enter the intersection ahead of, or separately from motor vehicles. Bike detectors would be installed to detect bicycles separately from vehicles, which can also be installed with or without bike signals.

INTERSECTION BICYCLE MARKINGS

Source: www.pedbikeimages.org / Toole Design Group

Intersection bicycle markings are dedicated bicycle facilities that continue through an intersection completely and provide a designated space for cyclists through an intersection, increasing awareness of cyclists to drivers.

Pedestrian Network Infrastructure Types

The proposed pedestrian network includes Class I shared-use paths along with sidewalks and spot improvements such as crossings and curb ramps. Pedestrian recommendations are intended to make walking trips safer, more enjoyable, more comfortable, and more convenient for people of all ages and abilities.

A visual guide to pedestrian infrastructure types has been included below.

SIDEWALKS AND PATHS

*Source: **www.pedbikeimages.org / Dan Burden***

Sidewalks are paved facilities that provide comfortable walking space separate from the roadway. They are a fundamental element of Americans with Disabilities Act (ADA) compliance.

STANDARD OR TRANSVERSE MARKINGS CROSSWALKS

*Source: **www.pedbikeimages.org / Dan Burden***

Standard or transverse markings crosswalks are two parallel lines indicating the crossing area.

LADDER CROSSWALK

*Source: **www.pedbikeimages.org / Mike Cynecki***

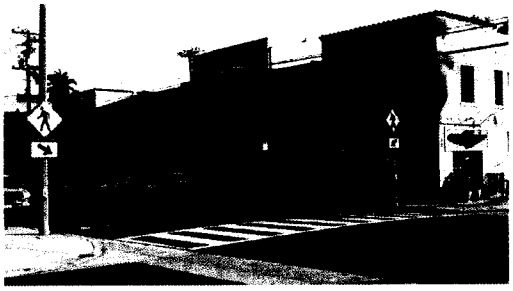
Ladder crosswalks include bold white bars that run perpendicular to the pedestrian path of travel.

ADVANCE STOP BAR OR YIELD MARKINGS

*Source: **www.pedbikeimages.org / Dan Burden***

Advance stop bar or yield markings include a bold white bar or triangular "shark's teeth" markings 6 to 8 feet in advance of a crosswalk. Controlled intersections utilize the stop bar while uncontrolled intersections utilize the yield markings.

RECTANGULAR RAPID FLASHING BEACON (RRFB)



Source: City of Long Beach

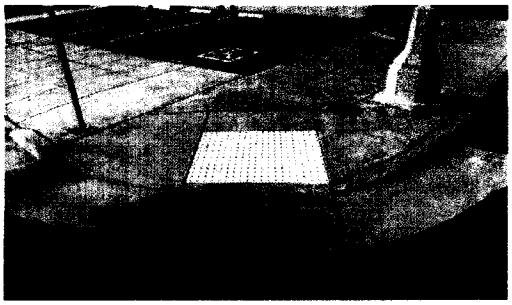
A RRFB utilizes human-activated flashing lights to provide additional visibility to pedestrian crosswalk signs at unsignalized intersections and midblock crossings, where traffic volumes do not warrant a signal or stop.

SIGNALIZED MIDBLOCK CROSSING/ PEDESTRIAN HYBRID BEACON (PHB)

Source: NACTO

A signalized midblock crossing stops road traffic as needed to allow for non-motorized crossings of major streets at midblock locations where a beacon is determined to be insufficient. Alternatively, a PHB could be installed. A PHB has yellow flashing lights then provides a red indication for motorized traffic.

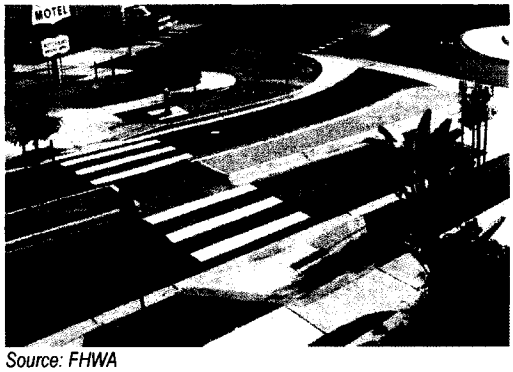
AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANT CURB RAMP



Source: Van Midde Concrete

Curb ramps are used at street crossings that involve a change in grade to ensure crosswalks are accessible to people using wheelchairs, people with wheeled devices, and people with low or no vision, per ADA guidelines.

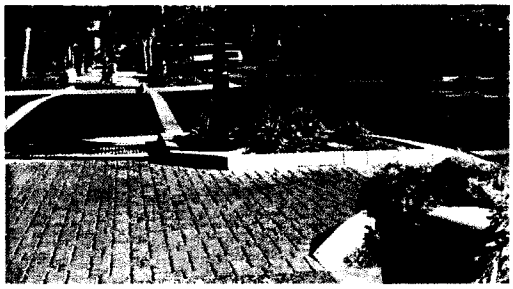
PEDESTRIAN MEDIAN ISLANDS



Source: FHWA

Pedestrian median islands provide a safe space for people to cross one side of the road at a time. They help to improve visibility of people crossing to drivers.

CURB EXTENSIONS



*Source: **www.pedbikeimages.org** / Lara Justine*

Curb extensions are traffic calming measures that widen the sidewalk at roadway intersections into the parking lane, shortening the street width at crossings.

LEADING PEDESTRIAN INTERVAL

Source: City of Long Beach

Leading pedestrian intervals are signalized intersections with a walk phase that precedes the green phase for motorists by a few seconds,

allowing pedestrians to get a head start crossing the street.

Amenities

This section of amenities acts as an à la carte menu of potential infrastructure add-ons and specialty items that can be included throughout Lathrop's multimodal network, as desired. Each amenity presents an opportunity for improved comfort and convenience for people walking, bicycling, rolling, and taking transit.

The intent of the amenities presented is to have a unified look and feel throughout the Lathrop transportation network, emphasizing connectivity. Each pedestrian, bicycle, trail, and transit amenity item below includes an example photo of the amenity as well as a description of its general recommended use and best practices. These recommendations are overarching for the entire network and not for any one segment. These amenities should be considered as the network is developed in new segments and for future upgrades to existing segments.

Pedestrian Amenity Options

STREET TREES

Street trees provide numerous pedestrian amenities including cleaner air, enhanced beauty, improved mental health, and strengthened community identity. In cities like Lathrop with hot, dry summers, street trees provide pedestrians with essential shade protection from the sun. Street trees can also improve traffic safety, with studies showing that individual driving speeds are significantly reduced along tree-lined streets in suburban settings[21].

PARKLETS

Pedestrians benefit from places to sit or linger as they travel to and from their destinations. Parklets are a way for the City to partner with nearby local businesses to create additional public space for community use. By converting curbside parking spaces into well designed, landscaped miniature community spaces, communities like Lathrop can incorporate additional greenery, seating, and (optional) bicycle racks into their urban fabric.

Parklets can be managed through a competitive application process by a city's public works department. Parklets should be a minimum of 6 feet wide, take up at least 1 parallel parking space, have vertical elements to help make them visible to motor vehicle traffic, and have a level transition at the sidewalk/curb to maintain accessibility. Drainage and stormwater runoff should also be considered when siting.

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[21] *https://www.researchgate.net/publication/292767085_The_street_tree_effect_and_driver_safety*

SEATING

Successful public spaces incorporate seating, providing a welcoming, comfortable environment that encourages pedestrians to rest, read, eat, or socialize. From formal seating, like benches and café tables and chairs, to informal seating, like low walls and planter edges, seating provides a place for residents and visitors alike to spend additional time in the public realm.

Seating should be arranged to create social spaces, encourage sitting, and discourage lying down. Seating should be sited beneath trees or other shade structures, where possible, to improve comfort. Benches parallel to the curb should be oriented toward buildings (and away from traffic) when located in the sidewalk zone nearest to the curb; they should be oriented away from buildings when up against building frontage. Benches also act as transit amenities and are further described in that context in a later section.

Seating should be made of high-quality, durable materials that can withstand human interaction, vandalism, and the elements.

PEDESTRIAN SCALE LIGHTING

According to the National Highway Traffic Safety Administration (NHTSA), 76% of all pedestrian related fatalities occurred during periods of darkness[22]. To help address this, pedestrian scale lighting provides supplemental illumination for the travel and activities of people, including children, walking, skating, and rolling at night. While pedestrian scale lighting is recommended in all areas where pedestrian activity is prioritized, like sidewalks, pathways, intersections, crossings, and plazas, there are suggested minimum average luminance on these facilities for visibility of pedestrians to drivers and for pedestrians' visibility of their walking, as outlined in the FHWA research report *Street Lighting for Pedestrian Safety*[23]. Pedestrian scale lighting supplements typical roadway streetlights by adding or adjusting the source of outdoor illumination closer to pedestrians, improving visibility of those walking along and across the street and enhancing safety for all road users.

STREETSCAPE SIGNAGE AND WAYFINDING

Streetscape signage and wayfinding provide directional information to key destinations

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[22] *https://safety.fhwa.dot.gov/roadway_dept/night_visib/docs/Pedestrian_Lighting_Primer_Final.pdf*

[23] *https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-09/StreetLightingPedestrianSafety.pdf*

nearby, including parks, transit stops, civic buildings, and other neighborhoods. They also can be used to create a sense of place within the neighborhood, providing historical information and marking points of interest.

TRASH RECEPTACLES

Trash and recycling receptacles reduce litter by providing a convenient place for waste disposal. Depending on style and functionality they can be moderately inexpensive and require only a small area that is clear and level. They should be placed to provide for easy maintenance, regular emptying, as well as high visibility to reduce the risk of vandalism. Newer trash compactor trash receptacles can increase the capacity of regular-sized bins, reducing the required frequency of emptying and preventing unwanted scavenging.

Bicycle Amenity Options

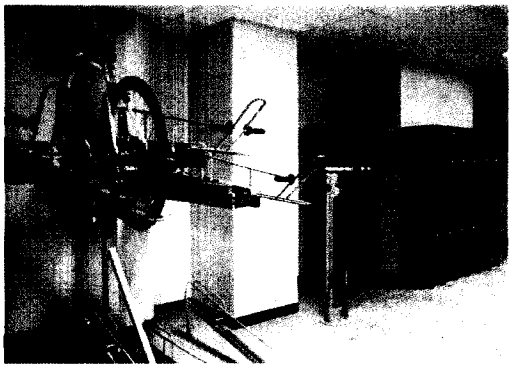
BICYCLE PARKING

Bicycle racks at convenient locations provide secure places to park and lock bicycles on a short-term basis. Bicycle parking should be sited at level locations that are highly visible to avoid bicycle theft, as well as complementary to other amenities, like end of trip facilities. Special care should be taken to comply with accessibility requirements and avoid conflicts with motor vehicles, pedestrians, and mobility devices. Providing sanctioned bike parking in the right locations can help avoid bikes locked to objects such as trees, fences, railings, gutters, light poles, signs, and benches, which may cause maintenance or accessibility issues.

Most bicycle racks are designed to be durable, and the chosen style of rack should support the bicycle upright by its frame in two places, prevent the wheel of the bicycle from tipping over, enable the frame and one or both wheels to be secured, support bicycles without a diamond-shaped frame with a horizontal top tube, allow front-in parking. A U-lock should be able to lock the front wheel and the down tube of an upright bicycle, and allow back-in parking, and a U-lock should be able to lock the rear wheel and seat tube of the bicycle.

Wheel-bending schoolyard bicycle racks, which can damage bicycles, and "wave" style bicycle racks, which are space inefficient, are outdated rack styles that are not recommended. Additional guidance on bicycle parking and bicycle rack selection may be found in the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines.

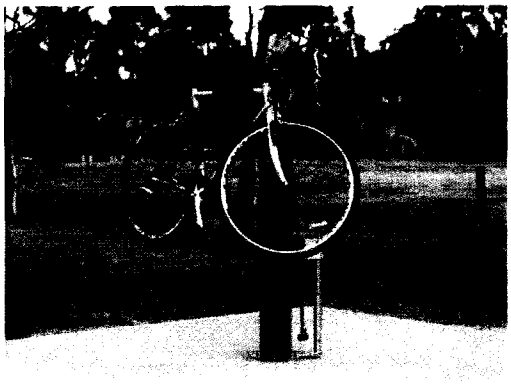
END OF TRIP FACILITIES



Longer distance bicycle commuters may wish to freshen up upon arrival, prior to beginning the day. To further encourage people to bicycle more often, additional amenities should be provided including showers, locker rooms, and bicycle wash stations. These amenities are

frequently provided for bicycle commuters through workplace or school facilities.

BICYCLE REPAIR STATIONS



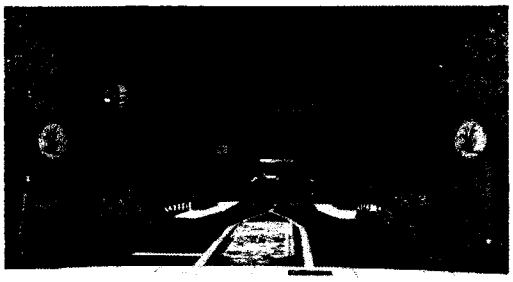
From flat tires to adjusting brakes and derailleurs, bicycle riders of all abilities sometimes need to make quick adjustments while out on the trail. Bicycle repair stations include all the necessary tools and equipment for basic bicycle repairs and maintenance. Bicycle repair stations act as a ruggedized bicycle tool "library," designed to withstand both vandalism and the elements, with securely attached tools, stand and often a bicycle pump. Care should be taken when placing bicycle repair stations to avoid areas where vandalism is more likely, and instead placing them in highly visible, well-lit, and accessible locations where bicyclists may easily pull off the trail to make repairs.

