



Envision 273 Comprehensive Multimodal Corridor Plan

Final Draft Report

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Executive Summary

This Executive Summary provides an overview of the *Envision 273: A Comprehensive Multimodal Corridor Plan* (Plan) and highlights the resulting **Prioritized Solutions**. While this Executive Summary was prepared to convey an overall summary of the Plan, the appendices should be referenced for additional detail on methodology and findings.

The Shasta Regional Transportation Agency (SRTA) and the California Department of Transportation District 2 (Caltrans), through a dedicated partnership, initiated the preparation of the Plan. The Plan evaluates the entire 16.2-mile length of the State Route (SR) 273 corridor (the Corridor), from Interstate 5 (I-5) in the City of Redding to the north to I-5 in the City of Anderson to the south. The objective of the Plan is to develop Prioritized Solutions consisting of comprehensive multimodal improvements that address the Corridor needs. The Prioritized Solutions will serve to guide future SR 273 planning, programming, and construction project decisions over the short, medium, and long-term planning horizons. As such, requisite technical information consistent with State and Federal funding programs guidelines was key to the development of the Plan.

Corridor Vision

The vision for the SR 273 corridor aims to achieve a safe, efficient, and reliable transportation system for the movement of people and goods. This vision seeks to maximize the accessibility, resiliency, and connectedness of this corridor for all users. Whether we drive, ride, walk, or roll, Envision 273 benefits current and future generations with a state-of-the-art transportation network while increasing the quality of life for all.

This vision will be realized by strategically implementing maintenance and improvement projects in alignment with community members and regional partners' needs and local, regional, state, and federal goals. These projects will collectively benefit the region by improving safety, economic vitality, quality of life, accessibility, equity, and public health for all.

Report Organization

The Plan presents the planning guidance and approach (Chapter 2), corridor context (Chapter 3), and corridor performance (Chapter 4), leading to the corridor strategies and projects (Chapter 6). The corridor projects were further evaluated in the corridor improvement analysis (Chapter 7), leading to the prioritized solutions (Chapter 8) and implementation (Chapter 9).

Stakeholders and the public were engaged throughout the Plan process, summarized in Chapter 5. Stakeholders included jurisdictional agencies, including the City of Redding, the City of Anderson, the County of Shasta, and Redding Rancheria.

Corridor Planning Guidance and Approach

Consistent with the *2020 Caltrans Corridor Planning Process Guide* and the *2018 California Transportation Commission (CTC) Comprehensive Multimodal Corridor Plan Guidelines*, corridor planning is a multimodal transportation planning approach that recognizes that transportation needs are based on the complex geographic, demographic, economic, and social characteristics of communities. These locations are tied together by a complex system of streets, roads, highways, trails, paths, rail lines, bus corridors, and other elements that affect the convenience, safety, and accessibility of transportation choices.

Consistent with the *2020 Caltrans Smart Mobility Framework*, a smart mobility framework should be incorporated into Caltrans plans and projects. As originally defined in *Caltrans Smart Mobility 2010*, "Smart Mobility moves people and freight while enhancing California's economic, environmental, and human resources by emphasizing convenient and safe multimodal travel, speed suitability, accessibility,

management of the circulation network, and efficient use of land.” Some components of the Smart Mobility Framework, such as complete streets, are now being implemented. However, the Smart Mobility Framework is broader than just complete streets and active transportation. The Smart Mobility Framework provides guidance on strategies, performance measures, and analysis methods for implementing smart mobility, organized around five themes: network management, multimodal choices, speed suitability, accessibility and connectivity, and equity. The Smart Mobility Framework helped to establish the performance measures used in the Plan.

The overall approach to the development of the Plan included the following main categories: **1.) Understanding the Corridor as a System** and **2.) Understanding the Corridor Segments as “Places.”**

As a system, the corridor moves people and goods to destinations located on and off the corridor. The system includes the roadway, transit, and intermittent bicycle and pedestrian facilities. In addition to understanding the system, the specific contexts of the communities (the “places”) that border the corridor guide the planning approach and solutions. Over its 16.2-mile extent, the corridor serves a variety of functions depending on the adjacent land uses it serves and the purposes of travel along its segments. Therefore, a “place-based” planning approach was used to guide segment-specific recommendations for the corridor. The Plan identified 10 segments along the corridor to emphasize the changing characteristics of the roadway, as well as the adjacent land uses.

Corridor Context and History



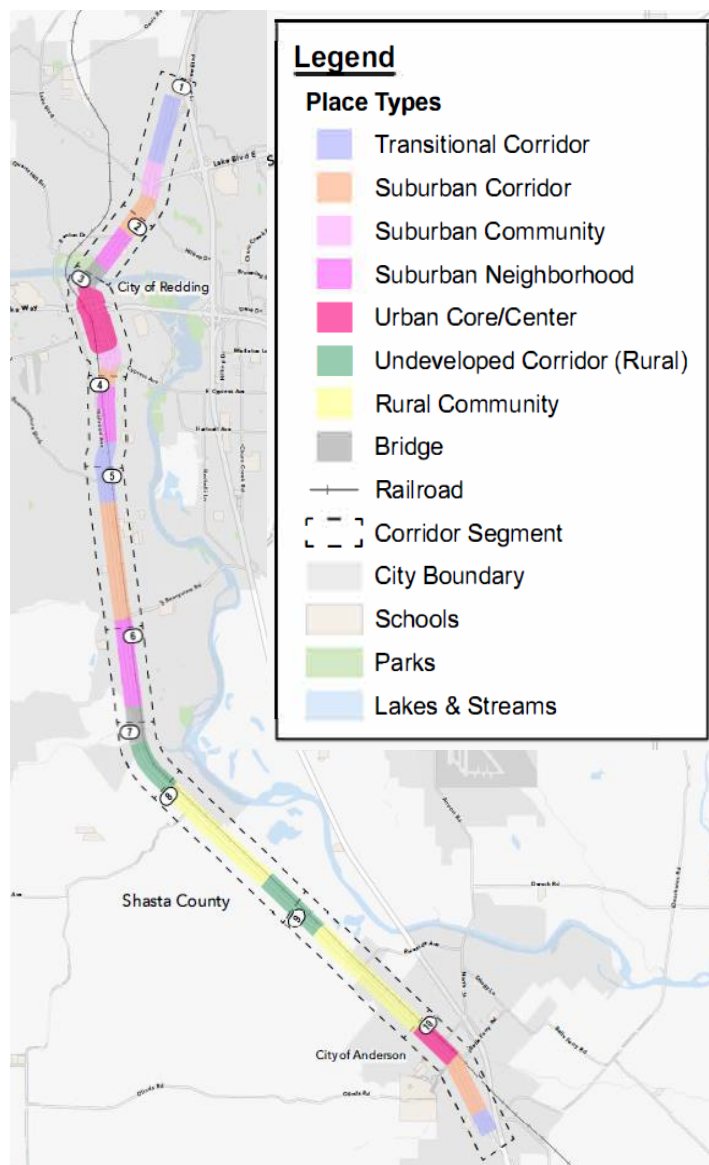
SR 273 is a 16.2-mile corridor that extends through and connects the Shasta Region's two largest incorporated cities (the Cities of Redding and Anderson) with a section of Shasta County in between, as well as numerous smaller outlying communities. SR 273 is a divided highway with periodic frontage roads through most of its extent, and transitions to one-way couplets through Downtown Redding. It also includes intersections with SRs 299 and 44, as well as space constraints associated with the Union Pacific Railroad (UPRR) freight rail line, which flanks SR 273 for roughly 9.5 miles in the project area. The corridor is maintained and operated by Caltrans and is a terminal-access Surface Transportation Assistance Act (STAA) truck route on all but a small section through Downtown Redding.

Parts of the route now known as SR 273 have served travelers since before California was a state. The State's role in planning and maintenance of the corridor dates back to the California Division of Highways era of the 1910s. When first integrated into the state highway system, the corridor was almost entirely rural, connecting small, compact communities. As auto-oriented development boomed regionally during the construction of Shasta Dam and the post war years of the 20th century, growth sprung up along the highway, leading to a “stringtown effect.”

A significant portion of the corridor is now located within the urbanized City of Redding limits, and the misalignment between land use and the corridor's infrastructure causes numerous challenges.

Changing Contexts

SR 273 crosses the Sacramento River, Clear Creek, and a number of smaller waterways. The corridor's proximity to residential neighborhoods, employment centers, and notable civic/regional destinations means that it services all mobility modes including private motor vehicles, commercial/freight trucks, transit, and active transportation. Notable destinations on or near the corridor include Caldwell Park, Turtle Bay Exploration Park, Shasta Regional Medical Center, Mercy Medical Center, Redding City Hall, Redding Rancheria, Anderson City Hall, Redding Area Bus Authority (RABA) Downtown Redding Transit Center, historical downtown Redding, and many Shasta County community services.



The SR 273 corridor serves a variety of land uses and the community context surrounding the corridor changes from north to south. At the northern end of the corridor between Caterpillar Road and the Sacramento River (Segments 1 and 2), SR 273 is as a transitional corridor from I-5, and serves multiple suburban neighborhoods as well as some commercial land uses.

Between the Sacramento River and Cypress Avenue (Segment 3), SR 273 serves as a main street for Downtown Redding. Here, the corridor splits into two one-way routes, also named Pine Street (northbound) and California Street/Market Street (southbound). These routes serve a variety of downtown commercial uses and mixed-use developments and connect surrounding communities to and through Redding's urban core. This portion of SR 273 is lower speed and lower capacity than the rest of the corridor, and has different contextual considerations, such as commercial access for residents, and more interactions between drivers, pedestrians, and bicyclists.



South of Cypress Avenue (Segments 4 through 6), SR 273 transitions back to a higher speed, higher capacity route that is directly adjacent to mostly commercial land uses, as well as some industrial, and serves surrounding suburban neighborhoods. The corridor here has two lanes in each direction (maintained until the southern end of the corridor), several major signalized intersections, as well as many un-signalized two-way yield intersections.



South of Girvan Road to the City of Anderson (Segment 7, Segment 8 and a portion of Segment 9), the land surrounding SR 273 is rural or undeveloped, and serves primarily industrial land uses. This section of the corridor has fewer signalized intersections and is accessible primarily through lower capacity rural roads that connect to small residential pockets.

The community context around SR 273 changes again as the corridor passes through the City of Anderson (Segment 9 and 10), serving mixed use and commercial uses in the urban core, as well as Anderson's suburban residential communities. SR 273 connects to a variety of big box commercial stores as it moves souths, and then serves as a transitional corridor before it merges with I-5

Changing Travel Demand

The latest California Department of Finance (DOF) projections (released Summer 2024) indicate the countywide population may drop by about 17 percent over the next 50 years. While the current version of the regional travel demand model does not reflect the latest population projections, one can reasonably infer a related reduction in VMT and an increased amount of unused capacity should the DOF population projects be realized. That said, portions of the corridor are subject to peak hour congestion at a handful of bottlenecks, including Downtown Redding at the convergence of SR 273, SR 299, and SR 44, and South Bonnyview Road, one of the limited east/west river crossings to I-5.

Corridor Performance

The performance measures selected to assess corridor performance included the following:

- Safety
 - Total Collisions
 - Total Fatal Collisions
 - Total Severe Collisions
 - Total Bicycle or Pedestrian Collisions
 - Collision Rate
- Operations & Reliability
 - Travel Time Reliability
 - Vehicular Congestion
 - Person Throughput
 - Person Hours Delay
 - Intersection Level of Service
 - Transit Performance
- Mobility & Connectivity
 - Transit Stop Quality

- Bicycle Origin-Destination Connectivity
- Bicycle Level of Traffic Stress
- Sidewalk Coverage
- Mode Share
- Sustainability & Resiliency
 - Vehicle Miles Traveled
 - Air Quality & Emissions
 - Emergency Evacuation
- Equity
 - Disadvantaged Communities (DACs)

For existing performance, overall, the 10 segments performed poor for all of the performance measures listed above and all 10 segments included DACs.

Stakeholder and Public Outreach

A robust stakeholder and public outreach process was conducted to engage the community and identify community concerns and priorities throughout the development of the Plan.

Elements of the outreach process included:

- A Project Advisory Committee (PAC) and an Executive Advisory Committee (EAC).
- Online engagement, including a project website and an online survey, ideas wall, and mapping tool
- In-person engagement
- A public visioning event with Blue Zones planner Dan Burden, including walk audits of key corridor segments
- Public open houses / workshops
- Stories, features, and interviews in local media (newspaper, television, radio, websites)
- A safety campaign

The PAC participated in a site visit at the beginning and met regularly throughout the Plan process.

Online engagement included a project website with an online survey, ideas wall for participants to discuss with other users, and a mapping tool to allow for location specific comments.

In person engagement consisted of a three-day public visioning event that included corridor audits, presentations, and discussions. Additionally, in-person workshops were held in the Cities of Redding and Anderson. Workshops 1 to 4 introduced the plan and collected feedback from the attendees on challenges, barriers, and needs related to the corridor. Workshops 5 to 8 presented the public outreach summary to-date and the draft project recommendations and collected feedback from the attendees on project prioritization.

Corridor Strategies and Projects

Based on the existing performance, corridor strategies and projects were identified to carry forward into the corridor analysis.

Corridor strategies included consideration of the following:

- Roadway projects to reduce collision severity by reducing speeds, improve travel time reliability and operational efficiency for all modes, implement new safety features, and create complete streets, while minimizing negative impact on vehicular throughput or travel times;
- Freight projects to improve existing arterial railroad grade crossings, in addition to the SR 273 crossings (roadway, bicycle, and pedestrian). Additionally, freight rail overcrossings and undercrossings, which would benefit users of the transportation system and stakeholder agencies; and,
- Complete street projects to provide, at a minimum, a multiuse path and lighting to safely accommodate both pedestrians and bicyclists along SR 273.

Based on corridor strategies, corridor projects were developed. First, existing planned and programmed projects from state, regional, and local agencies were assessed. The corridor projects include a modified list of the planned and programmed projects, as well as proposed projects. Proposed projects were developed in consultation with an array of transportation partners, including through the development of planning-level feasibility studies, such as a corridor-wide railroad crossing study.

Proposed projects include four area plans, with potential future design and construction. This includes a number of safety projects (e.g., crossings, lighting, variable speed warning signs, beacons, markers and striping, signals, roundabout), a roundabout study, and transit-supporting infrastructure. Additionally, multiuse paths (Class I) in rural areas of the corridor and separated bikeways (Class IV) in urban areas of the corridor are proposed as future needs.

Corridor Improvement Analysis

The corridor improvement analysis conducted in Chapter 7 provides a comprehensive evaluation of corridor strategies and projects proposed in Chapter 6, with the goal of prioritizing solutions for implementation. The same five performance measures that were used to evaluate the performance of the existing corridor were used to evaluate proposed projects: operations and reliability, mobility and connectivity, safety, sustainability and resiliency, and equity, plus two additional metrics, feasibility and community support. Safety was weighted more heavily than the other performance measures, based on stakeholder consensus on corridor improvement priorities. Where applicable, benefits were quantified for the proposed corridor solutions.

Projects that scored 10 or more points were advanced to the list of prioritized solutions discussed in Chapter 8.

Prioritized Solutions

Based on the performance evaluation findings in Chapter 7, fifteen prioritized projects were selected. Included are projects that scored 10 or more points in the Performance Assessment Matrix, as well as two ongoing Caltrans projects that are projected for completion by 2030. The selected projects are categorized as short-, medium-, and long-term projects. Benefit-cost analysis was not performed for each of these projects, but where applicable, the analysis demonstrates the anticipated return on investment for these efforts. Recommended short-term planning studies will further refine these analyses.

Projects selected for short-term implementation included are listed below. The short-term projects consist of planned and programmed Caltrans projects (CAPM and Brighter 273), planning projects that are needed to further analyze feasibility of selected projects, as well as relatively easily implementable traffic signal modification projects, road safety, signage, and pavement improvements.

- Downtown Redding CAPM,
- Brighter 273 Safety Lighting,
- Planning Studies including:

- Cypress Avenue to Buenaventura Boulevard Gateway Corridor
- Benton Drive to Quartz Hill Road Gateway Corridor
- Downtown Redding Conversion to Two-way Traffic
- Rail Grade Crossing Study
- Traffic Signal Modifications
- Signage and flashing beacons
- Rumble Strips

Projects selected for medium-term implementation are listed below. All projects received a positive return on investment, with signalization projects receiving the highest benefit/cost ratio of the medium-term projects followed by the corridor-wide separated bikeway network and lighting. Transit benefits would improve transit rider experience along the corridor, although transit benefits cannot be quantified without addressing service changes beyond the scope of this study.

- Corridor-wide Separated Bikeway Network
- Signalization and Crossing Improvement Projects
- Directional Median Openings or Reduced Left-Turn Conflict Intersections
- Lighting
- Transit (stop improvements and new stops)

Projects selected for long-term implementation are listed below. The gateway corridor projects show a positive return on investment, varying based on whether roundabout or signal alternatives are selected for key intersections. Various roundabout projects throughout the corridor also show a potential positive return on investment. However, further consideration of existing constraints, such as the presence of at-grade rail crossings, is required to fully assess the feasibility of these improvements. The Downtown Redding Conversion to Two-way Traffic and Rail Corridor Enhancements and Grade Crossing Modifications are not yet fully defined and also require additional detailed analysis. Although benefit/cost ratio is not provided for these projects, it is anticipated the further studies identified as short-term projects will demonstrate substantial community benefit..

- Benton Drive to Quartz Hill Road Gateway Corridor Design and Construction
- Cypress Avenue to Buenaventura Boulevard Gateway Corridor Design and Construction
- Convert multiple intersections to roundabouts
- Downtown Redding Conversion to Two-way Traffic Design and Construction
- Rail Corridor Enhancements and Grade Crossing Modifications Design and Construction

Implementation

Funding and implementation of the prioritized short-, medium-, and long-term projects will require an ongoing commitment amongst regional partners to regularly meet and maintain open collaborative communication; establish a structured approach to pursuing projects; leverage multiple funding opportunities; continued information sharing with federal/state funding stakeholders, elected officials, and community members; and robust stakeholder engagement.

Through clearly defined implementation horizons and collaborative funding strategies, the vision for the corridor will be progressively realized its vision for a safer, more connected, and multimodal SR 273. The short-term projects include Caltrans projects such as the Downtown Redding CAPM and Brighter 273 Safety Lighting, as well as planning studies and relatively easily implementable traffic signal modifications, signage, and pavement improvements. Medium-term projects consist of corridor-wide separated bikeway networks, signalization projects, lighting, and transit stop improvements. Long-term projects involve gateway corridor design and construction, potential roundabout conversions, and freight rail corridor enhancements, including grade separations.

1 INTRODUCTION

The *Envision 273: A Comprehensive Multimodal Corridor Plan* (Plan) is a collaborative, multi-year corridor planning effort for SR 273.

Background

SRTA, Caltrans, and other regional agency partners identified the need for a comprehensive evaluation of the SR 273 corridor (the Corridor) to identify a common vision for future improvements that align with current and future land uses and the needs of all users of the corridor, including local residents, businesses, and travelers.

In 2021, SRTA and Caltrans applied for two different funding sources and both agencies received funds. SRTA was awarded a \$500,000 Strategic Partnerships grant (part of the Caltrans Sustainable Transportation Planning grants program) and Caltrans received \$500,000 in funds through the State Planning and Research (SP&R)¹—Special Studies funds (with a local match of \$125,000), representing a total investment of \$1,125,000 in funds to help improve the Shasta Region. The initial \$625,000 in SP&R funds was for a special study of the southern portion of the corridor, specifically on Multimodal Stewardship, Safety, and Equity.

To minimize overhead costs and ensure coordination and consistency, the two sources were combined by a Joint Powers Agreement to administer the combined funds and to clarify the roles of each agency throughout the effort. It was determined that the combined funds would be used to develop a Comprehensive Multimodal Corridor Plan (CMCP) that is consistent with the intent and essence of the original Caltrans special study request, as well as capturing the needs/vision and intentions of SRTA, local and regional agency partners, and external stakeholders.

For this CMCP, also referred to as Plan throughout this document, the corridor team consisted of SRTA, Caltrans, and GHD.

Corridor Planning

Consistent with the *2020 Caltrans Corridor Planning Process Guide*, Corridor Planning is a multimodal transportation planning approach that recognizes that transportation needs are based on the complex geographic, demographic, economic, and social characteristics of communities. These locations are tied together by a complex system of streets, roads, highways, trails, paths, rail lines, bus corridors, and other elements that affect the convenience, safety, and accessibility of transportation choices. A corridor can be defined as a linear geographic area with one or more modes of transportation that facilitates the movement of people and goods, supports the economy, and connects communities. Origins and destinations, land use, place types, and existing and future development that surround the transportation infrastructure influences how the corridor and its limits are defined.

Key elements of a CMCP should include the following:

- Clear demonstration of state, regional, and local collaboration
- Short-, medium-, and long-term planning horizon
- Specific corridor objectives

¹ SP&R funds are not grant funds, but part of resources that help fund special studies for Caltrans.

- Multimodal considerations for and approaches to address transportation system issues
- Identification and evaluation of performance measures for recommended projects and strategies

Ideally, corridor planning culminates in a clear vision for identified improvements, while recognizing both the positive and negative impacts of changes over time.

Corridor Vision

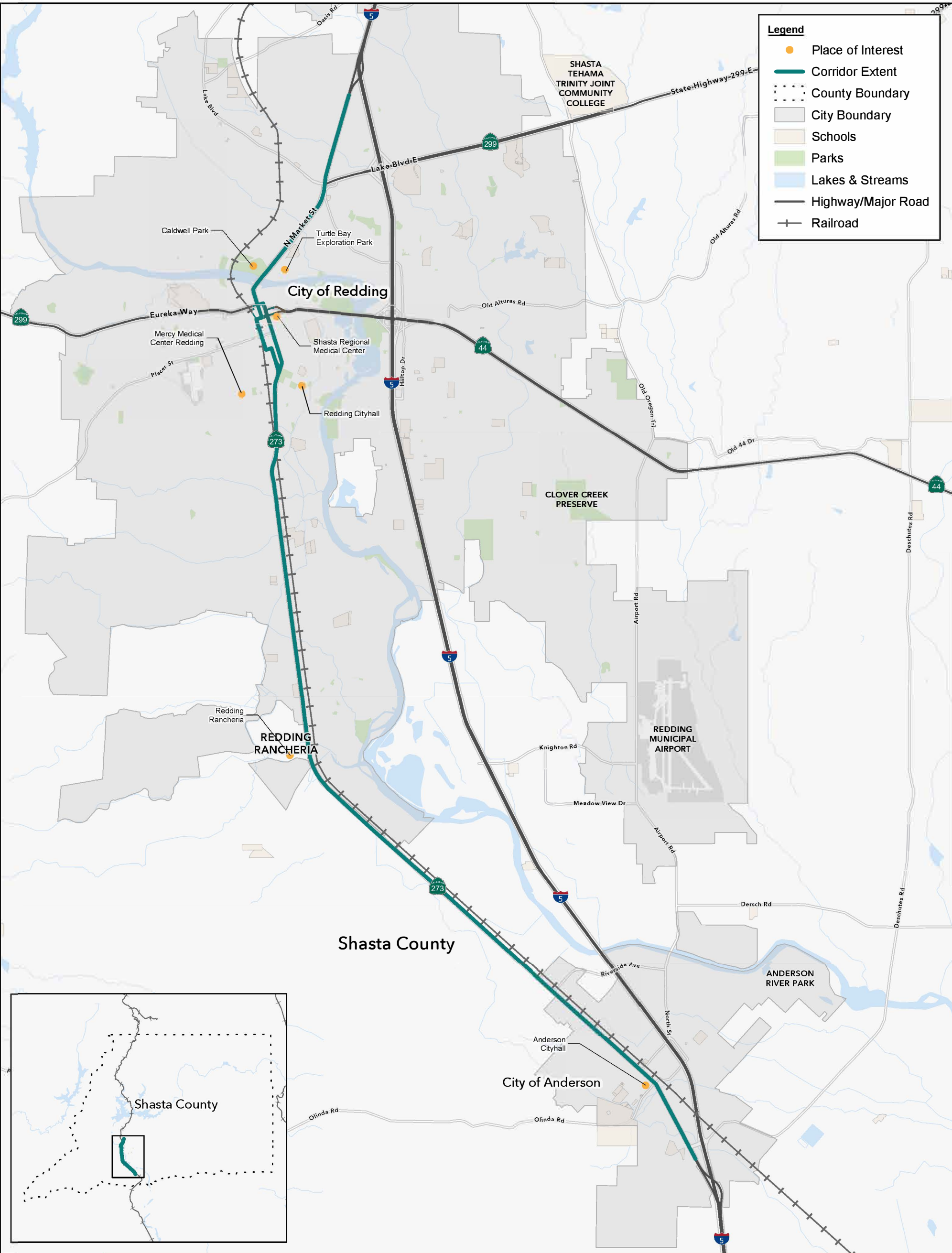
The vision for the SR 273 corridor aims to achieve a safe, efficient, and reliable transportation system for the movement of people and goods. This vision seeks to maximize the accessibility, resiliency, and connectedness of this corridor for all users. Whether we drive, ride, walk, or roll, Envision 273 benefits current and future generations with a state-of-the-art transportation network while increasing the quality of life for all.

This vision will be realized by strategically implementing maintenance and improvement projects in alignment with community members and regional partners' needs and local, regional, state, and federal goals. These projects will collectively benefit the region by improving safety, economic vitality, quality of life, accessibility, equity, and public health for all.

Plan Goals

Plan goals include:

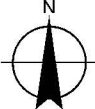
- Develop a vision for SR 273 for the next 100 years,
- Reduce barriers to mobility,
- Enhance safety, accessibility, and connectivity for all users,
- Achieve better compatibility between land use and corridor design,
- Improve environmental sustainability and resiliency, and
- Position the region to successfully compete for federal and state grant funds.



Envision 273: SR 273 Multimodal Corridor Plan

PROJECT VICINITY MAP

Paper Size ANSI B
0 2,000 4,000 6,000
US Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



Project No. 12560002
Revision No. -
Date

FIGURE 1

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2 PLANNING GUIDANCE AND APPROACH

This chapter highlights the relevant transportation planning studies specific to the corridor study area, as well as the planning frameworks and design guidelines that will inform the corridor analysis of the corridor projects.

Planning Context & Approach

The relevant transportation planning studies and design guidelines are briefly summarized below.

Regional & Local Transportation Plans

Caltrans District 2 Active Transportation Plan (2022)

The Caltrans District 2 Active Transportation (CAT) Plan and accompanying Story Map identifies active transportation needs in the district. Highway segment projects and freeway crossing projects are scored with weights and measures related to goals in the Toward an Active California plan, then sorted by priority tier based on urgency.

SRTA GoShasta Regional Active Transportation Plan (2018, Updated 2019)

This plan was developed by SRTA to inform the development of active transportation programs and infrastructure for walking, bicycling, and connecting to transit in the Shasta Region. The plan framework includes three themes:

1. Increase active transportation modes.
2. Increase safety and comfort of active transportation users.
3. Invest in healthy, vibrant, sustainable, and people-centered communities.

The plan also prioritizes the development of a Regional Trunk Line System to provide high quality facilities for users of all ages and abilities to travel between communities and activity centers. A Regional Trunk Line System is a system of interconnected Class I and IV paths that are physically separated from vehicles and connect main corridors to destination and activity centers. The north-south trunk line between the Cities of Anderson and Redding is shown to generally fall along the alignment of SR 273.

SRTA Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) for the Shasta Region (2022)

The regional transportation plan (RTP) is a 20-year investment plan outlining how the region (e.g. cities, counties, Caltrans, and SRTA) intends to provide a transportation system that efficiently moves people and freight (goods) for all transportation modes. The RTP includes short- and long-term goals and strategies to help guide the process.

As part of the RTP, SRTA must develop a Sustainable Communities Strategy (SCS) - which is required under California Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008 (SB 375) that addresses how the RTP will meet the region's greenhouse gas (GHG) emissions reduction targets.

GoShasta Trunk Lines Map

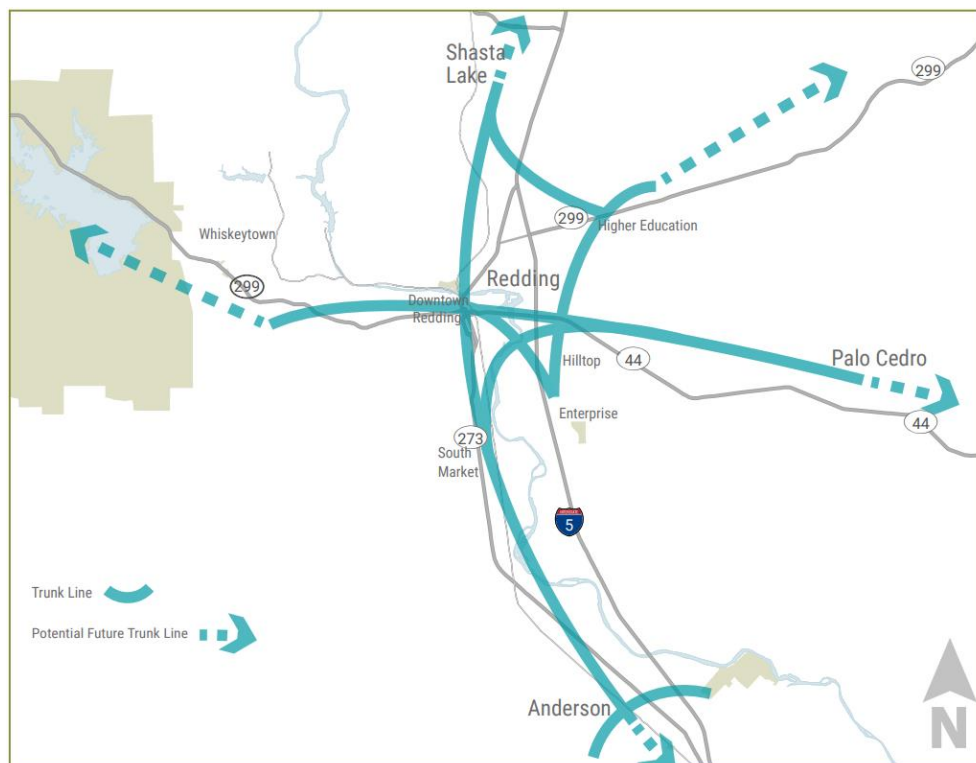


Image Source: GoShasta Regional ATP, 2018

City of Redding Active Transportation Plan (2018)

The current 2018 City of Redding Active Transportation Plan aims to promote greater connectivity within and to/from the City of Redding and was developed by the City of Redding in conjunction with the *GoShasta Regional Active Transportation Plan*. The vision of the plan is:

The City of Redding is a community where people of all ages and abilities can walk and bike conveniently, safely, and enjoyably, incorporating walking and bicycling into their daily lives. The City of Redding is also a destination for visitors seeking to enjoy our outdoor amenities on foot or by bike.

The goals of the plan are listed below:

1. Develop a highly connected and comfortable active transportation network.
2. Increase the number of walking and bicycling trips.
3. Increase safety and mobility for pedestrians and bicyclists.
4. Promote an active transportation culture that benefits the community.

City of Anderson General Plan 2000-2027

The current 2000-2027 City of Anderson General Plan identifies SR 273 as an expressway, defined by the plan as: a divided multi-lane major arterial street for through traffic with partial control of access and with grade separations at major intersections. The right-of-way requirements for an expressway are identified as between 110 and 120 feet. The plan also identifies SR 273 as a primary source of noise pollution for the City of Anderson, in addition to I-5.

City of Redding General Plan 2023-2045

The current 2023-2045 City of Redding General Plan highlights are relevant to the corridor:

- The plan states the following related to city streets and bicycle facilities in Redding: “Bicycle facilities on arterial streets should consist of buffered bicycle lanes or separated bikeway facilities whenever feasible.” Also, “protected bikeways should be provided where feasible on principal arterials.”
- The plan identifies SR 273 as a critical link for fire, flood, earthquake, and other emergency evacuation routes.
- The plan states the following related to the corridor, specifically those portions of SR 273 referred to as North and South Market Street through Redding.

North Market Street Focus Area: The North Market Street Focus Area includes SR 273 between Quartz Hill Road and Benton Drive. The following recommendations are provided within the plan:

- North Market Street provides access to scenic and recreational attributes and should be improved to have the aspect of a parkway with median landscape, sidewalks, and some bulb-out landscape features.
- Recommendation for a pedestrian trail along Sulphur Creek upstream of Market Street and pedestrian crossing of North Market Street.
- Allow development of new and expansion of existing automobile-oriented uses only on the west side of North Market Street.

South Market Street Focus Area: South Market Street Focus Area is generally the area north of the UPRR freight and passenger rail overpass and south of Downtown Redding. The following recommendations are provided within the plan:

- “South Market Street is characterized by the railroad and the industrial development along the corridor. The underutilized and vacant industrial parcels abutting the single-family neighborhood provide an opportunity for redevelopment potential for residential and accompanying services” (page 56).
- Recommendation for a protected or buffered bike lane along SR 273 for commuting and to connect to Downtown Redding. Incorporate lighting, street crossings, and other traffic calming features.
- Recommendation to improve aesthetics of the roadway with median landscape, sidewalks, and some bulb-out landscape features.
- Acknowledges the challenges to provide these features given the number of smaller parcels, access driveways, intersecting streets, among others.

Planning Framework Guidelines

The relevant planning framework and design guidelines referenced in this report apply to multimodal corridor plans that aim to address safety issues and multimodal infrastructure deficiencies while improving corridor performance for all travel modes, including walking, biking, private vehicle, freight/truck, transit, and rail, with specific emphasis and prioritization on improving conditions for DACs.

Caltrans Corridor Planning Process Guide, 2020

This guide establishes a comprehensive planning approach through desired protocols and procedures to identify and implement multimodal transportation needs. A key component of this guide is the emphasis on conducting a baseline performance assessment of the corridor to highlight the relationship between

identified issues and their causes. Improvement strategies are also evaluated to determine the potential benefits to the corridor, in terms of corridor performance.

Caltrans Smart Mobility Framework Guide, 2020

This plan establishes a smart mobility framework. As originally defined in *Caltrans Smart Mobility 2010*, “Smart Mobility moves people and freight while enhancing California’s economic, environmental, and human resources by emphasizing convenient and safe multimodal travel, speed suitability, accessibility, management of the circulation network, and efficient use of land.” Some components of the Smart Mobility Framework, such as complete streets, are now being implemented. However, the Smart Mobility Framework is broader than just complete streets and active transportation. The Smart Mobility Framework provides guidance on strategies, performance measures, and analysis methods for implementing smart mobility, organized around five themes: network management, multimodal choices, speed suitability, accessibility and connectivity, and equity. The Smart Mobility Framework helped to establish the performance measures used in the Plan.

Caltrans Director’s Policy on Complete Streets (DP-37), 2021

This policy requires any project funded or overseen by Caltrans to:

provide comfortable, convenient, and connected complete streets facilities for people walking, biking, and taking transit or passenger rail unless an exception is documented and approved.

DP 37 intends to prioritize underserved communities, streamline procedures and implementation, and encourage active transportation.

Main Street, California: A Guide for People-Centered State Highway Main Streets

This guide identifies five principles to balance the needs of state highway main streets while supporting multimodal travel and community well-being. *Main Street* particularly applies to the three state highways that weave throughout Downtown Redding.

Principle 1: Champion People-Centered Main Streets

Principle 2: Improve Safety and Public Health

Principle 3: Elevate Equity and Livability

Principle 4: Advance Sustainability and Climate Action

Principle 5: Strengthen Partnerships and Engagement

Caltrans Traffic Calming Guide: A Compendium of Strategies

This guide provides traffic calming strategies in six categories: Signings and Markings, Physical Intersection Modifications, Roadway Narrowing, Vertical Roadway Elements, Physical Roadway Segment Modifications, and Others. This CMCP’s recommended projects and solutions draw upon these strategies.

California Action Plan for Transportation Infrastructure (CAPTI), 2025

The CAPTI is a framework that recommends how the state should spend funds on projects that address climate change while supporting the state’s climate, health, and social equity goals. A 2024 Draft Caltrans System Investment Strategy (CSIS) was released to implement CAPTI by identifying and prioritizing projects for competitive programs, ensuring alignment with the 10 CAPTI Guiding Principles. The Guiding Principles focus on bolstering multimodal facilities and improving safety, investing in zero-emission

vehicle and freight infrastructure, prioritizing social equity, and incorporating climate and conservation into planning efforts.

Caltrans Toward an Active California: State Bicycle + Pedestrian Plan, 2017

This statewide plan was developed by Caltrans to support active transportation by providing policy direction and outlining objectives, strategies, and actions. The goals of this plan are:

- Improve Multimodal Mobility and Accessibility for All People
- Preserve the Multimodal Transportation System
- Support a Vibrant Economy
- Improve Public Safety and Security
- Foster Livable Communities and Promote Social Equity
- Practice Environmental Stewardship.

Multimodal Design Guidelines

The *Caltrans Corridor Planning Process Guide* includes the following objective: Preserve the character of local communities, create opportunities for neighborhood enhancement, and improve multimodal accessibility including complete streets. Caltrans requires that planning projects include “complete street” features that provide safe and accessible options for people of all ages and abilities, and for all modes (including walking, biking, rolling, and taking transit). Examples of Complete Street design elements include:

- Continuous and connected sidewalks and bike lanes
- Comfortable and convenient transit facilities
- Frequent and safe pedestrian crossings
- Accessibility improvements, per the Americans with Disabilities Act (ADA)

Additional Complete Street design elements that aim to vehicular speeds, reducing pedestrian crossing distances across roadways, and provide wider sidewalks and public spaces along the roadway include:

- Curb extensions (or bulb-outs)
- Median island with pedestrian refuge
- Reduced travel lanes (“Road Diet”)

Complete Streets Design Guidelines

- Caltrans Complete Streets Elements Toolbox & Complete Streets Project Planning Guide
- Federal Highway Administration (FHWA) Separated Bike Lane Planning and Design Guide
- National Association of City Transportation Officials (NACTO) Urban Street Design Guide, Transit Street Design Guide, Urban Bikeway Design Guide, and Urban Street Stormwater Guide.
- Caltrans Design Information Bulletin (DIB) 89 Class IV (Separated Bike Lane) Bikeway Guidance, 2022
- Caltrans DIB-94 Complete Streets: Contextual Design Guidance, 2024
- Caltrans Highway Design Manual

Support Programs

- **Healthy Shasta:** The goal of Healthy Shasta is to increase physical activity through active transportation, like walking and bicycling among students and adults. Examples of efforts include providing printed and online walking and bicycle maps, expanding and linking people to walking and bicycling groups, encouraging employees to walk and bike, and teaching bicycle safety skills. Healthy Shasta is a collective impact collaborative with 26 local partner agencies working toward making the healthy choice the easy choice for Shasta County residents.
- **Safe Routes to School (SRTS):** SRTS is run by the Shasta County Health and Human Services Agency Public Health to serve multiple school districts in improving safety and encouraging more students to walk and bike to school.
- **Shasta Living Streets:** A local nonprofit organization that provides transportation services and amenities, including the Shasta Bike Depot and the Redding Bikeshare. Also, multimodal encouragement events, bike tours, tactical urbanism projects, and social activities.
- **The City of Redding Active Transportation Advisory Group:** The group is composed of bicycle advocates, pedestrian advocates, funding partners, schools, businesses, social service agencies, and other members of the public.
- **Other groups include** the Shasta Wheelman and the Shasta Bike Month and Challenge planning committee.

Corridor Planning Approach

The following summarizes the overall approach to the development of the Plan, which includes the following main categories:

1. **Understanding the Corridor as a System**
2. **Understanding the Corridor Segments as “Places”**

Understanding the Corridor as a System

The corridor connects the Cities of Redding and Anderson and serves numerous outlying rural communities, including lands of the Redding Rancheria and Northern Wintun, through feeder streets and roads. As a system, the corridor moves people and goods to destinations located on and off the corridor. The corridor system infrastructure includes the roadway, transit, and intermittent bicycle and pedestrian facilities. Understanding the corridor as a system requires evaluation of corridor multimodal travel safety, efficiency, connectivity, and reliability to identify areas where operations and access can be improved.

Since SR 273 is a Caltrans facility, the *Caltrans Corridor Planning Process Guide* (February 2020) will guide the corridor planning process. As such, a primary goal for this Plan is to identify the issues and opportunities for optimizing system operations and supporting a safe and reliable system. Based on the identification of these issues and opportunities, improvement recommendations will be developed to address quality of life, access to destinations, environmental factors including GHGs, and transportation system performance. Corridor goals, objectives, and performance measures will guide the analysis of current corridor operations related to mobility, reliability, safety, and sustainability.

Understanding the Corridor Segments as “Places”

In addition to understanding the existing and planned transportation systems within the study area, improvement recommendations should also aim to reflect the specific contexts of the communities (the “places”) that border the corridor while developing comprehensive, corridor-wide mobility networks that

provide connections between these places. The *Caltrans Corridor Planning Process Guide* states that corridor planning is “a multimodal transportation planning approach that recognizes that transportation needs are based on the complex geographic, demographic, economic, and social characteristics of communities”. Over its 16.2-mile extent, the corridor serves a variety of functions depending on the adjacent land uses it serves and the purposes of travel along its segments. Therefore, a “place-based” planning approach will serve as a guideline for segment-specific recommendations for the corridor.

Caltrans has developed place-based planning and design guidance for transportation improvements on state highways, documented in *Smart Mobility Framework Guide* (February 2020) and the DIB-94 (January 2024). Place type assessments for corridor planning highlight the variations in community goals, land use, and destinations that determine the appropriate application of design standards for specific street segments, such as the type and width of multimodal facilities (i.e., crosswalks, sidewalks, bicycle lanes, multiuse paths, landscape, transit lanes/stops, and vehicle lanes, etc.). Place type assessments do not negate the need to prioritize safe and accessible bicycle and pedestrian travel along the corridor between places, and transitional corridors can play an important role in providing connections to critical destinations.

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3 CORRIDOR CONTEXT

SR 273 is a 16.2-mile corridor that extends through and connects the Shasta Region's two largest incorporated cities (Redding and Anderson), as well as numerous smaller outlying communities to the county seat of Redding. The corridor runs north-south parallel and to the west of I-5 for most of its extent.