BICYCLE LEANING RAILS

Bicycle leaning rails allow bicyclists to rest an arm and foot when waiting at signalized intersections along designated bikeways. These amenities encourage more people to bicycle by providing something to hold onto for balance while waiting for the traffic signal. Bicycle leaning rails also encourage proper bicyclist positioning and alignment along multi-use trail crossings, reducing conflict between bicyclists and pedestrians. Bicycle leaning rails are produced by multiple manufacturers and come in a variety of lengths (typically 4' and 8'), finish options, and colors.

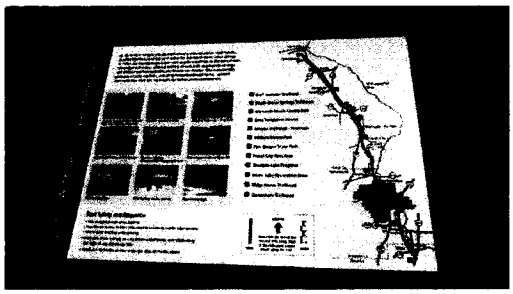
Trail Amenity Options

GATEWAY MONUMENTS



Gateway monuments are placed at main entrance points, trailheads, and prominent intersections of trails, creating a sense of place for the trail network and its users.

TRAIL MAPS / GATEWAY SIGNS



A well-planned and attractive system of destination signs and trail maps can greatly enhance trail networks by orienting users to their location within the community and providing navigational assistance to nearby routes or points of interest. By highlighting connections to other trails or modes of transportation, gateway and trail map signs can encourage more people to walk and bicycle for more trips.

These signs can be implemented as a standalone feature at trail entrances or paired

with wayfinding signs (described in a later section) along the trail to offer more comprehensive navigational assistance.

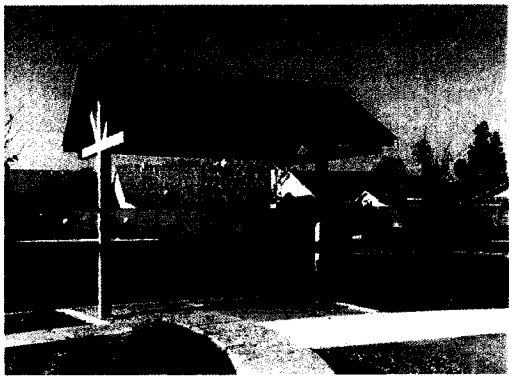
INTERPRETIVE SIGNS

Interpretive signs orient trail users to adjacent natural features, waterways, and local wildlife, building a deeper sense of awareness. Because many of the existing and planned trails follow creeks and natural areas, the City's trail network presents numerous opportunities for interpretive signage.

BENCHES

Providing seating along trails improves accessibility and comfort for all trail users, and can be especially helpful for children, older adults, and those with mobility challenges. Simple benches can be installed at a moderate cost and require a firm and level area. Many also include an adjacent accessible area where a person in a wheelchair or other mobility device may safely pull off the trail. Paving the area surrounding the bench is common, but not required.

SHADED BENCHES



Where trees do not provide sufficient shade cover, or where protection from weather is also desired, benches can be installed in conjunction with shade structures. The structure adds significant cost and requires more substantial footings, but typically does not dramatically increase the footprint of the trailside seating area.

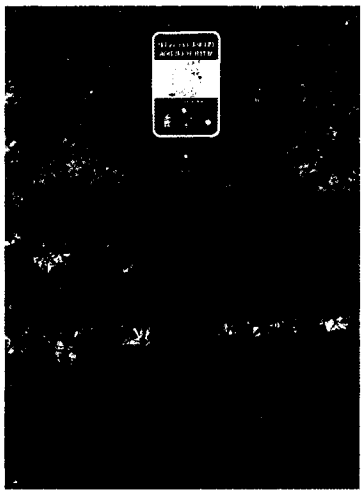
PICNIC TABLES

Like benches, picnic tables provide seating along trails, improving accessibility and comfort for all trail users, and can be especially helpful for children, older adults, and those with mobility challenges. Picnic tables expand the number of uses that can be accommodated along the trail network, like outdoor gatherings, dining, and other activities. Simple picnic tables can be installed at a moderate cost and require a firm and level area. Many are designed to accessibility standards; placement of accessible tables will need to be in an area where a person in a wheelchair or other mobility device may safely pull off the trail.

TRASH RECEPTACLES

Large trash and/or recycling receptacles reduce litter on trails by providing a convenient place for waste disposal. They are moderately inexpensive and require only a small area that is clear and level (while concrete pads are common, they are not necessary). When used in conjunction with dog waste stations (which include small trash receptacles), trash receptacles can be placed slightly further apart on trails. They should also be located to provide for easy maintenance and regular emptying.

DOG WASTE STATIONS



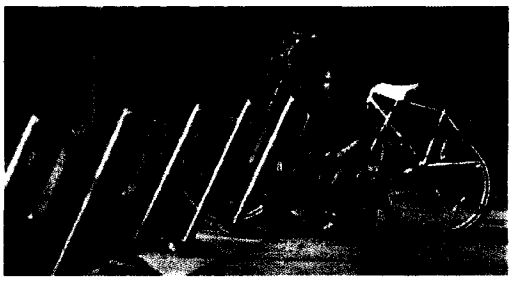
Dog waste stations provide bags and trash receptacles, making it convenient for people walking dogs on the trail to clean up after their pets. They are inexpensive, are typically pole-mounted, and can be placed frequently along the trail to encourage use. Care should be taken that waste stations are placed in locations where they can be maintained regularly.

DRINKING FOUNTAINS

Drinking fountains can improve the quality of experience for trail users on long trips, in hot weather, or where tree cover is sparse. While drinking fountains themselves are relatively small and only moderately expensive, providing an accessible area off the trail to access the fountain increases the required footprint.

Drinking fountains require potable water meters, which may not exist along the trail. Meters for drinking water are different from meters used for irrigation of landscaping. If a new water meter is required, significant additional costs are incurred.

BICYCLE PARKING



Bicycle racks at convenient locations provide secure places to park and lock bicycles on a short-term basis. Bicycle parking should be sited at level locations along the trail that are highly visible to avoid bicycle theft, as well as complementary to other amenities, like public restrooms or motor vehicle parking areas.

Special care should be taken to comply with accessibility requirements and avoid conflicts with motor vehicles, pedestrians, mobility devices, and other trail users. Providing sanctioned bike parking in the right locations can help avoid bikes locked to objects such as trees, fences, railings, gutters, light poles, signs, and benches, which may cause maintenance or accessibility issues.

PUBLIC ART

Public art has the power to elevate a multimodal trail or shared-use path from useful infrastructure only into a treasured space in the community. Public art near trails can be used to tell the story of the trail or share the identity of the community through which it runs and establish an enhanced sense of place.

There are many types of public art on trails including sculptures, murals, painted trail surfaces, gardens, lighting, gates and fences, as well as interactive art. Materials used can vary widely by region and budget but are regularly wood, stone, fiberglass, plastic, bronze, or copper. Temporary or "pop-up" art can also be a more affordable option for public art along trails but may require additional program management and curation efforts. Community members, including youth, can be great participants in selecting and creating art to foster a sense of community pride and ownership in the trail. Funding for public art can come from public, private, or philanthropic sources.

Special care should be taken to ensure the chosen public art can safely withstand human interaction and vandalism as well as the elements. Siting should place the public art so that it does not disrupt or block the trail when viewed or interacted with by trail users. Maintenance should be institutionalized through the Lathrop Public Works Department and the art should be insured, typically through the municipal insurance policy.

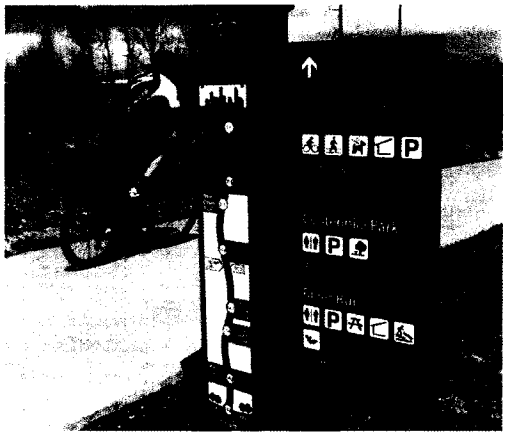
ADDITIONAL CONSIDERATIONS / MAINTENANCE

Maintaining each segment as well as the amenities is important to the overall usability and accessibility of the trail. A consideration for the safety of trail users would be to maintain the trail surface for ease of use and to design trails with root barriers to prevent roots from uplifting the paths.

Wayfinding

Wayfinding signage is a system of navigational signs and markings that inform active transportation users of their surroundings, showing helpful information at key points to guide them along the best route to their destinations.

Trail Wayfinding



Wayfinding signs are small, pole-mounted signs placed along trails and bikeways at intersections or other "decision points" as well as along network segments to confirm time or distance information for active transportation users.

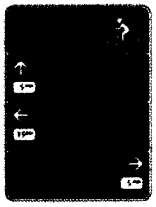
Signs typically display destination and directional information, at a minimum, but may also include distance, travel time, and the name of the bikeway, trail, or neighborhood as appropriate.

Bicycle Wayfinding

There are three types of bicycle wayfinding signs:

DECISION SIGNS

Oakland, CA



Concept

Decision Signs should be placed at the intersection of two or more bikeways to help inform bicyclists of the possible routes connecting to key destinations, like commercial centers, parks, or other bikeways.

TURN SIGNS

Chicago, IL

MUTCD

Turn Signs signal when a bikeway turns from the current roadway onto another roadway.

CONFIRMATION SIGNS

Chicago, IL

Oakland, CA

Confirmation Signs let bicyclists and other active users know that they are on a designated bikeway. They can also help bring awareness of the bicycle route for motorists.

Pedestrian Wayfinding

Source: Bret Yourstone

Pedestrian wayfinding systems are designed to be informative, providing accurate and understandable information that helps people walking or rolling assess their physical environment and efficiently navigate to their desired destinations. Pedestrian wayfinding systems help people get around a city or neighborhood without their cars, encouraging more people to walk.

Best practices for pedestrian wayfinding include:

- Wayfinding signage should have clear information, consistent visuals, and conspicuous placement.
- Wayfinding signage should be free of visual clutter with up-to-date information.
- Do not place more signs than are necessary to provide the right information at the right time.
- Make wayfinding signage and markings delightful, inspiring residents and visitors.

Infrastructure Recommendations

This section presents infrastructure recommendations identified to support improvements to the City's bicycle, pedestrian, and trail networks, and describes the approach toward developing these recommendations.

The recommendations development process began with creating an improvement dataset that combines unconstructed projects previously

proposed in several relevant planning documents, including the 2004 City of Lathrop Bicycle Transportation Plan. This approach provided the opportunity to begin the current recommendation process with a list of previously identified projects intended to address the City's needs.

Building upon the list of previously proposed improvements, the project team identified gaps and opportunities for improvement in the project list. By examining results of technical analyses that informed the needs identified in the existing conditions assessment (refer to Existing Conditions chapter for more information), as well as concerns expressed during the community engagement process, an updated list of recommended projects was developed.

The recommendations are intended to provide Lathrop residents and visitors with accessible, connected, and safe options for bicycle and pedestrian uses in the City. The intent of these recommendations is to present short-term and long-term recommendations to improve the bicycle, pedestrian, and trail networks in Lathrop and provide a framework for the City to successfully implement these projects.

While the proposed improvements are the result of a comprehensive examination of the City's needs, all recommendations have been developed within a planning-level analysis framework. For a project to advance, additional analyses may be required prior to implementation, design, or construction. These analyses may include an engineering study to understand any relevant site-specific issues and develop a design in compliance with state and local design standards, additional public review, and procuring the necessary project funding.

Given the nature of this document as a planning-level framework, there will be a need for minor modifications or adjustment that nonetheless support the overall vision of improving walking and bicycling in Lathrop. Proposed minor adjustments would need to be approved by the Director of Public Works or their designee and would need to adhere to any established design protocols and support the vision and goals outlined in this Plan. Examples of minor adjustments include, but are not limited to:

- Relocation within a project area
- The connectivity no longer makes sense
- The property is rezoned for a different use that would not require the same improvements
- A CIP project included a connection, so it is no longer needed at that location
- A determination that a relocation would increase safety
- Provide improved connectivity to amenities
- Other reason as described by the Public Works Director which enhances the overall system functionality
- Improve bicycle or pedestrian circulation

This list is not intended to be fully inclusive. The Director of Public Works, or their designee, has the flexibility to make the final determination on when a minor adjustment would make more sense. Where it is determined that the proposed adjustment best fits the character of the project then they will be required, and development applications shall execute such at the sole discretion of the City.

The proposed bicycle facility infrastructure recommendations are presented in Figure 30. The proposed pedestrian facility infrastructure recommendations are presented in Figure 31. For a table of the full list of infrastructure and study recommendations, see Appendix B. Area-specific recommendations are described below.