SR 273 is a divided highway with periodic frontage roads through most of its extent, and transitions to one-way couplets through Downtown Redding. The one-way couplets include portions of Market, California, and Gold Streets in the southbound direction and Pine Street in the northbound direction. The project area presents a number of challenges, constraints, and opportunities, including a crossing of the Sacramento River, the largest river in California; Clear Creek (a major tributary); the Anderson-Cottonwood Irrigation District Canal, and a number of smaller waterways. It also includes interchanges with SRs 299 and 44, as well as a space constraints associated with the UPRR freight rail line, which flanks SR 273 for roughly 9.5 miles in the project area.

As a part of the state highway system, the corridor is maintained and operated by Caltrans and is a terminal-access STAA truck route on all but a small section through Downtown Redding. Existing traffic volumes reach upwards of 20,000 daily vehicle trips in some segments. SR 273 is the Caltrans designated bicycle and pedestrian route, whereas bicycling and walking is prohibited on the I-5 portion that runs parallel to SR 273.

The corridor's proximity to residential neighborhoods, employment centers, and notable civic/regional destinations means that it services all mobility modes including private vehicles, commercial/freight trucks, transit, and active transportation. Some notable destinations include Caldwell Park, Turtle Bay Exploration Park, Shasta Regional Medical Center, Mercy Medical Center, Redding City Hall, Redding Rancheria, and Anderson City Hall.

A major constraint on corridor improvements is the location of the UPRR freight and passenger rail alignment immediately adjacent to SR 273. The location of this UPRR corridor presents planning and design challenges, as safe grade crossings need to be considered for most connections east of SR 273, south of Downtown Redding, and within Downtown Redding itself. The at-grade crossings present safety challenges for passenger vehicles, freight vehicles, and non-motorized users.

Historical Context

Parts of the route now known as SR 273 have served travelers since before California was even a state. The State's role in planning and maintenance of the corridor dates back to the California Division of Highways era of the 1910s, when the route was first known as the Pacific Highway and was the primary north-south corridor on the west coast. It later became known as Highway 99 and continued to operate as such until the regional completion of I-5 in the 1960s, at which time it was re-designated as SR 273.

When first integrated into the state highway system, the corridor was almost entirely rural, connecting small, compact communities. As auto-oriented development boomed regionally during the construction of Shasta Dam and the post war years of the 20th century, growth sprung up along the highway, much of it catering to auto-oriented uses such as motels, service stations, and auto repair. This "ribbon growth" or "stringtown effect" was identified as a planning concern by local officials as early as 1947, but nevertheless, a significant portion of the once rural and unincorporated corridor is now located within the urbanized city limits of Redding. Today, this misalignment between land-use and the corridor's infrastructure causes numerous challenges.

Corridor Study Area

The SR 273 roadway cross-section varies in paved roadway width, number of lanes per direction, posted vehicle speed, and fronting land use types. The corridor adjoins a mix of developed, undeveloped, and underdeveloped properties. The Plan has identified ten (10) distinct segments along the corridor to emphasize the changing characteristics of the roadway as well as the adjacent land uses.

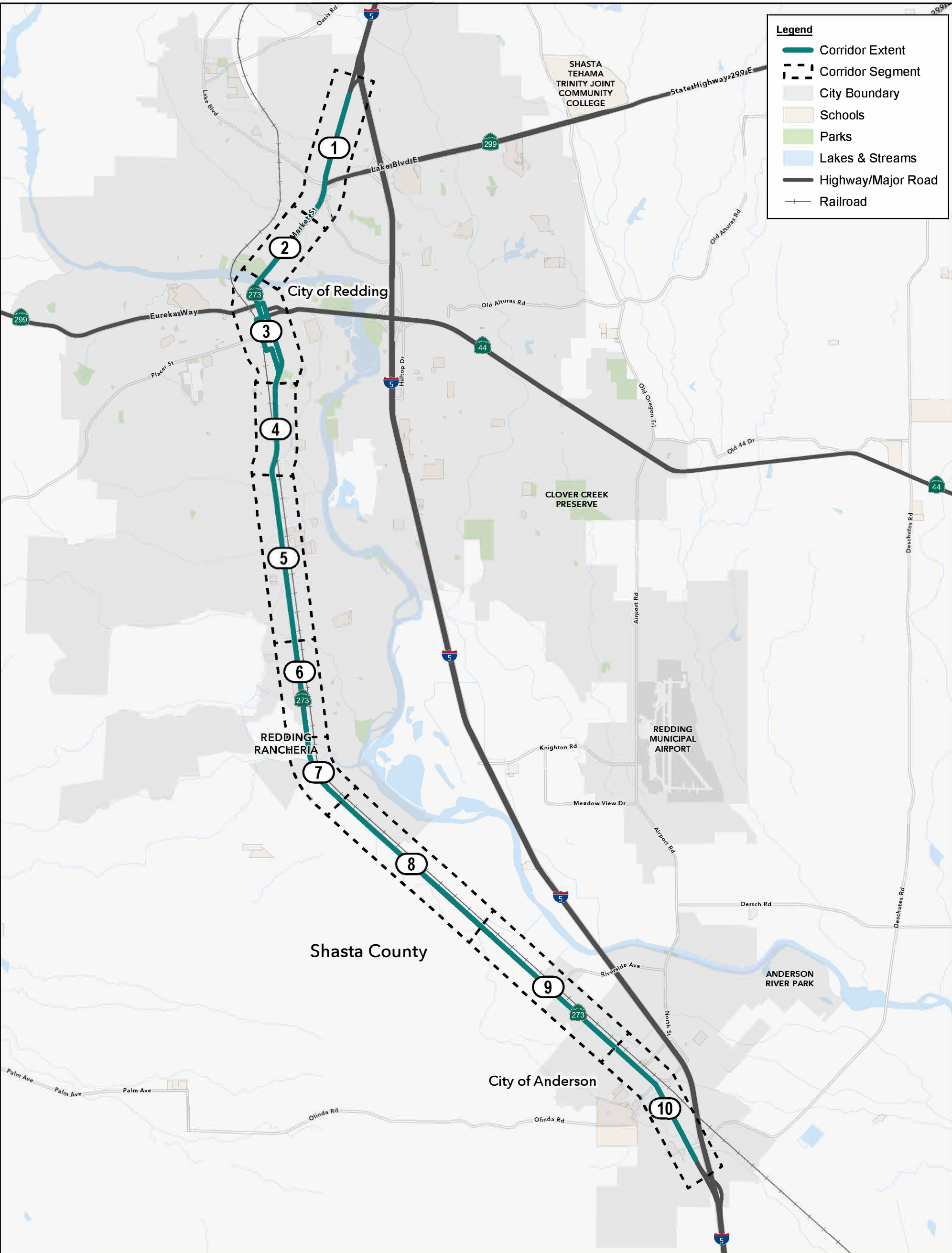
The segments extents are generally situated between major intersections on SR 273, suggesting potential for variations in mobility patterns as people access the highway from side streets. The existing multimodal infrastructure, mobility trends, and surrounding land uses of the ten segments are described in greater detail in later sections of the Plan. The corridor segments along SR 273 include the following:

1. I-5 Ramps to south of Lake Blvd
2. South of Lake Blvd to Sacramento River²
3. Sacramento River to south of Cypress Ave
 - a. Southbound Couplet on California and Market Streets
 - b. Northbound Couplet on Pine Street
4. South of Cypress Ave to north of Buenaventura Blvd
5. North of Buenaventura Blvd to south of South Bonnyview Rd
6. South of South Bonnyview Rd to south of Girvan Rd
7. South of Girvan Rd to north of Happy Valley Rd
8. North of Happy Valley Rd to south of Latona Rd
9. South of Latona Rd to north of Briggs St
10. North of Briggs St to I-5 Ramps

Table 1 Corridor Study Segments

Area	Segment	Approximate Extent	Length (miles)
North of the River	1	I-5 Ramps to south of Lake Blvd	1.8
	2	South of Lake Blvd to Sacramento River	1
Downtown Redding	3	Sacramento River to south of Cypress Ave: <i>Southbound Couplet on California and Market Sts</i> <i>Northbound Couplet on Pine St</i>	1.4 (2.5 centerline miles, including couplets)
	4	South of Cypress Ave to north of Buenaventura Blvd	1.2
South of Redding	5	North of Buenaventura Blvd to south of S Bonnyview Rd	2
	6	South of S Bonnyview Rd to south of Girvan Rd	1.2
Redding Rancheria	7	South of Girvan Rd to north of Happy Valley Rd	0.9
County Stretch	8	North of Happy Valley Rd to south of Latona Rd	2.3
	9	South of Latona Rd to north of Briggs St	2.2
Anderson	10	North of Briggs St to I-5 Ramps	2.2

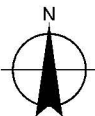
² Locally known as “The Miracle Mile.”



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CORRIDOR STUDY SEGMENT LOCATIONS

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US Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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FIGURE 2

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Corridor Intersections

The following major intersections are listed below:

#	Location
1	SR 273 / N. Market Street / Caterpillar Road
2	SR 273 / N. Market Street / Northpoint Drive / Twin View Boulevard
3	SR 273 / N. Market Street / Lake Boulevard
4	SR 273 / N. Market Street / Benton Drive
5	SR 273 / S. Market Street / Quartz Hill Road / Traveled Way
6	SR 273 / S. Market Street / Trinity Street
7	SR 273 / S. Market Street / SR 299 / Eureka Way
8	SR 273 / S. Market Street / Shasta Street
9	SR 273 NB / Pine Street / SR 44 WB / Shasta Street
10	SR 273 SB / California Street / Tehama Street
11	SR 273 NB / Pine Street / SR 44 EB / Tehama Street
12	SR 273 SB / California Street / Placer Street
13	SR 273 NB / Pine Street / Placer Street
14	SR 273 SB / California Street / South Street
15	SR 273 NB / Pine Street / South Street
16	SR 273 SB / S. Market Street / Gold Street
17	SR 273 NB / Pine Street / East Street
18	SR 273 / S. Market Street / Cypress Avenue
19	SR 273 / S. Market Street / Grange Street
20	SR 273 / S. Market Street / Buenaventura Boulevard
21	SR 273 / S. Market Street / Branstetter Lane
22	SR 273 / S. Market Street / Cedars Road / S. Bonnyview Road
23	SR 273 / S. Market Street / Clear Creek Road
24	SR 273 / S. Market Street / Canyon Road / Redding Rancheria Road
25	SR 273 / S. Market Street / Whitehouse Drive (North) / Eastside Road
26	SR 273 / S. Market Street / Whitehouse Drive (South)
27	SR 273 / Amen Street / Latona Road
28	SR 273 / Ox Yoke Road
29	SR 273 / North Street
30	SR 273 / South Street
31	SR 273 / Deschutes Road
32	SR 273 / Pleasant Hills Drive

Land Use & Place Types

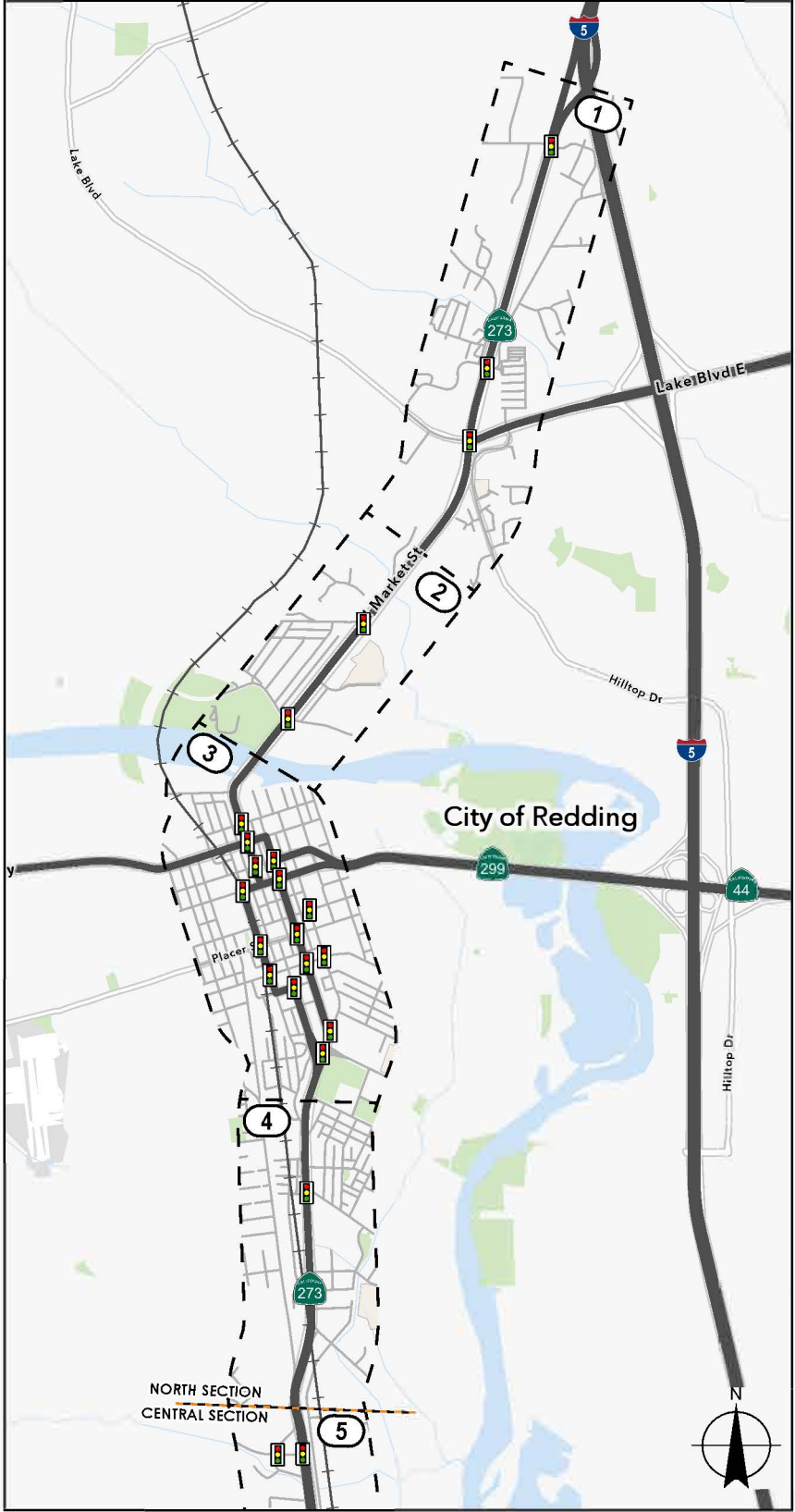
The corridor connects the Cities of Redding and Anderson and serves numerous outlying rural communities in Shasta County. The corridor is bordered by commercial and industrial land uses, either directly fronting the roadway or accessed via frontage roads. Generally, the commercial and industrial land uses are concentrated within one-tenth of a mile from the corridor centerline.

Residential communities are distributed on either side of the corridor, with higher density populations within the Cities of Anderson and Redding. Downtown Redding is considered a special development area and includes primarily mixed use residential, commercial and office buildings.

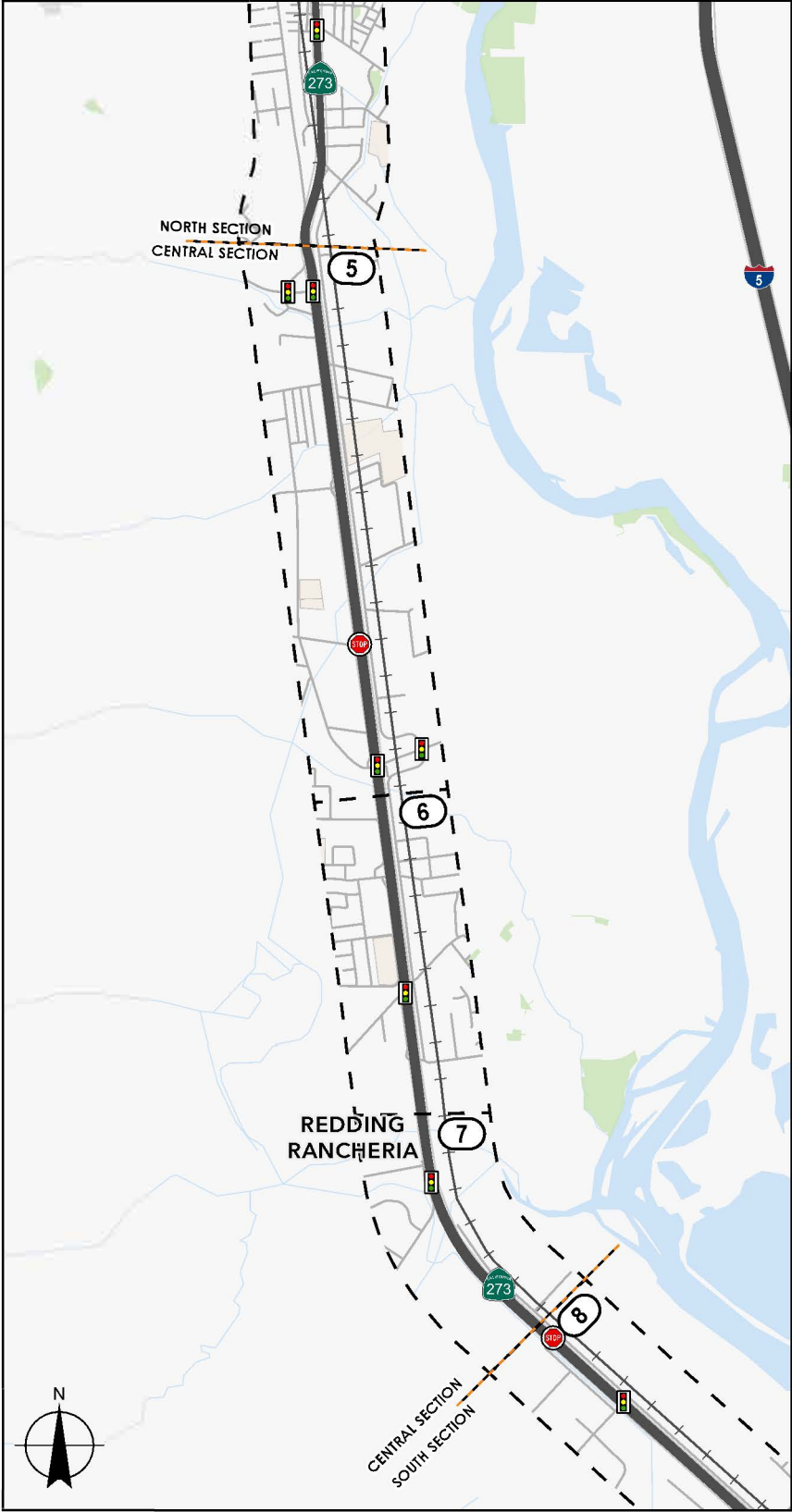
The City of Redding's open space land is concentrated near the along the Sacramento River, Clear Creek, and west of the corridor through the vicinity of Gore Ranch, Branstetter Lane, Powerline Road, and Sulphur Creek Hill. Parks and recreational lands are concentrated along the Sacramento River. Agricultural land is concentrated in the county. While not immediately adjacent to segments along the corridor, some land is being used for agriculture in areas near the corridor.

Figure 4 shows the existing zoning destinations and Figure 5 shows the future land use designations (General Plan Land Use) within the corridor study area, including portions of the City of Anderson, City of Redding, and unincorporated Shasta County. (Note: Due to the lack of reliable existing land use data for the entire corridor study area, existing zoning designations are shown in place of existing land use. Existing zoning designations were combined to general categories for the area's jurisdictions.)

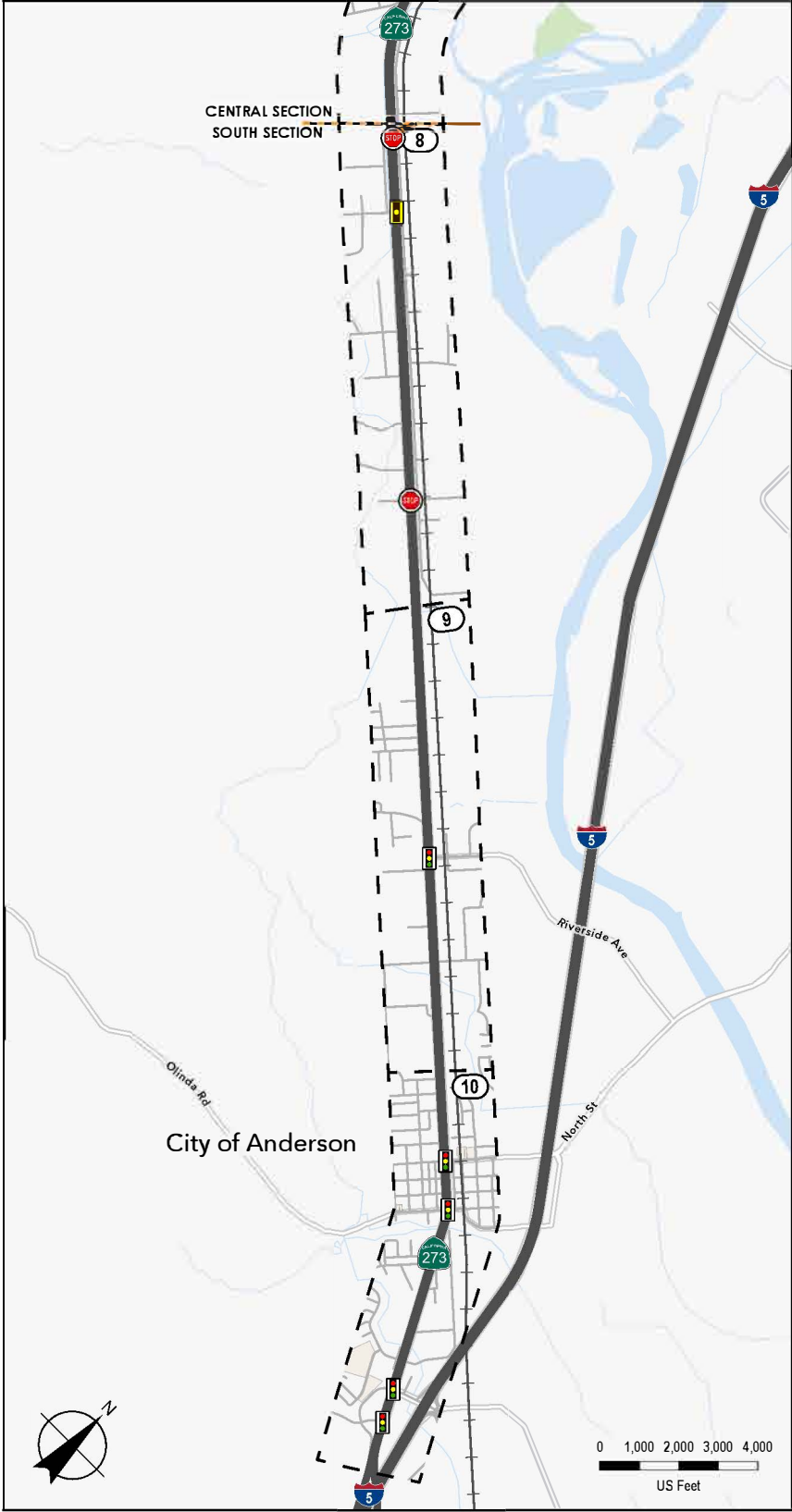
NORTH SECTION



CENTRAL SECTION



SOUTH SECTION

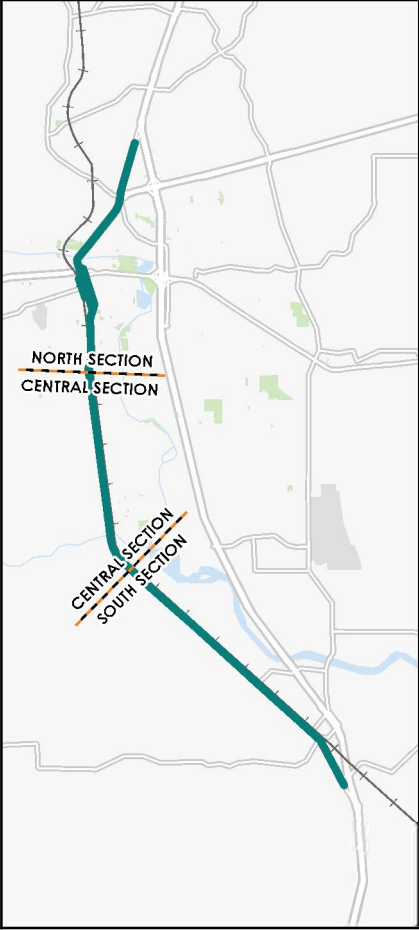


Legend

Study Intersections

- Control
- Signalized Stop Control
- Two-Way Stop Control
- Highway/Major Road
- Other Roads
- Railroad
- Corridor Segment
- Schools
- Parks
- Lakes & Streams

LOCATOR MAP



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INTERSECTION TRAFFIC CONTROLS

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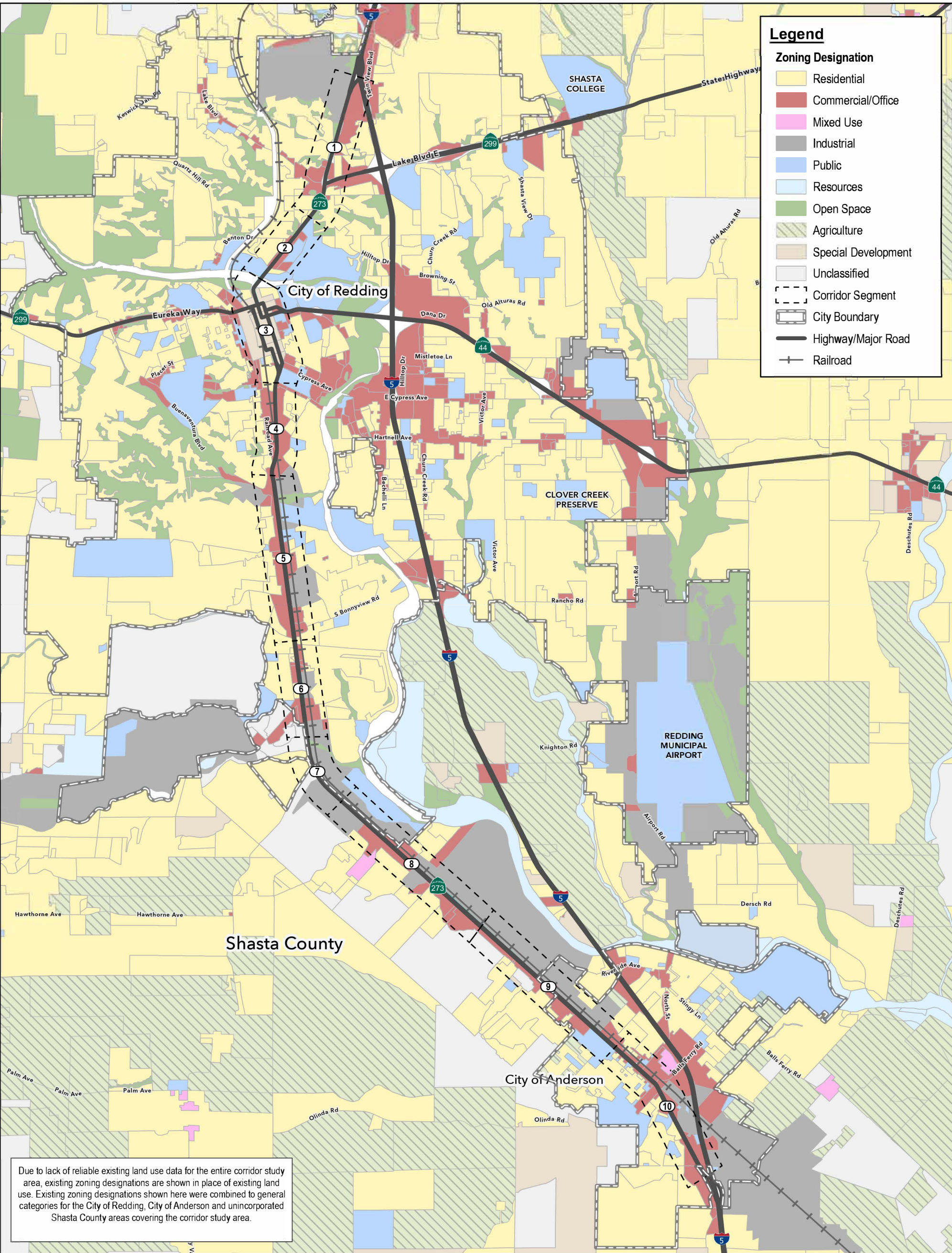
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Map Projection: Lambert Conformal Conic
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Revision No. *

FIGURE 3

City of Redding, California State Parks, Esri, Trimble, Garmin, SafeGraph, GeoTechnologies, Inc., METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, California State Parks, Esri, Trimble, Garmin, SafeGraph, GeoTechnologies, Inc., METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, City of Redding, GIS, California State Parks, Esri, Trimble, Garmin, SafeGraph, METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS. Created by: ppe



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EXISTING ZONING DESIGNATIONS

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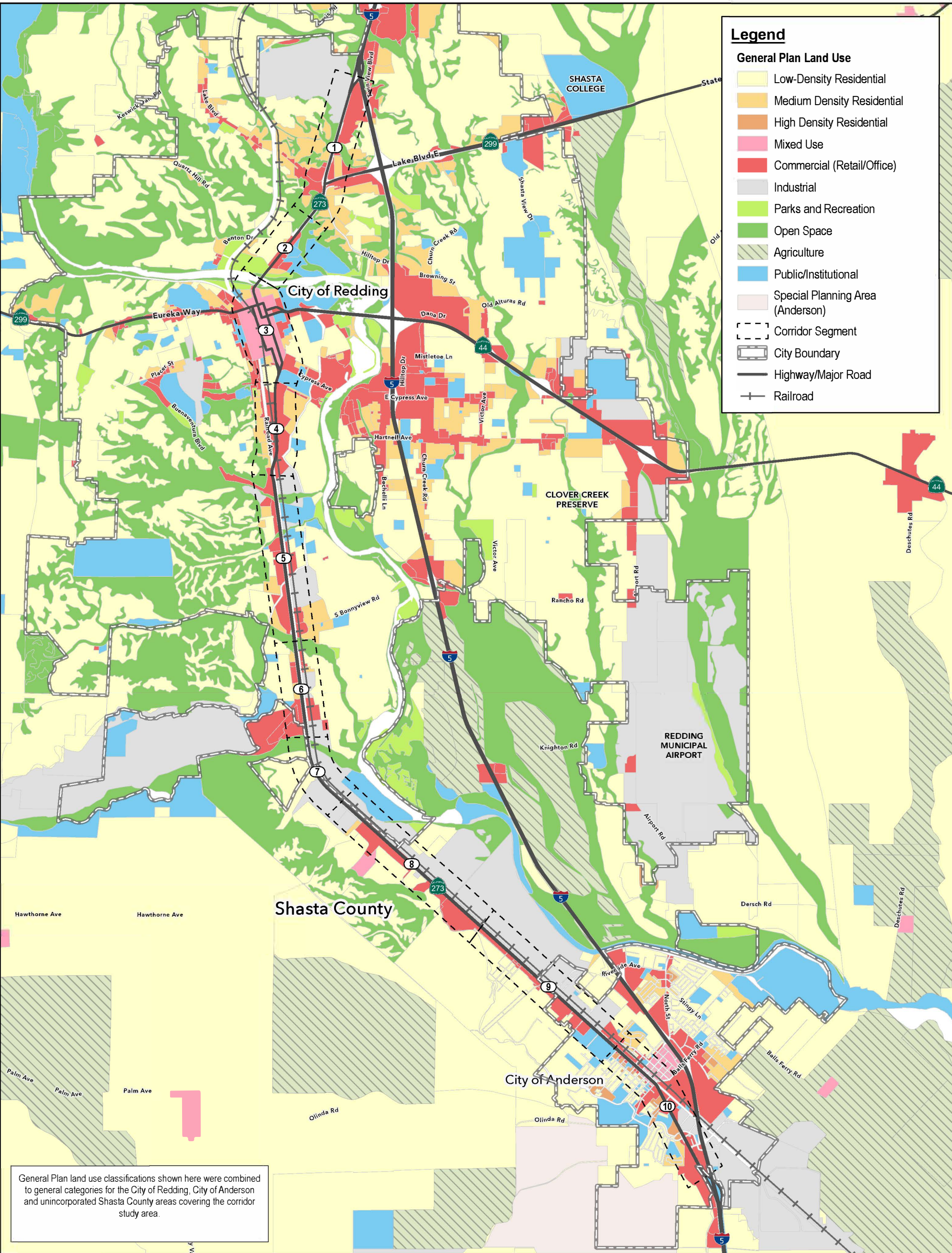


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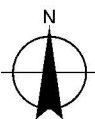
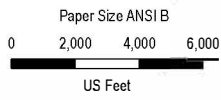
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FIGURE 4



Envision 273: SR 273 Multimodal Corridor Plan

GENERAL PLAN LAND USE



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Date

FIGURE 5

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Place Type Designations

As described in Chapter 1 (Introduction), the Plan should also aim to reflect the specific contexts of the communities (the “places”) that border the corridor while developing comprehensive, corridor-wide mobility networks that provide connections between these places. Place type categories applied within this plan are based on those provided in the *Caltrans Smart Mobility Framework Guide* (February 2020), the Caltrans DIB-94 (January 2024), and the Caltrans Highway Design Manual (July 2020). Place types are distinguished based on a variety of factors including land use and transportation activities occurring within a given area. Subcategories are provided to address variations in place type categories. The categories and subcategories provided within each place type categories differ slightly between the two Caltrans planning documents.

To apply a place-based approach to the Plan, the categories were refined to represent the specific variations in land use and transportation activities that occur along the corridor. As a result, the following categories and subcategories applicable to the corridor include:

- Urban Areas
 - Urban Center
 - Urban Community
- Suburban Areas
 - Suburban Neighborhood
 - Suburban Community
 - Suburban Corridor
- Rural Areas
 - Rural Community
 - Undeveloped Corridor (Rural)
- Transitional Area
 - Transitional Corridor

Each of these categories and/or subcategories are consistent with those provided in the two Caltrans documents mentioned above, except for the subcategory of “Rural Community.” This subcategory was added to represent those areas along the corridor in rural areas between the Cities of Anderson and Redding that do not meet the classification of Rural Main Street or Rural Town, but also do not meet the classification for less developed areas, such as transitional or undeveloped corridors. Recognizing that these areas are considered communities within the local context, the “Rural Community” category therefore represents a version of the Rural Main Street classification with less-intensive community design elements.

The Plan place type categories and their corresponding subcategories and descriptions, per the *Caltrans Smart Mobility Framework Guide* and the Caltrans DIB-94 documents, are provided in Table 2. The SR 273 corridor place types are presented in Table 3. These place types are not anticipated to significantly change in the future.

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Table 2 Place Type Categories & Definitions

PLAN Category	SMART MOBILITY FRAMEWORK Category/Subcategory		Description		DIB-94 Category/Subcategory	Description
URBAN AREA	Central Cities	High density, mixed-use places with well-connected grid street networks, high levels of transit service, and pedestrian supportive environments.	Urban Area		Major population centers in the State. Growth is expected to continue. Biking, transit, walking, and rolling are important modes of transportation. High density locations with a full range of land uses.	
	Urban Communities	Moderately dense places, mostly residential but with mixed-use centers. Housing is varied in density and type. Transit is available to connect neighborhoods to multiple destinations. Fine-grained network of streets with good connectivity for pedestrians and bicyclists.		Center city	Downtowns of our largest metro areas. High-density, dense street network, mixed-use development, high bike, ped, and transit mode share, lower vehicle speeds, Main Streets.	
				Urban Community	Adjacent to or near Center Cities. Design supports walking, biking, and transit sure. Low to mid-rise buildings, buildings close to the street, moderately dense development, walkable block pattern, parking options, narrow lanes, on-street parking, Main Streets.	
SUBURBAN AREA	Suburban Communities	Primarily lower density residential with a high proportion of detached housing. Some interspersed retail and services, but little mixing of housing with commercial uses. Street networks often have poor connectivity. Low levels of transit service, large amounts of surface parking, and inconsistent pedestrian networks.	Suburban Area		Dispersed, low-density pattern of development with both residential and commercial zones. Extensive single-family neighborhoods, pockets of multi-family housing, parks and schools, and strategically located single-story commercial centers. Large arterial roadways with wide lanes, shoulders and turn pockets, synchronized signal timing, and wide intersections. Could include suburban "Main Streets" with higher density.	
RURAL AREA	Rural Areas	Very low density places with widely-spaced towns separated by farms, vineyards, orchards, or grazing lands. Includes rural towns that provide a mix of housing, services, and public institutions in compact form that serve surrounding rural areas. May include tourist and recreation destinations which can significantly affect land uses, character, and mobility needs. Very limited modal choices.	Rural Area		Low-density area outside the built-up urban and suburban communities and can include agricultural areas, natural areas, and the small towns that support the inhabitants of these regions. SOV use is high, but zero- or low-vehicle ownership households may exist here as well.	
				Rural Main Street	The highway is typically the only main street or one of several within the town. Part of a small commercial grit around the main arterial or highway and have lower speeds. In some cases, frontage roads separate regional and local traffic.	
TRANSITIONAL AREA				Transitional Corridor	Clusters with industrial and commercial uses, as well as residential areas as they lead from an undeveloped rural area into a rural city or town center.	
				Undeveloped Corridor	Low building density and large tracts of agricultural or other undeveloped or natural land.	
NOT APPLICABLE	Protected Lands and Special Use Areas	Lands protected from development by virtue of ownership, long-term regulation, or resource constraints. Also includes large tracts of single use lands that are outside of, or poorly integrated with, their surroundings.	n/a			

Source: Caltrans Smart Mobility Framework Guide

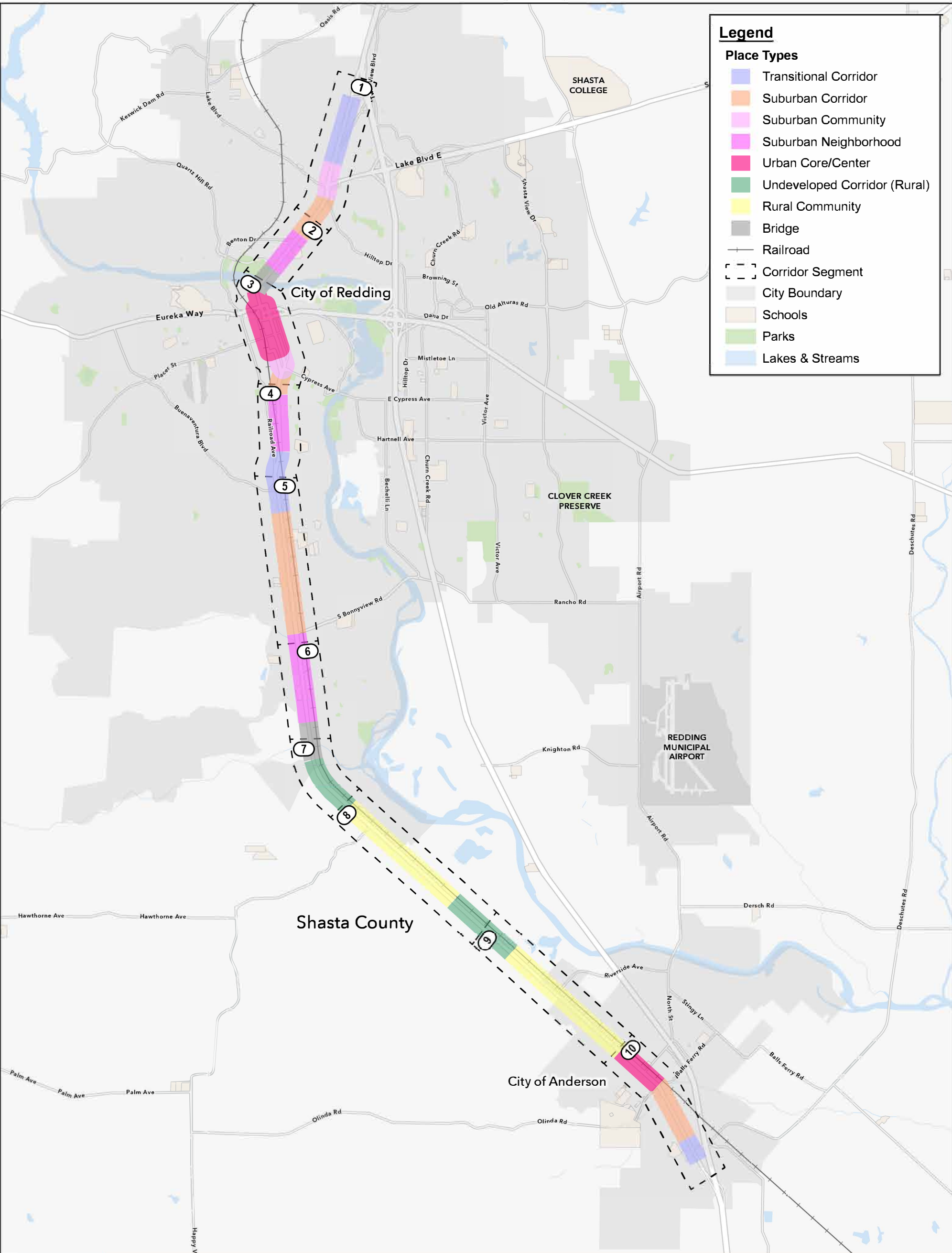
Source: Caltrans DIB-94

Table 3 SR 273 Corridor Place Types

Place Type ID	Extent 1	Extent 2	Primary Frontage - West	Primary Frontage - East	Place Type Category (Specific to Envision 273)	Smart Mobility Framework Place Type Designation	DIB-94 Place Type Designation	Activity Type
1	Caterpillar Rd	Twin View Blvd	Industrial & Residential	Commercial	Transitional Corridor	Suburban Communities	Transitional Corridor (Industrial Use)	Minimal place-based activities, many barriers to pedestrian and bicycle mobility
2	Twin View Blvd	s/o Lake Blvd (SR 299)	Multi-family/Commercial	Multi-family/Commercial	Suburban Community	Suburban Communities	Suburban Area	Core commercial area, proximity to regional amenities
3	s/o Lake Blvd (SR 299)	Sulphur Creek Rd	Undeveloped residential (Single family & Multi-family)	Public/Undeveloped Multi-family	Suburban Corridor	Suburban Communities	Transitional Corridor (Residential Connection)	Corridor connecting residential communities
4	Sulphur Creek Rd	Quartz Hill Rd	Commercial, with access to public and developed Single family	Commercial, with access to public	Suburban Neighborhood	Suburban Communities	Suburban Area	Defining area: Potential for place-based activities, frontage opportunities, proximity to regional amenities
-	Quartz Hill Road	Riverside Dr	-	-	Transitional Corridor (Bridge)	Transitional Corridor (Bridge)	Transitional Corridor (Bridge)	-
5	Riverside Dr	Gold Street	Mixed Use (Specific Plan)	Mixed Use (Specific Plan)	Urban Center	Urban Communities	Urban Community	Defining area: High potential for place-based activities, frontage opportunities, proximity to regional amenities
6	Gold Street	Cypress Ave	Single family	Commercial / Public	Suburban Community	Urban Communities	Urban Area: Urban Community	Supporting connections to downtown Redding; less place-type destinations
7	Cypress Ave	California St/Angelo Ave	Back of residential properties	Park	Suburban Corridor	Urban Communities	Suburban Area (Transitional between Urban and Suburban)	Residential Connection (near points of interests [POIs]); Less emphasis on place and more on connection to POIs, such as the park
8	California St/Angelo Ave	Wyndham Ln	Commercial, with access to residential communities between commercial and railroad	Commercial, with access to residential communities	Suburban Neighborhood	Urban Communities	Suburban Area	Defining area: Potential for place-based activities, frontage opportunities, proximity to regional amenities
9	Wyndham Ln	Breslauer Way	Commercial, with access to residential communities	Industrial	Transitional Corridor	Transitional Corridor	Transitional Corridor (Industrial Use)	Critical connection to DT Redding; Minimal place-based activities, many barriers to pedestrian mobility
10	Breslauer Way	N Bonnyview Rd	Commercial (smaller scale), with access to residential communities	Commercial / Public (Industry)	Suburban Corridor	Suburban Communities	Suburban Area	Critical connection to Bonnyview area neighborhoods; However, minimal neighborhood retail options and high industrial use make this less of a destination for non-motorized travelers

Place Type ID	Extent 1	Extent 2	Primary Frontage - West	Primary Frontage - East	Place Type Category (Specific to Envision 273)	Smart Mobility Framework Place Type Designation	DIB-94 Place Type Designation	Activity Type
11	N Bonnyview Rd	Bonnyview Rd	Commercial, with access to Single family and Multi-family	Commercial, with access to Single family	Suburban Corridor	Rural Areas	Suburban Area	Critical connection to Bonnyview area neighborhoods; However, minimal neighborhood retail options and high industrial use make this less of a destination for non-motorized travelers
12	Bonnyview Rd	Girvan Rd	Neighborhood commercial / Multi-family (undeveloped)	Commercial, with access to Single family and undeveloped Multi-family	Suburban Neighborhood	Suburban Communities	Suburban Area	Defining area: Potential for place-based activities, frontage opportunities, proximity to regional amenities
-	Girvan Rd	Canyon Rd	-	-	Transitional Corridor (Bridge)	Transitional Corridor (Bridge)	Transitional Corridor (Bridge)	-
13	Canyon Rd	n/o Happy Valley Rd	Rancheria and Single family	Industrial	Undeveloped Corridor (Rural)	Rural Areas	Undeveloped Corridor (Rural Connection)	Rural corridor connecting to the Rancheria
14	n/o Happy Valley Rd	Latona Rd	Single family and small-scale commercial	Single family, industrial, and small-scale commercial	Rural Community	Rural Areas	Rural Area: Transitional Corridor	Rural community with limited destinations
15	Latona Rd	Rona Ln	Undeveloped	Undeveloped	Undeveloped Corridor (Rural)	Rural Areas	Undeveloped Corridor (Rural Connection)	Rural corridor
16	Rona Ln	Briggs St	Single family and small-scale commercial	Industrial	Rural Community	Rural Areas	Rural Area: Transitional Corridor	Rural community with limited destinations
17	Briggs St	South St	Single family and small-scale commercial	Mixed Use	Urban Community	Urban Communities	Rural Main Street	Defining area: Potential for place-based activities, frontage opportunities, proximity to regional amenities
18	South St	Pinon Ave	Multi-family, and commercial	Commercial	Suburban Corridor	Suburban Communities	Transitional Corridor (Residential Connection)	Critical residential connection to Anderson; Minimal place-based activities, many barriers to pedestrian mobility
19	Pinon Ave	Pleasant Hills Dr	Single family and commercial core	Commercial Core	Transitional Corridor	Transitional Corridor	Transitional Corridor (Residential Connection)	Minimal place-based activities, many barriers to pedestrian mobility

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Envision 273: SR 273 Multimodal Corridor Plan

PLACE TYPE DESIGNATIONS

Paper Size ANSI B
0 2,000 4,000 6,000
US Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



Project No. 12560002
Revision No. 1

FIGURE 6

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Community Profile

The Cities of Redding and Anderson are located in the southwestern portion of Shasta County in Northern California. Based on the 2021 ACS 1 or 5-Year Estimates, the population in Shasta County is approximately 182,000, with 93,250 in Redding and 11,200 in Anderson. California DOF populations projections expect the countywide population to drop about 17 percent over the next 50 years. Census data related to age, race, employment status, and commute modes of travel are similar for both the County and the Cities of Redding and Anderson. Data reported for Shasta County includes populations within the Cities of Redding and Anderson.

Demographics: Age & Race

Table 4 presents the census data for population by age and race. Within each jurisdiction, approximately ¼ of the population (22 to 26 percent) is under the age of 18 years, while approximately ¼ of the population (19 to 25 percent) is over the age of 62 years. The City of Anderson has a slightly younger population, proportionally, than both the City of Redding and Shasta County.

Within each jurisdiction, the majority (approximately 75 percent) of the population is White (non-Hispanic or Latino), followed by Hispanic or Latino (11 to 14 percent), American Indian or Alaska Native (2 to 5 percent), Asian (2 to 3 percent), and Black or African American (1 to 2 percent).

Table 4 Age & Race Summary by Jurisdiction

	Shasta County	% of Total	Redding	% of Total	Anderson	% of Total
Total Population	182,139	-	93,251	-	11,208	-
< 18	39,640	22%	20,872	22%	2,894	26%
> 62	45,751	25%	20,783	22%	2,084	19%
Race						
White	137,216	75%	70,080	75%	8,330	74%
Hispanic or Latino	20,697	11%	10,981	12%	1,598	14%
Black or African American	2,191	1%	1,427	2%	90	1%
American Indian and Alaska Native	2,779	2%	1,500	2%	540	5%
Asian	5,963	3%	4,458	5%	237	2%
Other	13,293	7%	4,805	5%	413	4%

Table 5 presents the census data for economic characteristics, including employment status, median household income, and household vehicle ownership.

Table 5 Economic Characteristics by Jurisdiction

	Shasta County	City of Redding	City of Anderson
Employment			
Labor Force	81,156	44,320	4,654
Employed	74,074	41,580	4,353
Unemployed	7,082	2,740	301
Unemployment Rate	8.7%	6.2%	6.5%
Median Household Income (US dollars)	\$61,125	\$58,702	\$40,954
Vehicles Available			
No vehicle available	2%	1%	2%
1 vehicle	16%	19%	18%
2 vehicles	41%	44%	39%
3+ vehicles	41%	36%	39%

Employment Status

Shasta County and the Cities of Redding and Anderson have higher unemployment rates compared to the state of California, which has a 2022 unemployment rate of 3.4 percent. Within the current labor force, the unemployment rate for each jurisdiction is:

- Shasta County: 8.7 percent
- City of Redding: 6.2 percent
- City of Anderson: 6.5 percent

Median Household Income

Shasta County and the Cities of Redding and Anderson have lower median household income compared to the state of California, which has a 2022 median household income of \$91,551. The median household income for each jurisdiction is:

- Shasta County: \$61,125
- City of Redding: \$58,702
- City of Anderson: \$40,954

Household Vehicle Ownership

Most households within Shasta County own at least 1 vehicle, with approximately 40 percent owning more than 2 vehicles. Within Shasta County, approximately 2 percent of households do not have access to a private vehicle. The City of Redding has a slightly lower proportion of households without access to a private vehicle (1.4 percent), and the City of Anderson has a slightly higher proportion of households without access to a private vehicle (2.1 percent).

Commuting Characteristics

Commuting Modes & Duration

Most commute trips (over 80 percent) are made by private vehicles, with over 90 percent of those trips made by single individuals, rather than carpooling. The average occupancy rate for private vehicle commute trips is 1.05 for Shasta County.

The proportion of individuals who work from home and, therefore, do not commute to work is approximately 10 and 11 percent for the Cities of Anderson and Redding, respectively. Approximately 13 percent of individuals work from home within Shasta County.

For non-vehicular commute trips, the commute trips by mode fall within the following approximate ranges for Shasta County, City of Redding, and City of Anderson:

- Walked: 2 to 4- percent
- Biked: ~1 percent
- Public Transportation: < 1 percent
- Other (Taxi, motorcycle, etc.): ~2 percent

The mean travel time to work is 18.1 minutes for Shasta County resident, 16.1 minutes for City of Redding residents, and 18.8 minutes for City of Anderson residents.

Disadvantaged Communities

For the purposes of this Plan, DACs will be determined using the criteria presented in the DAC analysis within the SRTA 2022 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS), as well as the U.S. Department of Transportation (USDOT) Better Utilizing Investments to Leverage Development (BUILD) Areas of Persistent Poverty. Additionally, supplemental DAC status information is provided based on SB 535 CalEPA Criteria.

The SRTA RTP/SCS defines ‘disadvantaged communities’ as areas that, according to statistical data, have a markedly higher share of individuals challenged by the cumulative impact of:

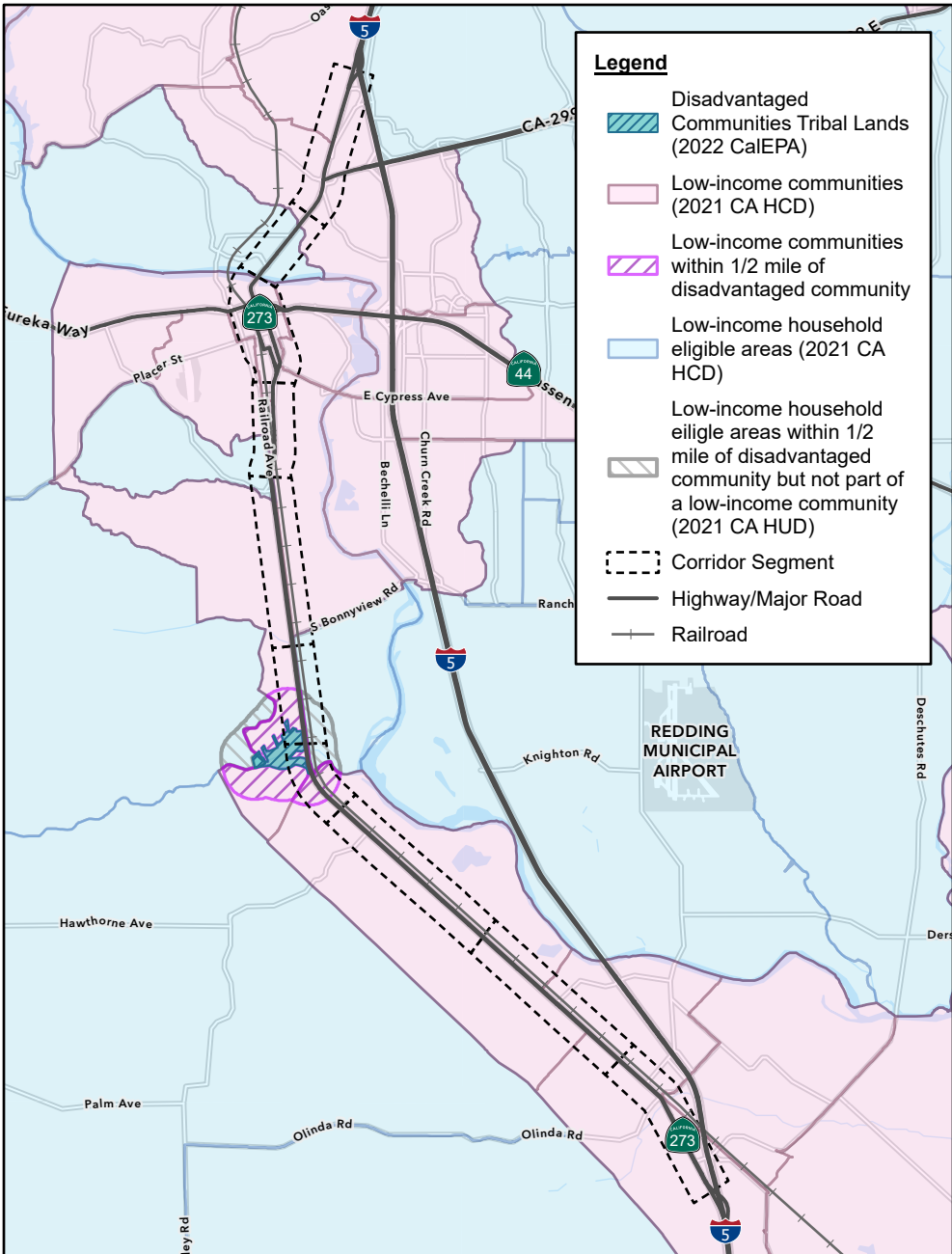
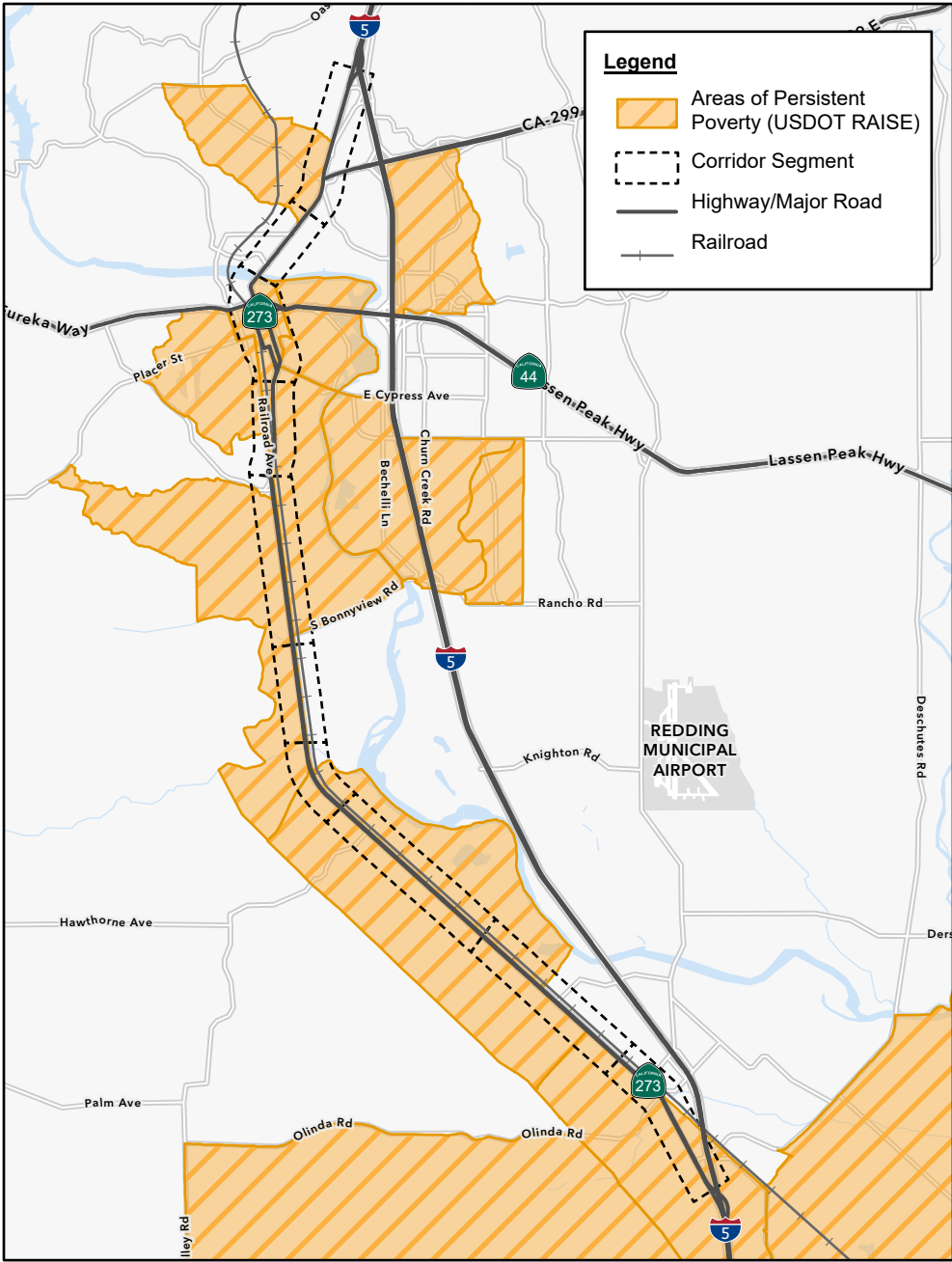
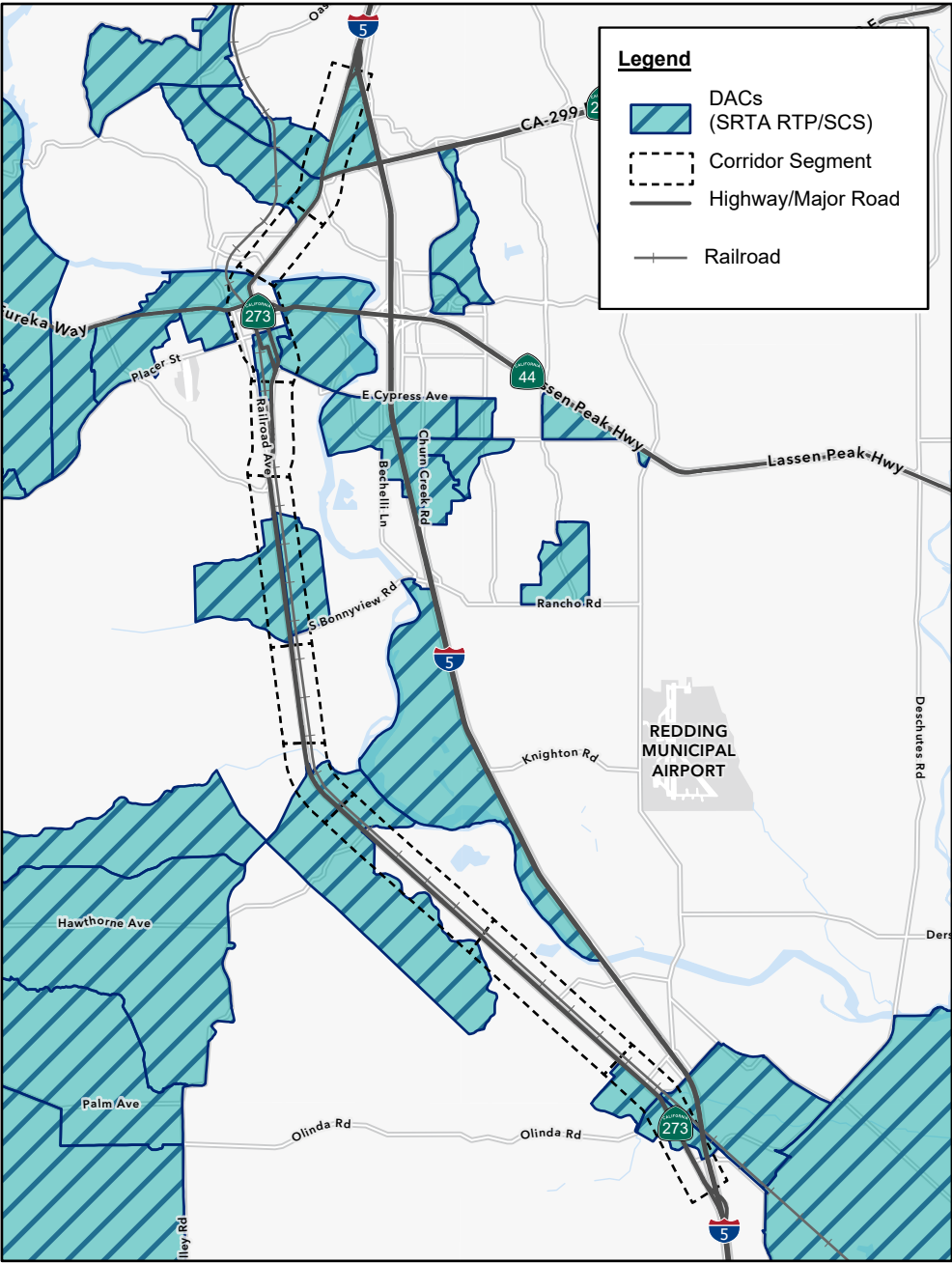
- Poverty and unemployment
- Lack of mobility options, including access to automobile, active transportation, and public transportation
- Housing and transportation cost burden
- Single parent households
- Young and elderly
- Educational attainment
- Linguistic isolation

Minority status **Error! Not a valid bookmark self-reference.** presents the study areas DACs based on the following three criteria:

- SRTA RTP/SCS Criteria
- USDOT BUILD Areas of Persistent Poverty Criteria
- SB 535 CalEPA Criteria

As shown, the project area includes the Shasta Region’s most disadvantaged census tracts.

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Envision 273: SR 273 Multimodal Corridor Plan

STUDY AREA DISADVANTAGED COMMUNITIES

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Corridor Destinations

The corridor is a primary transportation route to residential neighborhoods, employment centers, and notable civic/regional destinations. The downtown areas of the Cities of Redding and Anderson are well developed with various commercial and industrial uses along SR 273. Residential communities are primarily concentrated within one mile from SR 273, making the corridor a primary route for daily personal travel.

Points of Interest

Northern Segments (1 – 4)

The northern portion of the corridor, between I-5 to Buenaventura Boulevard, includes study Segments 1 through 4. Adjacent land uses include suburban communities and industrial centers to the north, commercial and office uses in Downtown Redding, and residential neighborhoods just north and south of the downtown area.

The northern segments include the following major points of interest:

- **Medical Centers:** Mercy Medical & Shasta Regional
- **Schools:** Turtle Bay School, North State Independence High School, Sequoia Middle School, Cypress Elementary, and Juniper School.
- **Civic Destinations:** Redding City Hall, Redding Civic Auditorium, and Redding Library.
- **Parks/Recreation:** Sacramento River Trail, Turtle Bay Exploration Park, Caldwell Park, South City Park, and McConnell Arboretum & Botanical Gardens
- **Entertainment:** Cascade Theater
- **Transportation Centers:** Shasta Bike Depot, the Amtrak station, and Downtown Transit Center
- **Bridges:** North Market Street Bridge, Diestelhorst Bridge, and Sundial Bridge (bicycle & pedestrian only), all over Sacramento River

Middle Segments (5 – 7)

The middle portion of the corridor, between Buenaventura Boulevard and Happy Valley Road, includes study Segments 5 through 7. Adjacent land uses include primarily industrial or commercial land uses along SR 273 frontage roads with connections to suburban communities. The Redding Rancheria is located in Segment 7 just south of Clear Creek.

The middle segments include the following major points of interest:

- **Schools:** Live Oak School, Bonnyview Elementary School, and Sycamore Elementary School
- **Commercial Centers:** Near Buenaventura Boulevard, South Bonnyview Road, and Westwood Avenue
- **Parks:** Meadow Creek Park
- **Redding Rancheria (Win River Resort & Casino)**
- **Bridge:** Clear Creek

Southern Segments (8 – 10)

The southern portion of the corridor, between Happy Valley Road and I-5 in the City of Anderson, includes study Segments 8 through 10. Adjacent land uses include primarily industrial or commercial land uses along SR 273 frontage roads with connections to rural communities. The City of Anderson is located within Segment 10.

The southern segments include the following major points of interest:

- **Schools:** Tree of Life International Charter School, Anderson Middle School, Anderson High School, and Anderson Heights Elementary.
- **Civic Destinations:** Anderson City Hall
- **Parks:** Volante Park
- **Other Regional Destinations:** Shasta District Fairgrounds

Employment Destinations

The City of Redding is the location of approximately 44,400 jobs (Census, 2020, LEHD). Redding is the county seat of Shasta County. Downtown Redding is located at the intersection of SR 273, SR 44, and SR 299 and is generally considered to be the blocks between Trinity Street to the north, East Street to the east, Cypress Avenue to the south, and Court Street to the west. SR 273 separates into couplets along California Street and Pine Street within the Downtown Area and provides access to the Downtown Core District. The health care and social assistance, retail trade, accommodation and food services, and public administration industries account for the majority of jobs in Redding (Census, OnTheMap, 2022). The top major employers in the City of Redding include District 2 Caltrans, US Forest Service, Mercy Medical Center Hospital, Blue Shield of California, Redding Lumber Transport Inc., among others (California Employment Development Department, 2025).

The City of Anderson is the location of approximately 3,500 jobs (Census, 2020, LEHD). The healthcare, retail, accommodation and food, and construction industries account for the majority of jobs in the City of Anderson (Census, OnTheMap, 2022).

Population & Employment Density

Examining the geographic distribution of population and employment density across the study area helps to assess land use intensity and identify the areas with a greater number of residents and employment opportunities in close proximity to one another. Denser land use environments are associated with shorter vehicle trips and greater likelihood of community members using active transportation or micro-transit. Further, improvement recommendations should be context-specific to the nature of the corridor's diverse built environment, so understanding the variation in land use density across the corridor study area is an important factor to consider in ensuring recommendations work for the communities it serves. Using Census block-level population and employment data³, population and employment densities were assessed in terms of the number of persons and jobs per acre of land area, respectively, which is presented in Figure 8.

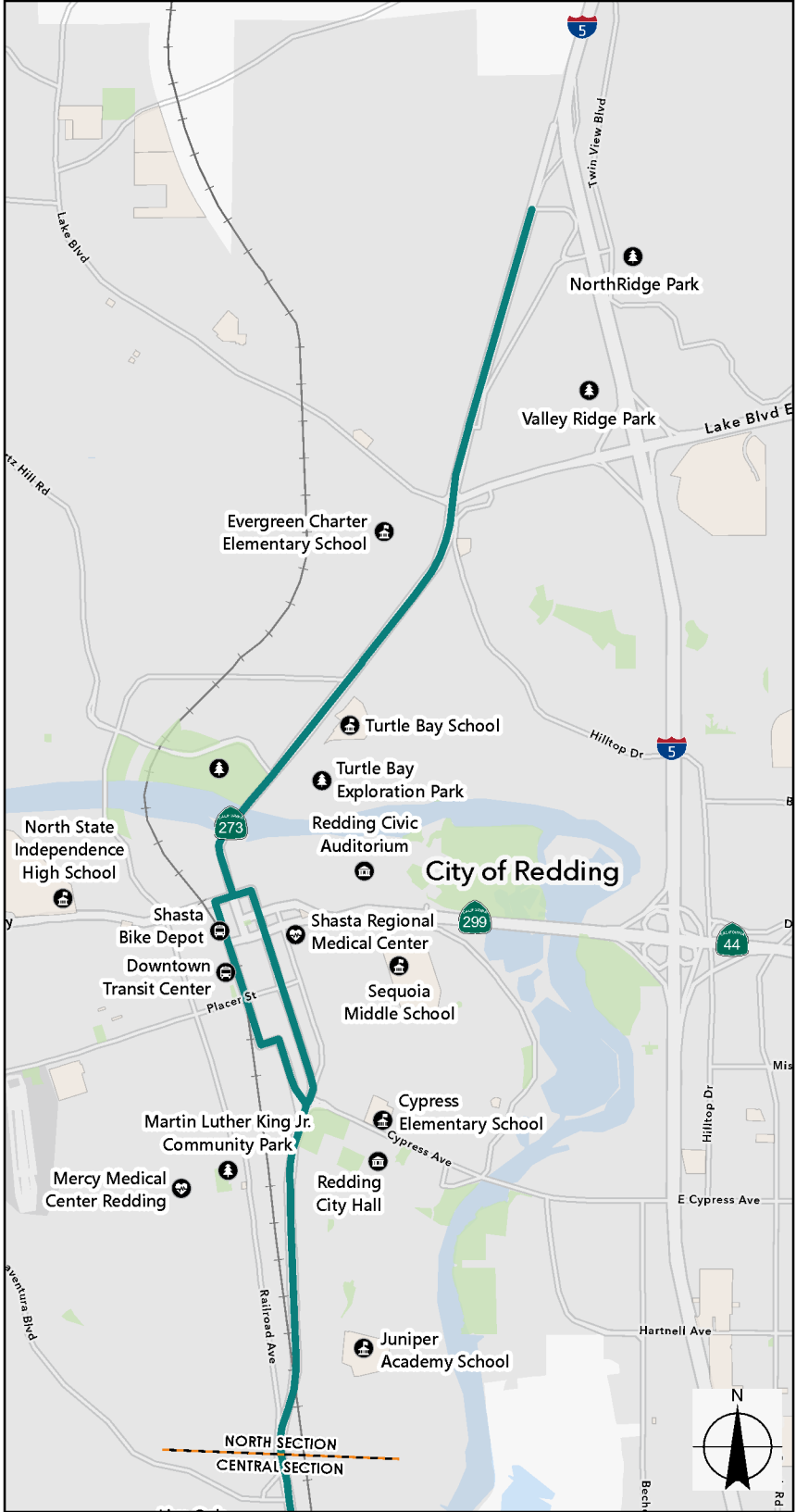
The highest densities of jobs are concentrated in and near the Downtown Redding area, predominantly in Segment 3, while lower and medium densities of jobs are scattered throughout the rest of the corridor study area. North of the Sacramento River, job densities are much lower, with most of Segments 1 and 2 featuring less than 5 jobs per acre. The few Census blocks in this area with medium employment densities are associated with the low-density commercial uses adjacent to the southbound side of the corridor, near Lake Boulevard and Benton Drive.

There are only a few Census blocks within the study area with higher population density, which are also in or near Redding's Downtown area. The north end of the corridor, within Segments 1 and 2, features low to medium population density, with less than 20 residents per acre in all blocks, and less than 10 residents per acre in most blocks. Between Segment 5 and Segment 9, which encompasses South Redding, the Redding Rancheria, and unincorporated County areas, population density is mostly low. However, there are some areas of medium density in Segment 6 and several small Census blocks with moderate to high population density within study Segment 8. Segment 10, which covers the City of Anderson's core, also features some areas of medium to moderate population density.

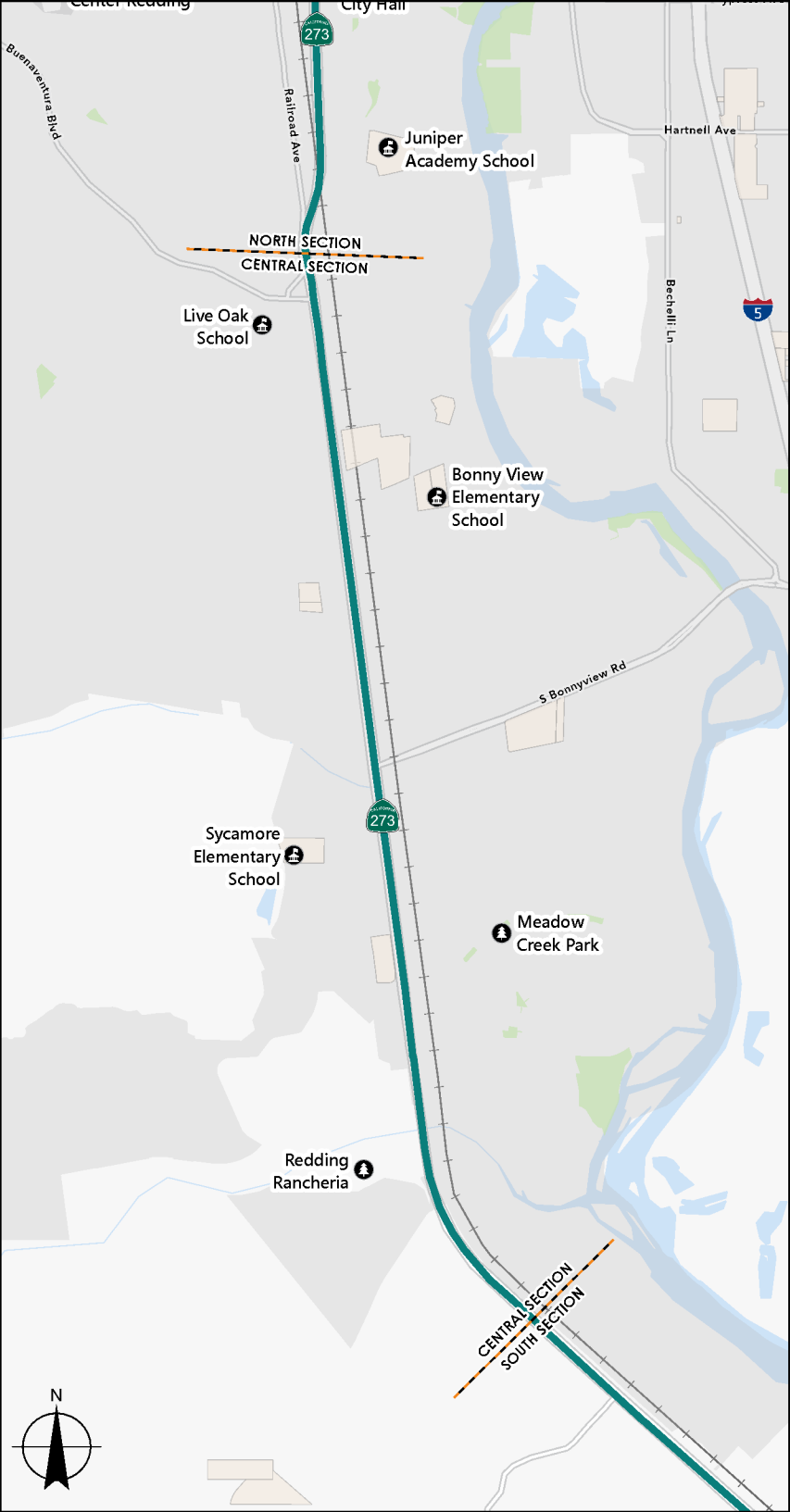
³ Population data was sourced from the 2020 Decennial Census and employment data from the U.S. Census Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) 2020 dataset.

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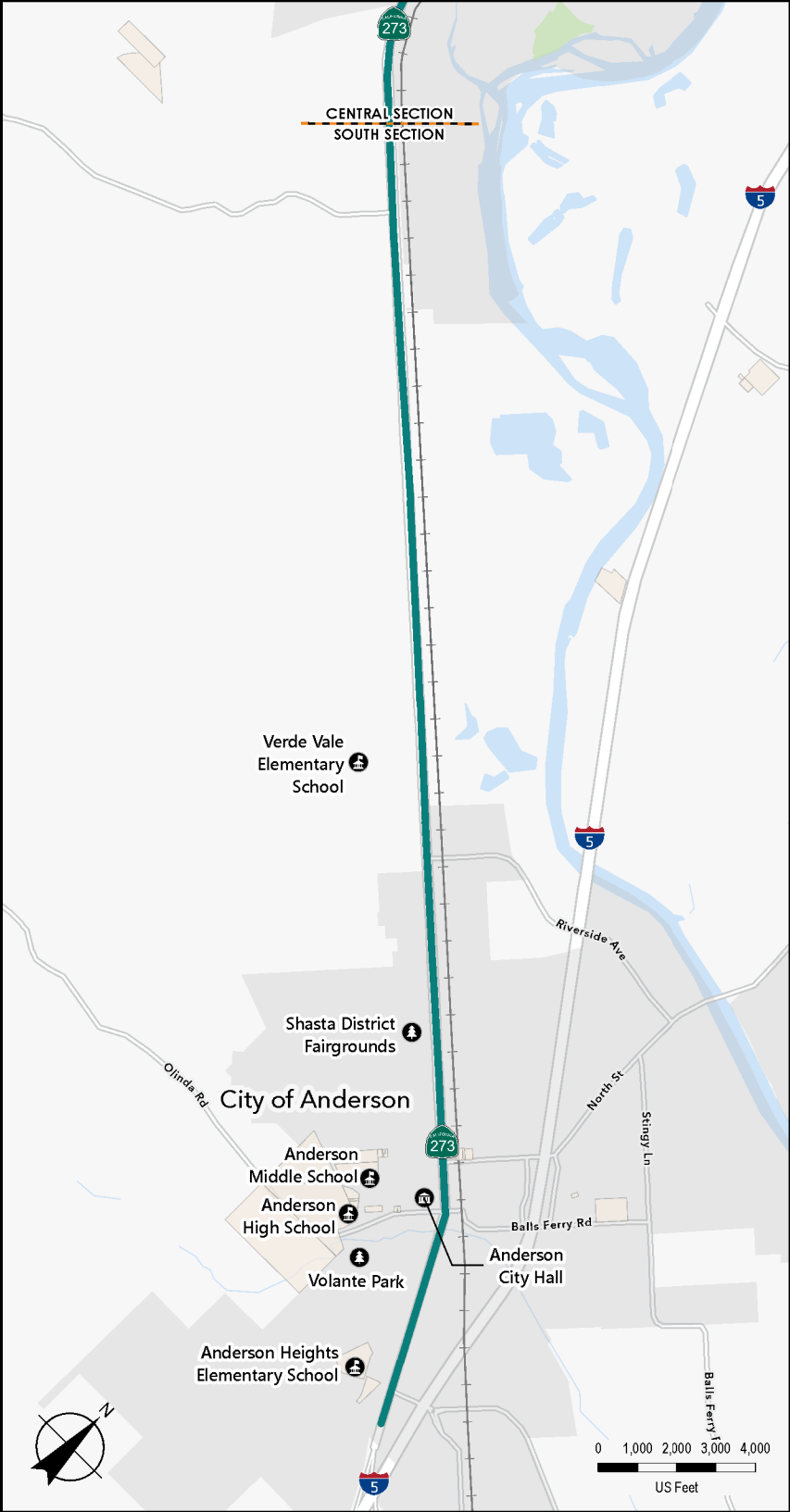
NORTH SECTION



CENTRAL SECTION



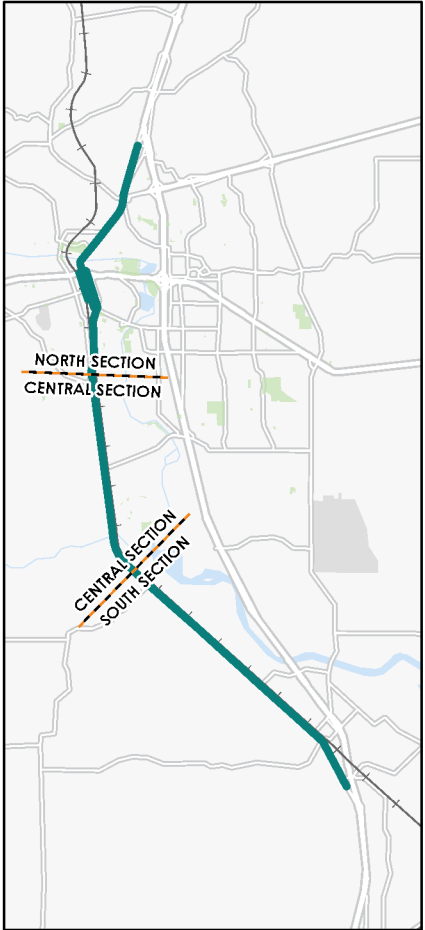
SOUTH SECTION



Legend

- Places Of Interest**
- Civic; Municipal
 - Educational
 - Medical
 - Parks/Recreation
 - Transportation
- Corridor Extent**
- Railroad**
- City Boundary**
- Schools**
- Parks**
- Lakes & Streams**

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan
PLACES OF INTEREST AND LANDMARKS

Paper Size ANSI B

0 875 1,750 2,625 3,500

US Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

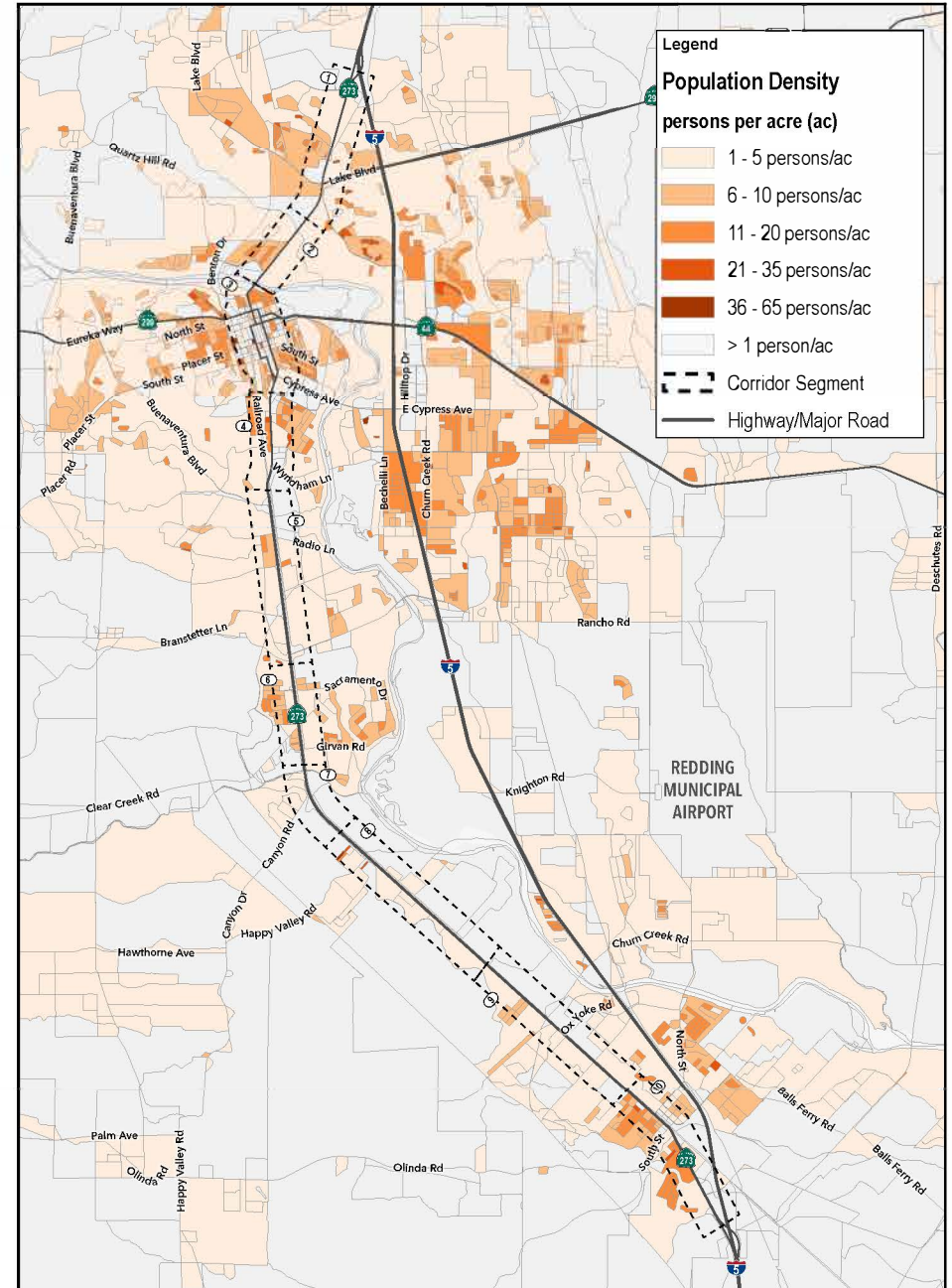
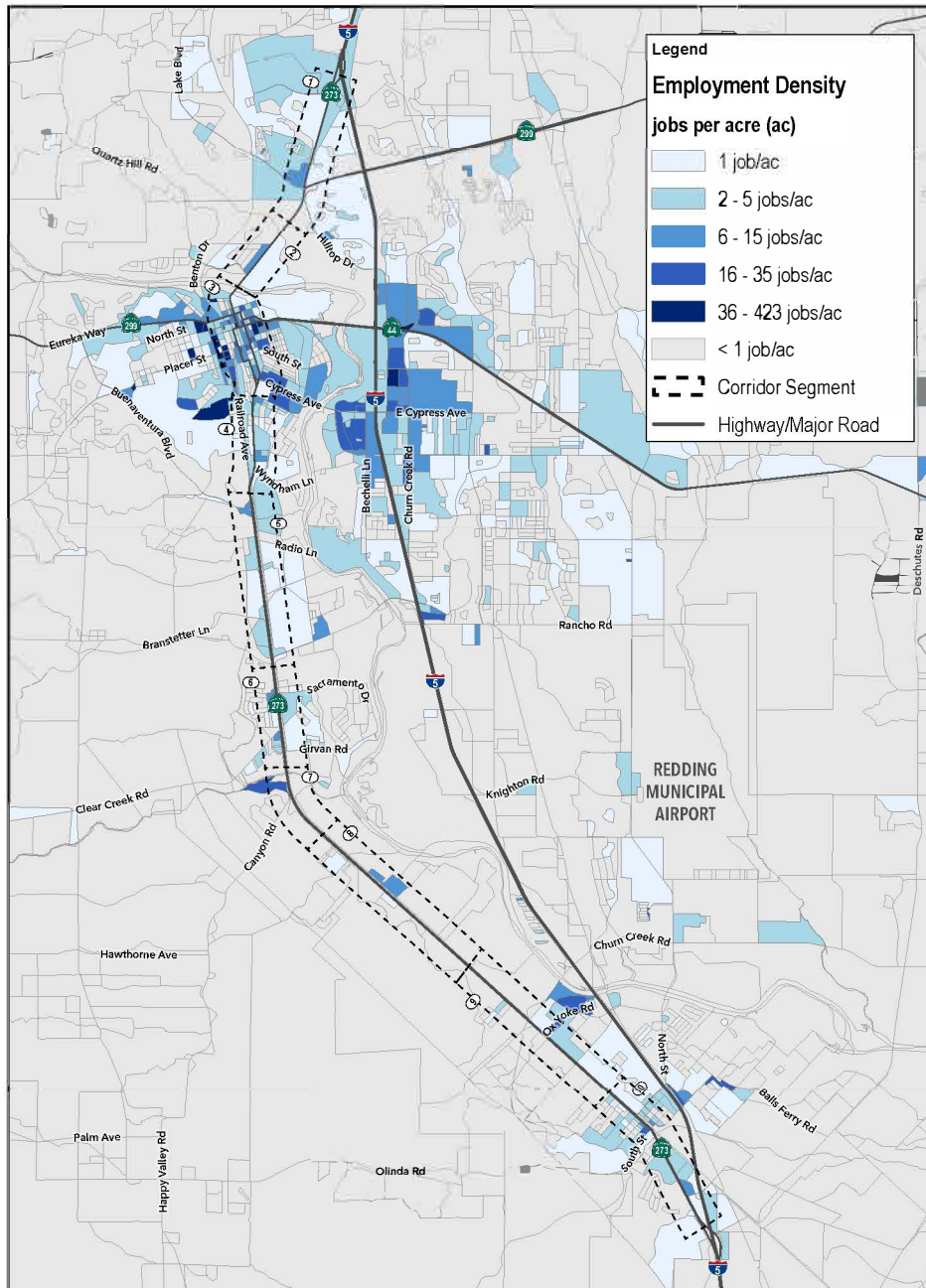
Project No. 12560002
Revision No. -
Date September 2023

FIGURE 8

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Print date: 26 Sep 2023 - 16:04

Data source: City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA. Created by: pheel

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Envision 273: SR 273 Multimodal Corridor Plan

EMPLOYMENT & POPULATION DENSITY

Paper Size ANSI A

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Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



Project No. 12560002
Revision No. -
Date

FIGURE 9

Corridor Conditions

Roadway Infrastructure

SR 273 is a state highway classified as a principal arterial through the local jurisdictions of the Cities of Redding and Anderson. The speed limit ranges from 30 miles per hour (mph) through Downtown Redding to 60 mph through rural Shasta County. The Caltrans-owned right-of-way along the SR 273 corridor ranges from 100 to 255 feet.