Area-Specific Recommendations

EAST LATHROP

Within East Lathrop, several types of bicycle facilities and pedestrian improvements are recommended in this primarily residential area. There are elementary schools, parks, locally

serving retail, and other community destinations that foster an environment for walking and biking. This Plan proposes several local streets as Class III bicycle boulevards, where traffic volumes and speeds are low. Class II bike lanes are proposed along 5th Street, O Street, and Cambridge Drive south of Tomsen Road. Class II buffered bike lanes are proposed along McKinley Avenue and a portion of Thomsen Road in front of Lathrop Elementary School.

Class IV protected bikeways are proposed along Lathrop Road east of I-5, along Louise Avenue east of I-5, and along Harlan Road. A formalized Class I shared-use path is proposed north of Lathrop Road west of the railroad ROW to Princeville Street, connecting 7th Street to neighborhoods to the north. A feasibility study should be conducted to determine a path alignment to continue this facility north to Roth Road. A short, formalized Class I shared-use path is proposed to connect Blue Sky Drive to Bizzibe Street through Armstrong Park, where an existing footpath exists. Another feasibility study is recommended for a bicycle and pedestrian connection between the backside of Manuel Valverde Park, which has an existing path connecting to Thomsen Road, and J Street via an undeveloped parcel and the Lathrop-Manteca Fire Station 31 driveway.

Multimodal crossing improvements are proposed at major intersections along Lathrop Road, which is a high-stress barrier for pedestrians and cyclists. Improvements include high visibility crosswalks, bicycle conflict markings with green paint, bicycle detection with bike signals and leading bicycle intervals at signals, and bike boxes to improve safety and visibility for both pedestrians and cyclists. Curb extensions are also proposed at Lathrop Road at 5th Street to shorten crossing lengths and slow vehicles while turning. At signalized intersections, a leading pedestrian interval is recommended as an update to the traffic signal timing. At the intersection of Harlan Road and J Street, recommendations include improving the crosswalk to high visibility and adding green paint in conflict areas.

Improved sidewalk is proposed along Thomsen Road in front of Lathrop Elementary School and new sidewalk is proposed along Thomsen Road and along L Street, both between 5th Street and 7th Street to connect to the elementary school and the park. New ADA curb ramps, curb extensions, and an RRFB are proposed for the entrance at Manuel Valverde Park.

Improved signs and pavement markings are recommended along McKinley Avenue at the railroad crossing. Additionally, along 7th Street, traffic calming measures such as narrower lanes and speed humps or speed cushions are recommended to reduce vehicular speeds.

BUSINESS PARK (BP) AREAS AND SOUTH LATHROP

The Crossroads BP, Lathrop Gateway BP, and South Lathrop areas are primarily warehousing, manufacturing, and distribution facility areas frequented by heavy trucks and employees; they are accessed primarily via South Harlan Road and D'Arcy Parkway. Proposed bicycle facilities in the BP area include Class II bike lanes along Tesla Drive/Nestle Way, Christopher Way north of Nestle Way, Murphy Road north of D'Arcy Parkway, and on Shideler Parkway going to/from the Lathrop/Manteca ACE Station.

A Class I path is proposed along Yosemite Avenue to connect the existing trail adjacent to SR 120 to the ACE station, and to improve its connection to Manthey Road. Additionally, the feasibility of a Class I path should be evaluated connecting from where Yosemite Avenue ends, north across the railroad tracks to Christopher Way. A Class I shared-use path is proposed along S. Howland Road between D'Arcy Parkway and Louise Avenue parallel to the railroad ROW.

Class II buffered bike lanes are proposed along D'Arcy Parkway between South Harlan Road and Yosemite Avenue. Class IV protected

bikeways are proposed along Harlan Road, Murphy Parkway between D'Arcy Parkway and Tesla Drive (parking protected bikeway), and along Yosemite Avenue toward Jefferson Way.

Improved multimodal crossings are proposed at the existing path connecting Yosemite Avenue and Manthey Road near Mossdale Crossing Regional Park as well as at the Yosemite Avenue SR 120 on- and off-ramps. Additionally, improved wayfinding signage and pavement markings should be implemented at the intersection of Christopher Way and Tesla Drive/Nestle Way to direct active transportation users along the proposed Class II bike lanes through the turn.

CENTRAL LATHROP AND MOSSDALE AREAS

Class II bike lanes. paired with a Class I shared-use path. are proposed along Dos Reis Road, in coordination with already planned roadway improvements associated with a nearby warehouse facility development, providing enhanced connectivity to Lathrop High School as this area develops. A Class I shared-use path is proposed along Manthey Road between Louise Avenue and Spartan Way. Similarly, a new Class I path is proposed from the existing path at the end of Spartan Way along the San Joaquin River and connecting to the existing path at Mossdale Landing Community Park. A pedestrian and bicycle bridge over I-5 is also proposed, connecting Towne Centre Drive and D'Arcy Parkway. This will provide an enhanced active transportation connection between the City's civic facilities west of the freeway and the employment hubs to the east. Class II bike lanes are proposed along Towne Centre Parkway to connect this new freeway crossing with the existing bike and pedestrian facilities along Golden Valley Parkway. New Class II bike lanes are also proposed on Sadler Oak to connect to the existing bike path along the river levee.

Crossing improvements in this area of Lathrop include constructing a protected intersection at River Islands Parkway and Golden Valley Road as well as curb extensions and pedestrian refuge islands. At the nearby intersection of Manthey Road and Louise Avenue, this Plan proposes the installation of a high-visibility crosswalk with a pedestrian hybrid beacon and advance stop/yield markings. Additionally, it is recommended that new signage explicitly allowing bicyclists to use the sidewalk be installed along River Islands Parkway and all other existing facilities in the City where sidewalk is designated as Class I shared-use path but lacks proper signage and markings. High-visibility crosswalks are proposed at multiple locations including the intersection of Manthey Road and Sadler Oak as well as near trail crossings.

RIVER ISLANDS AREA

River Islands Parkway is the main roadway through this area and currently has Class II bike lanes and wide sidewalks designated as shared-use paths along both sides of the road. Improving the on-street bike lanes with a buffer would enhance the comfort on such a large road. Class II buffered bike lanes are also proposed along Somerston Parkway from River Islands Parkway to Golden Valley Parkway (future connection).

Centerline striping along the sidewalks along River Islands Parkway is recommended to indicate it is a Class I shared-use path. This is also recommended along Lakeside Drive from West Stewart Road to Manthey Road. Along Lakeside Drive, from Parkside Drive to West Stewart Road (roundabout), widen the sidewalk to 10 feet, improving comfort for people walking, bicycling, and rolling. Along Stewart Road, the existing Class I shared-use path is proposed to be widened to 12 feet with centerline markings to allow both bicyclists and pedestrians to efficiently travel along this path. Along Mullholland Drive, this Plan recommends upgrading the existing Class I path along both sides of the road with signage and striping for shared use. Along Somerston Parkway, this Plan

also recommends extending the existing Class I facilities on both sides of the street south to the future connection of Golden Valley Parkway.

A new Class I shared-use path is proposed along the perimeter of the River Islands area, extending the existing recreational bike trail from Islanders Field to future connections with Dell Osso Drive and Somerston Parkway. This will be the Levee Trail proposed in River Islands Phase 2 Parks and Open Space Master Plan. A new Class I trail is also proposed from the terminus of the proposed Levee Trail, along Stewart Road west, and ending at Paradise Road.

New Class I paths are proposed to close various gaps in the network: A Class I path connection is proposed on Dell Osso Drive north of Lakeside Drive to close the gap with the existing facility, and a connection from the Levee Trail to the current terminus of River Islands Parkway at Paradise Road.

A Class IV protected bikeway is proposed along Dell Osso Drive from Mulholland Drive to Golden Valley Parkway (future connection). Class III Bike Boulevards are proposed along Lakeside Drive and along Mulholland Drive east of Dell Osso Drive to prioritize bicycle comfort. Bike boulevards are to be implemented with traffic calming features.

Crossing improvements focus on intersections along the primary arterials of River Islands Parkway, Somerston Parkway, Lakeside Drive, and Dell Osso Drive and include high-visibility crosswalks, curb extensions, pedestrian refuge islands, bike boxes, and conflict markings with green paint. These elements aim to create safer, more convenient crossings while enhancing visibility of pedestrians and cyclists to drivers. This Plan also proposes a new high-visibility crosswalk, pedestrian refuge island, and RRFB at the intersection of River Islands Parkway and Oberlin Avenue.

HIGHWAY INTERCHANGE AREAS

Within Lathrop, there are multiple interchange locations where highway off-ramps and on-ramps intersect City streets, presenting hazards for people walking, bicycling, and rolling. These locations include I-5 at Roth Road, I-5 at Spartan Way/Lathrop Road, I-5 at River Islands Parkway/Louise Avenue, I-5 at Manthey Road/Mossdale Road, as well as SR 120 at Yosemite Avenue.

Crossing I-5 and SR 120 on foot or by bicycle can be very challenging due to the limited active transportation facilities along the major east-west routes, as well as the prevalence of large commercial vehicle traffic using these roadways. This Plan recommends new and/or improved crossings that facilitate more comfortable connections from one side of the freeway to the other, including a feasibility study for the Lathrop Road crossing, new Class IV bikeway for the Louise Avenue crossing of I-5 (to be implemented much earlier than interchange improvement project[24]), a new bicycle and pedestrian connection between D'Arcy Parkway and Towne Centre Drive, and new Class IV bikeway for the Yosemite Ave crossing of SR 120.

Improving Connections to Lathrop High School

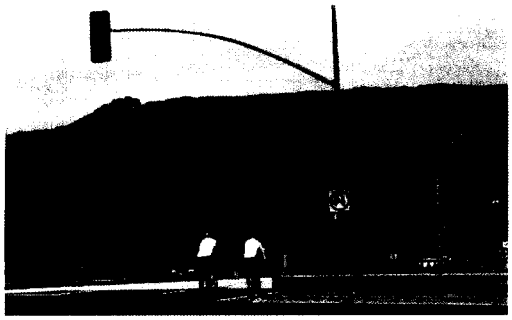
Lathrop High School is located on Spartan Way west of I-5. The main route to school, Lathrop Road, is incredibly challenging for students who live in the disadvantaged neighborhoods east of I-5 to safely walk or bike to and from school each day. As the Lathrop Road I-5 underpass was built prior to significant development west of the freeway, its active transportation facilities are inadequate, with narrow sidewalk on the north side only, no bicycle facilities, and multiple crossings of on- and off-ramps that all present hazards. Students walking and bicycling

[24] *https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/10-0e550*

experience multiple vulnerabilities along this route, including from drivers turning right on red when entering or exiting the freeway to high motor vehicle speeds and the presence of large commercial vehicles.

For Lathrop Road where it crosses beneath I-5, this Plan proposes a feasibility study to further clarify how best to improve the bicycle and pedestrian experience, particularly for children commuting to and from Lathrop High School along this route. This feasibility study can be standalone or part of a Safe Routes to School study and should consider multiple solutions and alternatives while estimating what is possible given constraints pertaining to Caltrans collaboration, requirements, and facilities. Suggested improvements from this feasibility study may include widening the sidewalk to 10 feet with an enhanced physical barrier between the sidewalk and vehicular traffic, reducing the travel lane width to 10.5 feet, and/or adding signage indicating bikes can use the sidewalk. They may also include high visibility and raised crosswalks at on-ramps, curb extensions to shorten crossings, bicycle conflict markings with green paint, bicycle detection with bike signals, leading bicycle intervals at signals, and bike boxes to improve safety and visibility for both pedestrians and bicyclists.