Through most of the corridor south of Downtown Redding, the roadway typically has two vehicle lanes per direction, with a center median (dirt, landscaped, or concrete). Adjacent frontage roads, Westside Road and Eastside Road, and the UPRR freight rail line run parallel to the corridor from Downtown Anderson to just north of Buenaventura Boulevard, where the UPRR freight rail line crosses SR 273 via an overpass, known locally as the “mousehole.”

Approaching Downtown Redding from the north and south, the corridor becomes more developed with locally serving retail. As such, the roadway cross-section changes to include more sidewalk infrastructure, minimal landscaping, and unprotected bike lanes. This segment also includes center turn lanes or left-turn lanes.

Through Downtown Redding, SR 273 splits into one-way couplets, including California Street in the southbound direction and Pine Street in the northbound direction.

Daily vehicle volumes in 2020 range from just under 10,000 average daily traffic (ADT) volumes at the southern and northern ends of the corridor, reaching up to 17,800 just north of Downtown Redding (Segment 2) and 18,600 ADT near South Bonnyview Road (Segment 6), due to ingress and egress from major cross streets

The following table summarizes the variations in roadway cross-section, speeds and speed limits, and vehicle volumes, per segment.

Corridor Circulation

As described in the preceding section, the corridor cross-section typically includes four vehicle lanes, with two lanes per direction, a center median (dirt, landscaped, or concrete). South of Downtown Redding, the corridor is bordered by frontage roads (Westside Road and Eastside Road), to the west and east, respectively. South of the “mousehole,” the UPRR freight rail line runs parallel to and between the corridor and Eastside Road. Variations in the typical four-lane corridor cross-section include the following locations:

- Bridges crossing the Sacramento River, Clear Creek, the Anderson-Cottonwood Irrigation District canal, and smaller waterways.
- The presence of right and/or left turn lanes approaching intersections.
- The brief northbound three-lane section between Quartz Hill Road and Benton Drive.
- California Street (Southbound couplet portion of SR 273 through Downtown Redding): South of Tehama Street, SR 273 is a two-lane, southbound only cross-section until Cypress Avenue, where the SR 273 designation transitions from California Street to S. Market Street with both north and south travel.
- Pine Street (Northbound couplet portion of SR 273 through Downtown Redding): This portion of SR 273 includes three northbound vehicle lanes from Cypress Avenue to Eureka Way (SR 299), where the SR 273 designation transitions from Pine Street to S. Market Street with both north and south travel.

- Section under the UPRR freight rail overcrossing where a quick build multiuse path replaces the outside southbound vehicle lane, resulting in one southbound lane and two northbound lanes.

Downtown Redding Couplets

The only portion of the corridor without bi-directional travel is along the southbound and northbound couplets through Downtown Redding. As described above, southbound SR 273 follows Market and California Streets and northbound SR 273 follows Pine Street. The circulation and roadway conditions are illustrated on the following image.

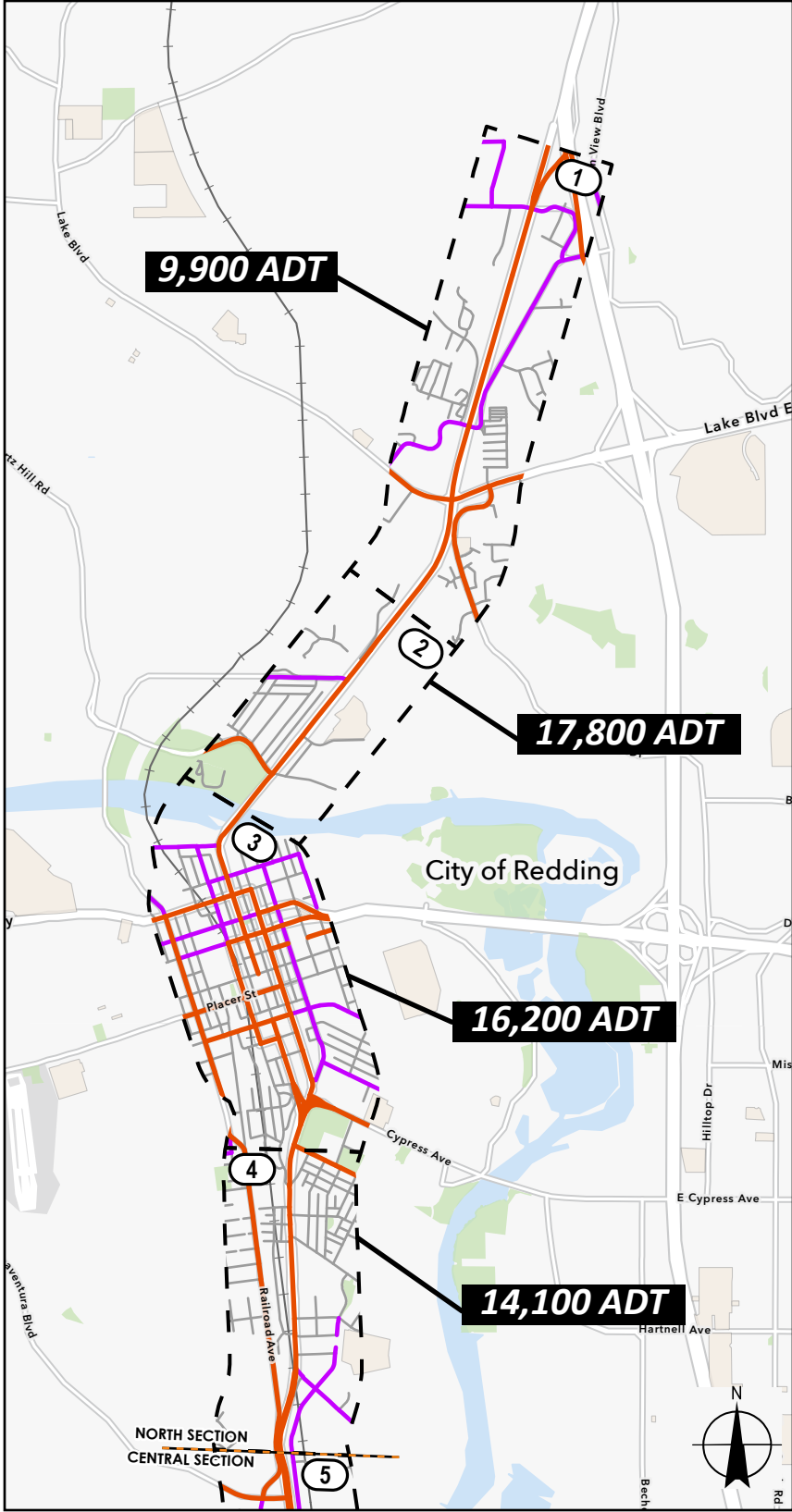
Figure 10 Downtown Redding Circulation



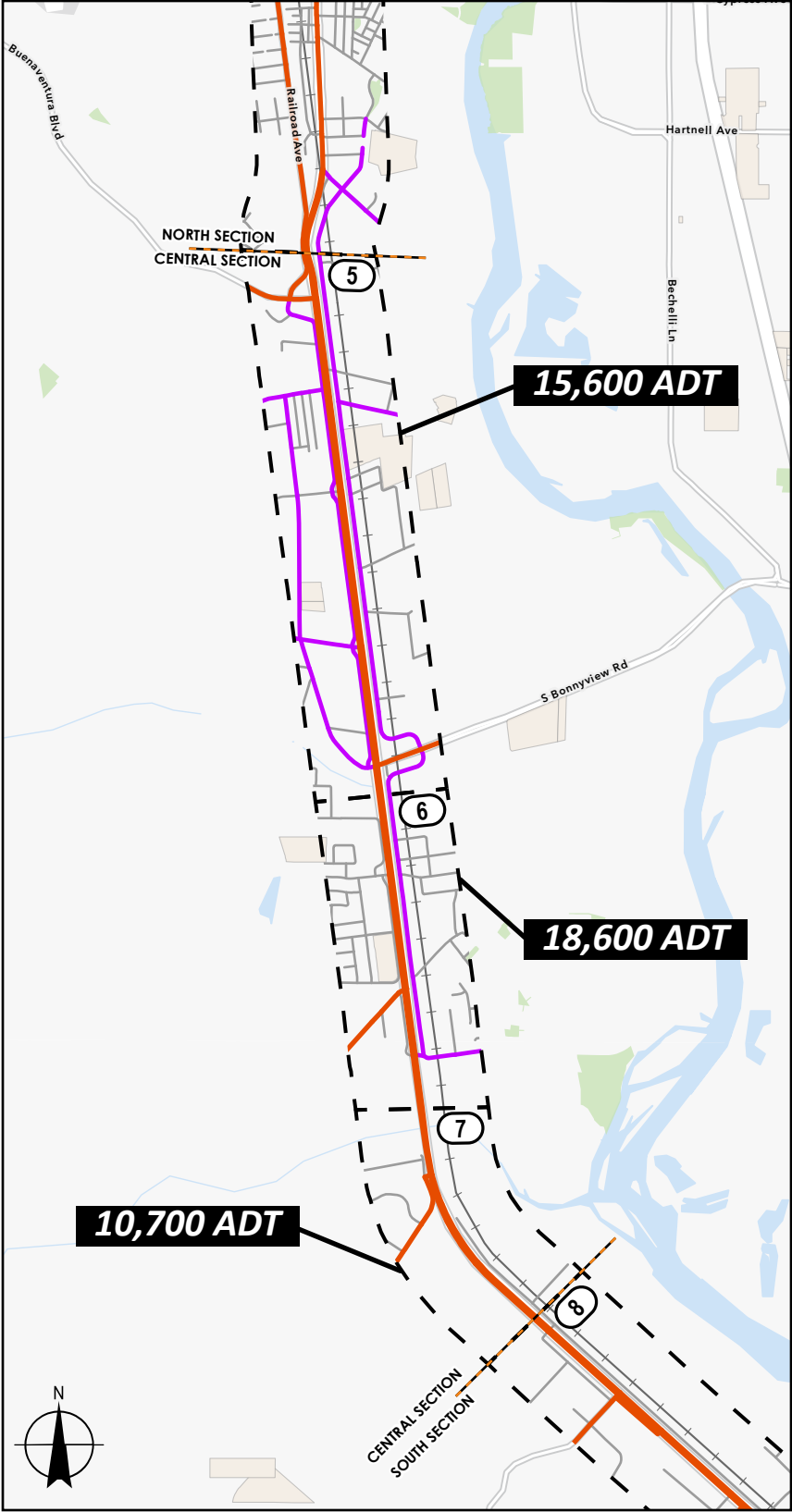
Table 6 *Roadway Conditions Summary by Segment*

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buena Ventura Blvd	North of Buena Ventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
Length (mile)	1.8	1.0	1.4 (2.5 total centerline)	1.2	2.0	1.2	0.9	2.3	2.2	2.2
Classification	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial	Other Principal Arterial
Posted Speed Limit (mph)	55	45	30	40	55	55	55	60	55	45
Lanes (per direction)	2	2 to 3	2 to 3	2	2	2	2	2	2	2
Center Turn Lane	No; dirt median with left turn lanes	No; landscaped median and left turn lanes	No; some left turn lanes at intersections	Yes, and landscaped median	No; dirt median with left turn lanes	No; dirt median with left turn lanes	No; left turn lanes at intersections	No; dirt median with left turn lanes	No; dirt median with left turn lanes	No; landscaped median and left turn lanes
Right-of-Way (ROW) (feet)	200 to 255	150	Varies	100 to 120	120	120	170	170	120	110
Roadway Daily Volume (Caltrans Traffic Survey 2020)	9,900	17,800	16,200	14,100	15,600	18,600	10,700	10,300	9,900	9,200
Heavy Vehicle Percentage (Caltrans Traffic Survey 2020)	2.3%	2.2%	2.6%	3.1%	3.1%	3.3%	3.2%	3.7%	4.1%	4.8%

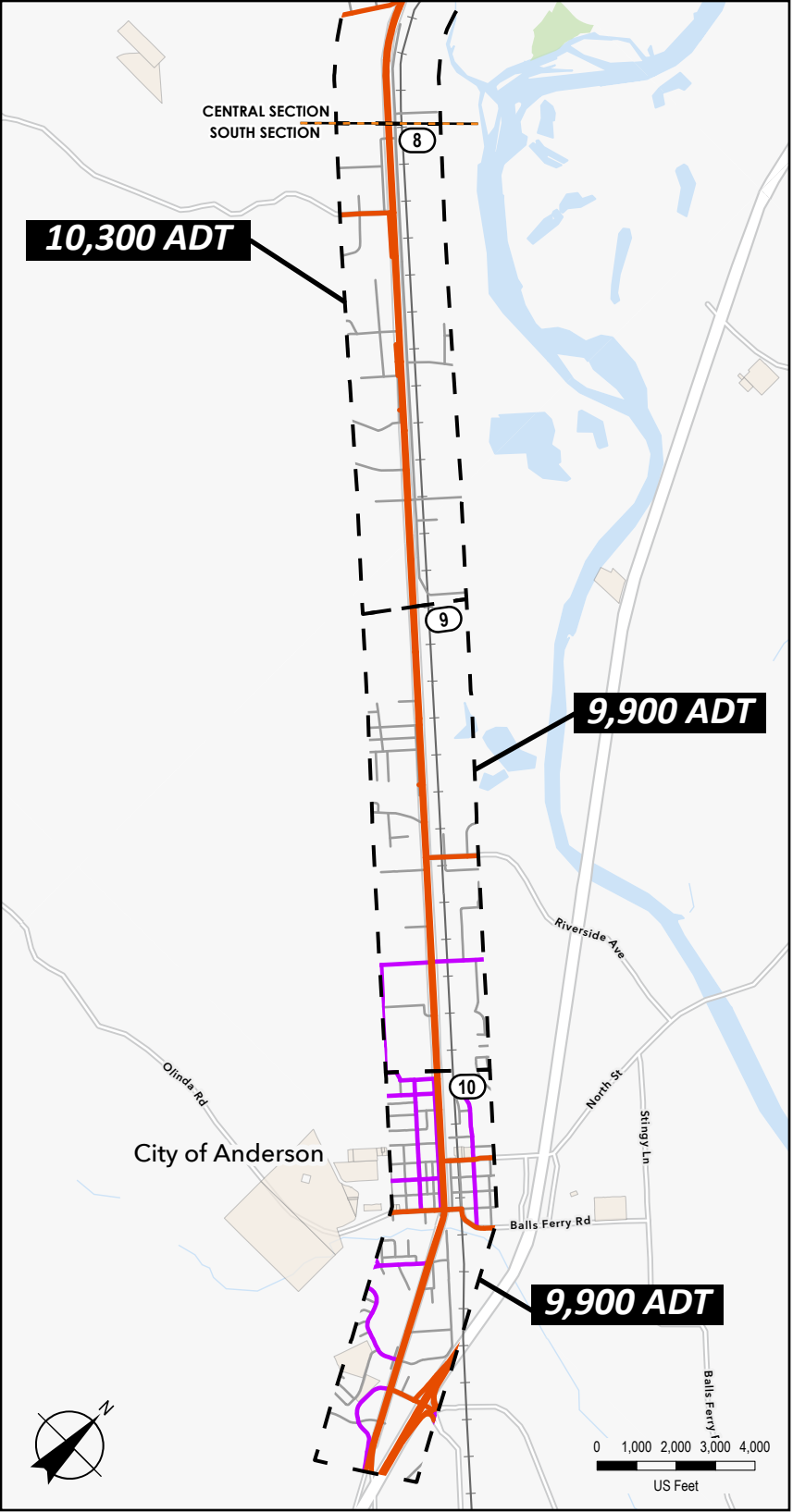
NORTH SECTION



CENTRAL SECTION



SOUTH SECTION

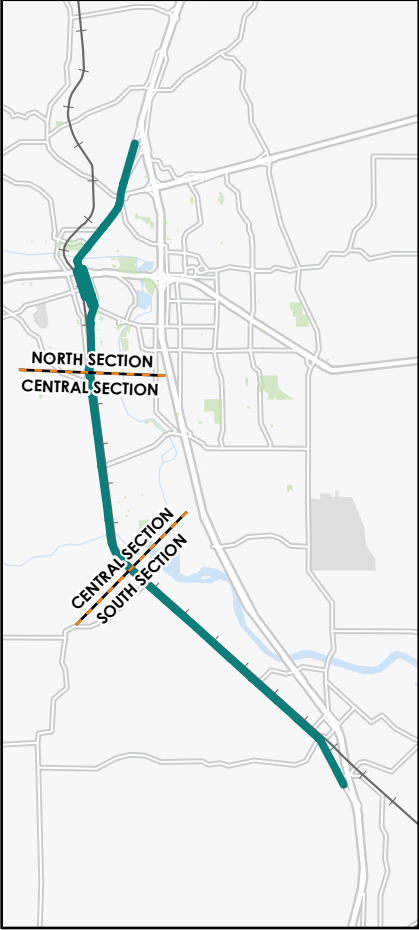


Legend

Functional Class

- Arterial
- Collector
- Local
- Railroad
- Corridor Segment
- Schools
- Parks
- Lakes & Streams

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan

ROADWAY FUNCTIONAL CLASS
AND VEHICLE VOLUMES

Paper Size ANSI B

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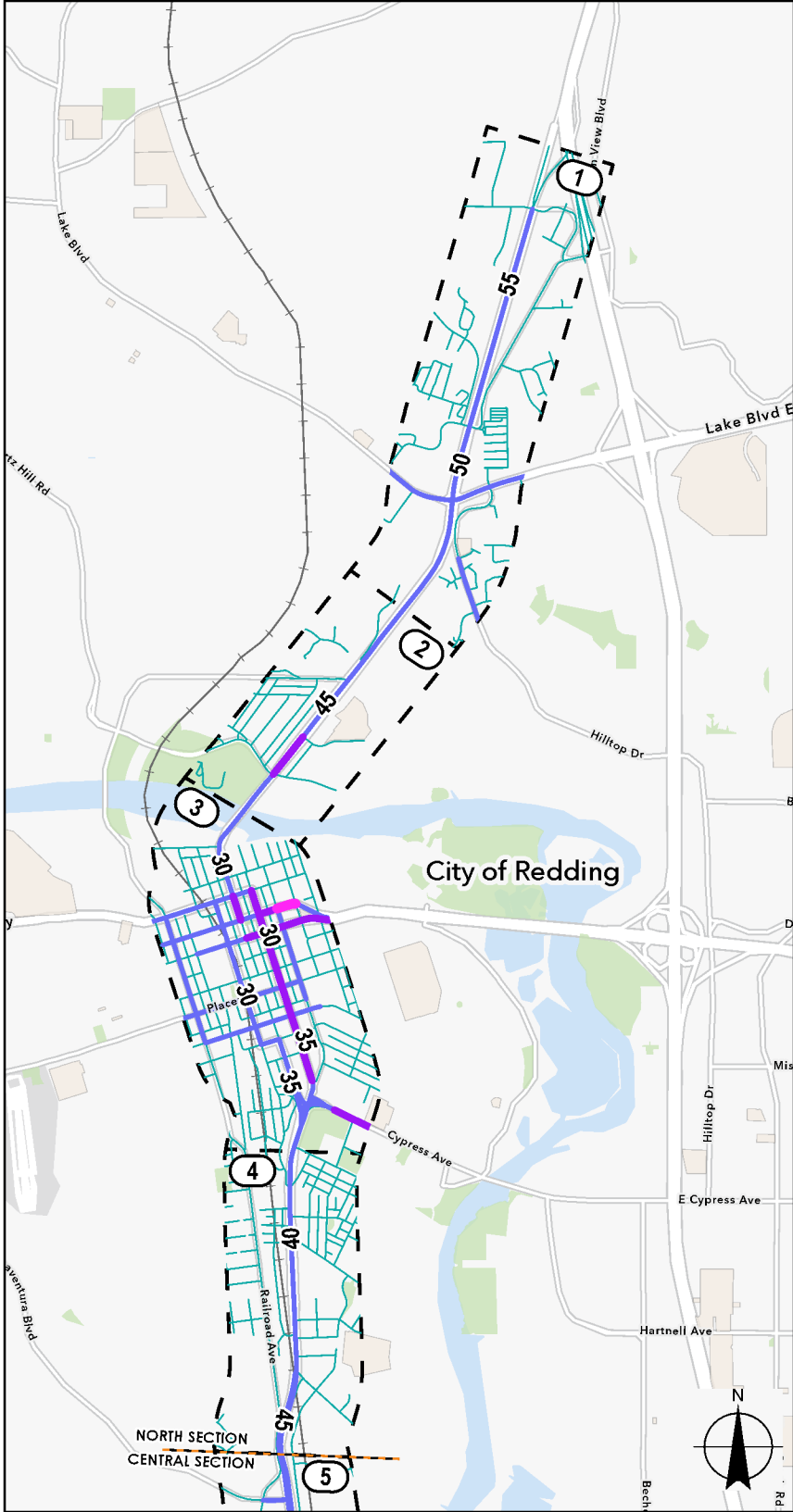
US Feet

Map Projection: Lambert Conformal Conic
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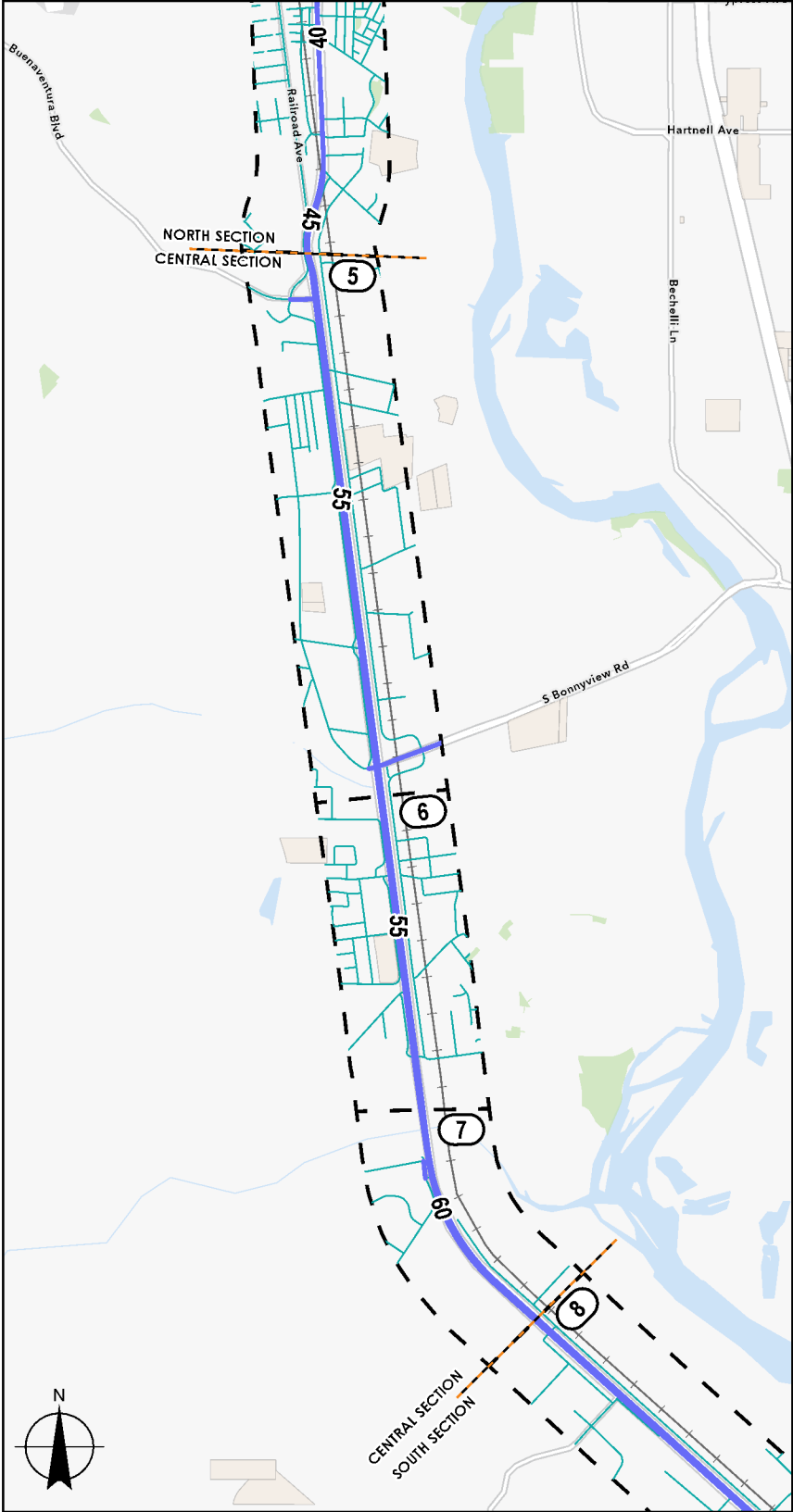
Project No. 12560002
Revision No. -
Date

FIGURE 11

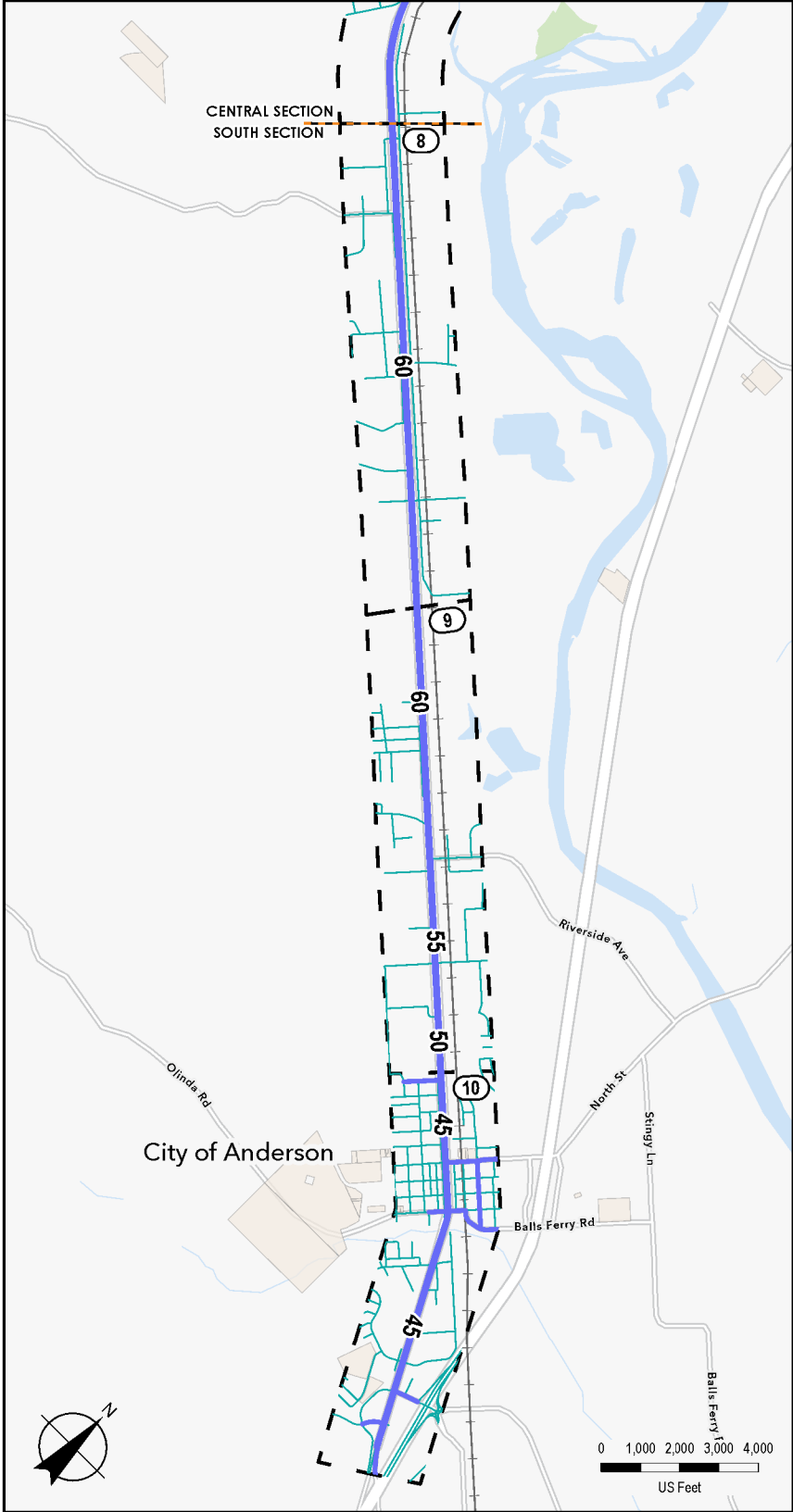
NORTH SECTION



CENTRAL SECTION



SOUTH SECTION



Legend

Number of Lanes

- Two Lanes
- Four Lanes
- Six Lanes
- Eight Lanes

Railroad

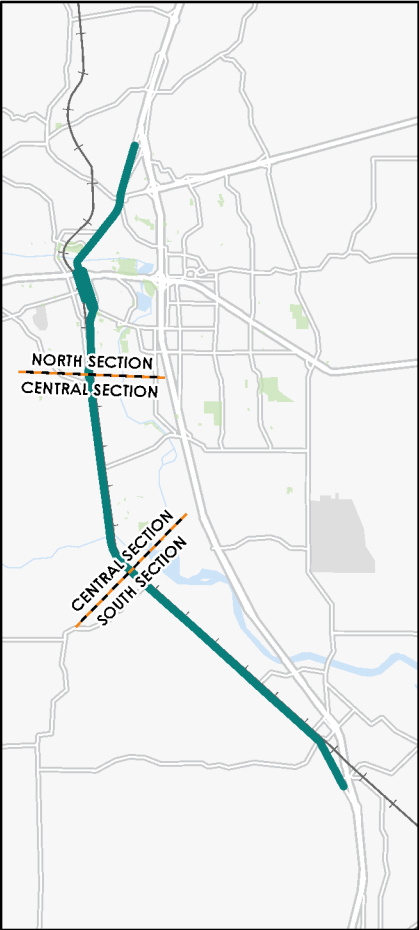
Corridor Segment

Schools

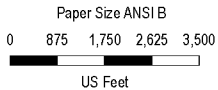
Parks

Lakes & Streams

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan
VEHICLE TRAVEL LANES AND SPEEDS



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Print date: 26 Sep 2023 - 16:10



Project No. 12560002
Revision No. -
Date September 2023

FIGURE 12

Date source: City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA, City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA. Created by: pheel

Multimodal Infrastructure

This section provides a summary of existing multimodal infrastructure, including bicycle and pedestrian facilities, as well as identifies barriers and discusses results for the Bicycle Level of Traffic Stress and connectivity assessment conducted for the corridor.

Pedestrian Facilities

Pedestrian facilities throughout the corridor include a discontinuous network of sidewalk, crosswalks, and multiuse trail connections. This network includes gaps, narrow sections, and vegetation overgrowth and undergrowth in many locations. Most locations with sidewalk vary in width between four and six feet. However, there are some locations that also feature a landscaped area with sidewalk that are as wide as 15 feet.

(Note: The Caltrans Downtown Redding Capital Preventative Maintenance (CAPM) Project will construct improvements in Segments 1 to 4 in 2028, including pedestrian improvements to address many issues noted below.)

Northern Segments

Segments 1 and 2

Segment 1 north of Lake Boulevard lacks the kinds of basic amenities that would make it pedestrian friendly. Sidewalks are missing on both sides of the street, from Caterpillar Road to Lake Boulevard and the roadway includes only one crosswalk at the intersections of N. Market Street (SR 273) and Northpoint Drive, N. Market Street (SR 273) and Lake Boulevard (SR 299), and N. Market Street (SR 273) and Caterpillar Road. Sidewalk begins on the west side of the street south of Lake Boulevard and continues to Benton Drive, within Segment 2. Sidewalk begins on the east side at Benton Drive, and both facilities continue south toward Downtown Redding. There is a programmed Caltrans SHOPP Project in progress that will install crosswalks at all legs of the intersection of Lake Boulevard and SR 273.



Northbound SR 273 within Segment 1 (left), and SR 273 at Quartz Hill Road within Segment 2 (right).
Image sources: GHD (left) and Google, 2023 (right).

Segment 3 and Segment 4

The segments within Downtown Redding are noticeably more pedestrian-oriented, with very few gaps in sidewalk, lower vehicle speeds, more lighting, landscaped areas, and higher-density land use and transit connections.

Within Segment 3, sidewalk infrastructure is continuous. However, although there are crosswalks and pedestrian signal heads at most or all intersections, pedestrian crossings are not well identified or protected. There is one pedestrian signal on Southbound California Street (SR 273) at Butte Street, providing

connectivity to the recently improved downtown area on Market Street, as shown in the following image. A pedestrian signal is actuated by pedestrians and requires vehicles to stop, just like a traffic signal, and are accompanied by pedestrian warning signs. Contrastingly, the pedestrian warning signs on Northbound Pine Street (SR 273) at Eureka Way (SR 299) are not highly visible.



Pedestrian signal.

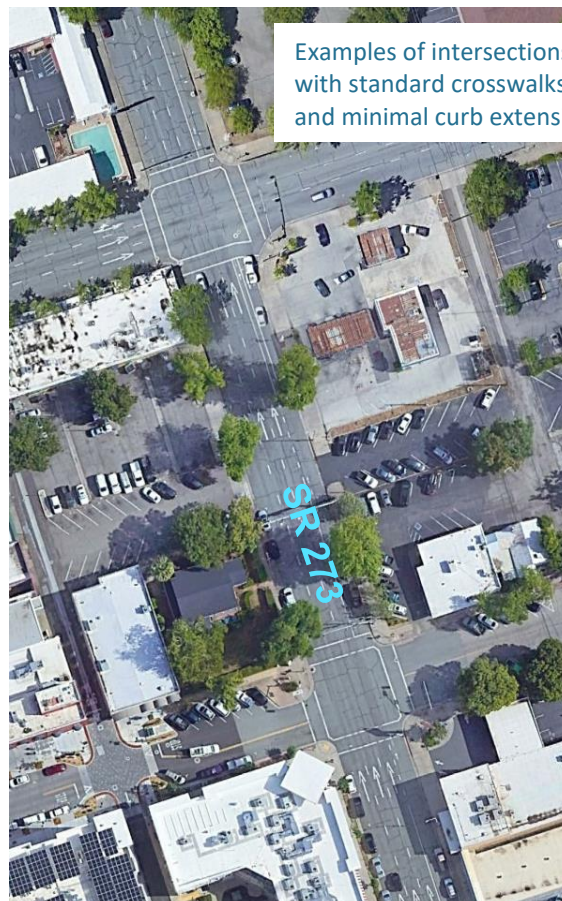


Pedestrian warning signs.

Pedestrian Signal on Southbound California Street (SR 273) at Butte Street (left), and pedestrian warning signs on Northbound Pine Street (SR 273) at Eureka Way (SR 299) (right), within Segment 3. Image sources: Google, 2023.



Examples of intersections with standard crosswalks and minimal curb extension.



Examples of intersections with standard crosswalks and minimal curb extension.

Southbound California Street (SR 273) (left) and Northbound Pine Street (SR 273) (right), within Segment 3. Image sources: Google, 2023.

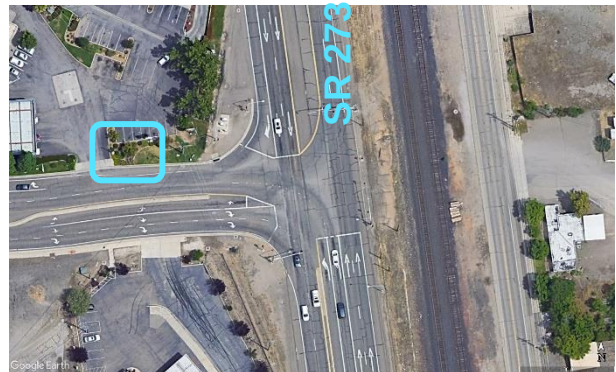
South of Cypress Avenue, gaps in the sidewalk network are intermittent on both sides of S. Market Street (SR 273), however the west side contains many more lengthy gaps. Sidewalk infrastructure is continuous from approximately California Street/Angelo Avenue to Wyndham Lane. Crosswalks crossing the corridor within the section between Lincoln Street and Buenaventura Boulevard are few and far between, with a crosswalk every 1,000 to 1,750 feet, approximately.

The images below show the intersection of S. Market Street (SR 273) at California Street/Angelo Avenue. The crosswalk at the eastbound approach is over 130-feet-long and includes a recently constructed pedestrian waiting area.



Pedestrian crossing and waiting area at west approach of California Street at S. Market Street (SR 273). Image sources: Google, 2023.

The images below show the westbound approach of SR 273 at Buenaventura Boulevard, which is restricted to pedestrians. No bicycle or pedestrian infrastructure exists at the intersection.