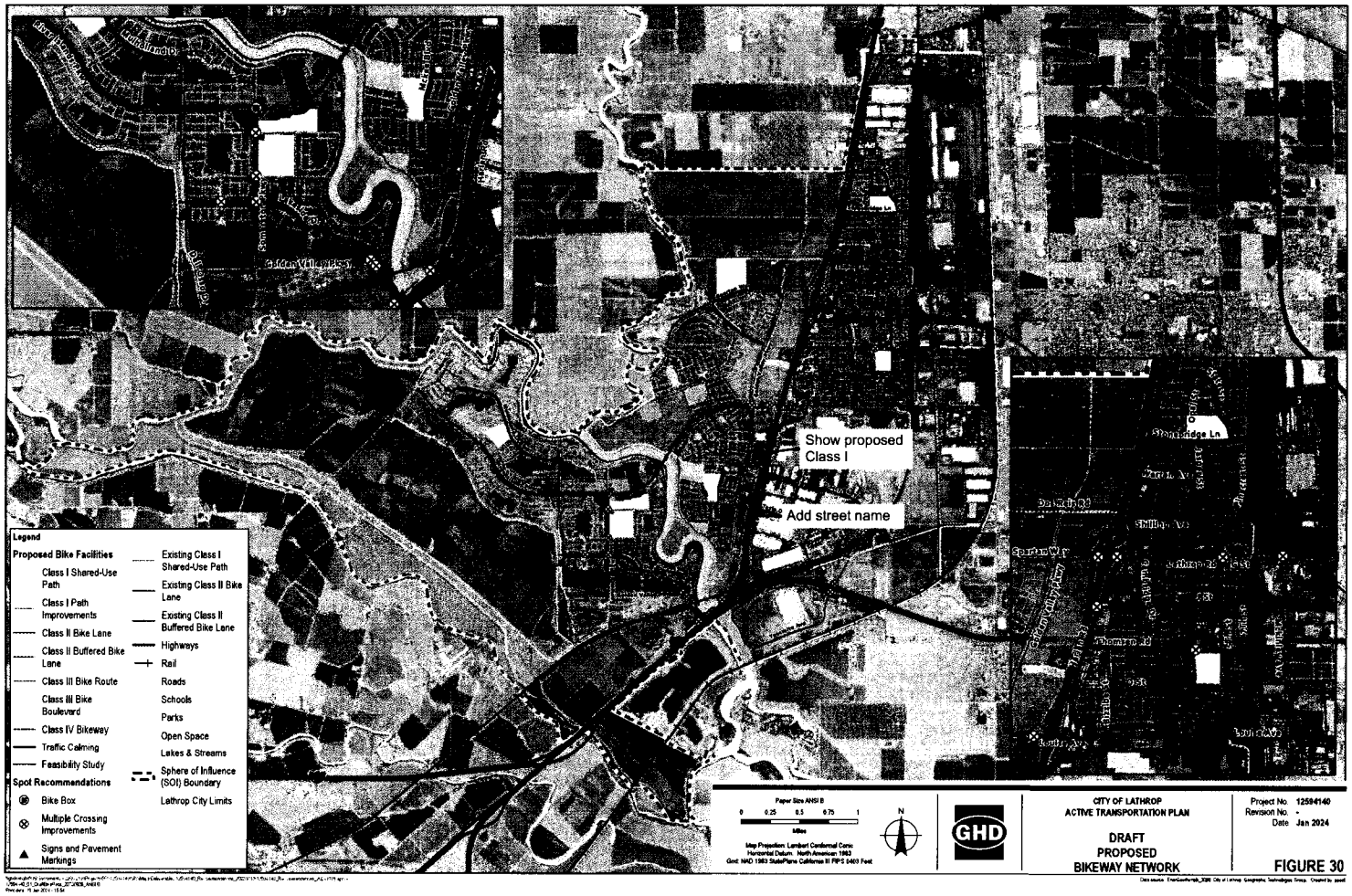
LED blank-out signs may also be considered to reduce right turn conflicts between motor vehicles and pedestrians and bicyclists.

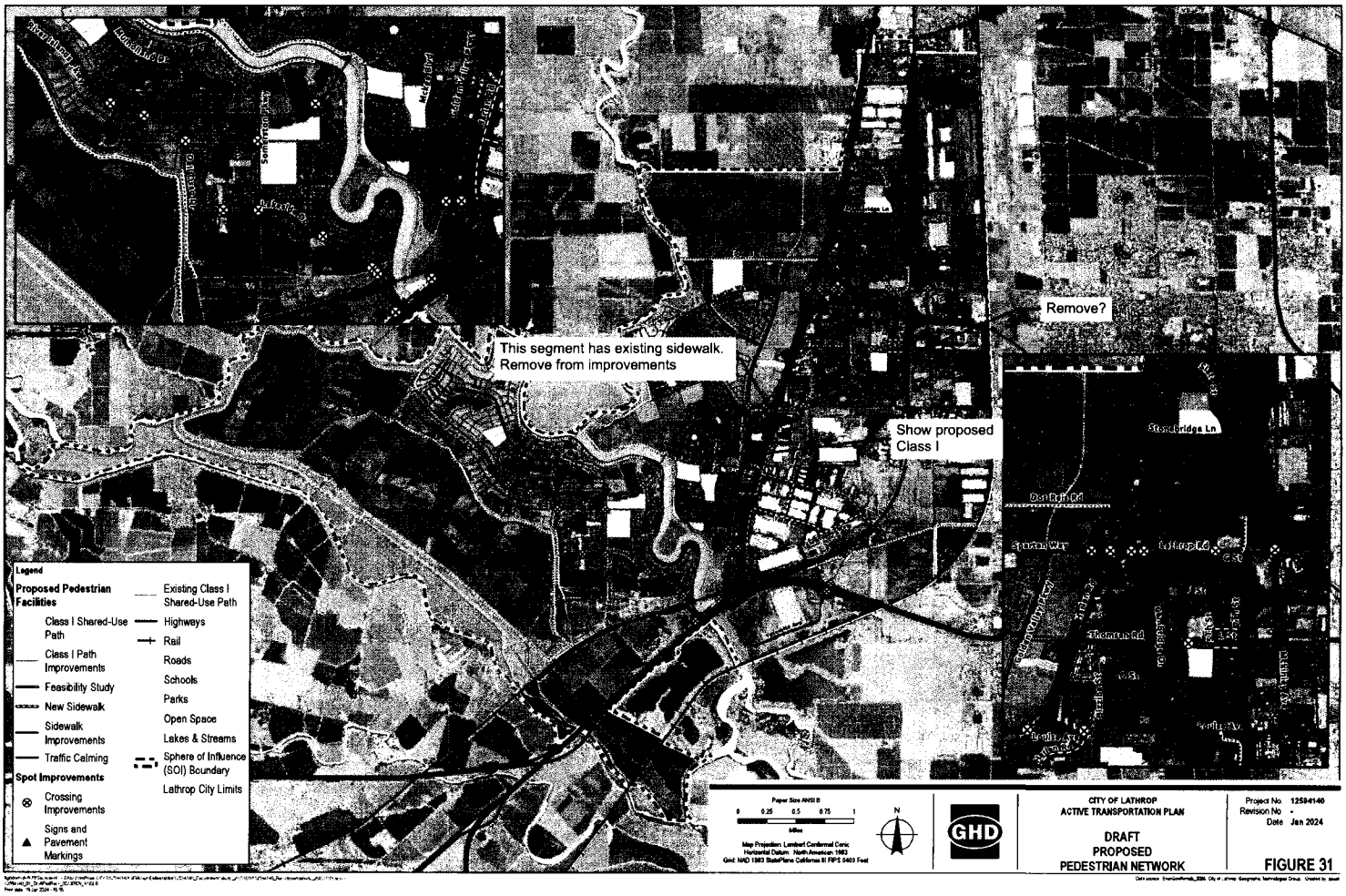


Example "No Right Turn" LED Blank-out Sign: Source: The Monarch Press

Table 13: Proposed Bikeway Miles

Facility Type	Existing Miles	Proposed Miles	# of Projects	Total Existing + Proposed Miles	Percentage Increase
Class I Shared-Use Path	26.2	30.3	20	56.5	116%
Class II Bicycle Lane	11.8	4.3	8	16.1	36%
Class II Buffered Bicycle Lane	4.3	9.4	8	13.7	219%
Class III Bicycle Route	-	3.0	8	3.0	-
Class III Bicycle Boulevard	-	0.4	1	1.6	-
Class IV Separated Bikeways	-	10.1	10	11.3	-


Show proposed Class I
Add street name
Legend
Proposed Bike Facilities
Class I Shared-Use Path
Class I Path Improvements
Class II Bike Lane
Class II Buffered Bike Lane
Class III Bike Route
Class III Bike Boulevard
Class IV Bikeway
Traffic Calming
Feasibility Study
Spot Recommendations
Bike Box
Multiple Crossing Improvements
Signs and Pavement Markings
Existing Class I Shared-Use Path
Existing Class II Bike Lane
Existing Class II Buffered Bike Lane
Highways
Rail
Roads
Schools
Parks
Open Space
Lakes & Streams
Sphere of Influence (SOI) Boundary
Lathrop City Limits
Paper Size ANSI B
0 0.25 0.5 0.75 1
Miles
N
GHD
CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN
DRAFT
PROPOSED
BIKEWAY NETWORK
Project No. 12594140
Revision No. -
Date Jan 2024
FIGURE 30


This segment has existing sidewalk.
Remove from improvements
Show proposed
Class I
Remove?
Legend
Proposed Pedestrian Facilities
Class I Shared-Use Path
Class I Path Improvements
Feasibility Study
New Sidewalk
Sidewalk Improvements
Traffic Calming
Spot Improvements
Crossing Improvements
Signs and Pavement Markings
Existing Class I Shared-Use Path
Highways
Rail
Roads
Schools
Parks
Open Space
Lakes & Streams
Sphere of Influence (SOI) Boundary
Lathrop City Limits
Paper Size ANSI B
0 0.25 0.5 0.75 1
Miles
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California III FIPS 0403 Feet
N
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CITY OF LATHROP
ACTIVE TRANSPORTATION PLAN
DRAFT
PROPOSED
PEDESTRIAN NETWORK
Project No. 12594140
Revision No. -
Date Jan 2024
FIGURE 31

Project Priority Evaluation

Project Evaluation

Infrastructure projects were prioritized based on the criteria listed in Table 14 below. The full points listed were assigned if the criterion was met; no partial scores were awarded.

Project recommendations by this Plan are prioritized based on an evaluation methodology to help the City identify which projects should be selected and targeted for implementation first. Project selection methodology is based upon typical grant criteria and modified to fit the context of Lathrop. Other considerations such as available funding and grant program criteria may result in projects being implemented in a modified order from that suggested by the prioritization.

Table 14: Project Priority Evaluation Criteria

Criteria	Description	Points Possible
Equity	Projects located in an area identified as vulnerable by Median Household Income, Free or Reduced Meal Program (projects within a ¼ mile of schools), Healthy Places Index, or CalEnviroScreen, Justice 40	5
Safe Routes to School	Projects located within ¼ mile of a K-12 school	5
Safety	Projects located within 500 feet of a location with a history of recurring bicycle or pedestrian collisions	4
Gap Closure	Projects that close a gap between existing bicycle or pedestrian facilities	4
Low Stress Network	Bicycle projects that reduce LTS score to LTS 1 or 2, and sidewalk projects	3
Community Input	Projects that address a challenge or include and improvement identified by the community during public engagement activities for this Plan	2
Activity Generator	Projects located within ½ mile of an activity generator such as parks, civic facilities (library, community center, City Hall), access to groceries, or medical services	1
Transit Mobility	Projects located within ¼ mile of transit stops	1
Total		25

Priority Recommendations

Given the high volume of recommended improvement projects, this Plan recommends the City focus on a short list of priority recommendations to be implemented first.

A list of 10 priority recommendations were selected using the project evaluation methodology described above. Table 15 shows all projects that scored the highest. The full recommendations table may be found in Appendix B, which shows project complexity and priority evaluation scores for every project.

City staff will use these recommendations when reviewing development applications and updating the City's Capital Improvement Program. The City also reserves the right to select other projects outside of the priority list and implement them on an as-needed basis. Recommendations may change over the years as the City begins to implement, especially if other safety needs arise or the City identifies safer options along particular corridors or within certain communities. Given the various funding sources needed to fund these types of projects, CIP staff will also look at how available grant funding aligns with these recommendations. CIP staff may consider lower priority recommendations when they better align with funding sources and grants.

Table 15: Priority Recommendations - All Projects

ID	Facility	Location	Start	End
L26	Class II Bike Lane	O Street	South Harlan Road	5th Street
L51	Class II Bike Lane	Cambridge Drive	Thomsen Road	East Louise Avenue
L23	Class IV Bikeway	Harlan Road	Roth Road	Louise Avenue
L45	Class II Buffered Bike Lane	5th Street	Longbarn Drive	Louise Avenue
L91	Class I Shared-Use Path	Dos Reis Road	Manthey Road	Western Terminus of Dos Reis Road
L9	Class IV Bikeway	Lathrop Road	I-5 NB On/Off Ramps at Lathrop Road	Eastern extent of City limits
L41	New Sidewalk	L Street	5th Street	7th Street
L47	New Sidewalk	Thomsen Road	5th Street	7th Street
L76	Class III Bike Route	Opal Street	State Street	Stonebridge Lane
L77	Class III Bike Route	Jasper Street/Sugar Pine Drive/ Onyx Court	Onyx Court	Jasper Street

Table 16: Priority Recommendations - High Complexity

ID	Facility	Location	Start	End
L23	Class IV Bikeway	Harlan Road	Roth Road	Louise Avenue
L91	Class I Shared-Use Path	Dos Reis Road	Manthey Road	Western terminus of Dos Reis Road
L9	Class IV Bikeway	Lathrop Road	I-5 NB On/Off Ramps at Lathrop Road	Eastern extent of City limits
L41	New Sidewalk	L Street	5th Street	7th Street
L47	New Sidewalk	Thomsen Road	5th Street	7th Street
L10	Class I Shared-Use Path	Manthey Road	River Islands Parkway	Lathrop Road
L85	Class I Shared-Use Path	South side of San Joaquin River	Existing Class I Path near River Islands Parkway / San Joaquin River	Proposed Levee Trail terminus near Cowper Court
L25	Class IV Bikeway	South Harlan Road	Louise Avenue	South Harlan Road (End)
L4	Class IV Bikeway	West Louise Avenue	South Manthey Road	South Harlan Road
L5	Class IV Bikeway	East Louise Avenue	South Harlan Road	Cambridge Drive/Lof Way/ Crossroads Way

Table 17: Priority Recommendations - Low Complexity

ID	Facility	Location	Start	End
L26	Class II Bike Lane	O Street	South Harlan Road	5th Street
L51	Class II Bike Lane	Cambridge Drive	Thomsen Road	East Louise Avenue
L45	Class II Buffered Bike Lane	5th Street	Longbarn Drive	Louise Avenue
L76	Class III Bike Route	Opal Street	State Street	Stonebridge Lane
L77	Class III Bike Route	Jasper Street/Onyx Court	Sugar Pine Drive	Sugar Pine Drive
L79	Class III Bike Route	Warren Avenue	South Harlan Road	Cedar Valley Road
L15	Class I Path Improvements	River Islands Parkway	Louise Avenue	Paradise Avenue
L19	Class I Path Improvements	Lakeside Drive	Dell Osso Drive	West of Parkside Drive
L64	Class II Bike Lane	Towne Centre Drive	Golden Valley Parkway	South Manthey Road
L90	Class II Bike Lane	Dos Reis Road	Manthey Road	Western terminus of Dos Reis Road

Non-Infrastructure Recommendations

Existing Programs

Non-Infrastructure programs support walking and bicycling in a community by sharing information, promoting safety, and creating an environment that encourages active transportation.