Pedestrian restriction sign at west approach of Buenaventura Boulevard at SR 273. Left image source: S. Market Street (SR 273), Redding Summary and Recommendations Report, 2021. Right image source: Google, 2023.

Middle & Southern Segments

The Middle Segments lacks continuous sidewalk and crosswalks, with those only found at the signalized intersections along with ADA accessible curb ramps and occasional transit stops. These intersections include:

- South Bonnyview Road
- Westwood Avenue
- Clear Creek Road
- Redding Rancheria Road
- Happy Valley Road

Multiuse Paths

The Middle and Southern Segments feature the following multiuse paths along the west side of the corridor:

- From Cedars Road to Jewell Lane (1,000 ft)
- From Westside Road to Win-River Casino (2,085 ft)
- From Bruce Drive to Marx Way (1,750 ft)
- From Marx Way to Anderson Creek Way (358 ft)
- From Ponderosa Street to the intersection of Pleasant Hills Drive and Rhonda Road (1,847 ft)

The lack of pedestrian facilities found in the Middle Segments continue in the Southern Segments, except at signalized intersections. Like the segments through Downtown Redding, the segments within the City of Anderson are noticeably more pedestrian-oriented, with very few gaps in sidewalk. The pedestrian network is mostly built out to match the street grid network. Crossings of SR 273 are at signalized intersections.

Bicycle Facilities

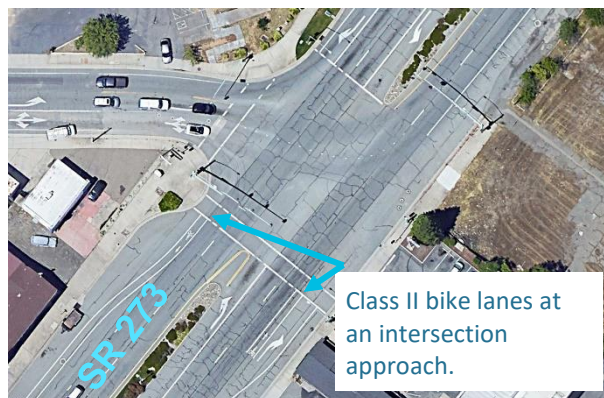
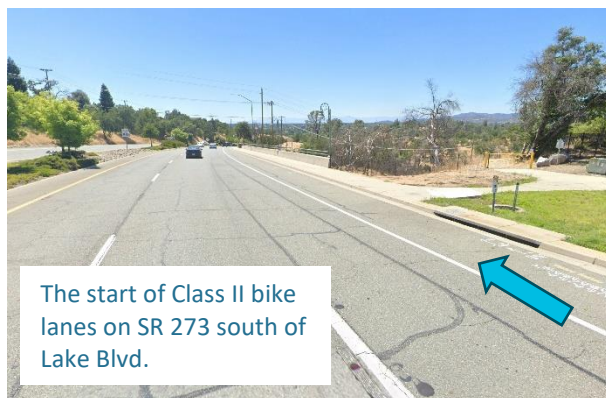
The corridor features existing Class II bike lanes and Class III bike routes. Existing bike lane widths generally vary between four and six feet through the corridor but narrow in a few locations where roadway width/right-of-way is constrained.

Northern Segments

Class II Bike Lanes (Segments 1 and 2)

In the Northern Segments, there are existing Class II bike lanes along N. Market Street (SR 273) in Redding from Lake Boulevard to Quartz Hill Road.

Between Lake Boulevard and Quartz Hill Road, the bike lanes on SR 273, as shown below, are not buffered or protected. In addition, the speed limits through these sections of the corridor are between 45 and 50 miles per hour.



Class II Bike Lanes on Southbound SR 273 within Segment 1 (left), and Class II Bike Lanes on Northbound SR 273 at Benton Drive within Segment 2 (right). Image sources: Google, 2023.

There are also Class II facilities adjacent to the corridor to the east along Twin View Boulevard, beginning at Mountain View Drive and ending at Valley Ridge Drive. Additionally, there are Class II facilities along Lake Boulevard, connecting to the corridor from the west. A Class III bike route on Benton Drive, beginning at River Park Drive, also connects to the SR 273 corridor at N. Market Street.

Class II Bike Lanes & Bike Depot through Downtown Redding (Segment 3)

In Downtown Redding, Class II bike lanes exist on the SR 273 corridor study area along Pine Street (SR 273) from S. Market Street (SR 273) to Eureka Way (SR 299), on California Street (SR 273) from Tehama Street to Gold Street (SR 273)⁴, on Gold Street (SR 273) from California Street (SR 273) to S. Market Street (SR 273), and on S. Market Street (SR 273) from Gold Street (SR 273) to just south of Cypress Avenue. In May of 2023, Shasta Living Streets launched the Redding Bike Depot, which includes a station for the city's new electric bike-share system and secure indoor bike parking.



Class II Bike Lanes on Southbound California Street (SR 273) (left), and Class II Bike Lanes at curve on Southbound S. Market Street (SR 273) (right), within Segment 3. Image sources: Google, 2023.



Bike Share at Bike Depot on California Street, just south of Shasta Street. Image source: Google, 2023.

Also adjacent to the corridor in the downtown area, Class II bicycle facilities exist along East Street from Placer Street to Locust Street, Court Street from South Street to Schley Avenue, Parkview Avenue from S. Market Street (SR 273) to Cypress Avenue, Angelo Avenue from S. Market Street (SR 273) to Parkview Avenue, and Cypress Avenue from S. Market Street (SR 273) to Hartnell Avenue.

Class IV Bikeways

There is a newly constructed Class IV bikeway that connects Downtown Redding to the Turtle Bay area. Complete with bollards and green paint, this mile-long bikeway is called the BCT Bikeway, for Butte-Continental-Trinity streets that it runs along. The BCT Bikeway features a bicycle traffic signal (the region's first) at Market Street (SR 273) and Trinity Street and completes a 4-mile loop from Sundial Bridge to Diestelhorst Bridge.

⁴ Early 2025, Class IV is under construction on California Street, from Division Street to Yuba Street. This portion of California Street includes local streets and SR 273.



BCT Bikeway at Butte and Continental. Image source: Google, 2024.

Additionally, a Class IV bi-directional bikeway follows Center Street and Division Street in downtown until California Street, providing a connection to SR 273.

Bike Facility Gap (Segment 4)

There are no bicycle facilities on SR 273 through Segment 4. The recently implemented quick build multiuse path (Class I) with plastic delineators replaces the outer vehicle lane on Southbound SR 273 at the southern end of Segment 4, just south of Wyndham Lane. This quick build multiuse path is part of the Caltrans Downtown Redding CAPM Project, which, if determined feasible, will require installing a concrete barrier and striping. The quick build multiuse path passes through the “mousehole” under the UPRR freight rail overcrossing and terminates at the intersection with Buenaventura Boulevard.



Start of quick build multiuse path on Southbound SR 273. Image source: Google, 2023.



Southbound view of the “mousehole” at the UPRR freight rail overcrossing on SR 273. Image Source: S. Market Street (SR 273), Redding Summary and Recommendations Report, 2021.

South of Downtown Redding and paralleling the SR 273 corridor to the west, Railroad Avenue between Schley Avenue and Buenaventura Boulevard provides a mix of Class III bike route with varying shoulder widths and Class II bike lanes. Buenaventura Boulevard includes Class II facilities that begin northwest of

the corridor study area and end at Railroad Avenue, nearly reaching S. Market Street (SR 273). To the east of the corridor, Polk Street/Eastside Road provide Class II facilities for most of the segment beginning at Ellis Street and extending to Radio Lane and into the Middle Segments.

Middle & Southern Segments

There is about 1,100 ft of Class II bicycle lane in Segment 6 north and south of the Girvan Road intersection. Outside of that facility, SR 273 through Segments 5, 6, 7, and the majority of Segment 8 is designated a Class III bicycle route. The speed limit through these segments is 55 or 60 mph, resulting in high stress bicycling conditions. Image to the right shows a 60 mph speed limit sign for Northbound SR 273 in Segment 9 (Image source: Google, 2023).



The Middle Segments include existing Class II bike lanes on South Bonnyview Road, beginning at Westside Road, crossing the SR 273 corridor, and continuing east beyond the corridor study area. Additionally, Class II facilities are included on Eastside Road for the brief segment that jogs east before intersecting South Bonnyview Road.

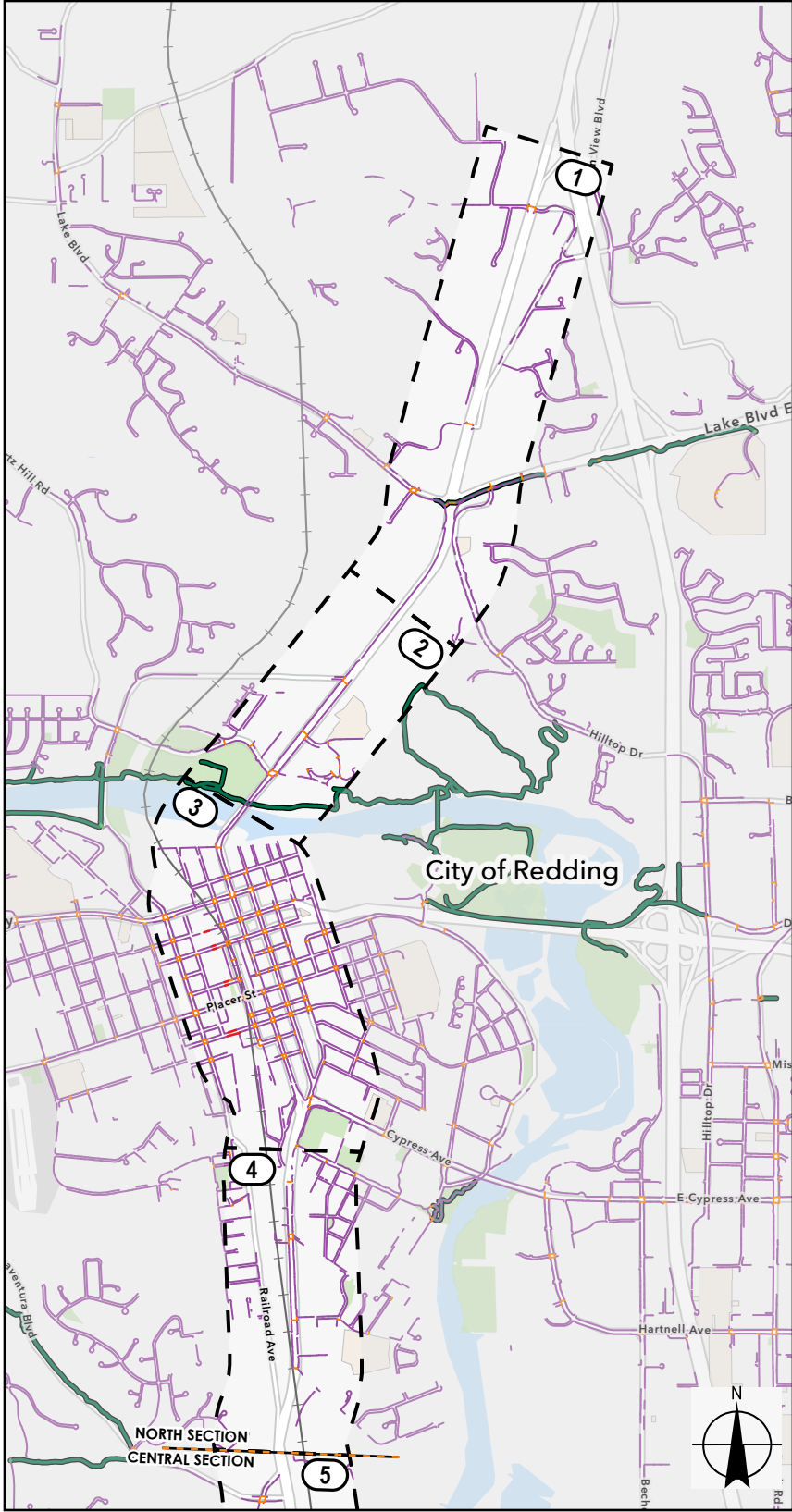
Parallel to the SR 273 corridor, Eastside Road south of Radio Lane is identified as a Class III bike route, as is Howard Drive between Westside Road and Cedars Road, Westside Road between Buenaventura Boulevard and Cedars Road, Branstetter Lane between Branstetter Circle and Westside Road, Cedars Road between Howard Drive and Westside Road, and Clear Creek Road west of S. Market Street (SR 273). Furthermore, south of South Bonnyview Road, S. Market Street (SR 273) is identified as a Class III bike route, continuing into the Southern Segments. S. Market Street (SR 273) also contains short Class II bike lanes with green conflict marking at the approach to the Westside Road/Girvan Road intersection, connecting with wider shoulders in both the northbound and southbound directions past the intersection.

The Class III bike route continues south on the SR 273 corridor ending at Redding Rancheria Road. The Southern Segments also feature Class III bike routes on Silver Street between Briggs Street and South Street between Emily Road and SR 273, both in the City of Anderson. Existing class II bike lanes can be found on Olinda Road west of Emily Road, North Street between SR 273 and Silver Street, Balls Ferry Road between Ventura Street and Freeman Street, and SR 273 between South Street and Bruce Street. Class II facilities on Pinon Avenue connect to class II facilities on the short Ponderosa Street, providing a connection to the Old 99 Trail Class I multiuse path that begins at the intersection of Pleasant Hills Drive and Rhonda Road. A short segment of Class II bike lanes on Pleasant Hill Drive also connects the SR 273 corridor with this multiuse path.

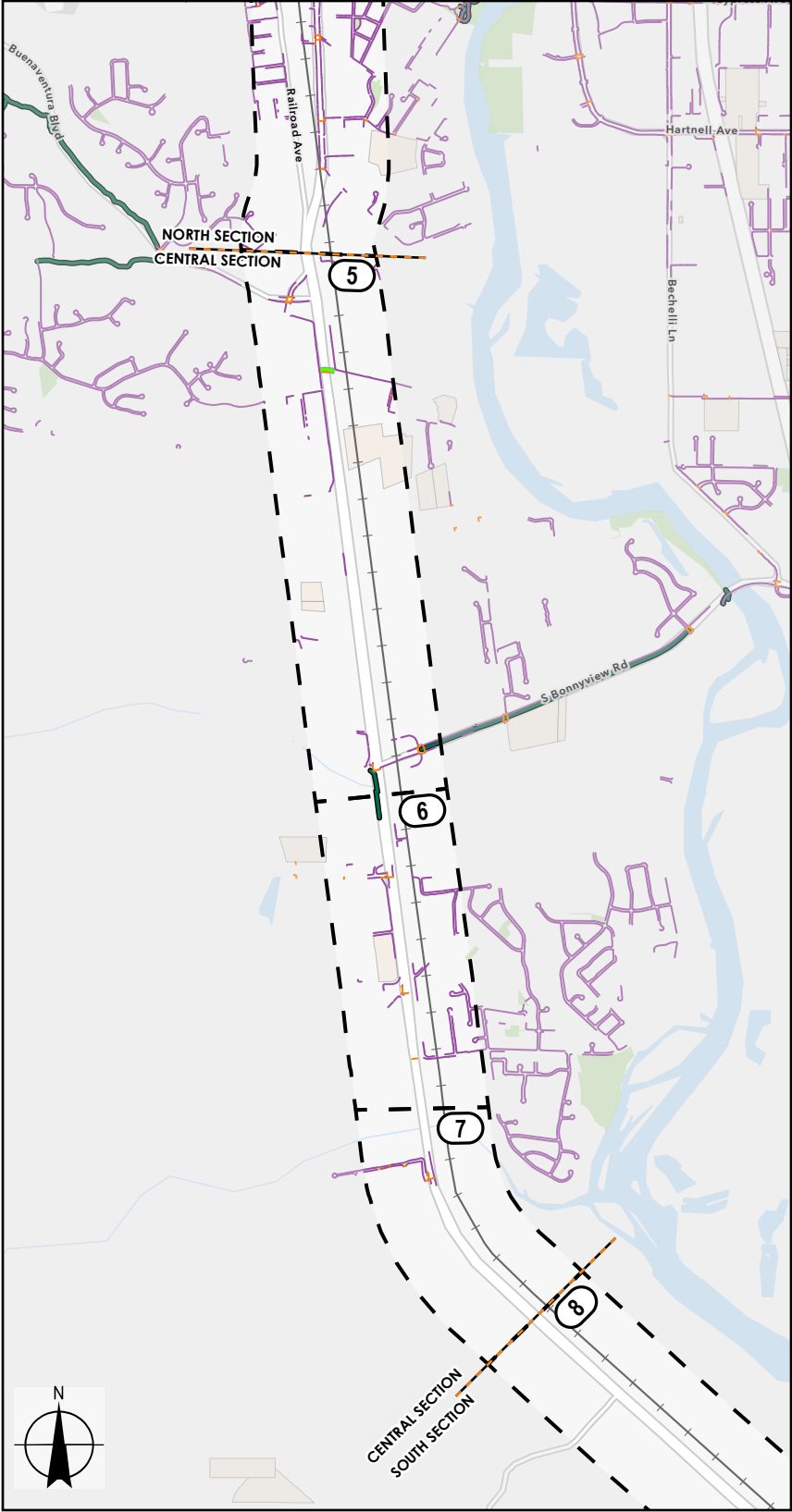
Bicycle facilities at most of the key intersections along the corridor lack buffers, barriers or conflict markings, or are dropped all together at the intersection approach. Coupled with cracking pavement or fading paint in some locations, existing bicycle facilities along the corridor provide a high-stress experience for bicyclists, particularly children and other vulnerable road users.

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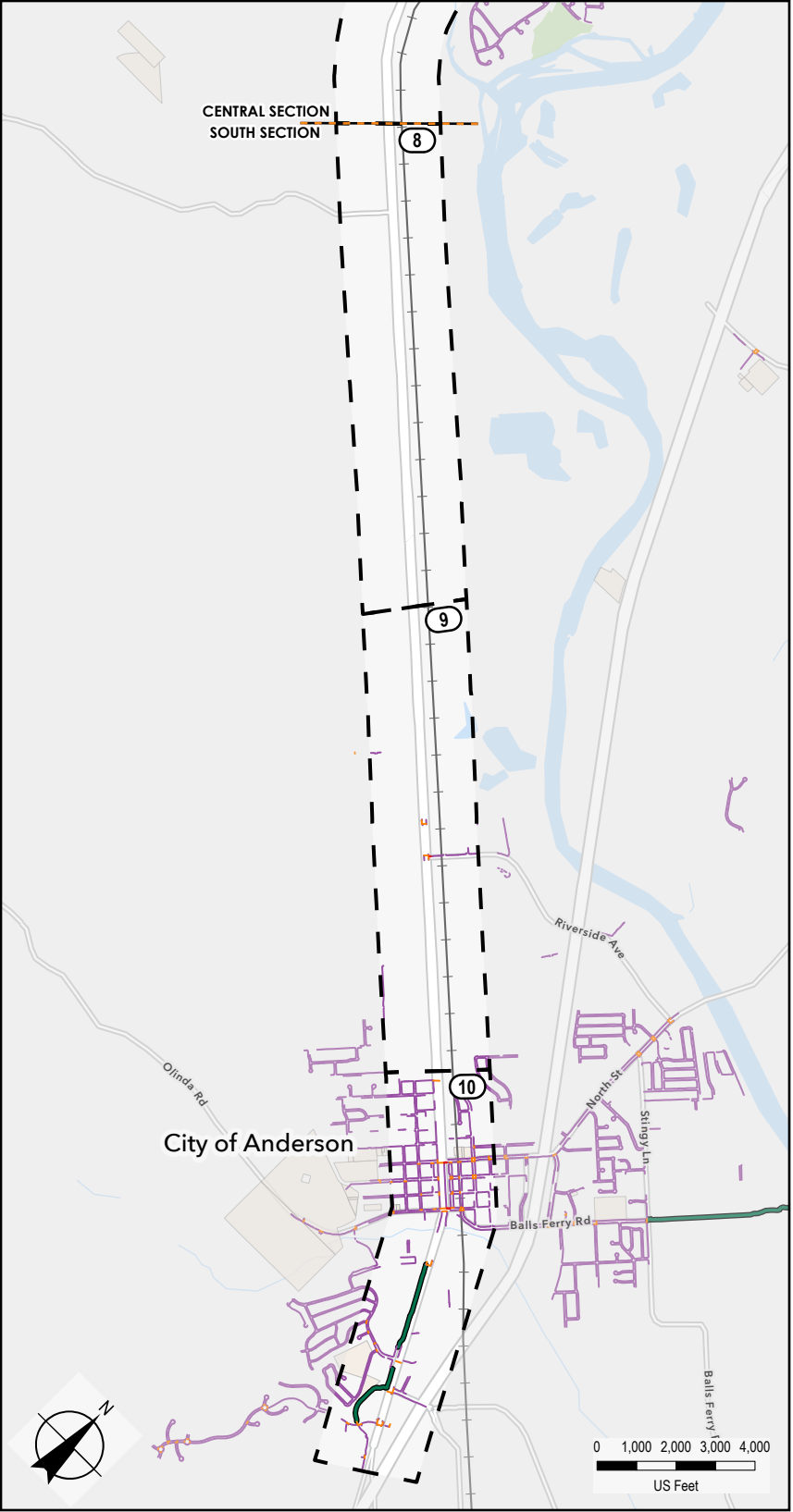
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CENTRAL SECTION



SOUTH SECTION

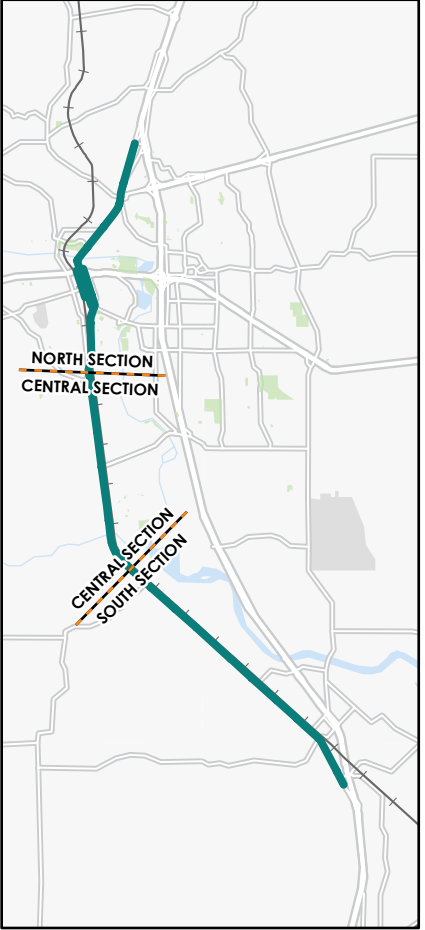


Legend

Pedestrian Facilities

- Crosswalk
- Sidewalk
- Railroad Crossing
- Multi-use Trail Connection
- Class I Shared Use Path
- Pilot Vehicular Access Restriction
- Railroad
- Corridor Segment
- Schools
- Parks
- Lakes & Streams

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan
PEDESTRIAN FACILITIES

Paper Size ANSI B

0 875 1,750 2,625 3,500

US Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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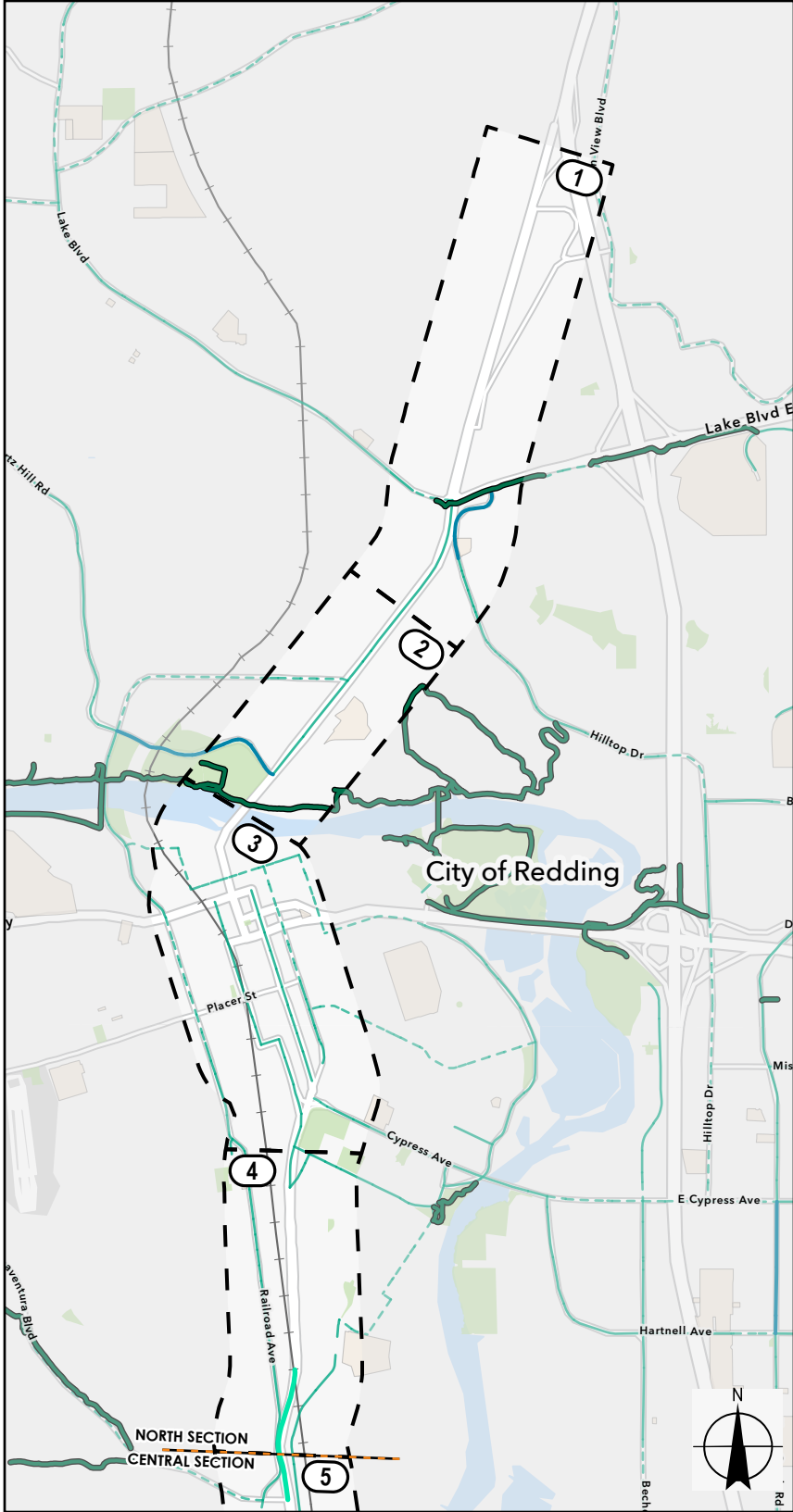
Project No. 12560002
Revision No. -
Date September 2023

FIGURE 13

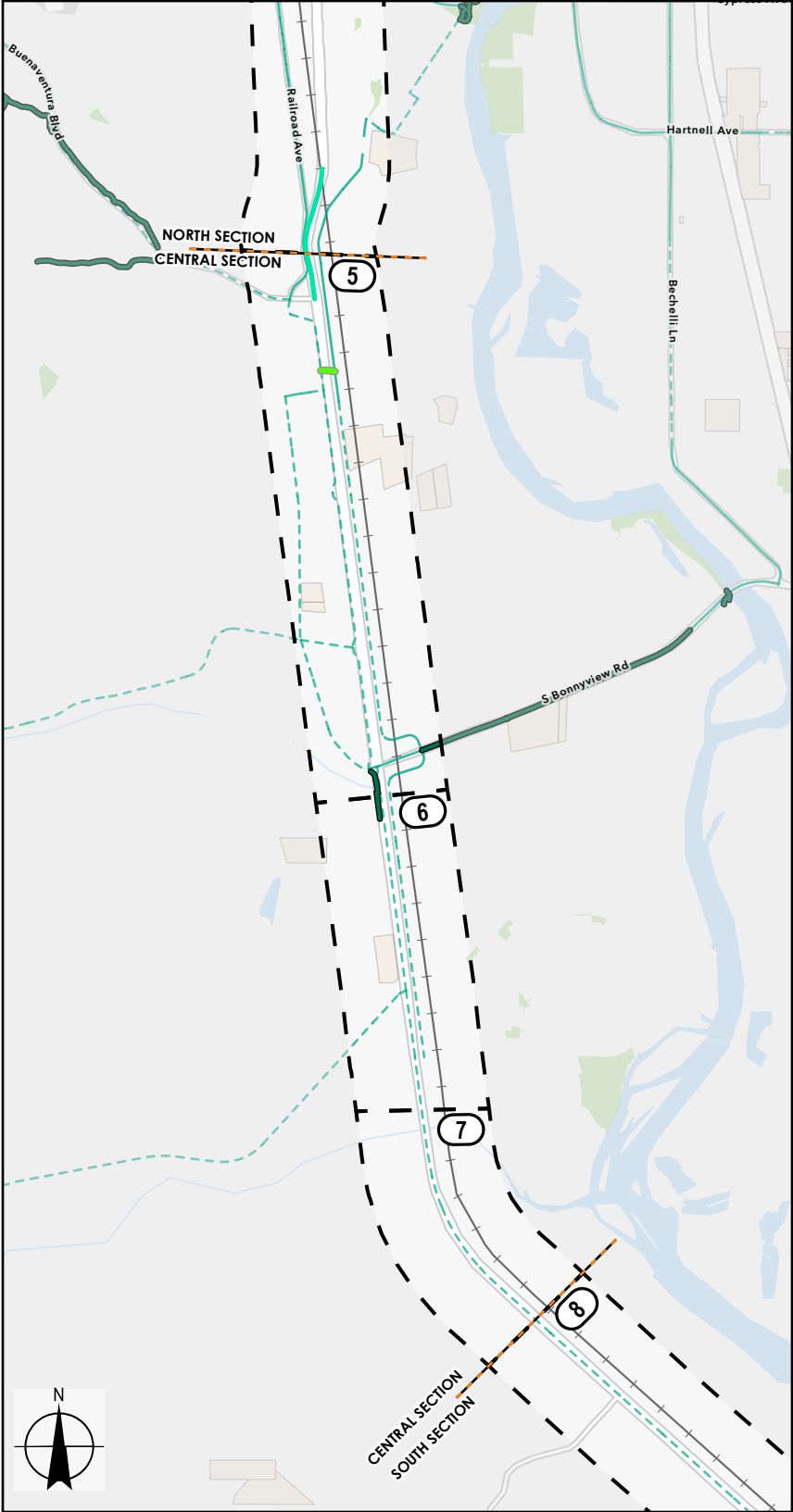
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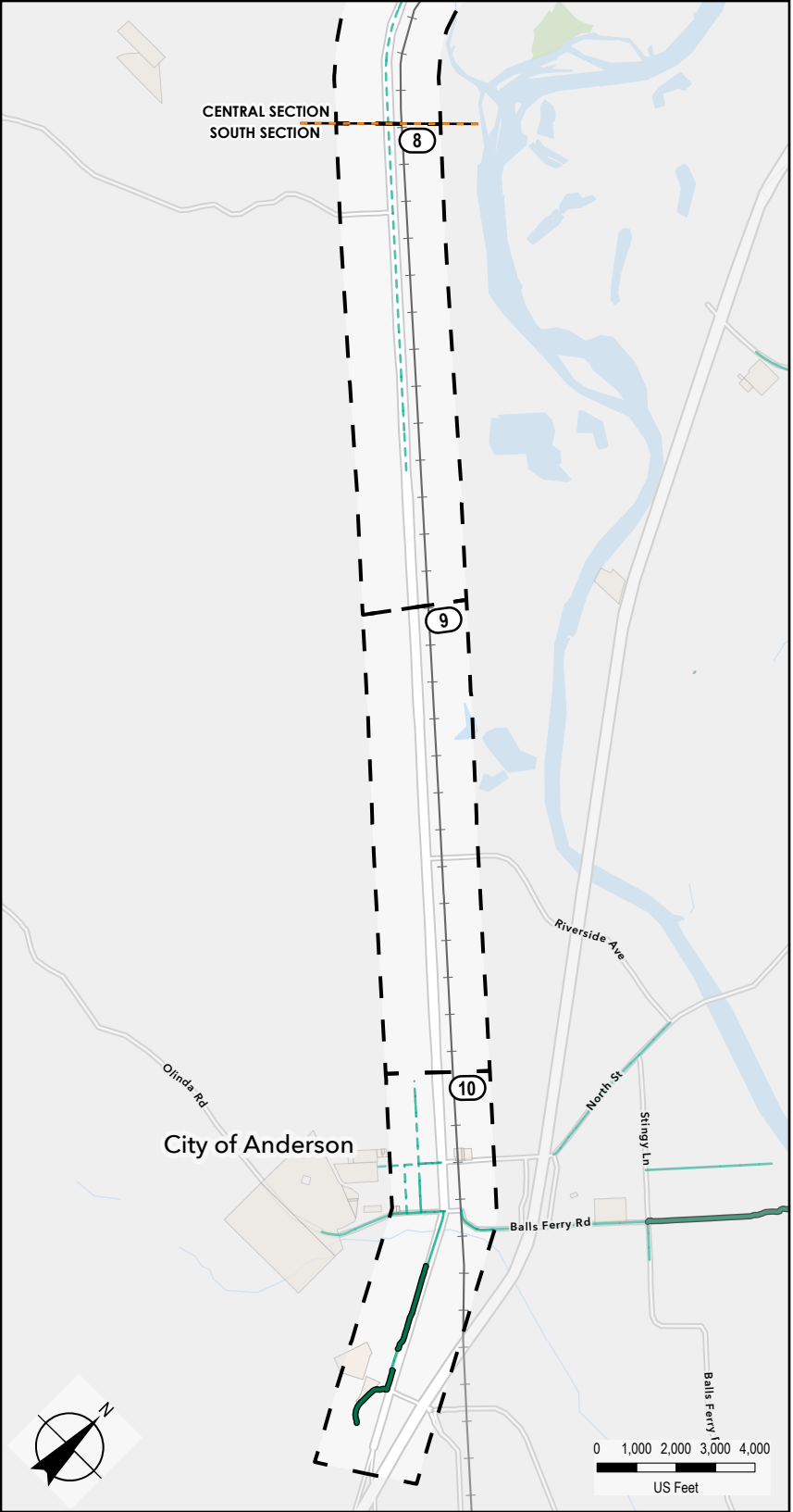
NORTH SECTION



CENTRAL SECTION



SOUTH SECTION



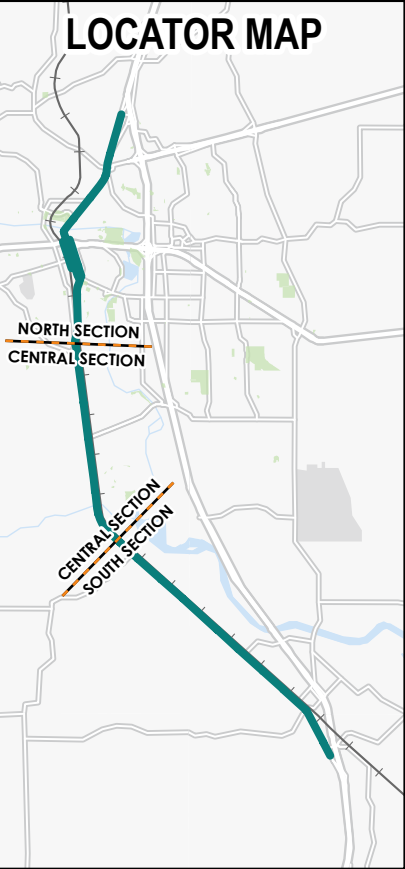
Legend

Separated Facilities

- Class I Shared Use Path
- Pilot Class IV Separated Bikeway
- Pilot Vehicular Access Restriction

On Street Facilities

- Class II Buffered Bicycle Lane
- Class II Bicycle Lane
- Class III Bike Route
- Railroad
- Corridor Segment
- Schools
- Parks
- Lakes & Streams



Envision 273: SR 273 Multimodal Corridor Plan
BICYCLE FACILITIES

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US Feet
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Project No. 12560002
Revision No. -
Date September 2023

FIGURE 14

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Transit Service

Passenger Rail

Passenger rail service is provided by Amtrak's Coast Starlight route at Redding Amtrak station in Downtown Redding on Yuba Street. The Coast Starlight connects Los Angeles, California to Seattle, Washington via Redding and other nearby intermediate stops in the communities of Dunsmuir and Chico.

The Coast Starlight has infrequent service through Redding and arrives and departs in the middle of the night, with both northbound and southbound departure times between approximately 2:30 and 3:00 AM.

Image Source: www.srta.ca.gov



Public Transit

Transit service is provided by RABA, which is administered by the City of Redding. RABA transports approximately 300,000 passenger trips a year on a fleet of 40 buses and vans. Transit service⁵ within the study area includes local and regional bus services, which are described below.



Image Source: www.cityofredding.org

Bus

RABA provides fixed route bus service in Redding, Shasta Lake, Anderson, and surrounding unincorporated areas of Shasta County, Monday - Saturday. Bus routes servicing the corridor neighborhoods include Routes 1, 2W Clockwise, 2W Counter Clockwise, 2E, 3, 4, 5, 6N, 6S, 7, 9N, 9S, 11, 12, 14, 17, Anderson Commuter, Crosstown Express, School Express Morning, and School Express Afternoon.

Paratransit

RABA provides demand response service (ADA paratransit service) for persons with disabilities who are functionally unable to use fixed route bus service, Monday – Saturday.

Beach Bus

RABA provides bus service to Whiskeytown National Recreation Area generally between Memorial Day and Labor Day, excluding holidays.

Burney Express

Burney Express is a commuter bus service that provides three trips in each direction during the weekdays between Redding and Burney.

Sunday Transit

RABA Runabout provides door-to-door transportation on Sundays when RABA buses and Demand Response doesn't run in the Cities of Redding, Anderson, and Shasta Lake, and surrounding unincorporated areas of Shasta County.

⁵ During development of this plan, RABA implemented various aspects of the 2024 RABA SRTP. Chapters 3 and 4 of this plan were completed prior to implementation of RABA projects. For RABA projects, see Appendix E.

Transit Amenities

Transit amenities include benches and shelters at bus stops. In addition, the quality of the transit stop is based on the accessibility and safety at the stop itself as well as the connectivity to the stop. Most of the transit stops along the SR 273 corridor do not have adequate amenities, and most of the stops located in the County do not have any connecting sidewalk infrastructure. The following photos show the variety of transit stop conditions along the corridor. All photos are sourced from Google (2023).

Transit Stops with No Amenities or Connecting Sidewalk Infrastructure



Southbound SR 273 within Segment 8 (left), and Northbound SR 273 within Segment 10 (right)

Transit Stops with Sidewalk Connectivity / No Amenities



Southbound SR 273 within Segment 7 (left), and Westside Road (Frontage Road to SR 273) within Segment 5 (right)

Transit Stops with Bench



Southbound SR 273 within Segment 4

Transit Stops with Bench and Shelter



Southbound SR 273 within Segment 6 (left), and Northbound SR 273 within Segment 7 (right)

Freight

The Northern California Region (e.g., Shasta County, Caltrans District 2) supports national, state, and regional economies and the quality of life of the people living there. The dense forests that cover Northern California are national, state, and regional assets that draw tourists to the region, provide the timber needed for construction, and add dollars to the economies. Freight trucks make up 7% of the roadway mode split on the corridor. The UPRR freight rail line also moves goods and runs parallel to the entire length of the study corridor. SR 273 is listed as “Other National Highway System Route,” while SR 299 and SR 44 are listed as Non-Interstate Strategic Highway Network (STRAHNET) Routes on the US Department of Transportation Federal Highway Administration maps.

Transportation System Management and Operations Assets, Agreements, and Partnerships

This section describes existing operational assets, partnerships, relationships, and programs that affect system management and operations and collectively referred to as Transportation System Management and Operations (TSMO).

Caltrans, in coordination with local agencies, as appropriate, has implemented and plans to implement ITS components (e.g., signal synchronization). Other existing intelligent transportation system (ITS) components include cameras and City of Redding red light enforcement.

Demand Management Programs and Partnerships

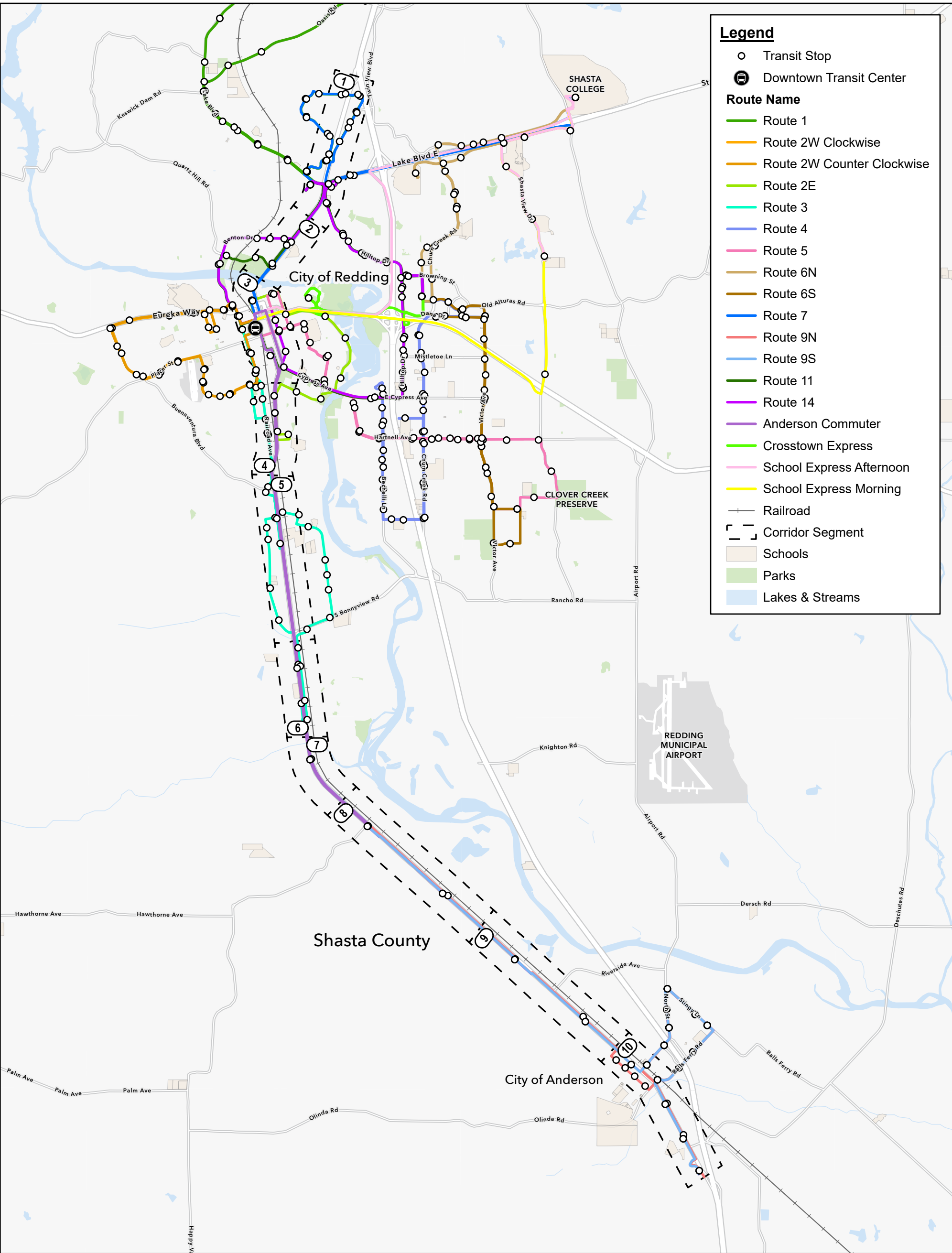
This section describes major programs and partnerships within the corridor that serve to reduce travel demand by promoting a range of trip reduction strategies that reduce trips or shift trips to different times, locations, routes, or modes. Such programs may be regional in nature or tied to major employers but can have an important influence on travel demand within a corridor.