Communities with high rates of walking and bicycling often use a "Five E's" approach with education, encouragement, evaluation, and equity complementing engineering improvements.

- **Education** programs share information about safety, benefits of active transportation, and resources or facilities available in the community. They should address people bicycling, walking, and driving.
- **Encouragement** programs promote bicycling and walking as fun, convenient, and enjoyable modes of transportation and recreation.
- **Evaluation** programs monitor success through counts, surveys, and data review to inform adjustments or modifications to programs, policies, and the built environment.
- **Equity** is a lens through which all programs and infrastructure projects should be viewed to ensure disadvantaged members of the community have access to and benefit from the City's investments in active transportation.

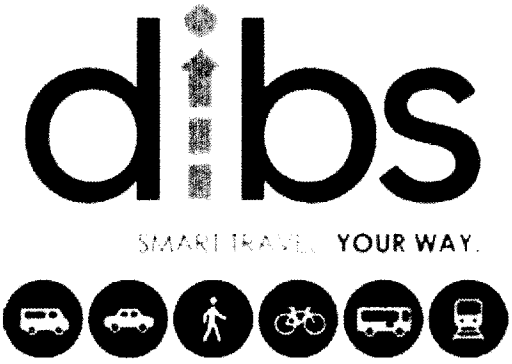
The following are current regional and local efforts to support bicycling and walking.

SJCOG REGIONAL BICYCLE, PEDESTRIAN, AND SAFE ROUTES TO SCHOOL MASTER PLAN

As reviewed in the Existing Conditions chapter, the SJCOG Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan, adopted in 2012, outlines existing programs and recommendations for the region. The plan cites the Commute Connection (now Dibs) Program and Bike to Work Week, and suggests a swath of education, encouragement, enforcement, and evaluation non-infrastructure recommendations that support active transportation.

DIBS PROGRAM

San Joaquin Council of Governments (SJGOC) has a web-based tool called Dibs[25] (formerly the Commute Connection Program) where users can plan their trips using an interactive map and a match list system to find the best way to get where they need to go via active transportation, transit, or vanpooling.



Source: SJCOG

CITY OF LATHROP

Each year, the City partners with the Lathrop Policy Department to hold a Bike Rodeo for students K-8. Those who participate navigate a bicycle obstacle course to learn how to safely cross intersections, exit driveways, identify car blind spots, and more. Participants also receive

[25] *https://www.sjcog.org/626/Dibs---Smart-Travel*

a bicycle safety inspection, a free helmet, and a certification of completion.

The Lathrop Police Department has also partnered with Manteca Unified Nutrition Services and with Lathrop Elementary school to facilitate Walk to School Days in the past.

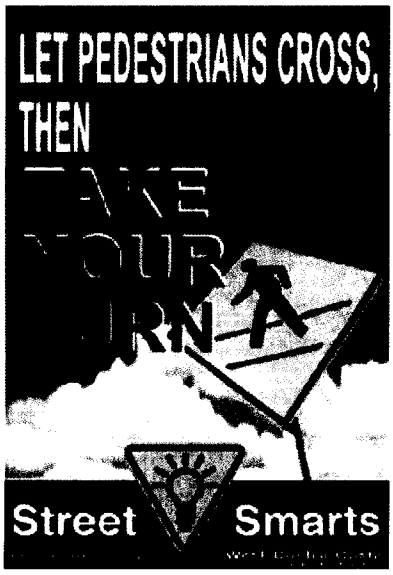
Manteca Unified School District began implementing a weekly staff training class for the MUSD Crossing Guard Program in 2022. A crossing guard program should be established in Lathrop schools once enough staff is trained.

Recommended Programs

The following are proposed non-infrastructure programs to support bicycling and walking in Lathrop.

"STREETSMARTS" CAMPAIGN

A Streetsmarts campaign uses print and digital media, radio, and television to educate the community about safe driving, bicycling, and walking behavior.



Source: Contra Costa Health Services

A Streetsmarts campaign could be used to target behaviors that are particularly prevalent in Lathrop. Through an outreach process, the community will help identify some behaviors that create challenges for bicyclists and pedestrians in Lathrop. A Streetsmarts campaign could address:

- How to properly position trash cans so they don't obstruct bicycle facilities.
- How to park so that bicycle facilities are left unobstructed, and how to obey "No Stopping" and "No Parking" signs.
- How to stop at a Pedestrian Hybrid Beacon.
- Bicycling with traffic.
- Educational needs of youth bicyclists and pedestrians.

BICYCLE SAFETY EDUCATION FOR ADULTS

The League of American Bicyclists teaches Smart Cycling classes that focuses on how bicyclists should behave to be safer, more predictable, and can be confident bicycling on streets both with and without dedicated bicycle facilities. The Lathrop area does not have existing adult bicycle education opportunities, but the city could reach out to League Certified bicycle clubs and organizations in Stockton, Merced, Sacramento, and the Bay area, or formulate their own courses and curriculums based on those taught by the League. The City should support such classes with advertising and by providing meeting space or other in-kind support.

BICYCLE REPAIR PROGRAM

A bicycle repair program could be hosted by the City, a community organization, or a collaboration of multiple partners. The city could also consider reaching out to bicycle shops in the surrounding areas to provide teaching assistance. The program could offer courses on bicycle repair and proper bicycle maintenance.

The program could also gather community input on key locations where fix-it stations would be well positioned in the City, supporting those using Lathrop's extensive trail network. The City could provide graphics to show users how to operate fix it stations, and station locations could be put on a trail network map.

Other communities in the region have organizations that provide a community bicycle repair space and are staffed by volunteer bicycle mechanics to assist with do-it-yourself repairs, like the Sacramento Bicycle Kitchen. If there are no established bicycle repair organizations in Lathrop, the City could partner with local groups to provide a space for bicycle education and repair.

HIRE A BICYCLE AND PEDESTRIAN COORDINATOR

This plan recommends dedicating a City staff position or hiring a staff person to focus on bicycle and pedestrian projects and program coordination on a full-time basis. This position would assist planning, public works, and transportation projects in accounting for bicyclists and pedestrians. The position would also be leveraged to prepare grant applications to fund projects and programs and support coordination with the public and neighboring jurisdictions.

The bicycle and pedestrian coordinator could also serve as the coordinator for a Safe Routes to School Program responsible for organizing events, implementing programs outlined in this plan and elevating the SRTS program as a priority for Lathrop's schools. The coordinator plays a key role in identifying other programs and events that further the goals of the SRTS program. Refer to the SRTS section to better understand the roles and responsibilities of the program.

If funding is not available to create a new position, the City may consider an interim measure, including adding this as a program element of an existing position, hiring as a part time position, or dedicating lower-cost internship resources to work on bicycle and pedestrian projects until a full-time position can be funded. Some organizations and foundations will fund staff member salaries, fellowships, or contractor salaries for a set period. The City may consider applying for grants from one or more of these foundations. Lathrop may also create a SRTS coalition to support or in place of a SRTS coordinator where members can discuss implementation of elements proposed in this plan, as well as additional programs.

LIGHT AND HELMET GIVEAWAY PROGRAMS

Lathrop currently participates in annual helmet giveaways for Bike Rodeo Participants. Expanding this effort to a Light and Helmet Giveaway Program that occurs more frequently and provides safety equipment for children and adults may increase comfort for new riders. Lathrop may also want to create funding for this program rather than relying solely on donations.

Example bicycle light giveaway program; Source: Long Beach Post

SOCIAL WALKS/RIDES

Supporting social walks and bicycle rides in Lathrop can provide many benefits to the community. People who are uncomfortable walking or bicycling alone, or who are unfamiliar with the best routes to use, will benefit from having a group to show them the way. Rides can also be used as information educational opportunities to remind participants about safe walking or bicycling behavior.

MOBILE-FRIENDLY BIKEWAY/TRAIL MAP

Currently, San Joaquin Council of Governments has an interactive ArcGIS map, as well as a PDF map, of Lathrop's bikeways, but these resources should be highlighted more prominently on the City's website as well. In addition, creating a mobile-friendly bikeway and trail map could provide a current, comprehensive wayfinding

resource for people walking and bicycling in Lathrop. The City could also consider providing a link on its website to an opensource trail application such as AllTrails. AllTrails is a free mobile trail map application that provides real-time wayfinding by using GPS in a user's mobile phone. Some Lathrop trails are already mapped in the AllTrails database, but the full trail network could be added to the application through a formal partnership with AllTrails or by adding individual trails through a free user account.

WALKING AND BICYCLING AMBASSADORS

The Guadalupe River Park Conservancy in San Jose, California operates a volunteer trail ambassador program, where volunteers wear green vests to identify themselves and spend at least 45 minutes each week bicycling or walking on the trail. In addition to reporting maintenance needs, ambassadors carry small kits with supplies for basic first aid, bicycle repairs, graffiti removal, or other tasks based on their interest and preference.

Trail Ambassador; Source: Guadalupe River Park Conservancy

An ambassador program in Lathrop could recruit volunteers to act as eyes on the trail, report maintenance needs, share educational materials and maps, and provide a friendly presence on the trail network. Staffing needs for this program could be limited to coordinating occasional volunteer training sessions. Trusted volunteers may be enlisted to help with program coordination, and grant funds could be pursued to offer a stipend to ambassadors or coordinators.

BICYCLE PARKING ORDINANCE

In the 2012 Bicycle, Pedestrian, and Safe Routes to School Plan, SJCOG suggests local jurisdictions adopt a bicycle parking ordinance to require new developments to install bicycle parking for residents and customers. As Lathrop continues to build and expand in new residential and commercial development, especially in the River Islands community, instating an ordinance like this would help establish municipal support for active transportation users.

BIKE RACK PROGRAM

With or without a bicycle parking ordinance, a bicycle rack program would help coordinate and streamline bicycle rack installation. The program could be managed by a staff member who would work with staff and business owners to install bicycle racks and bicycle corrals citywide. This helps to ensure bicycle racks are properly installed to avoid blocking sidewalks and that racks are placed in locations that are convenient and accessible.

The City could also consider developing customized bicycle racks. These racks can highlight the identity and "brand" of Lathrop as a community that supports bicycling and can also double as art features.

Example bike rack; Source: City of Carlsbad

Where appropriate, a bike rack program could also coordinate with local businesses to provide bicycle lockers or other secure parking for employees and long-term visitors. Secure long-

term parking is a key component of the active transportation network, encouraging employees to bicycle instead of drive and helping to reduce bicycle theft.

BICYCLE-FRIENDLY BUSINESS PROGRAM

Bicycle-friendly business programs recognize businesses that make it easy and convenient for both employees and customers to arrive by bicycle. This requires different strategies to accommodate the different needs of customers and employees. To accommodate customers, providing bicycle parking and supporting City bicycle infrastructure projects can make it more comfortable and easier to travel by bicycle. Some businesses also choose to offer discounts or incentives to people who arrive by bicycle.

For employees, offering secure long-term parking for bicycles is key. This could include a secure gated bicycle parking area, indoor bicycle parking room, or access to bicycle lockers. If space is not available for dedicated secure bicycle parking, business owners and landlords can consider allowing employees and tenants to bring bicycles inside and store them in their workspace or another dedicated location. Providing changing areas, showers, or lockers to store belongings can also make it easier for employees to bicycle to work.

By recognizing businesses that support bicycling, Lathrop can support the local economy while potentially fostering stronger partnerships with the Chamber of Commerce and business owners to build community support for bicycling projects and programs. One way to highlight the bicycle-friendly businesses may be to locate them on any future print and digital maps of Lathrop trails and bikeways.

The League of American Bicyclists also has a bicycle-friendly business program that municipalities can utilize while some communities have chosen to develop their own programs.

Source: The League of American Bicyclists

COUNT EVALUATION PROGRAM

Local agencies can use count evaluation programs to gauge the success of their programs and track their progress toward local active transportation goals. Lathrop may conduct pedestrian and bicycle counts before and after implementing a program or completing infrastructure to better understand the impacts of a project. Lathrop could also organize annual pedestrian and bicycle counts to evaluate whether the City is making progress towards increasing pedestrian and bicycle mode share.

Funding sources like the Active Transportation Program require before and after counts for both infrastructure and non-infrastructure projects, so integrating pedestrian and bicycle counts into project and program planning prepares the City for future funding opportunities.

Counts can be taken on the ground, through video footage, or, by automatic counters. This Plan recommends Lathrop investigate technologies that increase efficiency and accuracy when taking counts. SJCOG's Bicycle, Pedestrian, and Safe Routes to School plan suggests infrared counters or in-pavement loop detectors as effective solutions.

ANNUAL REPORT CARD

An annual report card would assess the City's progress toward the goals and milestones outlined in the Plan including implementation of the recommended projects and programs and

desired increases in active transportation. Annual report cards can also incorporate a review of effectiveness to evaluate costs and benefits of various efforts and adjust investments to maximize results.

This Plan recommends that the City develop an annual report card that tracks progress toward implementing this ATP and incorporates annual collision data, program participation data, and other relevant metrics to highlight successes and challenges of improving bicycling and walking each year. Specific performance measures identified by the City and the community should be included in this report card on an annual basis to track key metrics over time and better understand successes and challenge areas.

ANNUAL RIDE-ALONG

An annual ride-along could include City staff, relevant committee members, and other community stakeholders. The purpose of the ride-along would be to identify new opportunities or challenges that may arise in the future as new developments occur and this Plan is implemented in Lathrop. The ride-along would also provide on-the-ground insight into the needs of people who bicycle throughout the City's active transportation network. Findings from the annual ride-along could be included in the annual report card, mentioned earlier.

Safe Routes to School

A student's experience arriving to school can set the tone for the rest of their school day. Studies show that students who walk and bicycle to school are better prepared to start the school day, having higher levels of concentration, academic performance, and regular attendance. Walking and bicycling to school fill an average of 16 of the 60 minutes of physical activity recommended for school-aged children.

Lathrop is currently working on a Safe Routes to School (SRTS) project – Warren Avenue Safe Routes to School – that aims to improve routes to Widmer Jr. Elementary School for active transportation users through infrastructure enhancements. Implementing non-infrastructure SRTS tools will support these efforts, increase adoption of active transportation, and continue to improve safety and comfort for students and families who walk and bicycle to school.

SAFE ROUTES TO SCHOOL PLAN

A safe routes to school plan should incorporate walking and bicycling routes located near a school, include a schedule for strategies the City and its partners intend to implement, detail how the program will be evaluated, and provide recommendations to increase walking and bicycling to school.

This Plan recommends that the City develop a SRTS Plan for each school, preferably in partnership with MUSD. Plans should be made available to parents and students via digital and print media. SRTS plans should be updated to illustrate changes to routes as this Plan is implemented.

For more information regarding how to create a SRTS plan, review the SRTS Guide: Steps to Creating a Safe Routes to School Program.[26]

WALK AND BICYCLE AUDITS

Conducting walk and bicycle audits can help to identify challenges and strategies to improve walking and bicycling near schools and along student routes. An audit can be conducted at any time. Specific concerns, like City-identified "hot spots," may prompt audits, but they can also be conducted to determine what opportunities are present for improvement. On a walk and bike audit, community members survey active transportation routes together, noting conditions that make their streets feel comfortable and

[26] *saferoutesinfo.org*

those that make them challenging. Walk and bicycle audits can be used to:

- Document barriers to walking and bicycling.
- Identify disparities between neighborhoods that may have different walking and bicycling environments.
- Identify problems that can be easily addressed and problems that need greater investment of time and funding.
- Encourage walking and bicycling to school.
- Engage students in understanding and improving communities.

A walk and bicycle audit should improve safety, comfort, and accessibility for students of all ages, abilities, and socioeconomic backgrounds. Walk and bicycle audits can be conducted successfully using many different strategies.

For additional information, the Safe Routes to School National Partnership[27] Provides detailed guidance in their manual, *How to Plan and Conduct a Walk Audit*. The manual and other resources can be found at www.saferoutespartnership.org.

WALKING SCHOOL BUSES AND BIKE BUSES

Walking school buses and bike buses (sometimes call "bicycle trains") create regular and ongoing opportunities for groups of parents and students who live near each other in neighborhoods to walk and bicycle together. Group walking and bicycling improves community connections, increases visibility, discourages bullying, and encourages wider adoption of active transportation. A SRTS coordinator, task force, or parent/teacher volunteer(s) could help implement and advertise regular walking school buses and bike buses. Additional information about starting a new bike bus can be found on the BikePortland website.[28]

Successful Bike Bus Program; Source: BikePortland

ADDRESS WALKING AND BICYCLING IN ARRIVAL AND DISMISSAL PROCEDURES

Arrival and dismissal can be challenging for students and parents traveling by most transportation modes. When developing a school arrival and dismissal program, some key principles should address pedestrians and bicyclists specifically:

- Assess needs through walk and bike audits.
- Prioritize the safety and comfort of students walking and bicycling.
- Use multiple strategies that incorporate the E's of SRTS: Engineering, Education, Encouragement, Evaluation, and Equity.
- Separate motor vehicles from pedestrians and bicyclists and reduce conflict areas between them.
- Clearly demarcate and enforce the appropriate channels for vehicles, bicyclists, and pedestrians with signs, pavement marking, and educational materials.

The Safe Routes National Partnership published an info brief for implementing these strategies, called *Keep Calm and Carry on to School: Improving Arrival and Dismissal for Walking and Bicycling*. The manual and other guidance for implementing SRTS strategies can be found at www.saferoutespartnership.org.

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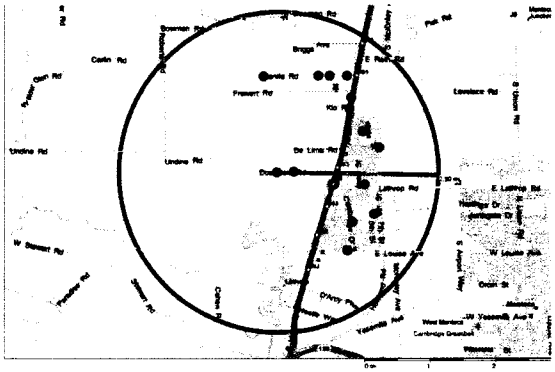
[27] *https://www.saferoutespartnership.org/resources/toolkit/lets-go-walk*

[28] *https://bikeportland.org/2022/10/05/sam-balto-on-how-to-start-a-bike-bus-of-your-own-364734*

IMPROVE SCHOOL BUS PROGRAM

Prior to the Covid-19 pandemic, MUSD operated a comprehensive school bus program to transport area students to and from school each day. Today, MUSD provides this service only to a limited number of qualifying students: elementary school students living outside of a 1.25-mile radius from their school of residence, high school students living outside of a 2.5-mile distance from their school of residence, and Individualized Education Plan and/or McKinney-Vento Homeless Assistance Act students.[29] With this narrowed eligibility, most students in Lathrop, and nearly all Lathrop High School students living in Lathrop, do not qualify for school bus services and must either walk, bike, or be driven to school.



Lathrop High School "No-Bus Zone"; Source: MUSD

While the current distance-from-school minimums exceed what most practitioners consider "walkable" for school age children (typically between 0.5 and 1.5 miles is most appropriate), significant gaps in the active transportation network also exist along major routes to school, like along Lathrop Road between Lathrop High School and neighborhoods east of I-5, creating uncomfortable and often dangerous situations for students traveling on foot or by bicycle to school. This Plan recommends greater collaboration and partnership between the City of Lathrop and Manteca Unified School District to improve and expand the current school bus program to both increase safety for students who may not yet have a safe way to walk or bike to school as well as improve school area traffic congestion during arrival and dismissal, particularly at Lathrop High School.

CROSSING GUARD PROGRAM

While MUSD has taken steps to create a crossing guard program by establishing a training class held weekly for staff while schools in Lathrop have begun the process to hire crossing guards, no cohesive crossing guard program exists across Lathrop schools. Creating such a program will increase the sense of comfort for parents and encourage walking and bicycling to and from school, as crossing guards help students cross the street, teach children about pedestrian safety, and communicate with drivers about how to safely drive in school zones and on routes to school. Creating a recognizable uniform (high visibility vest, school logo, name tag) for the crossing guards adds an additional element of safety.

Crossing Guard

The Caltrans Active Transportation Resource Center suggests other safety programs that can create a supportive environment for children walking or bicycling to school, including:

- **Corner Captains**: Crossing guard program volunteers can be located along school routes to provide guidance and security for students traveling to school. This technique

[29] *https://www.mantecausd.net/staff/departments/operational-services/transportation*

may be especially helpful for younger students. Parent volunteers may also take on this role to increase safety.

- **Safe Houses**: Schools can establish locations along routes to school where students can go in case of emergency on the way to and from school. Locations should be labelled, published on school websites, and parents should be notified of such locations.

Demonstration Projects

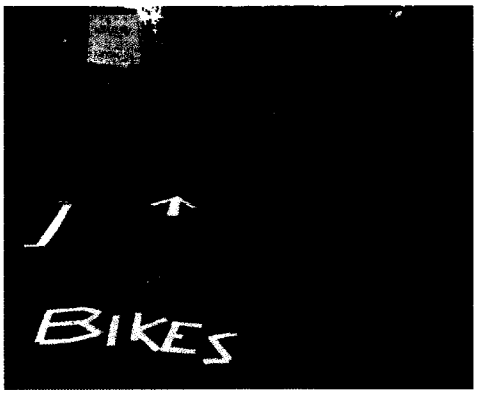
Demonstration projects are low-cost, temporary roadway projects that help local agencies introduce design solutions that increase safety and access to walking, bicycling, and public spaces to the public. Demonstration projects are meant to increase public engagement with active transportation solutions – temporary demonstrations generally last one day to one week and bring awareness to local transportation needs, allow stakeholders to interact with potential design elements, increase support for active transportation projects, and create stronger connections between government agencies, elected officials, non-profit organizations, local businesses, and residents. They allow a city to test design solutions and receive feedback before making permanent infrastructure investments.

Demonstration projects are often recommended as a means of collecting valuable feedback from the community. Funding programs, like the Active Transportation Program, require robust community engagement, so demonstration projects are an excellent way to test infrastructure and gather feedback for grant applications, or to include as a component in a non-infrastructure application.

Below are examples of demonstration projects this plan recommends for Lathrop.

TEMPORARY PROTECTED BIKEWAY

Temporary protected bikeways may help the City demonstrate what a permanent Class IV facility might look and feel like. The City should prioritize temporary facilities along corridors where permanent bicycle facilities are already planned, or along an existing bikeway where riders may benefit from improved separation.



Temporary Class IV Bikeway; Source: Central Seattle Greenways

Temporary bicycle lanes can be striped using duct tape or foiled back traffic tape, or by applying spray chalk by hand or with an athletic field striper, if available. Use temporary paint or chalk to draw symbols required for the facility type. Bicycle lanes should be five to seven feet wide, with a parallel line drawn three feet from the first to create a buffer. Elements that increase visibility, like green bicycle lanes, can also be added using tempura paint, cornstarch paint, or chalk.

Temporary Class IV Bikeway; Source: American Planning Association

Barrier elements like traffic cones, carboard cylinders, plastic barriers, or free-standing delineators can be placed 8 to 20 feet apart inside the buffer to create protection for the lane. Planters can also serve as barriers for protected bicycle lanes – using wooden crates or custom planters that can be assembled on site provides both enhanced safety and aesthetic benefits,

showcasing how plants and greenspaces can be established in conjunction with transportation infrastructure.

DEMONSTRATION CROSSWALKS

Increasing crossing opportunities for pedestrians improves safety and incentivizes walking. To create tactical demonstration crosswalks, use surface treatments like chalk, spray chalk, tape, or temporary paint to draw required crosswalk markings (ladder, continental, etc.). For example, stripes can be outlined using tape and filled in with paint, or chalk. Painted floor mats that are cut to size and adhered to the ground provide a reusable alternative. Crosswalks should be at least six feet wide, and stripes should be 12 to 24 inches wide and 12 to 36 inches apart. The City may also consider colorful art crosswalks. Art crosswalks create an opportunity for a community engagement event where residents can work with the local agency to facilitate the demonstration project and paint crosswalk designs.

Demonstration Crosswalk; Source: LADOT

For longer crossing points, pedestrian refuge islands can be constructed to provide a place to wait mid-crossing. Traffic cones, cardboard cylinders, free standing delineators, straw wattles, hay bales, and planters made of tires, wood, or galvanized steel can all be placed mid-crossing to provide relief for pedestrians.[30]

Longer crossing points can also be shortened by creating curb extensions using similar materials. Curb extensions can be placed at existing crosswalks or in conjunction with temporary crosswalks and can be used as chicanes, gateways, or pinch points to reduce vehicle speeds.

POP-UP TRAFFIC CIRCLES

Slower traffic speeds allow bicyclists to share the road with motor vehicles. Temporary pop-up neighborhood traffic circles can be used to demonstrate a reduction in motor vehicle speeds in minor, uncontrolled intersections without stopping traffic. These traffic circles should be outlined using solid yellow or white lines, using either chalk or temporary paint, and include barrier elements like planters, hay bales, and/or straw wattles. Signage delineating traffic flow is necessary and should be considered when creating this type of demonstration. Traffic circle circumference should be as large as possible while still allowing clearance for motor vehicles between the inner barrier and the curb. The City may also consider this intervention as an outreach opportunity to educate drivers, bicyclists, and pedestrians on the safe navigation of neighborhood traffic circles and roundabouts.

Pop-Up Traffic Circle; Source: Strong Towns

[30] *http://tacticalurbanismguide.com/guides/tactical-urbanists-guide-to-materials-and-design/*

IMPLEMENTATION PLAN

This ATP provides updated recommendations for projects, programs, and policy changes intended to make Lathrop a more walkable and bikeable community. Implementation of this Plan will require community support, political leadership, and significant funding.

This chapter provides a strategy for implementation of the infrastructure projects, including analysis of the cost of the projects proposed in this Plan, , an evaluation framework to help prioritize investment of limited resources, and a summary of funding programs for bicycle and pedestrian projects.