In April 2024, RABA, in partnership with Enterprise Mobility, launched RABA Vanpool, a vanpool program available to people who live inside or outside of Shasta County and wish to access jobs in the area. The vanpool program matches interested riders with similar work shifts in similar areas who are interested in riding together. RABA provides a van to eligible commuters on a month-to-month lease, and commuters decide their routes, pick-up times, and drop-off locations.

RABA serves the Clear Creek Road Park & Ride Lot in the corridor. RABA also owns the RABA Park & Ride Lot in Downtown Redding.

Environmental Scan

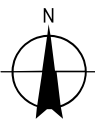
The corridor traverses developed and undeveloped areas, as well as a number of waterbodies, including the Sacramento River and a number of creeks. Along the corridor, wildlife corridors, including the migration and movement of species, should be considered to preserve connectivity between habitats. This includes fish passage along corridor creeks.



Envision 273: SR 273 Multimodal Corridor Plan

TRANSIT ROUTES AND STOPS

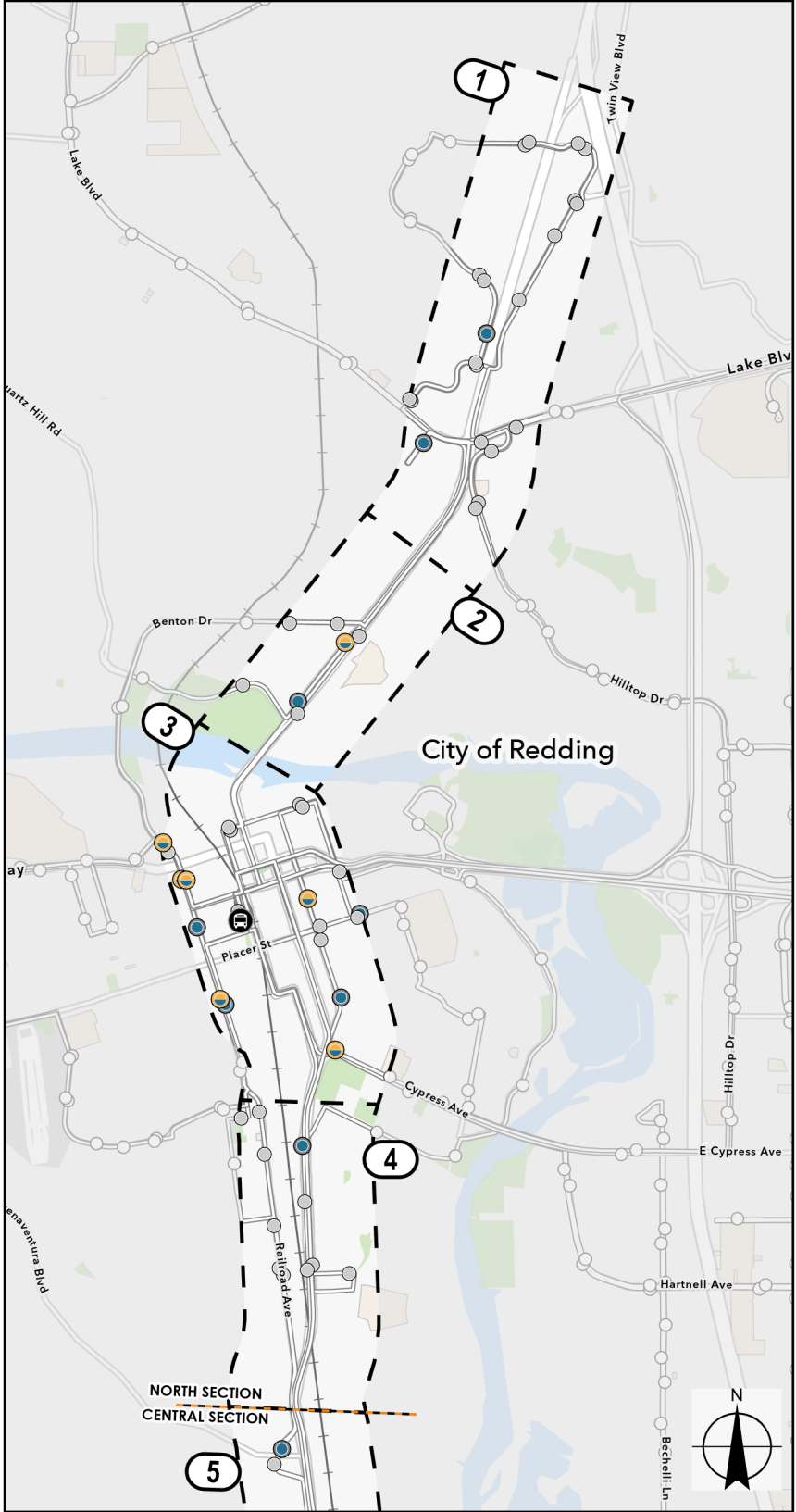
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US Feet
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



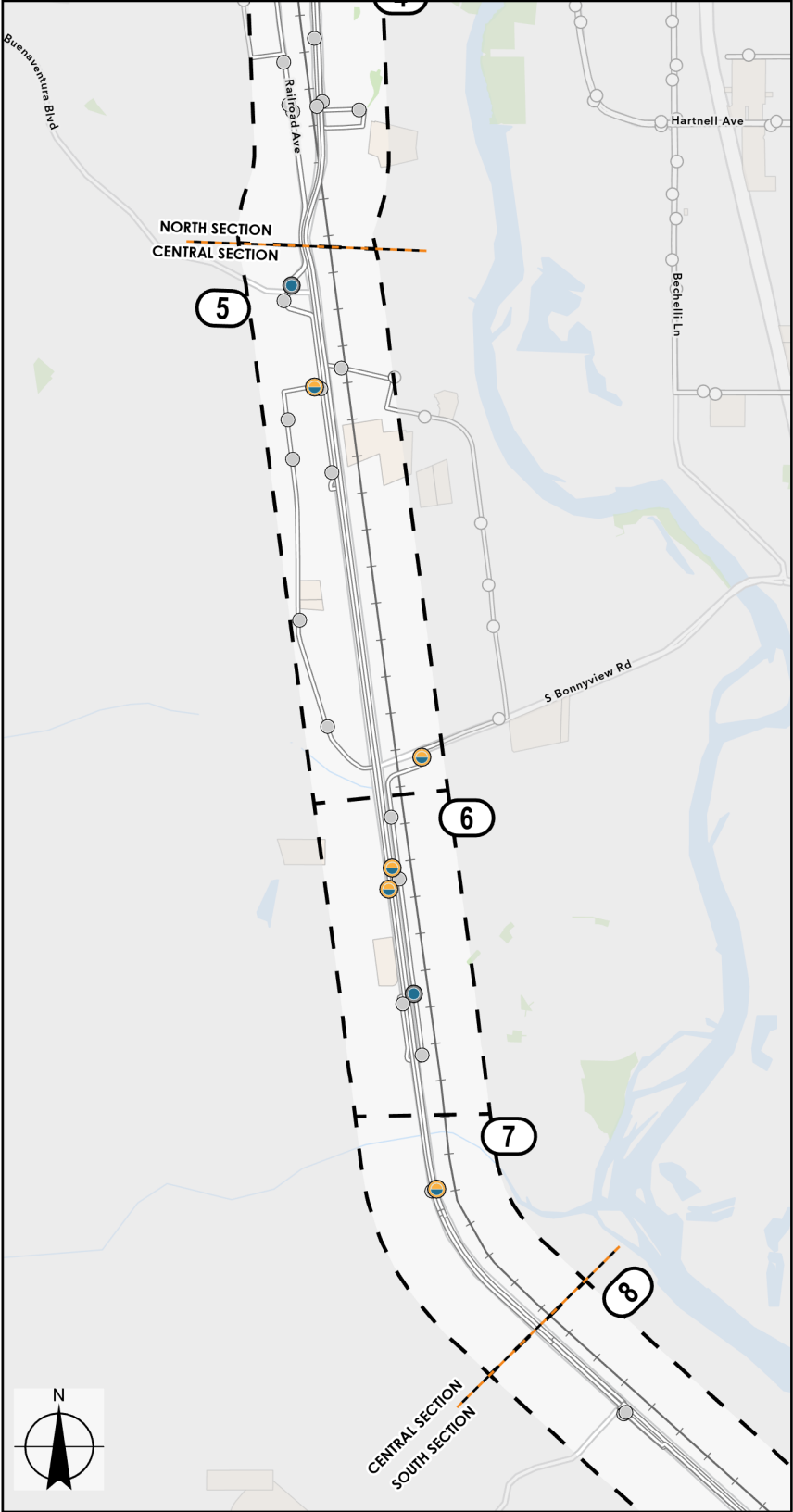
Project No. 12560002
Revision No. -
Date September 2023

FIGURE 15

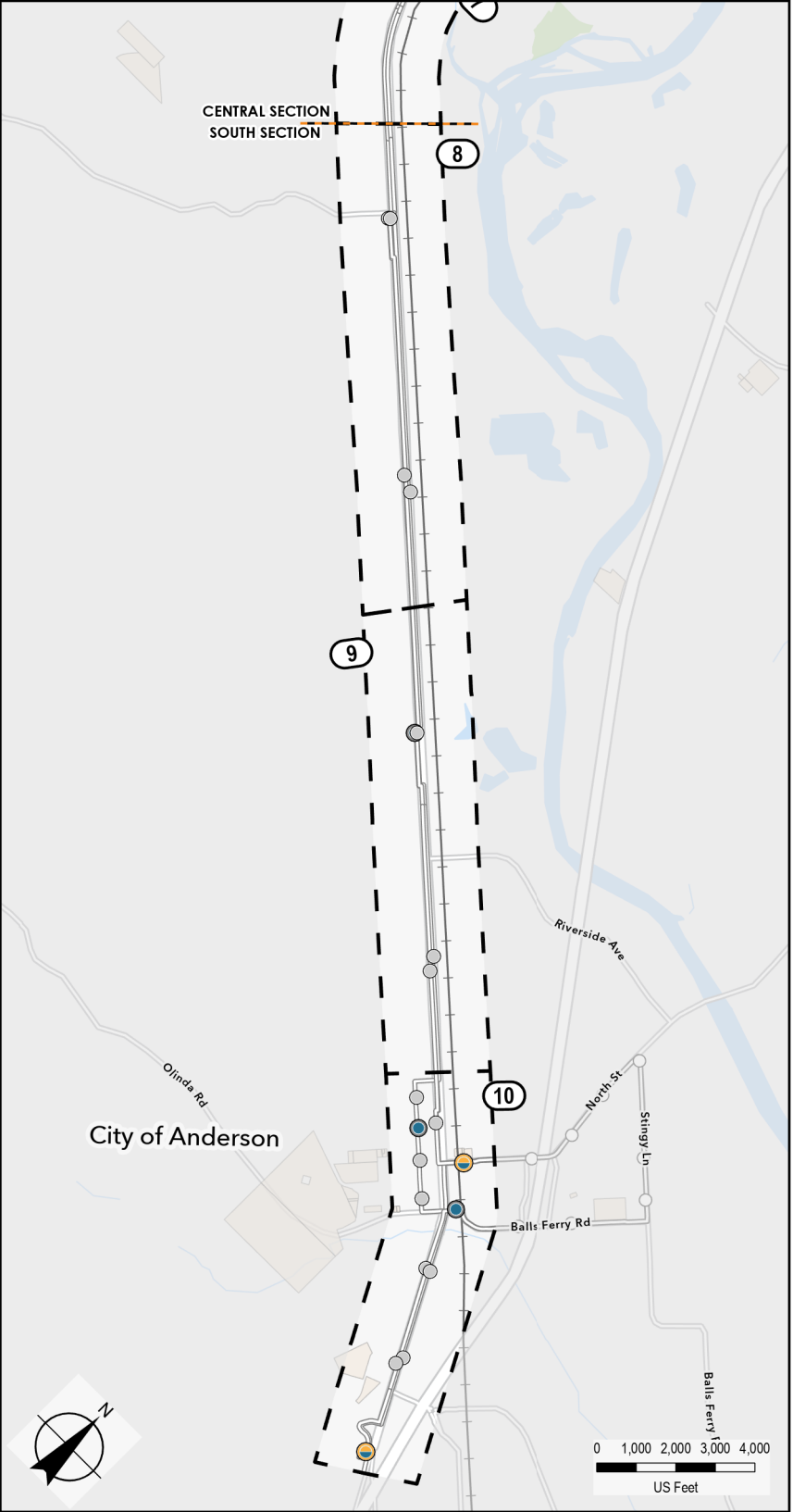
NORTH SECTION



CENTRAL SECTION



SOUTH SECTION

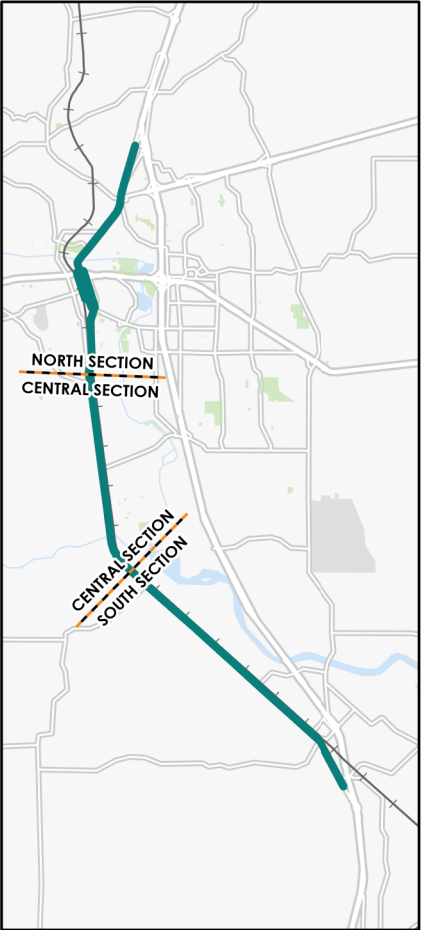


Legend

Transit Stop Amenities

- Bench and Shelter
- Bench only; no shelter
- No bench or shelter
- Stops Outside Study Area
- Downtown Transit Center
- Bus Routes
- Corridor Segment
- Railroad
- Schools
- Parks
- Lakes & Streams

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan
TRANSIT STOP AMENITIES

Paper Size ANSI B

0 875 1,750 2,625 3,500

US Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Project No. 12560002
Revision No. -
Date September 2023

FIGURE 16

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Data source: City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA, City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, USARABA Routes & Stops: City of Redding, School Parcels: Shasta County
Created by: pheel

Table 7 *Multimodal Infrastructure Summary*

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
Sidewalk width directly adjacent to SR 273	5	5 to 12	5 to 12	6	None	None	None	None	None	None
Sidewalk Connectivity	Minimal	Good	High	Good	None	None	None	None	Fair	Minimal
Bike Facilities (Type)	Class II, south of Lake Boulevard	Class II	Class II	Class II	Class I and Class II	Class I and Class III	Class I and Class III	Class III	Class III	Class I and Class III
Transit Stops	Not directly on SR 273; located on adjacent streets	Yes, and on adjacent streets	Not directly on SR 273; located on adjacent streets	Yes, and on adjacent streets	Not directly on SR 273; located on adjacent streets	Yes, and on adjacent streets	Yes	Yes, and on adjacent streets	Yes, and on adjacent streets	Yes, and on adjacent streets
Transit Stop Conditions	Poor	Fair	Fair	Fair	Poor	Fair	Fair	Poor	Poor	Fair
Presence of amenities (shelter or bench) at transit stop?	Typically no bench/shelter	Typically no bench/shelter	Typically no bench/shelter	Some with bench	Typically no bench/shelter	Some with bench/shelter	Some with bench/shelter	No bench/shelter	Some with bench	Some with bench/shelter

Corridor Safety

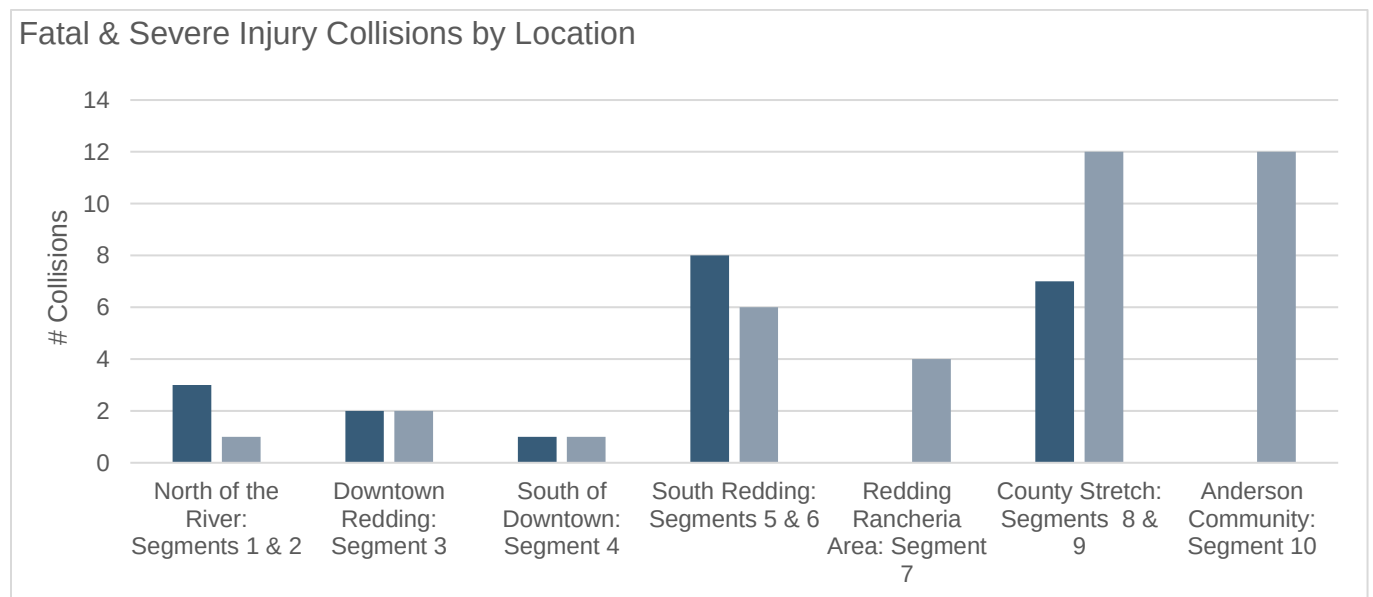
Collision analysis for the Plan was conducted based on historical collision data within the project limits for the most recent and complete 5 years (January 1, 2018 to December 31, 2022). This data was collected from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). During this period, a total of 512 collisions were reported within the project study area. The limits for collision analysis on this project include SR 273 from its northernly terminus at I-5 in the City of Redding to its southernly terminus at I-5 in the City of Anderson. All collisions were classified by location, severity, collision type, primary collision factor violation category, and pedestrian and bicycle collisions. The comprehensive collision summary is provided below.

Overview

Over the five-year period, approximately 44 percent of all collisions did not result in any injury (collisions identified as property damage only). Of the injury collisions, there were 21 fatalities (4 percent of all collisions) and 38 severe injuries (8 percent of all collisions). Table 8 summarizes the five-year collision history for the corridor between 2018 and 2022. Figure 17 presents a heat map of total collisions and the locations of fatal or severe injury collisions for the study area.

Fatal & Severe Injury Collisions

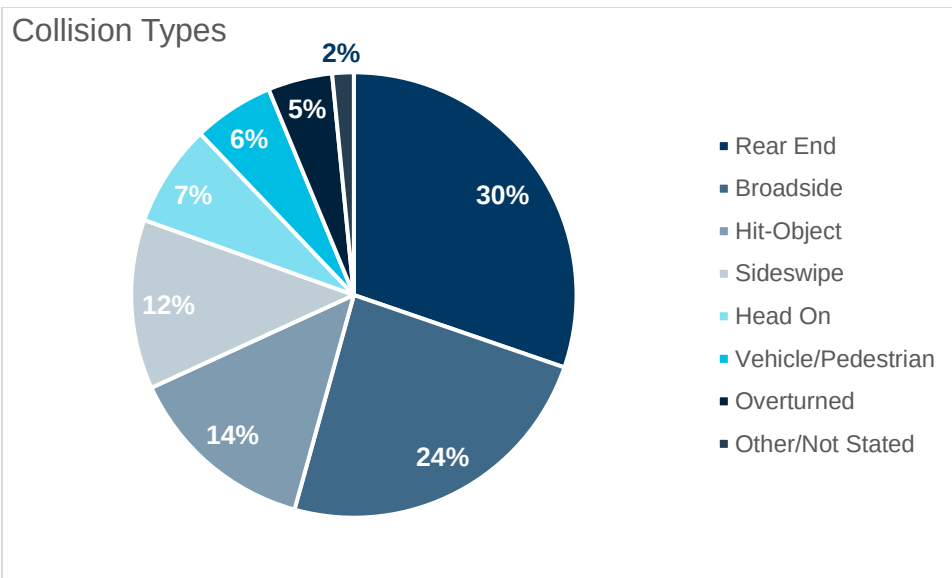
The highest number of fatal collisions occurred between Downtown Redding and the City of Anderson, where the speed limits are higher, and the total roadway cross-section is wider than other locations along the corridor. Severe injury collisions are concentrated in the southern portions of the corridor study area.



Note: Light Blue = Severe Injury Collisions; Dark Blue = Fatal Collisions.

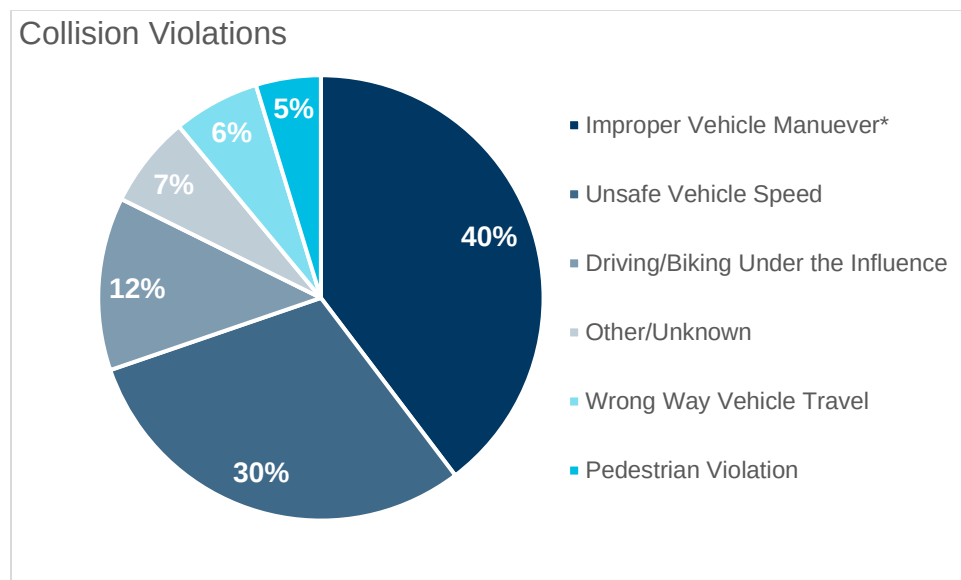
Collision Types

Rear ends and broadside collisions were the most common collision types, representing over half of the collisions reported.



Collision Violations

The top violation categories of the reported collisions were unsafe speed and improper vehicle maneuvers (*including improper turning, passing, and starting/backing, among others).



Ongoing Trends – 2023 Fatalities

The decrease in total collisions in 2022 shown in the collision data summary table could be attributed to a variety of factors. However, this data does not suggest that safety is not a primary concern along the corridor, as severe and fatal collisions continue to occur. Just within the month of September 2023 (outside the range of available crash data at the time of analysis), two pedestrian fatalities occurred on SR 273.

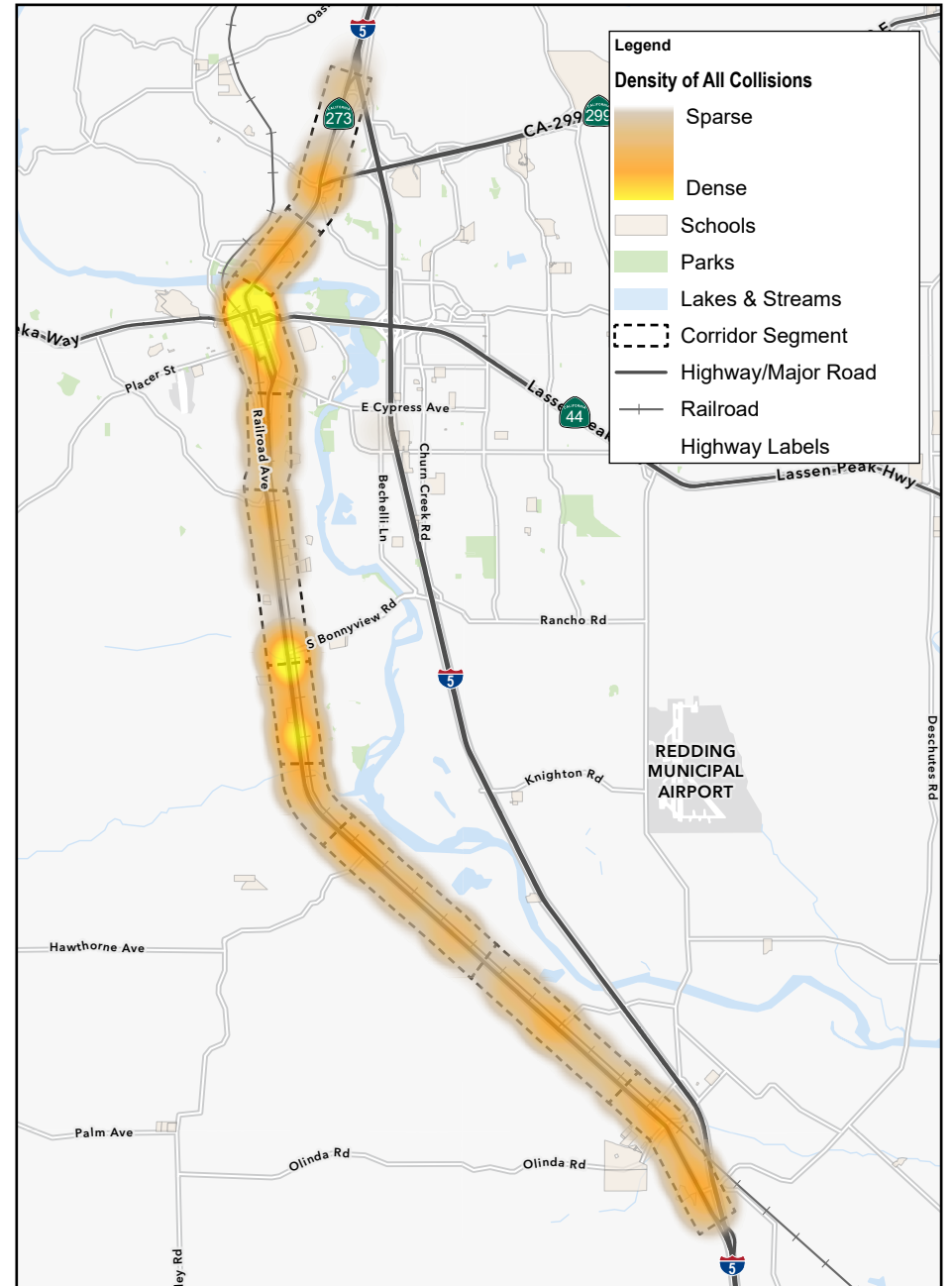
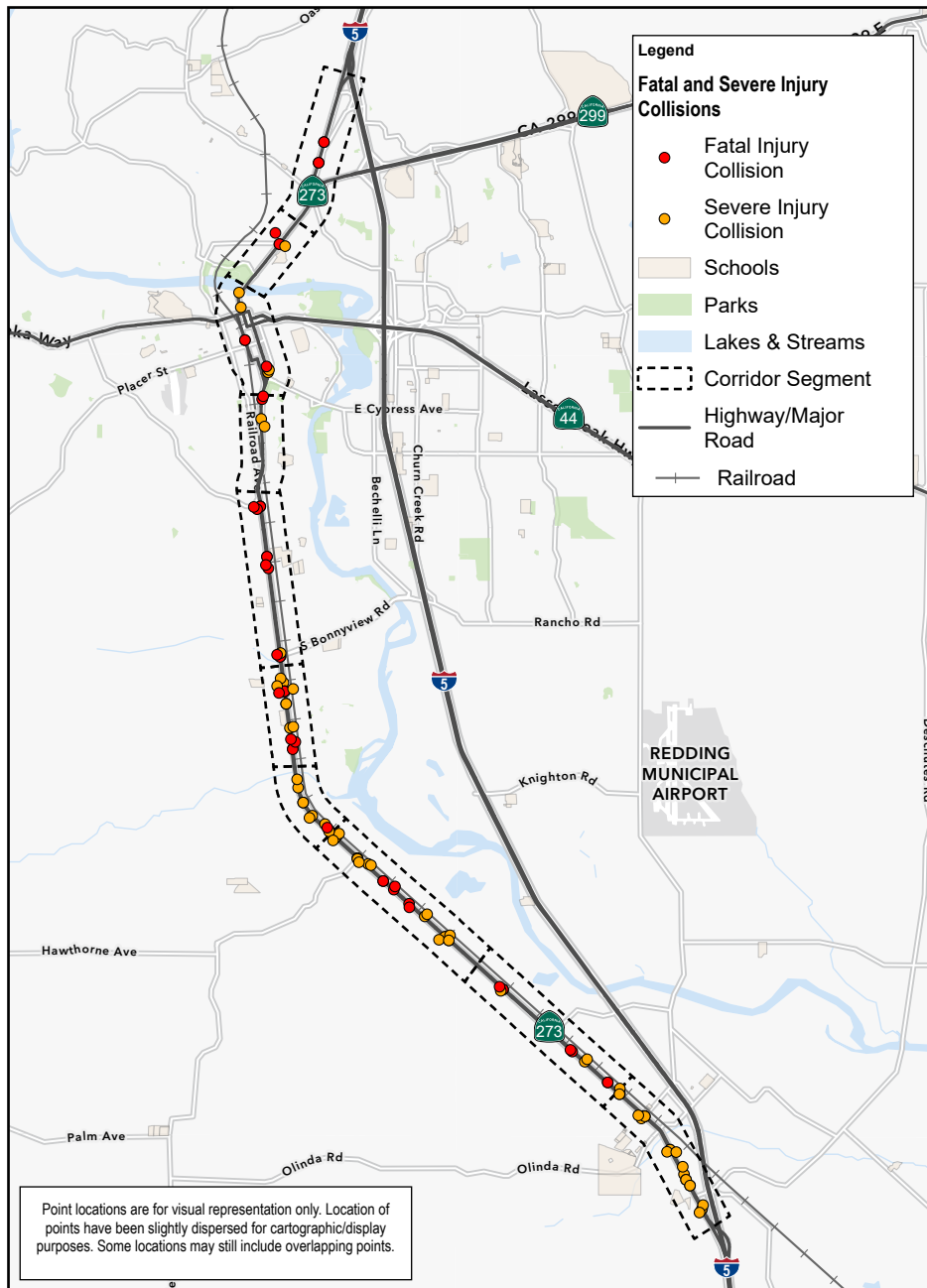
One of these fatal collisions occurred on a Thursday around 8:20 PM, when a driver traveling southbound on SR 273 struck a pedestrian just north of the intersection with Redding Rancheria Road. The second fatal collision occurred the following morning (Friday) around 6:16 AM, when a driver traveling northbound on SR 273 struck a pedestrian just south of the intersection with Girvan Road.

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Table 8 5-Year Collision Summary by Segment

ID	Segment Extent (Approximate)	By Severity					By Type							Violation							By Year				
		Fatal	Severe Injury	Injury (Other Visible)	Injury (Complaint of Pain)	Property Damage Only	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Vehicle/Pedestrian	Other	Unsafe Speed	Vehicle Driver Error	Wrong Way	Pedestrian	Traffic Signal and Sign	DUI/BUI	Other	2018	2019	2020	2021	2022
1	I-5 Ramps to south of Lake Blvd	2		7	10	10	3	1	9	12	3			10	7	2	1	6	2	1	10	5	2	9	3
2	South of Lake Blvd to Sacramento River	1	1	7	12	12	1	4	13	2	9	1	1	15	6	6	1	2	2	1	5	8	8	10	2
3	Sacramento River to south of Cypress Ave	2	2	26	22	48	10	16	24	26	12	4		29	28	8	6	14	9	6	18	20	22	30	10
4	South of Cypress Ave to north of Buenaventura Blvd	1	1	6	10	12	2	4	6	10	4	1		5	7	3	2	6	5	2	5	7	5	8	5
5	North of Buenaventura Blvd to south of S Bonnyview Rd	5	1	18	10	25	4	11	20	10	7	2	1	20	9	4	3	7	11	5	11	13	18	10	7
6	South of S Bonnyview Rd to south of Girvan Rd	3	5	13	11	23	4	4	32	9	2	2		28	9	2	2	8	5	1	11	15	12	12	5
7	South of Girvan Rd to Metz Rd		4	6	6	8	2	2	7	5	2	3		4	7		3		4	6	3	4	4	11	2
8	Metz Rd to south of Latona Rd	4	10	11	10	26	2	7	9	20	9	8	2	13	27	2	3	2	9	5	5	15	15	12	14
9	South of Latona Rd to north of Briggs St	3	2	7	12	23	3	6	14	6	12	3	1	13	20		1	4	5	4	6	10	8	15	8
10	North of Briggs St to I-5 Ramps		12	12	11	36	7	6	21	23	10		2	16	22	5	2	9	11	6	9	8	18	19	17

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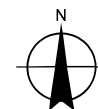
Envision 273: SR 273 Multimodal Corridor Plan

STUDY AREA COLLISION OVERVIEW (ALL CRASHES, 2018 TO 2022)

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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FIGURE 17

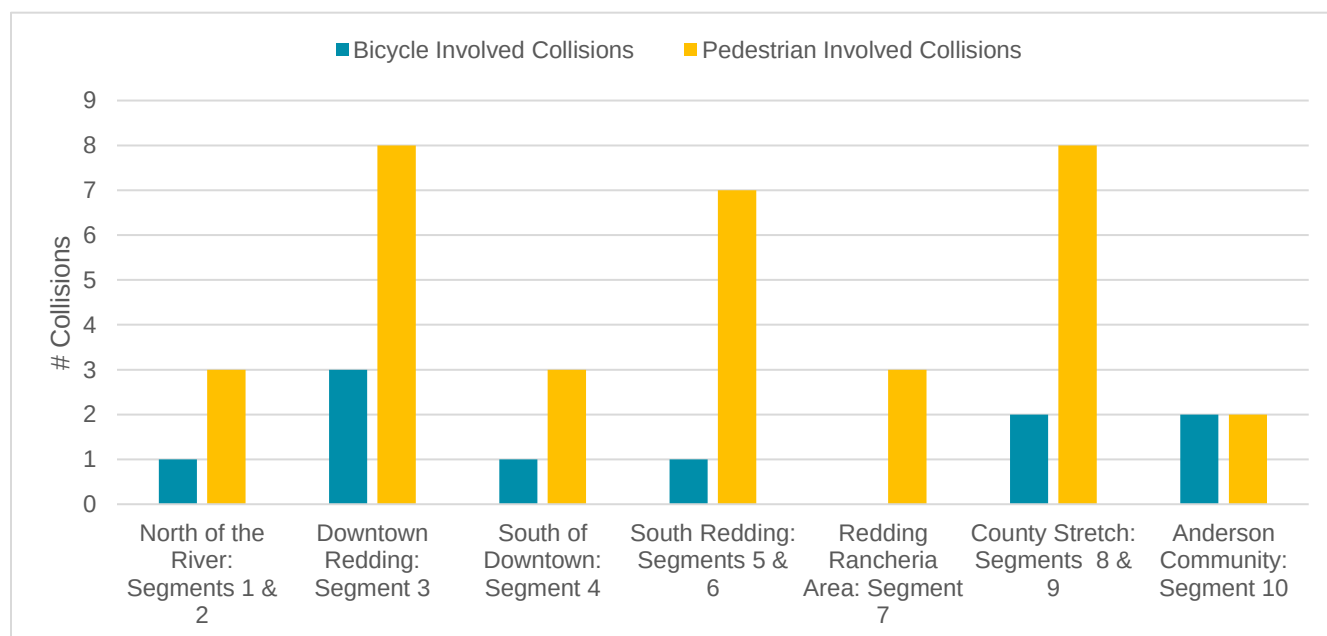
Bicycle & Pedestrian Collisions

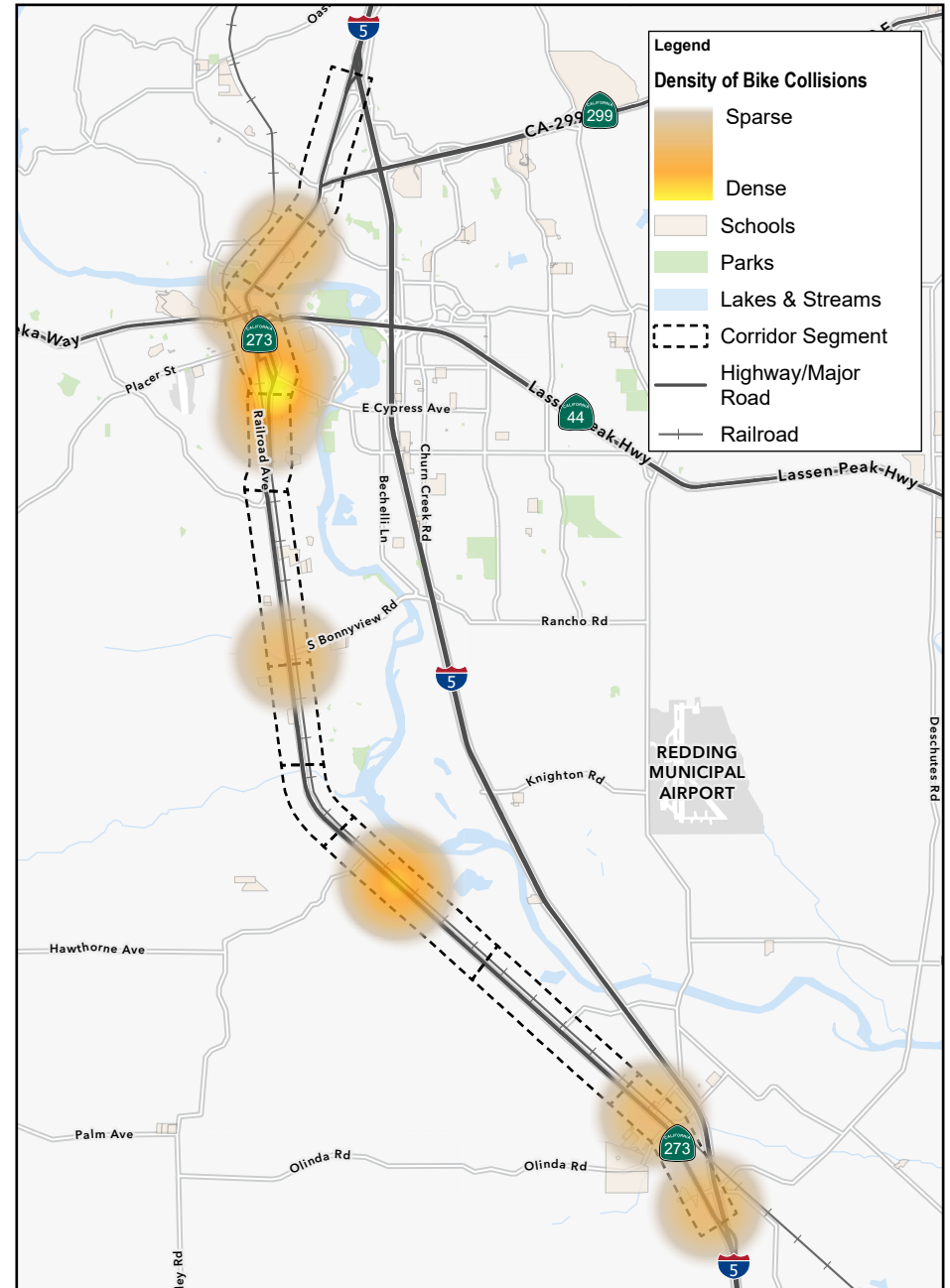
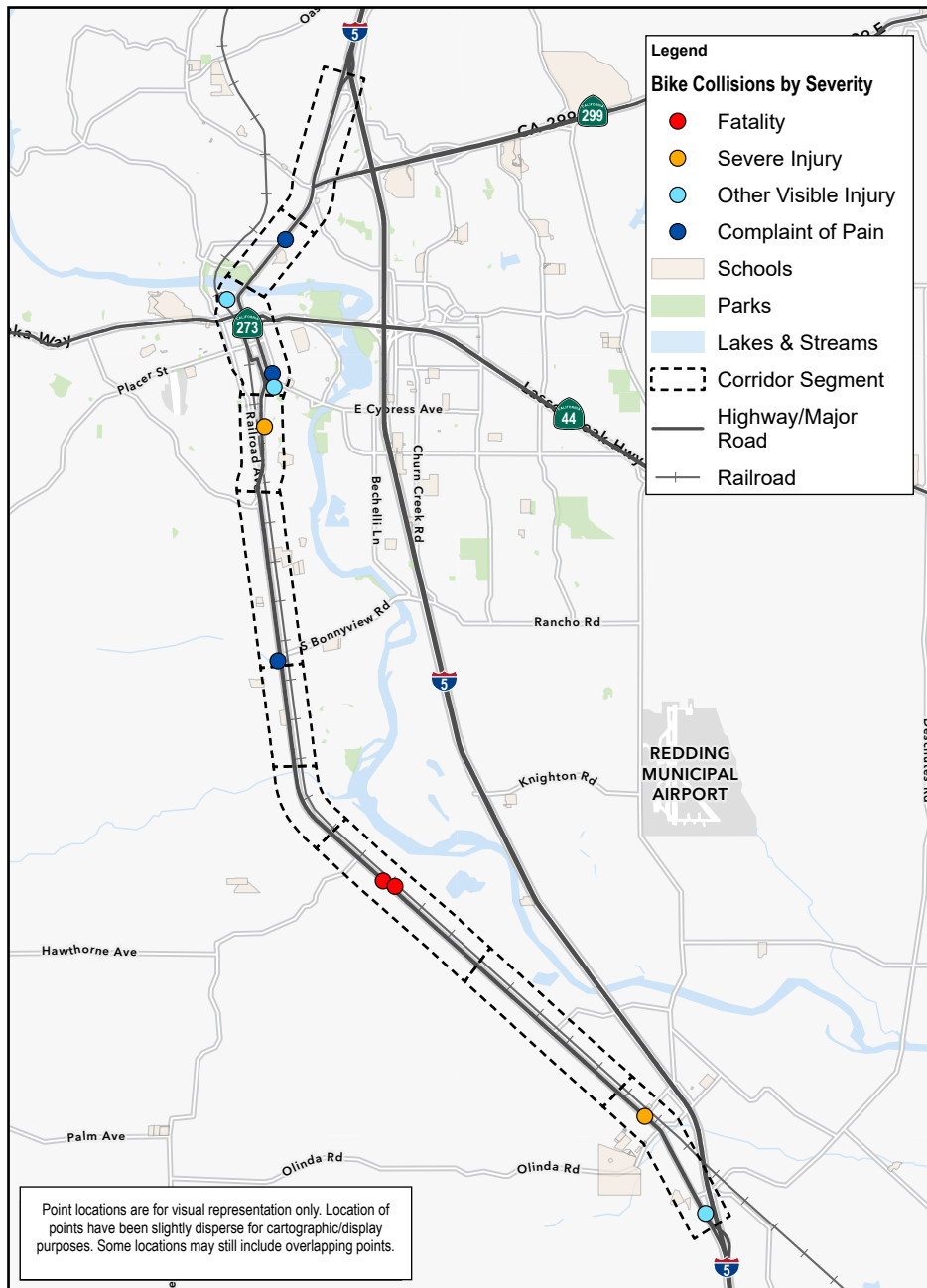
Within the five-year analysis period, there were 10 collisions that involved a bicyclist and 34 collisions that involved a pedestrian. Of those, two resulted in bicyclist fatalities and 12 resulted in pedestrian fatalities. Both bicycle and pedestrian collision hotspots are in Downtown Redding. Table 9 presents a summary of bicycle and pedestrian collisions per segment. Figure 18 and Figure 19 present the collision locations and hot spots of bicycle and pedestrian collisions, respectively.