Financial Analysis

Unit Cost Assumptions

Table 1 presents unit costs used to calculate planning-level construction cost estimates for the recommended infrastructure projects in this ATP. For linear projects, the unit cost method uses a single functional unit (mile or linear foot) that serves as a multiplier. The appropriate unit cost is multiplied by the length of the improvement to develop a planning-level project cost estimate.

Unit cost estimates were developed based on recent regional project costs bid in 2018 and 2019, as well as input from City of Lathrop staff. Estimates include assumed costs, as appropriate, for:

- Mobilization
- Traffic control
- Earthwork
- Materials (e.g., aggregate, asphalt, concrete)
- Signs
- Pavement delineation and markings
- Utility coordination, grading, and erosion control

In addition, estimates include 30 percent soft costs including engineering design (15 percent), administration (3 percent), and construction management (12 percent). There is also a 15 percent contingency. Cost estimates for projects in this plan are in 2023 dollars and do not include cost escalation. At the planning level, cost assumptions do not consider project-specific or location-specific factors that may affect actual costs, including acquisition of right-of-way or road widening.

New Class IV bikeway installation; Source: The San Diego Union-Tribune

For some projects, actual costs may differ significantly from the planning-level estimates. Signal timing/phase adjustments are assumed to be staff time only. If additional infrastructure or equipment is needed, that would be an additional cost.

Table 18: Unit Cost Assumptions

Improvement	Unit	Estimated Unit Cost	Notes
Class I Shared Use Path	MI	$2,000,000	Assumes 10' wide path and minor grading
Class II Bicycle Lanes	MI	$50,000	Both sides of street
Class II Buffered Bicycle Lanes	MI	$150,000	Both sides of street
Green Painted Class II Bicycle Lane	MI	$500,000	Assume 6' wide
Class III Bicycle Route	MI	$10,000	Includes signage and pavement markings
Class III Bicycle Boulevard	MI	$500,000	Assumes speed tables, sharrows, and curb extensions in addition to signing
Class IV Separated Bikeway	MI	$400,000	Includes signing and striping for a one- or two-way facility with small curb separation, no roadway widening
Class IV Parking Buffered Bikeway	MI	$200,000	Includes signing and striping for a one- or two-way facility with delineators, no roadway widening
Sidewalk	LF	$200	Assumes 6' wide sidewalk with curb and gutter
Transverse Marked Crosswalk	EA	$1,000	White or yellow
High Visibility Marked Crosswalk	EA	$2,000	White or yellow
Advance Stop or Yield Line	EA	$1,000	Includes sign and pavement marking
Curb Ramp	EA	$15,000	
Curb Extension (Bulb-Out)	EA	$25,000	Includes each side of crosswalk
Pedestrian Refuge Island	EA	$5,000	Assume two 6' by 4' islands
Rectangular Rapid Flashing Beacon (RRFB)	EA	$800,000	Per crossing
Pedestrian Hybrid Beacon	EA	$1,000,000	Per crossing
Pedestrian-Scale Lighting	EA	$15,000	Includes one light
Pedestrian Countdown Signal heads (single crossing location)	EA	$50,000	Includes countdown signal head hardware at one crossing location
Pedestrian Countdown Signal heads (entire intersection location)	EA	$200,000	Includes countdown signal head hardware all crossings at intersection location
Sign with Pavement Marking	EA	$1,000	
Green Conflict Markings	EA	$5,000	Assume 6' by 50', including a white edge line
Traffic Signal	EA	$2,000,000	Per intersection
Leading Pedestrian Interval	EA	$50,000	Per intersection
Bicycle Detection	EA	$20,000	Per intersection approach
Bike Box	EA	$2,000	Assume 10' deep by 11' wide
Speed Feedback Sign	EA	$50,000	Solar assembly

Key – EA: Each; MI: Mile; LF: Lineal Foot

Implementation Strategy

This section presents a strategy to implement the recommended projects outlined in this chapter.

Small segments used for the evaluation are described and illustrated below, followed by a description of the evaluation criteria and scoring process.

The last section of this chapter details the federal, state, regional, and local programs that may fund implementation efforts.

The goal of evaluating projects is to build flexibility into the project implementation process as compatible opportunities arise. Over time, as projects are developed or funding sources issue calls for projects, this flexible matrix can be used to evaluate remaining improvement projects and continue to pursue full buildout of Lathrop's active transportation network.

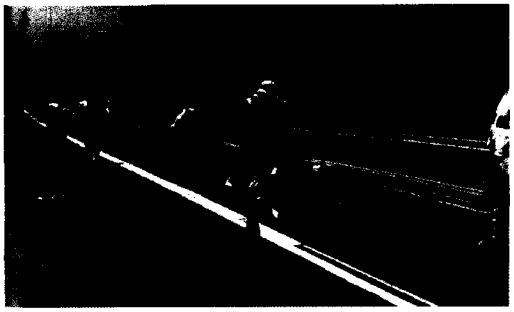
Implementation Methods

Not all active transportation infrastructure is implemented in the same way. This section covers usual methods and techniques that the City can use. While recommendations in this Plan were developed based on local roadway features, the specific details for how each bicycle and pedestrian project will be implemented is determined by the City and relevant partners. Additional analysis (e.g., community engagement, traffic studies) may be necessary before implementation of any project recommended in this Plan and recommendations may be subject to change.

RESURFACING AND RESTRIPING

Implementing new on-street bikeway projects as part of planned roadway resurfacing is a common way that cities and jurisdictions grow their active transportation networks. Once a roadway is resurfaced – an existing street section is paved, either completely or partially – new bicycle facilities can be added through striping or restriping. Restriping removes and replaces existing striping to reconfigure the roadway to accommodate new or upgraded bicycle facilities Upgrading would entail replacing an existing Class II bicycle lane with either a Class II buffered bicycle lane or Class IV bikeway. Common roadway reconfiguration tactics to allow for new or upgraded on-street bicycle facilities include:

- Narrowing travel lanes
- Reallocating travel lanes
- Reallocating parking lanes
- Reallocating turn lanes



Narrowing lane widths to accommodate new bicycle lanes; Source: Streetsblog

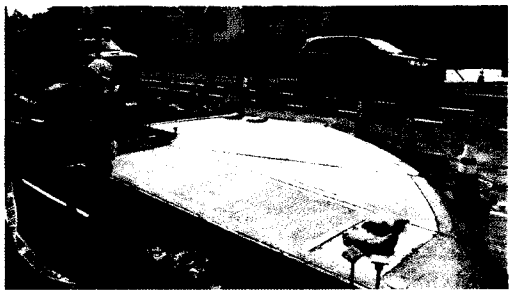
RECONSTRUCTION

Pertaining to much more substantial maintenance issues at a greater roadway depth than resurfacing, reconstruction projects are also frequently paired with active transportation facility implementation. During roadway reconstruction, in addition to the reconfiguration tactics listed above, more significant changes to allow for new bikeways or traffic calming treatments can take place, including:

- Adding/moving curbs
- Building curb extensions
- Designing tighter curb radii
- Installing speed humps/cushions
- Implementing raised crosswalks

Construction photos of a new Class IV bikeway using concrete curbs and (future) landscaping as a buffer; Source: The San Diego Union-Tribune

Many on-street active transportation projects recommended in this Plan do not require the acquisition of additional right-of-way, but where it is required would be considered reconstruction, instead of resurfacing and restriping.



New ADA compliant curb ramps; Source: SDOT Blog

CONSTRUCTION

Construction refers to individual projects outside of the roadway, including new Class I multi-use paths, bridges, and underpasses. New construction, if minor, may also include roadway widening to allow for bicycle lanes or shoulders, either along the full length of the bicycle facility or at select locations to better support safe travel for non-motorized users.

Installation of a bicycle and pedestrian bridge in Livermore, CA; Source: The Independent

CLASS III BICYCLE BOULEVARDS

Bicycle boulevard in Berkeley, CA; Source: The Daily Californian

Class III bicycle boulevards are streets with low motor vehicle traffic volumes and speeds that are designed to prioritize bicycle travel. Bicycle boulevards recommended in this Plan are intended to be comfortable places for people of all ages and abilities to ride a bicycle, scooter, or other mobility device.

Class III bicycle boulevards should incorporate specific design elements to make the roadways safe and comfortable for non-motorized users. Routes should be well planned, ideally with direct access to key destinations. Signs and pavement markings should be installed to make each bicycle boulevard easy to find and follow. To make the roadway comfortable for all, motor vehicle travel should be slowed (using reduced speed limits, speed humps, curb extensions) and reduced in volume (using traffic diverters). Minor street crossings should prioritize bicyclists using the bicycle boulevard to minimize their delay. Major street crossings should be designed to be safe and convenient. Offset crossings should have clear and safe navigation. Green infrastructure, like landscaped neighborhood traffic circles or curb extensions with bioswale treatments, should be included, where feasible.

Implementation of Class III bicycle boulevards should focus initially on unsignalized intersections/crossings of major roadways. Difficult crossings may dissuade all but a small percentage of strong and fearless bicyclists from utilizing the bicycle boulevard, maintaining a

barrier to safe and comfortable active transportation. Adding crossing improvements, like those recommended in this Plan, to major roadway crossings will help encourage greater usage of the bicycle boulevard. Crossing improvements can include advance warning signs, rectangular rapid flashing beacons, hybrid beacons, curb extensions, or pedestrian refuge islands.

UPGRADING EXISTING CLASS II BICYCLE LANES

Green paint marking conflict areas can help enhance bicycle visibility; Source: The Highlander

There are several existing bicycle lanes in Lathrop that this Plan recommends be upgraded with treatments that better consider active transportation safety and comfort. When streets containing bicycle lanes are resurfaced, the City should consider incorporating treatments that include appropriate placement of bicycle lanes with respect to turn lanes, adding green paint to mark conflict areas, and extending bicycle lanes through intersections to clearly indicate the path of travel for bicyclists.

Potential Challenges

RIGHT-OF-WAY

On-street and off-street active transportation facility projects that cannot be realized without acquisition of additional rights-of-way have greater complexity and longer completion times than projects entirely within existing rights-of-way.

Acquisition and/or condemnation to acquire the property rights required to construct and maintain the active transportation network may be required prior to the funding and construction (or reconstruction) of specific projects. Right-of-way acquisition, including any financial negotiation or legal proceedings, may be necessary to complete pedestrian or bicycle projects and close active transportation network gaps, however it may also impact the overall project timeline and budget significantly. Most project recommendations in this Plan do not require or recommend acquisition or condemnation.

FUNDING

While many funding opportunities are available at all levels of governance and beyond to improve our connectivity, some typical transportation project funding challenges remain, including:

- Grant funding cycles
- Application writing
- Funding availability and capacity
- Competitiveness of grant applicant pool
- Project eligibility and planning preparation
- Performance tracking and measurement
- Competing local priorities

Specific funding details can be found in the Funding section below.

MAINTENANCE

Another challenge Lathrop must consider is maintenance. A city may utilize impact fees to pay for new infrastructure and maintenance, but as the city ages and development slows, revenue from impact fees decreases. The City of Lathrop may consider developing a maintenance plan that identifies maintenance best practices and costs to ensure facilities are kept in good condition. Maintenance of active transportation facilities may include:

- Sweeping streets regularly, prioritizing streets with on-street bikeways and where

highest volumes of bicyclists and pedestrians are expected.

- Trim vegetation to avoid overhanging or encroaching into the clear path of travel along all pedestrian and bicycle facilities.
- Implement a minimum paving surface standard for streets with bikeways, trails, and sidewalks and prioritize these streets in repaving and resurfacing activities to ensure the minimum is maintained.
- Consider maintenance when designing and constructing Class IV bikeways to ensure they can be kept free of debris and that the minimum paving surface standard can be maintained.

Overgrown vegetation obstructing bicycle facilities can create a hazard and should be kept clear of the path of travel; Source: Bicycling Monterey

On Street Facilities

On-street facilities including Class II and Class III bikeways can generally be maintained in conjunction with routine maintenance of the roadway. Streets with bikeways should be prioritized for resurfacing and sweeping to ensure the surface is maintained in a smooth condition free of debris that may pose a hazard for bicyclists.

Off Street Facilities

Off-street facilities such as sidewalks, Class I paths, and Class IV bikeways will likely require maintenance independent of roadway operations. A community-driven system for reporting maintenance needs should be implemented alongside regular City inspections of facilities to identify issues.

Vegetation maintenance is a unique need for off-street facilities. City-maintained landscaping should be trimmed on a regular basis to ensure paths and sidewalks are free of encroaching vegetation and clear sight lines are maintained. Residents should be reminded annually of the importance of keeping sidewalks clear of encroaching plants, and a system should be implemented to address noncompliance. Vegetation along trails can generally be managed in three categories:

- Zone 1 Vegetation should be mowed and maintained at the highest frequency. This zone is typically 4 to 5 feet on either side of a trail and provides a clear zone for people to stop without blocking the traveled portion of the trail. Plants in this zone should be limited to grass and other low-profile landscaping to ensure sight lines are preserved.
- Zone 2 Vegetation is maintained as needed and may include drainage ditches, slopes, and other more vegetated areas adjacent to Zone 1. Wherever possible, native plants should be selected to minimize irrigation and maintenance needs.
- Zone 3 Vegetation includes open space areas that are rarely mowed or irrigated. These zones are furthest from transportation facilities and are unlikely to influence the safety or comfort of people walking or bicycling on the facilities.