As shown, bicycle crashes are concentrated in the southern portion of Downtown Redding near Cypress Avenue, while pedestrian crashes are concentrated in the central and northern portions of Downtown Redding. However, the two bicyclist fatalities were located within Segment 8, both occurring at or near Thomas Road, and the highest number of pedestrian fatalities (four) occurred within Segment 5. *Note: Additional bicycle or pedestrian fatalities occurring after 2022 are not included in this analysis. However, as described above in “Ongoing Trends – 2023 Events”, these types of collisions continue to occur.*

Table 9 *Bicycle & Pedestrian Collisions by Segment*

ID	Segment Extent (Approximate)	Bicycle Involved	Bicyclists Fatalities	Pedestrian Involved	Pedestrian Fatalities
1	I-5 Ramps to south of Lake Blvd			1	1
2	South of Lake Blvd to Sacramento River	1		2	
3	Sacramento River to south of Cypress Ave	3		8	1
4	South of Cypress Ave to north of Buenaventura Blvd	1		3	1
5	North of Buenaventura Blvd to south of S Bonnyview Rd	1		5	4
6	South of S Bonnyview Rd to south of Girvan Rd			2	1
7	South of Girvan Rd to Metz Rd			3	
8	Metz Rd to south of Latona Rd	2	2	5	2
9	South of Latona Rd to north of Briggs St			3	2
10	North of Briggs St to I-5 Ramps	2		2	





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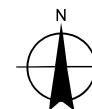
STUDY AREA COLLISION OVERVIEW (BIKE CRASHES, 2018 TO 2022)

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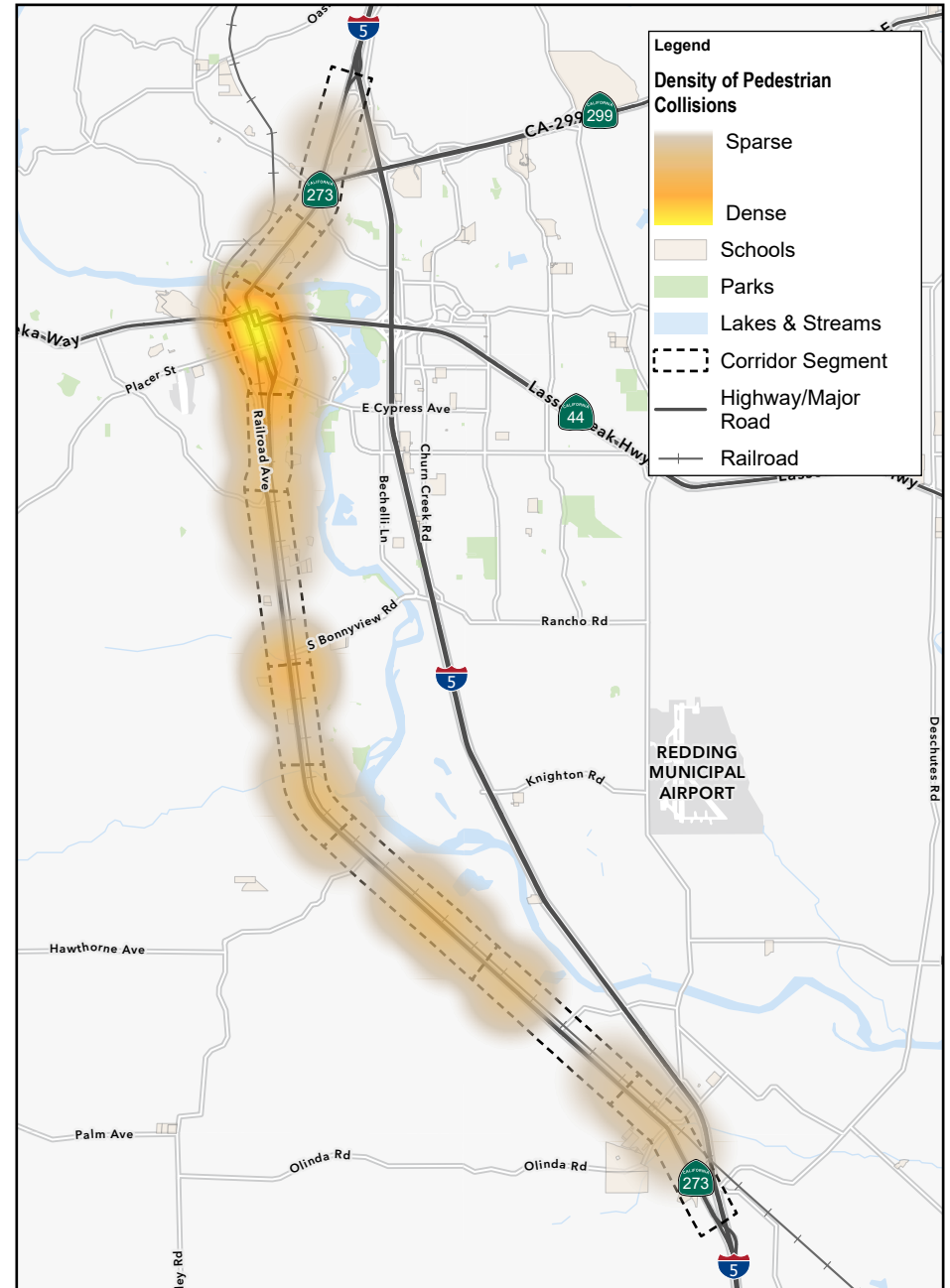
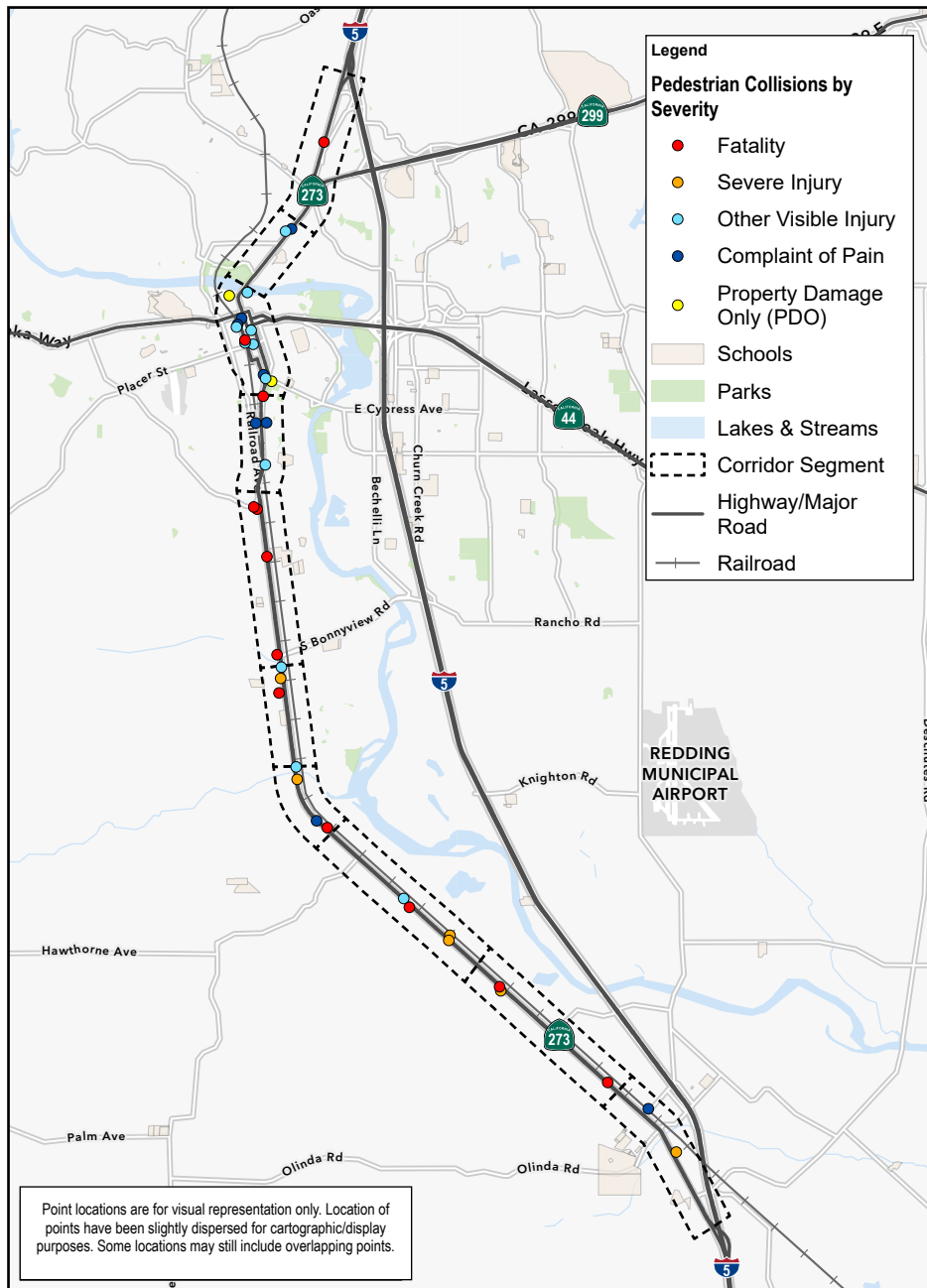
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Map Projection: Lambert Conformal Conic
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FIGURE 18



Envision 273: SR 273 Multimodal Corridor Plan

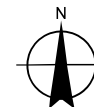
STUDY AREA COLLISION OVERVIEW (PEDESTRIAN CRASHES, 2018 TO 2022)

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Map Projection: Lambert Conformal Conic
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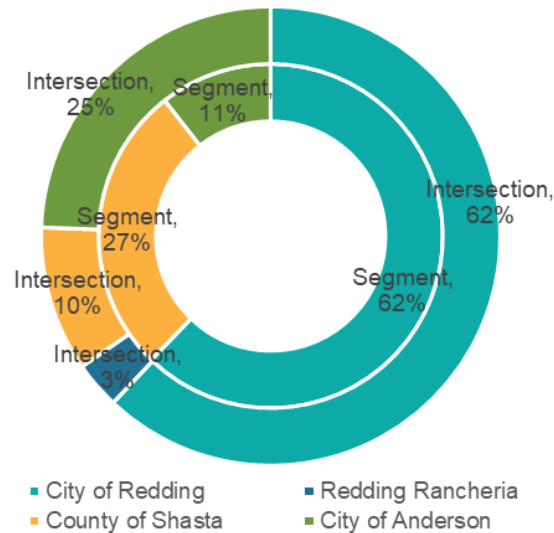


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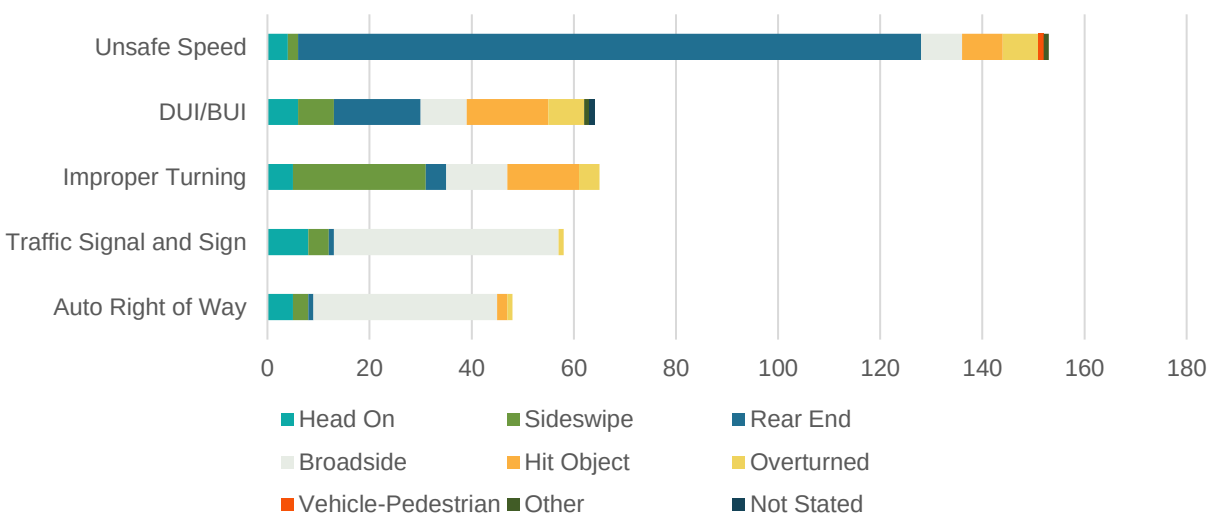
FIGURE 19

Collisions at Intersections

Of the 512 collisions on SR 273 between 2018 and 2022, around 65 percent were at intersections. For this analysis, an intersection collision was identified as any collision within 50 feet of an intersection or a multi-vehicle, rear-end collision within 150 feet of an intersection. The graphic to the right shows the collisions by location along the SR 273 corridor. As displayed, most of the collisions along the corridor occurred in the City of Redding.



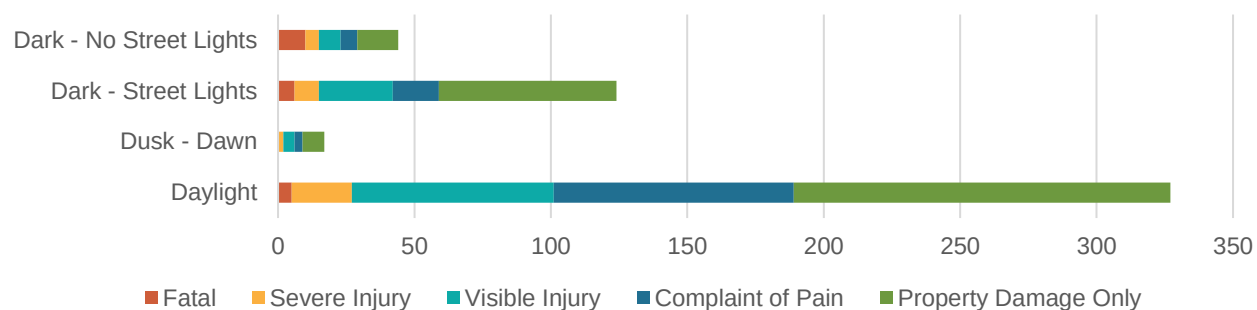
The graphic below shows the breakdown of collision types by violation categories for collisions that occurred at an intersection along the corridor.



Non-Daylight Collisions

Within the five-year analysis period, most collisions occurred during daylight hours. However, more fatal collisions occurred during non-daylight hours (i.e., during dusk, dawn, or dark conditions). Of 21 total

fatalities, six occurred during dark conditions where streetlights were recorded to be present, and 10 occurred during dark conditions where streetlights were not recorded to be present. The following graphic shows the breakdown of collision severities by lighting conditions.



The following tables summarize collision severity and location (by segment) of collisions that occurred during non-daylight conditions. As shown, most non-daylight collisions occurred within the segments south of South Bonnyview Road towards the southern portion of the City of Redding and through the County segments north of the City of Anderson.

Table 10 Collision Severity by Lighting Conditions

	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Property Damage Only
Daylight	24%	58%	65%	77%	61%
Dusk or Dawn	0%	5%	4%	3%	4%
Dark - Street Lights	29%	24%	24%	15%	29%
Dark - No Street Lights	48%	13%	7%	5%	7%

Table 11 Non-Daylight Collisions by Segment

Segment	Segment Extent (Approximate)	% Occurred during Non-Daylight Conditions	Total Collisions (2018-2022)
1	I-5 Ramps to south of Lake Blvd	31%	29
2	South of Lake Blvd to Sacramento River	21%	33
3	Sacramento River to south of Cypress Ave	30%	100
4	South of Cypress Ave to north of Buenaventura Blvd	33%	30
5	North of Buenaventura Blvd to south of S Bonnyview Rd	34%	59
6	South of S Bonnyview Rd to south of Girvan Rd	47%	55
7	South of Girvan Rd to Metz Rd	46%	24
8	Metz Rd to south of Latona Rd	43%	61
9	South of Latona Rd to north of Briggs St	30%	47
10	North of Briggs St to I-5 Ramps	44%	71

Mobility Trends

This chapter highlights existing mobility trends for all travel modes within the corridor study area. Mobility trend data for vehicle, bicycle, pedestrian, and freight travel modes are based on Replica estimates for typical weekday (Thursday) conditions during Fall 2022. Replica is a “big data” platform that provides traffic volume estimates based on a variety of sources, including mobile location data. Mobility trend data for these travel modes are presented and summarized based on the overall distribution of trips, rather than actual volumes of trips, within the study area.

Mobility trend data for transit trips is based on ridership survey data for select dates during March and April 2023, provided by RABA. The ridership summary data includes an average of weekday ridership (onboard and offboard) for the routes provided.

Mode Split & Auto Ownership

Mode share is the percentage of travelers or of trips made using available forms of transportation (walking, bicycling, public transportation, private automobile, or freight truck). Mode share for the percentage of travelers is estimated based on Replica estimates for typical weekday (Thursday) conditions during Fall 2022 for each study segment.

Replica Fall 2022 weekday data was reviewed using two approaches. The first approach examines trips that occurred on SR 273 using a sample set of locations distributed along the corridor. The second approach considers trips that occur within the study segment boundaries and represents trips made to destinations outside SR 273. The later approach includes some trips that may not have occurred directly on SR 273, as the study segment boundaries extend for 0.5-mile on either side of the corridor centerline.

Both approaches are useful in understanding how individuals travel within the study area. While this Plan does not directly make recommendations for improvements beyond SR 273 right-of-way (ROW), the increase in non-auto trips within study segments compared to the highway suggests the presence of locally serving destinations within the vicinity of the corridor that may currently be inaccessible to additional travellers due to the presence of SR 273. In addition, Replica data shows a high level of non-auto trips using SR 273 frontage roads, including Westside Road and Eastside Road.

The results of the modal split assessment are summarized in the following table. As shown, automobile trips (including both single-occupancy and multiple occupant trips) far outweigh non-auto trips, with approximately 11-times more trips made by a car than by bicycle or foot. However, when evaluating trips occurring within study segment boundaries, the proportion of trips made by foot increase by four-times.

Table 12 Study Area Mode Split (Excluding Transit Trips)

Mode	% Calculated Using	
	SR 273 Network Links ¹	Corridor Segments ²
Auto	88%	80%
Freight Truck	7%	7%
Bike	2%	3%
Walk	2%	8%
Other	0%	2%

¹ Includes trips for a sample set of network links on SR 273, only

² Includes trips on all network links within study segments

The results of the household private vehicle availability assessment are summarized below. As shown, approximately 7 percent of trips made within the corridor study area were made by individuals without household access to a private automobile. Of those trips with origins or destinations within study segments, the majority of trips were made by walking and biking.

Table 13 Private Auto Availability

Private Vehicle Availability	% Calculated Using		Average
	SR 273 Network Links ¹	Corridor Segments ²	
No vehicles	4%	10%	7%
One vehicle	21%	20%	20%
Two vehicles	37%	36%	37%
Three+ vehicles	36%	32%	34%
No data	2%	2%	2%

¹ Includes trips for a sample set of network links on SR 273, only

² Includes trips on all network links within study segments

Table 14 Mode Split for Non-Auto Owners

Mode	Share		
	Origin	Destination	Pass-Through
Walking	37%	37%	8%
Biking	30%	31%	51%
Other	17%	17%	-
Auto passenger	14%	13%	34%
Taxi/TNC	2%	2%	7%

Trip Purposes

Trip purposes were calculated for all trips made to destinations within the study segments. These values include both trips made to destinations directly on SR 273 as well as on parallel streets within the segment boundaries (i.e., not directly located on SR 273), as the study segments include a 1/2 -mile buffer on either side of the corridor. Trip purposes, as defined by Replica, include:

- Home includes all trips to a person's own home.
- Work includes all trips that ended at a person's workplace (for example, return trips from lunch), not just commute trips.
- Lifestyle trips include the following categories:
 - Eat includes all trips to restaurants.
 - Social includes all trips to visit someone else's home.
 - Shop includes all trips to gas stations, grocery stores, post offices, pharmacies and drug stops, retail shops, among others.
- Commercial includes all trips by medium and heavy trucks for deliveries and other commercial purposes.
- Recreation includes trips to recreational destinations.
- Other trips include trips made to schools, for errands, lodging, among others.

Table 15 Trips by Purpose to Destinations within Study Segments

Segment Destination	Home	Work	Lifestyle*	Commercial	Recreation	Other
1	11.7%	9.4%	16.9%	20.5%	8.8%	11.6%
2	6.4%	1.8%	3.0%	3.0%	3.9%	17.0%
3	20.7%	46.5%	31.8%	17.5%	37.8%	14.6%
4	15.6%	9.7%	8.0%	7.7%	7.0%	9.1%
5	8.2%	5.8%	7.9%	9.7%	4.3%	14.8%
6	8.7%	4.2%	5.2%	7.6%	4.5%	9.1%
7	0.6%	2.0%	1.1%	1.2%	13.9%	-3.6%
8	3.0%	2.1%	1.0%	4.9%	1.1%	4.8%
9	5.7%	5.5%	1.5%	15.8%	2.0%	5.1%
10	19.4%	13.0%	23.6%	12.1%	16.7%	17.6%

*Lifestyle includes trips made for shopping, eating, or errand purposes.

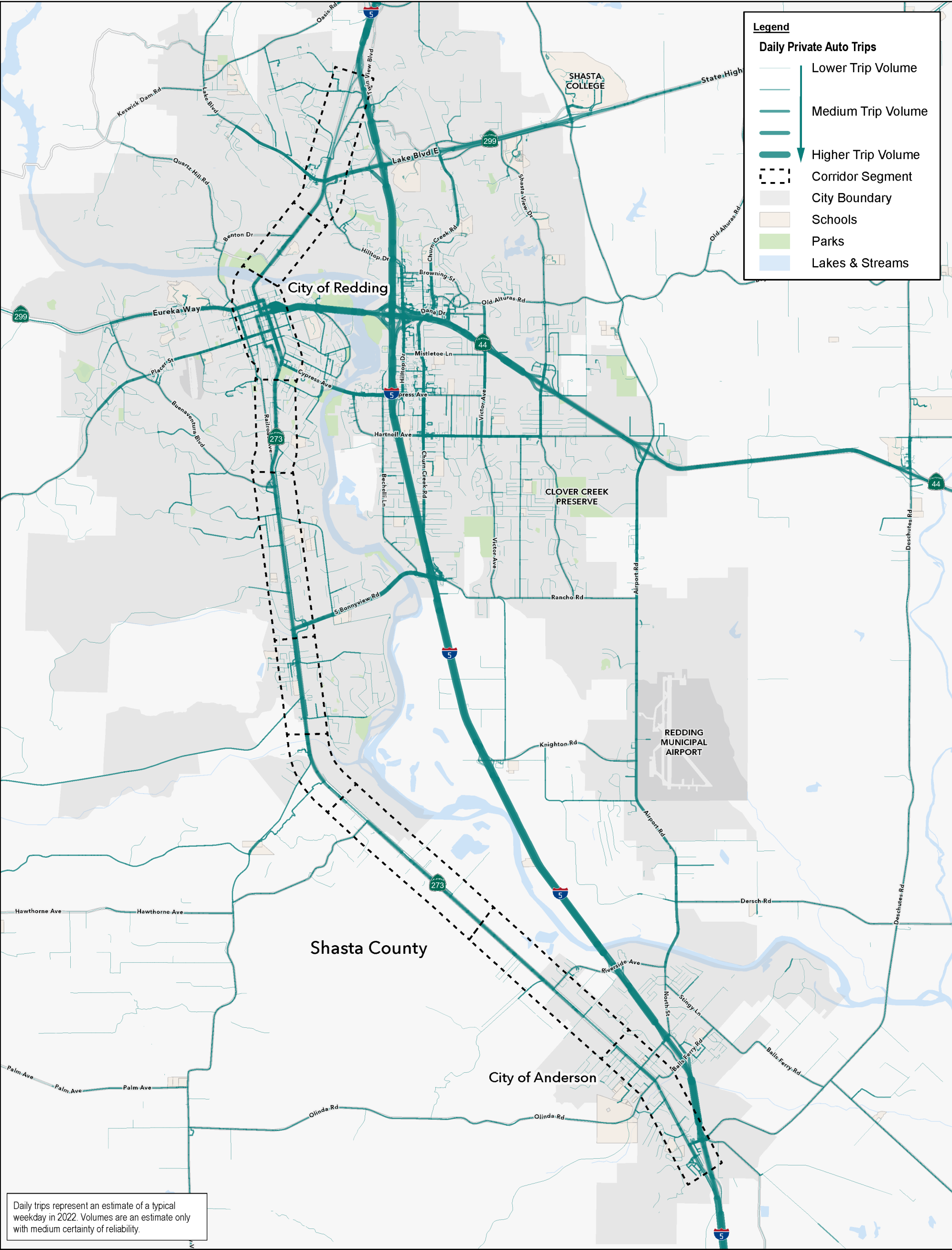
As shown in the above table, most trip purposes for trip destinations within the study segments are for lifestyle purposes (to shop, eat, or run errands), which reflects the presence of retail located along the corridor. Work trips are the second highest across most segments, with most work destinations occurring in Segment 3 (Downtown Redding), Segment 7 (near Redding Rancheria), and Segment 9 (north of Downtown Anderson). Home trips are also relatively high, accounting for portions of the segments that include residential locations.

Summary

Mobility trends are summarized below and illustrated in the following figures. Trip distributions are based on estimates and are intended to provide an illustration of the distribution of trips by mode, rather than specific information related to trip volumes.

- **Vehicle Mobility Trends:** Vehicle trips are dispersed throughout the study area based on the location and density of residential, retail, and work destinations. Volumes are the highest near Downtown Redding, which provides connections to I- 5 via SR 44.
- **Bicycle Mobility Trends:** Bicycle trips are concentrated in Downtown Redding where there is a higher presence of bicycle infrastructure and connections to the trail network and recreational paths. However, bicycle trips occur within each segment along the corridor, regardless of the existence of bicycle infrastructure.
- **Pedestrian Mobility Trends:** Pedestrian trips are concentrated near Downtown Redding and Anderson. South of Downtown Redding and in the County, minimal amounts of trips are made by walking. However, there is a slight increase in trip proportions within Segment 6 between South Bonnyview Road and Girvan Road.
- **Transit Mobility Trends:** Transit trips, based on boarding and alighting 2023 data provided by RABA. Most transit trips start and end in the City of Redding, with the highest concentration occurring within Downtown Redding.
- **Freight Mobility Trends:** Freight truck trips occur on major roadways classified as truck routes, including SR 273, I-5, SR 44, SR 299, as well as major arterials.

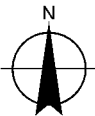
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Envision 273: SR 273 Multimodal Corridor Plan

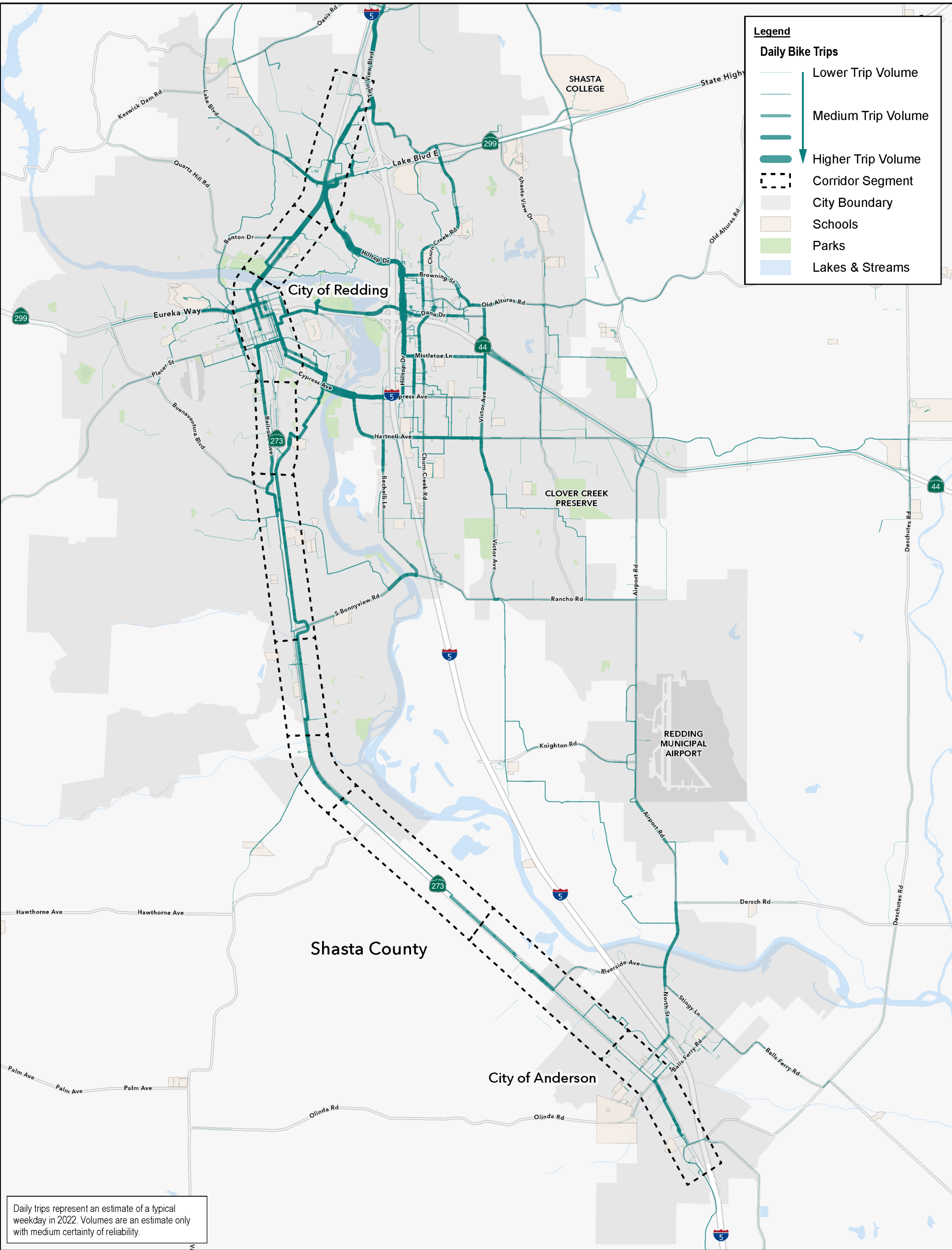
PRIVATE AUTO VEHICLE MOBILITY TRENDS

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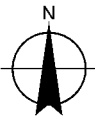
FIGURE 20



Envision 273: SR 273 Multimodal Corridor Plan

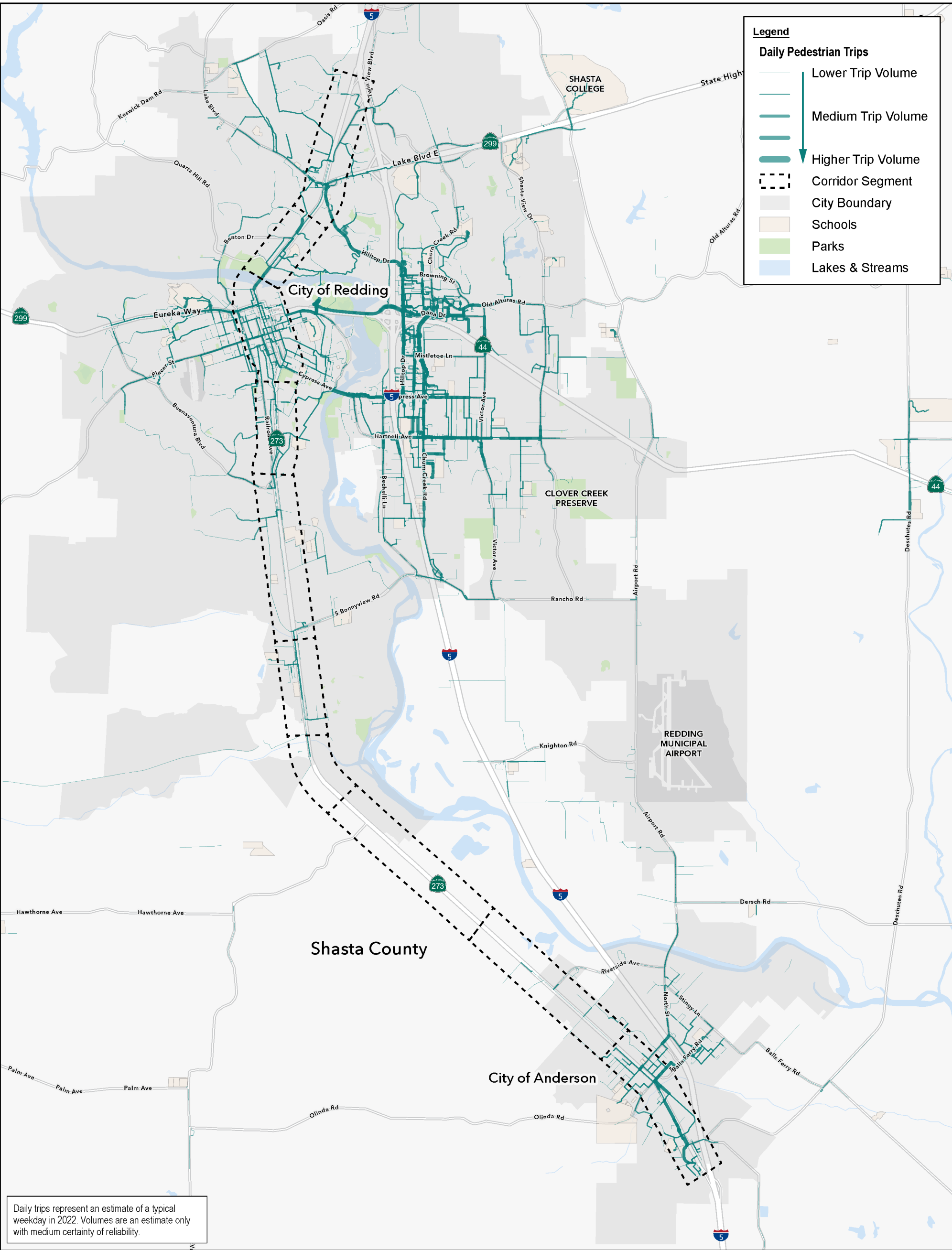
BICYCLE MOBILITY TRENDS

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FIGURE 21



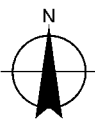
Daily trips represent an estimate of a typical weekday in 2022. Volumes are an estimate only with medium certainty of reliability.



Envision 273: SR 273 Multimodal Corridor Plan

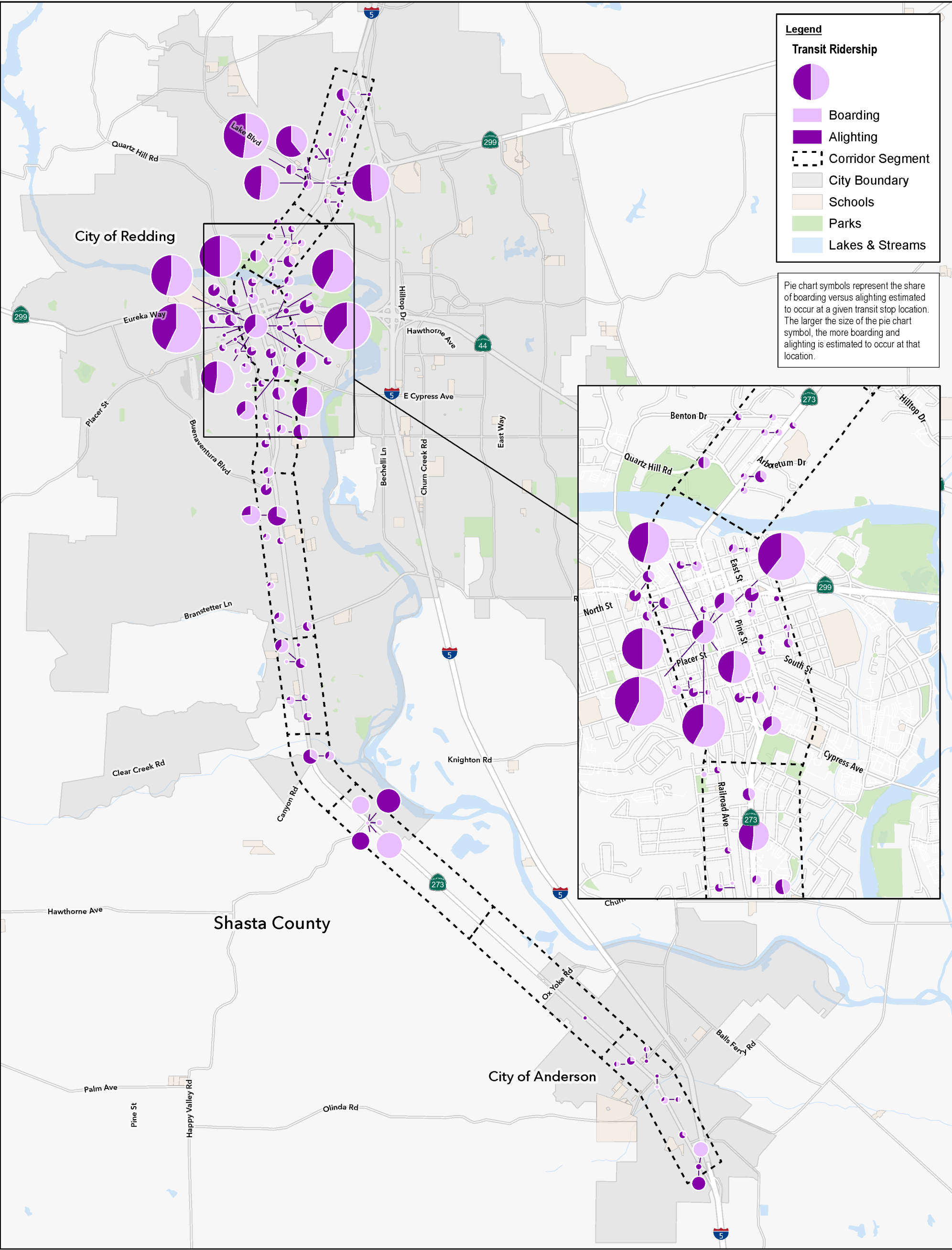
PEDESTRIAN MOBILITY TRENDS

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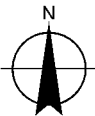
FIGURE 22



Envision 273: SR 273 Multimodal Corridor Plan

TRANSIT BOARDING & ALIGHTING

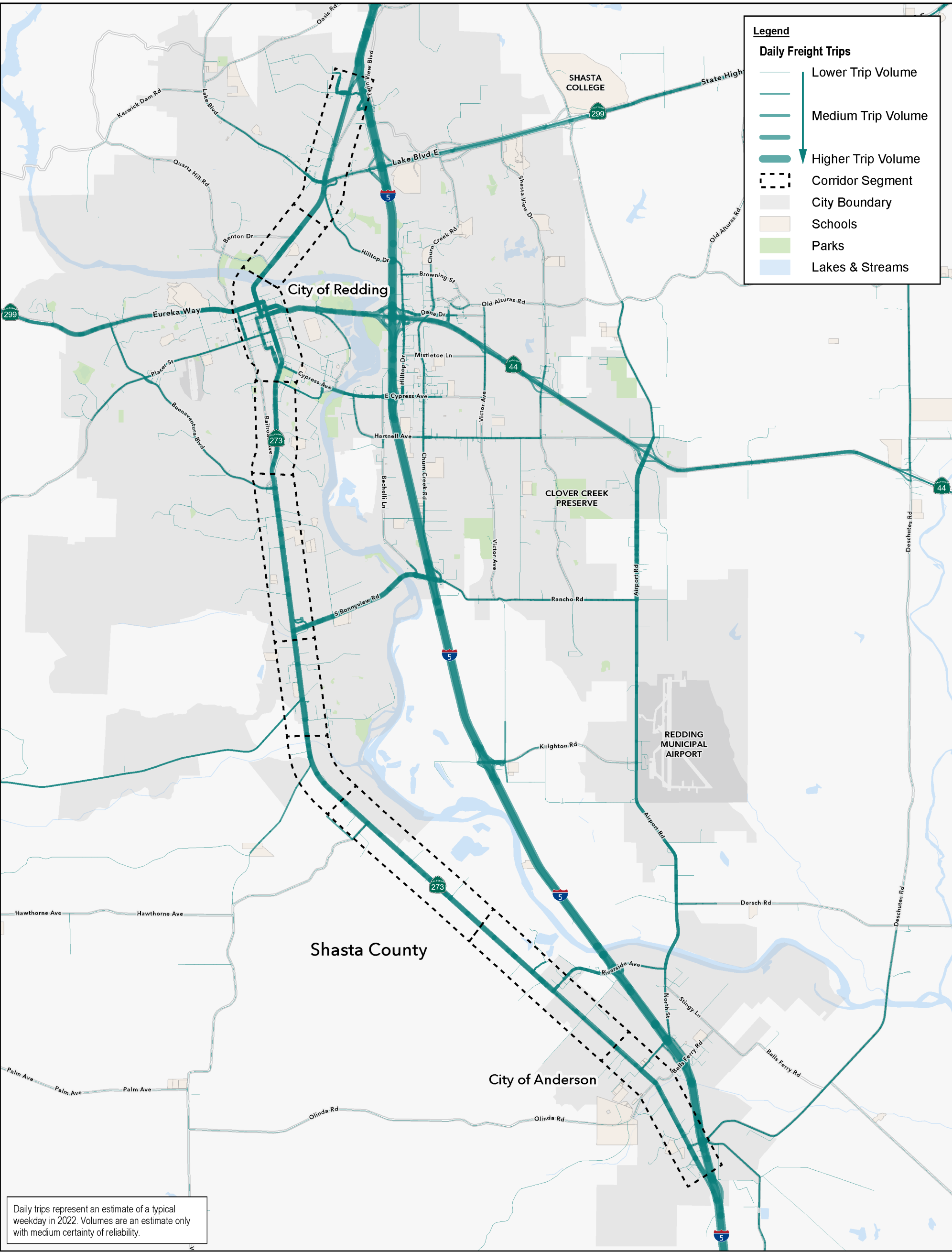
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FIGURE 23

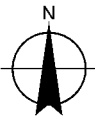
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Print date: 26 Sep 2023 - 16:01
Data source: City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, City of Redding GIS, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, Bureau of Land Management, EPA, NPS, USDA, Transit Stops, Boarding and Alighting: RABA. Created by: pheel



Envision 273: SR 273 Multimodal Corridor Plan

FREIGHT VEHICLE MOBILITY TRENDS

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FIGURE 24

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4 CORRIDOR PERFORMANCE

This chapter provides a corridor performance assessment. The assessment establishes a baseline against which improvement recommendations may be measured, ensuring the resulting improvement recommendations are balanced, sustainable, and multimodal.