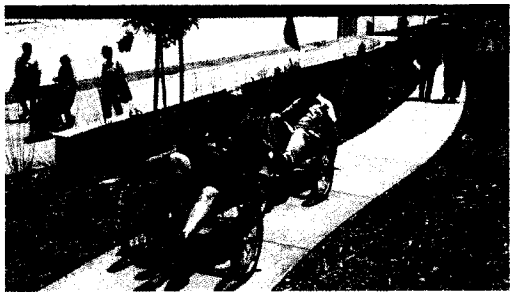
ACCESS FOR ALL ROADWAY USERS

Another potential challenge the City should carefully consider is the provision of access for all roadway users to the proposed facilities. Prioritizing the quicker implementation of bikeways through cost effective methods (like restriping lane configurations during planned resurfacing) should not come at the expense of ensuring access to or across those new facilities via new ADA accessible curb ramps.

Wheelchair user crossing the street along a Class III bicycle boulevard; Source: Berkeleyside

Not all bikeway users are "bicyclists." Providing an active transportation network in Lathrop that is comfortable and accessible for people of all ages and abilities must ensure that new and upgraded facilities consider the needs of all people using that infrastructure, including those using mobility devices like:

- Wheelchairs
- Scooters
- Skateboards
- Strollers
- Tricycles
- Hand bikes
- Recumbent bikes
- Cargo bikes
- Electric bikes



People using recumbent bicycles to access a new bike path; Source: Daily News

ENVIRONMENTAL REQUIREMENTS

The City must consider and prepare for the project approval and environmental document phase (PA&ED) for any active transportation infrastructure project for which state or federal grant funding is desired, including from the Active Transportation Program. This requirement of environmental clearance of a given project includes completed environmental documents and filed notices by the lead agency, pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), if required.

Typical grant funding bodies will not allocate funding for any planning, design, right-of-way acquisition, or construction work for an infrastructure project without prior documentation of environmental clearance through CEQA (and NEPA for federally funded projects).

Funding

A variety of existing transportation funding sources as well as those more specifically aligned with bicycle and pedestrian uses exist. Many are limited to new construction, though some may also offer funds for maintenance of existing facilities. Capital Projects for bicycle and pedestrian facilities are typically funded through a combination of sources and not one single source.

Local and Regional Programs

LOCAL TRANSPORTATION FUNDS – BICYCLES AND PEDESTRIANS

Lathrop is allocated Local Transportation Funds (LTF) from the County's Local Transportation Fund. The LTF is funded through a one quarter cent portion of the sales taxes collected in San Joaquin County and proceeds are allocated to cities via a population-based formula.

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) PROGRAM

The Community Development Block Grant (CDBG) Program is a flexible federal funding program that provides communities with resources to address a wide range of unique community needs. These funds are provided through the U.S. Department of Housing and Urban Development (HUD). These funds are allocated to the City annually and can be used for capital projects that remove a barrier to accessibility.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (APCD) INCENTIVE PROGRAMS

The San Joaquin Valley APCD offers incentives aimed at reducing harmful emissions throughout the region. Eligible projects include education or training in alternative-fuel vehicles and infrastructure, Class I-III bicycle facility projects, electric vehicle charging infrastructure, subsidized transit passes, construction of park and ride lots, zero emissions school bus infrastructure and replacement, and more.

MEASURE K

Measure K is a half-cent sales tax originally approved in 1990 and renewed in 2006 and is expected to deliver an additional $2.5 billion worth of transportation improvements to the region by 2041. The Measure funds highways, roads, public transit, and active transportation projects and programs. Bicycle, pedestrian, and SRTS projects are allocated 2.1% of the total sales tax revenue (funding breakdown shown below):

- 30 percent of net sales tax revenue is allocated to passenger rail, bus and bicycle and pedestrian improvements.
- Seven percent of passenger rail, bus, and bicycle/pedestrian funds are dedicated to bicycle, pedestrian, and safe routes to school projects.
- 40 percent of bicycle, pedestrian, and SRTS funding will be allocated to the local jurisdictions according to their proportionate share of the total incorporated and unincorporated population and 60% will be allocated according to a competitive grant process.

The County is responsible for identifying funding levels for the competitive allocation cycles for Bicycles, Pedestrians, Safe Routes to School program every five years as a part of the Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan. Eligible applicants for competitive BP-SRTS funding included all incorporated cities and the County of San Joaquin, the San Joaquin Regional Transit District, the San Joaquin Regional Rail Commission. Individual School Districts and non-profit organizations are eligible to submit funding requests for eligible ancillary support need projects. Funds may not be used for maintenance and operations of existing or future facilities and applicants should match the funding request by 10% at a minimum.

Additionally, 35 percent of Measure K funds are allocated to Local Street Repairs and Roadway Safety Improvements. Half of funds are allocated to San Joaquin County and half to incorporated cities.

State and Federal Programs

ACTIVE TRANSPORTATION PROGRAM (ATP)

The ATP was created by Senate Bill 99 (SB 99) to encourage increased use of active modes of

transportation, such as walking and bicycling. The ATP consolidated various transportation programs into a single program and was originally funded at about $123 million a year from a combination of state and federal funds. SB 1 directed an additional $100 million annually to the ATP (see SB 1 – Road Repair and Accountability Act). The goals of the ATP include, but are not limited to, increasing the proportion of trips accomplished by walking and biking, increasing the safety and mobility of non-motorized users, advancing efforts of regional agencies to achieve greenhouse gas (GHG) reduction goals, enhancing public health, and providing a broad spectrum of projects to benefit many types of users including disadvantaged communities. Application cycles occur approximately every two years, typically in late spring or summer. Funding is awarded at both the state level though the Californian Transportation Commission (CTC) and at the regional level through SJCOG.

AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES PROGRAM (AHSC)

The Affordable Housing Sustainable Communities (AHSC) Program funds land-use, housing, transportation, and land preservation projects to support infill and compact development that reduce GHG emissions. The program assists project areas by providing grants and/or loans, or any combination thereof, that will achieve GHG emissions reductions and benefit Disadvantaged Communities through increasing accessibility of affordable housing, employment centers, and key destinations via low-carbon transportation resulting in fewer vehicle miles traveled through shortened or reduced trip length or mode shift from single occupancy vehicle use to transit, bicycling, or walking. The three Project Area types include:

- Transit Oriented Development Project Areas
- Integrated Connectivity Project Areas
- Rural Innovation Project Areas

SB 1 – ROAD REPAIR AND ACCOUNTABILITY ACT

The "Road Repair and Accountability Act" of 2017 (SB 1) invests $54 billion over a decade to repair roads, improve traffic safety, and expand public transit systems across California, with funds split equally between state and local investments. SB 1 directs $100 million annually to the ATP to fund infrastructure projects, program implementation, and plan development to increase bicycling and walking. SB1 funds come to the City either directly or through one of several competitive programs. SB1 also created the Local Partnership Program (LPP), which continuously appropriates $200 million annually from the Road maintenance and Rehabilitation Account to local and regional transportation agencies that have sought and received voter approval of taxes or that have imposed fees, which taxes or fees are dedicated solely for transportation improvements, to improve active transportation, aging infrastructure, road conditions, and other benefits.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The Highway Safety Improvement Program (HSIP) is a core federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance.

LOCAL ROAD SAFETY PLAN (LRSP)

A Local Road Safety Plan (LRSP) identifies and analyzes systemic safety problems and makes recommendations for safety improvements. The process of preparing an LRSP facilitates the development of local agency partnerships and results in a prioritized list of improvements and actions that can be used to apply for federal and state funds. Since 2022, an LRSP or equivalent document is required for an agency to be eligible

for HSIP funds. Lathrop has not yet completed an LRSP.

LOCAL HIGHWAY BRIDGE PROGRAM

The Local Highway Bridge Program (HBP) replaces or rehabilitates public highway bridges over waterways, other topographical barriers, other highways, or railroads when the State and the Federal Highway Administration (FHWA) determine that a bridge is significantly important and qualifies under the HBP program guidelines. Reimbursable scopes of work include replacement, rehabilitation, painting, scour countermeasures, and preventative maintenance activities.

SUSTAINABLE TRANSPORTATION PLANNING GRANTS

Caltrans Sustainable Transportation Planning Grants are available to communities for planning, study, and design work to identify and evaluate projects, including conducting outreach or improving pilot projects. Communities are typically required to provide an 11.47 percent local match, with staff time or in-kind donations eligible to be used towards the match.

REBUILDING AMERICAN INFRASTRUCTURE WITH SUSTAINABILITY AND EQUITY (RAISE) GRANTS

RAISE Grants are awarded on a competitive basis by the US Department of Transportation (USDOT) for investments in surface transportation infrastructure that will have a significant local or regional impact. RAISE Grant Funds were authorized under the Local and Regional Assistance Program in the Infrastructure Investment and Jobs Act, known as the Bipartisan Infrastructure Law (BIL). Eligible grantees include public or government agencies or authorities, units of local government, special purpose districts, transit agencies, federally recognized Indian Tribes, and multi-state or multijurisdictional groups of entities. The Federal share grant may fund up to 80 percent of the costs of projects located in an urban area and up to 100 percent of the costs of a project located in a rural area, a historically disadvantaged community, or an area of persistent poverty.

CONGESTION MANAGEMENT AND AIR QUALITY IMPROVEMENT PROGRAM

The Congestion Management and Air-Quality Improvement Program (CMAQ), with funding through the BIL, 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 for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

In San Joaquin County, CMAQ funding is administered to local agencies by SJCOG.

CARBON REDUCTION PROGRAM

The Carbon Reduction Program (CRP), established by the BIL, provides federal funding for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. CRP funds may be used for transportation alternative projects including, but not limited to, the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation. CRP funding is apportioned to regions and local agencies based on population, using the 2020 U.S. Census. California's share of the CRP is $106,704,653.

SAFE STREETS AND ROADS FOR ALL (SS4A) GRANTS

The SS4A funding program was established following passage of BIL in 2021, with the first competitive application cycle commencing in 2022. Local government agencies may directly apply to the program, with funding being provided in three categories: Action Plans,

Supplemental Planning, and Implementation Grants. Applications for all three categories must be focused on implementing complete streets which will ultimately reduce serious injuries and fatalities for roadway users. Action Plan grants fund development of a qualifying Plan to support complete streets and reduction of roadway fatalities/serious injuries. Supplemental Planning activities include follow-up efforts to further the existing Action Plans. Implementation Grants, which implement activities from existing action plans, including constructing roadway safety treatments, including systemic safety fixes, constructing complete streets facilities such as walking and bicycling facilities, and non-infrastructure program activities to support the infrastructure investments.

RECONNECTING COMMUNITIES AND NEIGHBORHOODS (RCN) PROGRAM

The RCN Program combines two Federal funding opportunities: the Reconnecting Communities Pilot (RCP) and the Neighborhood Access and Equity (NAE) Program. Both programs address transportation barriers that have negatively impacted connectivity and access to resources in disadvantaged communities. The RCN program distributes funding through three grant types: Capital Construction projects, Community Planning activities, and Regional Partnership Challenges.

Funding supports planning grants and capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities, including active transportation improvements. Eligible applicants include state, units of local government, federal recognized Tribal governments, Metropolitan Planning Organizations (MPOs), non-profit organizations.

PROMOTING RESILIENT OPERATIONS FOR TRANSFORMATIVE, EFFICIENT, AND COST-SAVING TRANSPORTATION (PROTECT) GRANTS

The BIL allocates funding for the PROTECT discretionary grant program with the purpose of helping local agencies improve the resiliency of their on-system transportation infrastructure. The program provides Federal funding to projects to help communities address vulnerabilities due to weather, natural disasters, and climate change through four types of grants: Planning Activities (limited to developing a resilience improvement plan), Resilience Improvements, Community Resilience and Evacuation Route Activities, and At-Risk Coastal Infrastructure Activities. Vulnerabilities the program addresses include, but are not limited to, current and future weather events, increasing frequency and magnitude of natural disasters, and changing climate conditions, including sea level rise.

The PROTECT program funds are distributed federally and by formula and competitive grants.

OFFICE OF TRAFFIC SAFETY GRANTS

The California Office of Traffic Safety offers grants annually, funded by the Federal Highway Safety Program, for programs that aim to reduce motor vehicle crashes, injuries, and fatalities. Eligible programs address priority areas, established by the National Highway Traffic Safety Administration (NHTSA) like alcohol- and drug-impaired driving, pedestrian and bicycle safety, public relations, advertising, and marketing programs, and more. Public entities are eligible for grant funding, but non-profits must have a public entity as their host agency.

URBAN GREENING PROGRAM

The California Natural Resources Agency allocated $50 million to the Urban Greening program for urban greening and urban forestry projects that reduce GHG emission and provide multiple health benefits. Cities, counties, special districts, non-profit organizations, or agencies/entities formed pursuant to the Joint Exercise Powers Act can apply for funding. Applicants are expected to a) acquire, create, enhance, or expand community parks and green spaces and/or b) use natural systems r systems that mimic natural systems to achieve multiple benefits. Eligible projects related to active transportation planning include:

- Projects that increase tree canopy.
- Green streets and alleyways, recreational trails.
- Non-motorized urban trails that provide safe routes for travel between residences, work, commercial centers, and schools.
- Multi-objective stormwater projects, including construction of permeable surfaces, collection basins and barriers. The State anticipates only once funding cycle, but funding cycles are contingent upon the number of competitive applications.