Performance Measure Framework

To determine the performance measures to assess corridor performance, coordination with the following guiding documents regarding goals, objectives, and measures was considered. These documents include guidelines for performance assessments within multimodal corridor plans that aim to address safety issues and multimodal infrastructure deficiencies while improving corridor performance for all travel modes, including walking, biking, private vehicle, freight truck, transit, and rail, with specific emphasis and prioritization on improving conditions for DACs.

Caltrans Corridor Planning Process Guide, 2020

This guide establishes a comprehensive planning approach through desired protocols and procedures to identify and implement multimodal transportation needs. A key component of this guide is the emphasis on conducting a baseline performance assessment of the corridor to highlight the relationship between identified issues and their causes. Improvement strategies are also evaluated to determine the potential benefits to the corridor, in terms of corridor performance.

The key components of successful multimodal corridor plans include:

- **Corridor Performance Assessment:** Including assessment of the roadway network for private vehicles and freight trucks related to vehicle miles traveled (VMT), traffic bottlenecks, travel time reliability, safety, and pavement conditions, for example.
- **Transit and Rail Network Assessment:** Assess the type and frequency of transit services within the corridor, as well as availability and accessibility of transit modes.
- **Complete Streets/Active Transportation Assessment:** Assess active transportation mobility regarding demand (mode split), accessibility, safety, and comfort.

Goals and objectives within this guide include:

- Improve travel safety: Reduce accident rate for collisions, injuries, and fatalities.
- Improve mobility/system efficiency: Reduce recurrent congestion and hours of peak hour excessive delay.
- Improve mobility/system reliability: Reduce non-recurrent congestion, improve travel time reliability, and reduce non-recurrent person hours delay.
- Reduce greenhouse gas emissions and pollutant emissions in support of State goals and standards.
- Improve Multimodal Access:
 - Reduce Single Occupancy Vehicle travel demand in peak period / Increase alternative mode share.
 - Improved access to multimodal choices system connectivity, or gap closure.
 - Improved transit service frequency and decrease average wait time for transit service.
- Support Economic Opportunity: Improve freight travel time reliability and increase access to jobs.

Caltrans Smart Mobility Framework Guide, 2020

The fundamental premise of the Smart Mobility Framework is to ensure that planning or programming decisions for transportation improvements are performance based, transparent, and address sustainable outcomes and objectives. The performance metrics selected for the Plan are consistent with Smart Mobility Framework objectives to ensure that the resulting improvement recommendations provide a balanced, sustainable, and multimodal assessment of current and forecast corridor conditions.

The Smart Mobility Framework is premised on five themes:

- Network Management
- Multimodal Choices
- Speed Suitability
- Accessibility and Connectivity
- Equity

In addition to the five themes, place types are discussed as a method of implementing smart mobility by identifying planning and project development priorities. The place types below are based on various characteristics, including location, land use, population density, and others.

- Central Cities
- Urban Communities
- Suburban Communities
- Rural Areas
- Protected Lands and Special Use Areas

SRTA Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) for the Shasta Region (2022)

SRTA has developed regionally specific performance measures that are tied to specific goals and strategies as part of the RTP/SCS, which include:

- Increase travel mode share for carpooling, biking, walking, and public transit;
- Increase (in miles) the non-motorized transportation network;
- Reduce average travel time (in minutes);
- Reduce number of miles of roadways at level of service (LOS) D, E, and F;
- Increase number of jobs and housing within ½ mile of transit stops;
- Reduce vehicle air pollutants (NOx, PM-2.5/PM-10, Ozone) and greenhouse gas (GHG) emissions;
- Reduce vehicle miles traveled (VMT);
- Increase the number (in acres) of agricultural and environmentally-sensitive lands saved from development.

Performance Measures Selected

The performance measures selected are organized within the following categories, as summarized below:

1. Safety
2. Operations & Reliability

3. Mobility & Connectivity
4. Sustainability & Resiliency
5. Equity

Table 16 SR 273 Performance Measures

Performance Measure	Description
Safety	
Total Collisions	Identification of collision hotspots along the corridor and a comparison between corridor segments for all collisions, fatal collisions, severe injury collisions, and bicycle or pedestrian collisions.
Total Fatal Collisions	
Total Severe Collisions	
Total Bicycle or Pedestrian Collisions	
Collision Rate	Collision rate and severity by travel mode and facility, compared to statewide averages for each user group and facility type.
Operations & Reliability	
Travel Time Reliability	Day-to-day variability of travel times between representative origins and destinations by mode, aggregated over corridor or region.
Vehicular Congestion	Identification of "bottlenecks" along the corridor.
Person Throughput	Quantification of total person throughput (all person trips for all travel modes) on the corridor.
Person Hours Delay	Quantification of total person hours of delay on the corridor.
Intersection Level of Service	Intersection peak hour LOS.
Transit Performance	Summary of route-based performance based on transit frequency, reliability, and ridership for stops along the corridor.
Mobility & Connectivity	
Transit Stop Quality	Presence of amenities at transit stops, including sidewalk, bench, or shelter.
Bicycle Origin-Destination Connectivity	Quantify connectivity between nodes (specified POIs) that can be travelled to within the entire or low-stress bicycle network.
Bicycle Level of Traffic Stress	Assessment of comfort level for bicycle facilities within the study area.
Sidewalk Coverage	Identify gaps in the pedestrian network.
Mode Share	Percentage of trips within the corridor occurring by transit, bicycle, or pedestrian travel modes.
Sustainability & Resiliency	
Vehicle Miles Traveled	Quantification of total VMT for all vehicle trips in the corridor.
Air Quality & Emissions	Estimates of GHG emissions based on metrics related to VMT, mode split, and vehicular congestion.
Emergency Evacuation	Projects that facilitate emergency evacuations during extreme weather events. Also, projects that update infrastructure to withstand extreme weather events (e.g., wildfires and flooding).
Equity	
DACs	Projects that improve equitable outcomes and address the needs of underrepresented and underserved populations.

Performance Measure Methodology

Safety

A collision analysis was conducted based on historical collision data within the project limits. The limits for collision analysis on this project include SR 273 from its northernly terminus at I-5 in the City of Redding to its southernly terminus at I-5 in the City of Anderson.

Historical data for the most recent and complete 5 years (January 1, 2018 to December 31, 2022) was collected from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS).

Additionally, collision rates were calculated for segments where annual average daily traffic volumes (AADT) were provided by Caltrans (2020 AADT, Caltrans). These collision rates were compared against California's average collision rate for similar highway facilities (per million entering vehicles).

Operations & Reliability

Travel Time Reliability

TTR is defined as the variation in travel time for the same trip from day to day ("same trip" implies a trip made with the same purpose, from the same origin, to the same destination, at the same time of the day, using the same mode, and by the same route). If variability is large, the travel time is considered to be unreliable, because it is difficult to generate consistent and accurate estimates for it. If there is little or no variation in the travel time for the same trip, the travel time is considered to be reliable.

The National Performance Management Research Data Set (NPMRDS) speed data was used for baseline travel time reliability analysis. The following performance metrics for passenger vehicles were generated:

- Buffer time: the additional time a motorist needs to budget to ensure they arrive at their destination at the expected time 95 percent of the time.
- Buffer time index (BTI): normalized buffer time for distance and is expressed as a ratio.

Vehicular Congestion

The National Performance Management Measure for traffic congestion was used to determine the performance of roadway segment operating conditions within the corridor: Uncongested ($\geq 60\%$ of free-flow) vs. Congested ($< 60\%$ of free-flow). Under the federal definition, a roadway is considered congested if peak period travel speeds fall below 60% of free flow speeds. This includes delays experienced at intersections. The analysis is based on NPMRDS speed data collected over a one-year period and reflects the AM/PM peak hours.

Intersection Level of Service

Intersection operations are based on existing traffic data collected at the study intersections (Appendix A).

Intersection operations were quantified using Synchro software through the determination of Level of Service (LOS) at key intersections (Appendix B). LOS is a qualitative metric that describes the experience of motorists. Intersections and approaches are assigned scores from "A" through "F" with A being free-flowing traffic with little to no congestion and F being highly congested. LOS criteria are established to determine whether a given roadway facility provides the desired quality of service. The methodologies used to determine LOS (i.e. delay, speed, density) were based on the Highway Capacity Manual (HCM) 6th Edition.

Transit Performance

For transit performance, the General Transit Feed Specification (GTFS) data was used. GTFS data consists of static and real-time formats. GTFS static data defines a common format for transit schedules with associated geographic data; while GTFS real-time data provides real-time information, such as vehicle positions, service alerts, and trip updates.

GTFS static data, available on the RABA website, along with scheduled and observed arrival time for the duration of January 1st 2023 to June 26th 2023 provided by RABA in excel format for the following routes: 1, 2E, 2W, 3, 4, 5, 6N, 6S, 7, 9, 11, 14, School Express, Anderson Commuter, Crosstown Express, were used in python language, including the pandas library and SQL queries, to calculate schedule adherence and frequency of the transit routes at each stop.

It should be noted that schedule adherence was assumed to have been met if the transit arrived within 5 minutes of scheduled time using an average for the months between January and May. Frequency was calculated for both AM (6:00 AM – 9:00 AM) and PM (3:00 PM – 6:00 PM) peak periods.

Ridership survey data for select dates during March and April 2023 were also provided by RABA. The ridership summary data includes an average of weekday ridership (onboard and offboard) for the routes provided.

Mobility & Connectivity

Transit Stop Quality

Transit stop quality was evaluated based on the presence of amenities at the transit stop, including sidewalk, bench, or shelter. This data was based on available geographic information system (GIS) data via City of Redding or Shasta County and confirmed using Google Earth.

Bicycle Origin-Destination Connectivity

The bicycle origin-destination connectivity analysis was conducted by identifying key points of interest (referred to here as key nodes), as well as disadvantaged areas along the corridor study area. Key nodes include both residential and non-residential key nodes, as well as the identification of those nodes that are located within DACs as defined within this Plan. An overview of the bicycle origin-destination connectivity methodology is provided below.

Connectivity Analysis

The residential and non-residential POIs drove a “percent connected” analysis using the results of the bicycle Level of Traffic Stress (LTS) analysis. The components comprising the connectivity assessment are described in further detail below.

Full Network

The “full network” comprises the complete bicycling network, regardless of the LTS score assigned to the bicycle network link. This serves as the baseline against which to compare the connectivity of the low stress network, and calculate the percent connected of the low-stress bicycling network.

Low-Stress Network

The low-stress network includes bicycle network links that were assigned LTS scores of 1-2, which is a LTS that most of the population (estimated to be approximately 60% of the population) is willing and able to tolerate while biking. Network links with LTS scores of 3-4 are considered high-stress and included as part of the “full network.”

Percent Connected

The percent connected analysis assesses the low-stress connectivity of the bicycling network utilizing the shortest path connections between key nodes via the full bicycling network and the connections of the low stress bicycling network. To calculate the percent connected, the number of connections accessible via the low-stress network is divided by the number of connections via the full bicycling network.

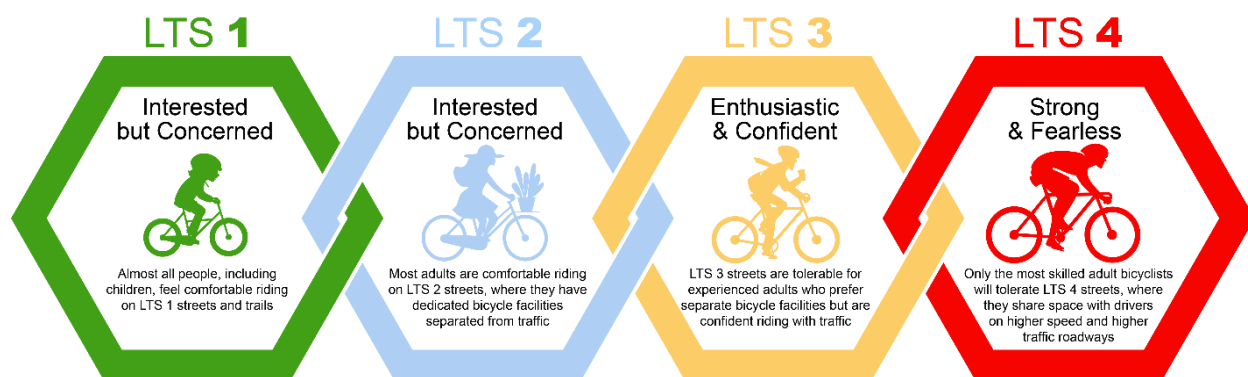
To estimate the effect of bicycle trip length on connectivity, the shortest path bicycle trip distance between key node locations was calculated at a maximum bicycle trip distance of 1.5 miles. Based on the shortest path matrix, the amount of undue detour required to connect an origin destination pair via the low stress network was calculated. If the detour travel distance for any given pair is greater than 25 percent, it is considered “undue” and considered disconnected.

Bicycle Level of Traffic Stress

An overview of the bicycle LTS methodology is provided below.

Bicycle LTS is calculated for roadway segments and intersections using the methods documented in the paper, *Low Stress Bicycling and Network Connectivity*, Mineta Transportation Institute, Report 11-19, May 2012. Bicycle LTS quantifies the stress level of a given roadway segment by considering a variety of criteria, including street width (number of lanes), speed limit or prevailing speed, presence and width of bike lanes, and the presence and width of parking lanes. Bicycle LTS is a suitability rating system of the safety, comfort, and convenience of transportation facilities from the perspective of the user. Moreover, the methodology allows planning practitioners to assess gaps in connectivity that may discourage active users from traversing roadways.

Bicycle LTS scores roadway facilities into one of four classifications or ratings for measuring the effects of traffic-based stress on bicycle riders, with 1 being the lowest stress or most comfortable, and 4 being the highest stress or least comfortable. Generally, LTS score of 1 indicates the facility provides a traffic stress tolerable by most children and less experienced riders, such as multiuse paths that are separated from motorized traffic. An LTS score of 4 indicates a stress level tolerable by only the most experienced cyclists who are comfortable with high-volume and high-speed, mixed traffic environments. LTS 3 and 4 represent high stress conditions for bicyclists and reflect the need for visibility and safety improvements. The figure below presents the four scoring classifications, subsequent tables show the criteria associated with determining the LTS score.



Sidewalk Coverage

Sidewalk coverage is based on the proportion of the corridor with sidewalk infrastructure. This data was based on available Geographic Information System (GIS) data via City of Redding or Shasta County and confirmed using Google Earth.

Mode Share

Mode share is the percentage of travelers or of trips made using available forms of transportation (walking, bicycling, public transportation, private automobile, or freight truck). Mode share for the percentage of travelers is estimated based on Replica estimates for typical weekday (Thursday) conditions during Fall 2022 for each study segment.

Replica Fall 2022 weekday data was reviewed using two approaches. The first approach examines trips that occurred on SR 273 using a sample set of network links distributed along the corridor. The second considers trips that occur within the study segment boundaries and represents trips made to destinations on either SR 273, which includes some trips that may not have occurred directly on SR 273.

Both approaches are useful in understanding how individuals travel within the study area. While this Plan does not directly make recommendations for improvements beyond SR 273 right-of-way (ROW), the increase in non-auto trips within study segments compared to the highway suggests the presence of locally serving destinations within the vicinity of the corridor that may currently be inaccessible to additional travellers due to the presence of SR 273. In addition, Replica data shows a high level of non-auto trips using SR 273 frontage roads, including Westside Road and Eastside Road.

Sustainability & Resiliency

Vehicle Miles Traveled

VMT for the base (2020) years was estimated using existing traffic counts along the corridor to represent a link-based VMT total, rather than a trip-based VMT performance measure expressed per capita. For the future years, and adjusted version of ShastaSIM 2.0 was used to estimate future travel demand and link-based VMT. Please refer to the Future Performance Forecast section of this Chapter.

Air Quality & Emissions

Shasta County is designated as attainment for all federal ambient air quality standards. For the California ambient air quality standards, Shasta County is designated nonattainment for the ozone standard; however, the county is designated as attainment or unclassified for all other California ambient air quality standards. Air quality and emissions are a performance measure applied to assess improvement alternatives. As such, existing air quality and emissions performance is not included in the Plan.

Emergency Evacuation

State highways connect communities to each other and to major population centers. As such, it is common for a single state highway to serve as a community's primary freight truck route, main street, and emergency evacuation route. Projects that support timely emergency evacuations during extreme weather events should be pursued.

Additionally, projects that update infrastructure to withstand extreme weather events (e.g., wildfires and flooding) should be pursued, as many existing assets were not designed to handle such extreme conditions.

Equity

Impacts of construction and benefit of use should be shared across the community regardless of ethnicity, economic situation, or physical ability because improvements developed with public funds are for everyone. Projects that could potentially impact minority or low-income communities, or that will provide benefits that favor wealthier communities, need to be offset by mitigating activities, or another less impactful solution should be pursued. The methodology and approach to evaluating the Plan's impact from an equity perspective is described in the following section: Equity Framework.

Equity Framework

The following provides an overview of the approach for the equity needs assessment and project prioritization.

Equity Approach

The Plan approach to understanding corridor performance from an equity perspective includes the following steps:

1. Describing the social equity context,
2. Understanding community values, and
3. Conducting equity-based performance assessments.

Social Equity Context

The social equity context is based on classifications of census areas as disadvantaged, including DACs. DACs can be determined in a variety of ways. Existing data sets and standardized indicators can provide a basis for initial social equity screening. Applying US Federal definitions for disadvantaged, historically overburdened, and environmental justice communities, geographic locations may be screened for relevant vulnerability and susceptibility factors including income, race and ethnicity, age, environmental exposures, current and historical economic marginalization, climate vulnerability, historical pollution, and federally-defined environmental justice indices. These factors, as outlined in various US Executive Orders, are represented through US Census data, including American Community Survey (ACS) data, the Center for Disease Control/Agency for Toxic Substances and Disease Registry Environmental Justice Index Indicators Social, Environmental and Health Burden Modules, and public tools, such as the US EPA's Environmental Justice Screening and Mapping Tool. These tools provide a compendium of potential indicators for areas of environmental, social, and health-related areas of concern and potential inequity. Additional indicators are selected in accordance with the type of infrastructure and the activities being conducted and services being provided. Relevant draft indicators are selected, analyzed for statistical relevance, and geospatially depicted to provide a visualization of geographic clustering of potentially vulnerable communities to support an understanding of underserved, underrepresented, and overburdened populations in specific geographies.

For the purposes of this Plan, DACs will be determined using the criteria presented in the DAC analysis within the SRTA 2018 RTP/SCS, as well as the USDOT BUILD Areas of Persistent Poverty.

The SRTA RTP/SCS defines 'disadvantaged communities' as areas that, according to statistical data, have a markedly higher share of individuals challenged by the cumulative impact of:

- Poverty and unemployment
- Lack of mobility options, including access to automobile, active transportation, and public transportation
- Housing and transportation cost burden

- Single parent households
- Young and elderly
- Educational attainment
- Linguistic isolation
- Minority status

Community Values

Community values were identified during the stakeholder and public outreach process. Over the course of eight workshops, three days of public visioning, a site visit, and the online engagement period, two primary values emerged concerning 1) interest in pedestrian and bicycle improvements and 2) driver concerns about congestion, access, and safety. Both drivers and pedestrians and bicyclists voiced concerns about the safety of non-motorized users and safety at intersections, though community members had varying opinions about the efficacy of certain improvement measures, such as the proposed multi-use trail and roundabouts. For more information, please see Chapter 5 .

Equity-Based Performance Assessments

Baseline Performance Assessment

The baseline performance assessment determined the DAC status of each corridor segment. Determining the DAC status helps to identify potential gaps and inequalities in access and quality along with adverse impacts, barriers to equity, and actions required to overcome barriers.

Project Performance Assessment

Following the development of project-specific improvement recommendations for the corridor, an equity-based project performance assessment was conducted to help screen and prioritize projects. The goal of this assessment is to improve equitable outcomes and intersectional impacts over time, facilitate solutions that embody community values and concerns, and address the needs of underrepresented and underserved populations.

Indicators identified to evaluate project-specific impacts are consistent with the Center for Transportation Equity, Decisions & Dollars (CTEDD) Transportation Equity Scorecard⁶ to screen and prioritize projects within the Plan that advance equity and safety based on the following six categories:

- Access to Opportunity
- Health and Environment
- Safety and Emergency Evacuation
- Affordability
- Mobility
- Burdens

Project Scores

Projects will be evaluated and scored. Projects will be evaluated against criteria based on the concentration of DACs impacted (DAC Impact):

- Score of zero (0) = Project does not serve DACs
- Score of one (+1) = Project serves low to moderate concentrations of DACs

⁶ *Transportation Equity Toolkit: Transportation Equity Needs Assessment & Project Prioritization*, CTEDD, 2021.

– Score of two (+2) = Project serves high concentrations of DACs

For each criterion (category/factor), a project can receive a maximum of 4 points. For each project, the basic score is multiplied by the weighted score (DAC Impact).

Project scores will be summed and used to compared relative benefits between other projects included within the plan.

The equity scorecard is provided in the following table.

Table 17 Equity Scorecard Categories & Points

Category	Factor	Criteria	Basic Score	Weight Score (DAC Impact)
ACCESS TO OPPORTUNITY	Employment	Project improves access to employment opportunities.	0, +1, or +2	(0, +1, or +2)
	Education	Project improves access to educational opportunities.	0, +1, or +2	(0, +1, or +2)
	Community Services and Shopping	Project improves access to community services and shopping areas.	0, +1, or +2	(0, +1, or +2)
HEALTH AND ENVIRONMENT	Health Care	Project improves access to health care services.	0, +1, or +2	(0, +1, or +2)
	Healthy Food	Project connects to grocery stores or markets that provide healthy and fresh food at affordable prices.	0, +1, or +2	(0, +1, or +2)
	Environment	Project increases livability (e.g., community cohesion, streetscaping, green infrastructure, etc.) through design and/or mitigation measures.	0, +1, or +2	(0, +1, or +2)
SAFETY & EMERGENCY EVACUATION	Safety	Project improves safety for pedestrians and bicyclists at high-crash locations.	0, +1, or +2	(0, +1, or +2)
		Project improves safety at other (non-high crash) locations.	0, +1, or +2	(0, +1, or +2)
	Emergency Evacuation	Project improves emergency evacuation (e.g., transit coordination, connections to shelters, etc.).	0, +1, or +2	(0, +1, or +2)
AFFORDABILITY	Housing	Project improves access to and from affordable housing.	0, +1, or +2	(0, +1, or +2)
	Transportation	Project increases availability of affordable transportation options.	0, +1, or +2	(0, +1, or +2)
	Housing and Transportation Costs	Project decreases the share of household income consumed by transportation and housing.	0, +1, or +2	(0, +1, or +2)
MOBILITY	Active Transportation	Project includes construction or improvement of sidewalks, trails, bike lanes, or other active transportation options.	0, +1, or +2	(0, +1, or +2)
	Transit Access and Service	Project improves transit service and/or access, including first and last mile access.	0, +1, or +2	(0, +1, or +2)
	Americans with Disabilities Act (ADA)	Project improves accessibility for persons with disabilities (e.g., transit stops, ADA curb ramps, audio-visual signals, driveway grade, etc.).	0, +1, or +2	(0, +1, or +2)
BURDENS	Adverse Impacts	Project has adverse impacts (e.g., cumulative or disproportionate impacts, creates a barrier, increases noise or emissions, increases displacement/gentrification etc.)	-10 or 0	(-10, 0)
		Total	30	60

Existing Performance Results

Performance measure results are presented below. Some performance measures are applicable to the entire corridor (i.e., person throughput), while others are best evaluated at the corridor segment level.

Operations & Reliability

The Operations & Reliability performance measure uses Level of Traffic Street (LOS) to identify operation performance, travel time reliability, and vehicular congestion along SR 273. Table 20 provides a summary of existing intersection LOS. Most of the intersections along the corridor operate at LOS A, B, or C in both the AM and PM peak periods. Intersections that perform at the Local LOS threshold of D are listed below. None of the study intersections were found to operate below the identified threshold for acceptable conditions.

- Market Street (SR 273) and Eureka Way
- California Street (SR 273) and Tehama Street
- SR 273 and Cedars Road/Bonnyview Road
- SR 273 and Whitehouse Drive

The operations and reliability performance measure of the existing corridor also considers transit performance. Route with lower schedule adherence include Route 1, Route 2E, Route 3, Route 4, Route 5, and Route 11.

Travel Time Reliability and Vehicular Congestion

Table 18 presents the Travel Time Reliability and Buffer Time Index results for both passenger vehicles and heavy vehicles for the AM and PM peak hours for the corridor.

The Travel Time Index and Buffer Time Index for the truck traffic indicates similar trends as the passenger cars in both peak hours and both directions of travel. All segments in both the AM and PM peak hours indicate uncongested conditions during an average travel day. Additionally, the majority of the segments experience unreliable buffer time indices.

The slight differences in Travel Time and Buffer Time between passenger cars and heavy vehicles can likely be attributed to the average speed each vehicle type typically travels at. Because trucks tend to travel at lower speeds, when the roadways are congested, there is not as significant of a difference in free flow speeds for trucks in comparison to passenger cars. This results in slightly more reliable conditions for trucks over passenger cars despite both experiencing the same roadway conditions as trucks already budget more travel time in average conditions.

For passenger cars in the AM peak hour, all segments in both the northbound and southbound directions indicate majority uncongested conditions based on the Travel Time Index. Despite this, the Buffer Time Index indicates that during near-worst case travel time conditions (i.e., in the case of a collision or inclement weather) almost all segments are unreliable as drivers will need to budget upwards of 2.5 times more travel time to arrive to their destination on time. The PM Peak Hour shows similar Travel Time and Buffer Time Indices as the AM Peak Hour with the exception of northbound travel from Placer Street to South of Tehama Street and southbound travel from Eureka Way (SR 299) to Market Street (SR 273) and Tehama Street. These two segments indicate congested conditions during an average travel day.

Table 18 Travel Time Reliability and Buffer Time Index Results

Peak Hour Results for Passenger Cars

From	To	Length (mi)	Free Flow Speed (mph)	AM Peak Hour								PM Peak Hour							
				Average Speed (mph)	Average Travel Time (sec)	Travel Time Index ¹	5th Speed (mph)	95th Travel Time (sec)	Buffer Time (sec)	Buffer Time Index ²	Average Speed (mph)	Average Travel Time (sec)	Travel Time Index ¹	5th Speed (mph)	95th Travel Time (sec)	Buffer Time (sec)	Buffer Time Index ²		
Northbound																			
I-5 (Anderson)	South of Pleasant Hills Dr	0.72	57.50	57.08	45.32	0.99	43.00	60.16	14.84	0.33	57.50	44.99	1.00	46.00	56.24	11.25	0.25		
South of Pleasant Hills Dr	South St / Balls Ferry Rd	1.18	47.84	34.49	123.59	0.72	10.00	426.30	302.72	2.45	33.01	129.15	0.69	7.00	609.00	479.85	3.72		
South St / Balls Ferry Rd	Ox Yoke Rd	1.69	44.06	32.55	186.99	0.74	15.00	405.75	218.75	1.17	32.26	188.65	0.73	15.00	405.75	217.10	1.15		
Ox Yoke Rd	Happy Valley Rd	3.10	56.27	52.70	211.55	0.94	32.00	348.39	136.84	0.65	54.25	205.51	0.96	33.00	337.83	132.32	0.64		
Happy Valley Rd	S Bonnyview Rd	2.68	47.68	34.00	283.36	0.71	17.00	566.72	283.36	1.00	35.47	271.58	0.74	16.00	602.14	330.56	1.22		
S Bonnyview Rd	Buenaventura Blvd	1.79	47.90	32.42	198.45	0.68	15.00	428.98	230.53	1.16	34.76	185.10	0.73	14.00	459.62	274.51	1.48		
Buenaventura Blvd	Cypress Ave	1.48	33.08	29.84	178.98	0.90	16.00	333.77	154.79	0.86	28.16	189.64	0.85	14.00	381.45	191.80	1.01		
Cypress Ave	East St	0.07	26.41	19.39	12.28	0.73	5.00	47.62	35.34	2.88	18.08	13.16	0.68	5.00	47.62	34.45	2.62		
East St	Placer St	0.44	30.70	22.62	69.59	0.74	8.75	179.92	110.33	1.59	19.55	80.55	0.64	6.00	262.39	181.84	2.26		
Placer St	South of Tehama St	0.20	29.56	19.78	36.13	0.67	6.00	119.13	83.00	2.30	16.16	44.24	0.55	5.00	142.95	98.71	2.23		
South of Tehama St	Tehama St	0.07	26.69	25.71	10.27	0.96	6.00	44.00	33.73	3.28	25.63	10.30	0.96	8.00	33.00	22.70	2.20		
Tehama St	Shasta St	0.02	27.69	24.51	2.46	0.89	7.00	8.61	6.15	2.50	20.23	2.98	0.73	5.00	12.05	9.07	3.05		
Shasta St	SR 299 / Eureka Way & Market St	0.17	21.92	13.61	44.36	0.62	6.00	100.64	56.28	1.27	14.48	41.69	0.66	5.00	120.77	79.07	1.90		
SR 299 / Eureka Way	Lake Blvd	1.80	39.95	34.26	189.46	0.86	14.00	463.57	274.11	1.45	33.19	195.56	0.83	11.00	590.00	394.43	2.02		
Lake Blvd	Caterpillar Rd	1.14	48.01	36.26	113.59	0.76	18.00	228.79	115.20	1.01	36.24	113.63	0.75	15.00	274.54	160.92	1.42		
Caterpillar Rd	I-5 (Redding)	0.64	60.93	54.70	42.14	0.90	42.00	54.89	12.75	0.30	54.58	42.24	0.90	40.00	57.64	15.40	0.36		
Southbound																			
I-5 (Redding)	South of I-5 (Redding)	0.24	60.91	53.51	16.42	0.88	41.00	21.44	5.01	0.31	56.05	15.68	0.92	42.00	20.93	5.24	0.33		
South of I-5 (Redding)	Lake Blvd	1.47	44.26	34.18	155.10	0.77	16.00	331.36	176.26	1.14	32.98	160.75	0.75	14.00	378.70	217.95	1.36		
Lake Blvd	South of Lake Blvd	0.11	42.11	29.73	13.40	0.71	15.00	26.57	13.17	0.98	28.12	14.17	0.67	9.90	40.26	26.08	1.84		
South of Lake Blvd	SR 299 / Eureka Way	1.69	38.92	27.93	217.19	0.72	13.00	466.67	249.48	1.15	29.56	205.26	0.76	12.00	505.56	300.30	1.46		
SR 299 / Eureka Way	Market St & Tehama St	0.24	16.87	10.90	78.91	0.65	4.00	214.96	136.06	1.72	9.91	86.76	0.59	4.00	214.96	128.21	1.48		
Market St & Tehama St	Placer St	0.29	17.71	17.71	59.01	1.00	6.00	174.20	115.19	1.95	14.28	73.18	0.81	5.00	209.04	135.86	1.86		
Placer St	North of Hill St	0.40	31.50	21.41	67.71	0.68	6.00	241.61	173.90	2.57	21.51	67.40	0.68	5.00	289.94	222.54	3.30		
North of Hill Street	Cypress Ave	0.16	33.50	30.69	18.34	0.92	14.00	40.22	21.87	1.19	27.25	20.66	0.81	12.00	46.92	26.26	1.27		
Cypress Ave	Buenaventura Blvd	1.47	33.68	30.18	175.56	0.90	15.00	353.18	177.63	1.01	30.80	172.00	0.91	16.00	331.11	159.11	0.93		
Buenaventura Blvd	S Bonnyview Rd	1.79	48.25	38.05	169.40	0.79	14.00	460.42	291.02	1.72	37.26	172.99	0.77	17.00	379.17	206.18	1.19		
S Bonnyview Rd	Happy Valley Rd	2.68	47.33	32.73	294.64	0.69	18.00	535.69	241.04	0.82	30.80	313.09	0.65	18.00	535.69	222.60	0.71		
Happy Valley Rd	Ox Yoke Rd	3.10	54.90	52.17	213.75	0.95	27.00	413.01	199.26	0.93	53.01	210.34	0.97	30.00	371.71	161.36	0.77		
Ox Yoke Rd	South St / Balls Ferry Rd	1.69	47.32	32.80	185.56	0.69	11.00	553.24	367.68	1.98	32.41	187.78	0.68	13.00	468.13	280.35	1.49		
South of Pleasant Hills Dr	I-5 (Anderson)	0.51	55.24	51.68	35.58	0.94	35.00	52.53	16.95	0.48	51.34	35.81	0.93	36.00	51.07	15.26	0.43		
South St / Balls Ferry Rd	South of Pleasant Hills Dr	1.18	42.19	36.43	116.75	0.86	18.00	236.29	119.54	1.02	33.91	125.43	0.80	14.00	303.80	178.37	1.42		

¹ Congestion is evaluated using Travel Time Index (ratio of the average speed (s_{avg}) and the free flow speed (s_{ff})). Uncongested is shown in green ($s_{avg}/s_{ff} > 0.6$) and congestion is shown in red ($s_{avg}/s_{ff} < 0.6$).

² Reliable Buffer Time Index (BTI) is shown in green (BTI < 0.25), moderately reliable BTI is shown in yellow (0.25 < BTI < 0.50), and unreliable BTI is shown in red (BTI > 0.50).

Peak Hour Results for Trucks

From	To	Length (mi)	Free Flow Speed (mph)	AM Peak Hour							PM Peak Hour						
				Average Speed (mph)	Average Travel Time (sec)	Travel Time Index ¹	5th Speed (mph)	95th Travel Time (sec)	Buffer Time (sec)	Buffer Time Index ²	Average Speed (mph)	Average Travel Time (sec)	Travel Time Index ¹	5th Speed (mph)	95th Travel Time (sec)	Buffer Time (sec)	Buffer Time Index ²
Northbound																	
I-5 (Anderson)	South of Pleasant Hills Dr	0.72	55.08	47.81	54.11	0.87	37.65	68.71	14.61	0.27	49.56	52.20	0.90	33.00	78.40	26.20	0.50
South of Pleasant Hills Dr	South St / Balls Ferry Rd	1.18	41.22	29.53	144.37	0.72	10.00	426.30	281.94	1.95	25.57	166.71	0.62	10.00	426.30	259.59	1.56
South St / Balls Ferry Rd	Ox Yoke Rd	1.69	46.65	35.31	172.34	0.76	13.00	468.17	295.83	1.72	38.44	158.31	0.82	16.40	371.11	212.80	1.34
Ox Yoke Rd	Happy Valley Rd	3.10	55.64	54.02	206.36	0.97	41.00	271.91	65.55	0.32	54.68	203.88	0.98	38.50	289.57	85.68	0.42
Happy Valley Rd	S Bonnyview Rd	2.68	44.91	38.98	247.14	0.87	18.00	535.24	288.10	1.17	40.52	237.74	0.90	19.00	507.07	269.33	1.13
S Bonnyview Rd	Buenaventura Blvd	1.79	46.01	39.75	161.88	0.86	17.00	378.51	216.63	1.34	43.18	149.03	0.94	16.00	402.16	253.13	1.70
Buenaventura Blvd	Cypress Ave	1.48	35.84	27.28	195.76	0.76	14.30	373.44	177.68	0.91	27.92	191.29	0.78	13.00	410.79	219.50	1.15
Cypress Ave	East St	0.07	29.41	21.74	10.95	0.74	10.00	23.81	12.86	1.17	21.62	11.01	0.73	9.00	26.45	15.44	1.40
East St	Placer St	0.44	25.53	21.25	74.09	0.83	11.00	143.12	69.03	0.93	17.73	88.78	0.69	7.00	224.90	136.13	1.53
Placer St	South of Tehama St	0.20	23.26	23.26	30.73	1.00	11.00	64.98	34.25	1.11	16.64	42.96	0.72	6.00	119.13	76.16	1.77
South of Tehama St	Tehama St	0.07	27.00	24.07	10.97	0.89	11.00	24.00	13.03	1.19	27.00	9.78	1.00	6.60	40.00	30.22	3.09
Tehama St	Shasta St	0.02	25.50	24.00	2.51	0.94	10.50	5.74	3.23	1.29	25.50	2.36	1.00	7.55	7.98	5.62	2.38
Shasta St	SR 299 / Eureka Way & Market St	0.17	18.19	15.29	39.50	0.84	6.00	100.64	61.14	1.55	15.44	39.11	0.85	5.00	120.77	81.65	2.09
SR 299 / Eureka Way	Lake Blvd	1.80	35.47	31.93	203.25	0.90	12.00	540.83	337.57	1.66	35.27	184.02	0.99	12.00	540.83	356.80	1.94
Lake Blvd	Caterpillar Rd	1.14	45.95	34.48	119.42	0.75	15.00	274.54	155.12	1.30	32.31	127.45	0.70	12.00	343.18	215.73	1.69
Caterpillar Rd	I-5 (Redding)	0.64	58.16	58.16	39.64	1.00	37.00	62.31	22.67	0.57	53.60	43.01	0.92	40.75	56.57	13.56	0.32
Southbound																	
I-5 (Redding)	South of I-5 (Redding)	0.24	58.98	57.87	15.19	0.98	48.00	18.31	3.12	0.21	58.93	14.92	1.00	42.30	20.78	5.86	0.39
South of I-5 (Redding)	Lake Blvd	1.47	44.32	29.77	178.11	0.67	11.00	481.98	303.87	1.71	35.32	150.12	0.80	10.00	530.17	380.05	2.53
Lake Blvd	South of Lake Blvd	0.11	40.62	30.43	13.10	0.75	10.30	38.70	25.60	1.95	28.14	14.16	0.69	12.00	33.21	19.05	1.35
South of Lake Blvd	SR 299 / Eureka Way	1.69	29.66	27.04	224.36	0.91	10.35	586.16	361.80	1.61	27.89	217.50	0.94	11.00	551.52	334.02	1.54
SR 299 / Eureka Way	Market St & Tehama St	0.24	17.90	12.29	69.96	0.69	4.00	214.96	145.00	2.07	14.07	61.11	0.79	4.00	214.96	153.86	2.52
Market St & Tehama St	Placer St	0.29	14.20	13.57	77.01	0.96	4.00	261.30	184.29	2.39	14.20	73.61	1.00	6.60	158.36	84.76	1.15
Placer St	North of Hill St	0.40	26.41	21.00	69.03	0.80	9.00	161.08	92.04	1.33	24.00	60.40	0.91	8.00	181.21	120.81	2.00
North of Hill Street	Cypress Ave	0.16	36.11	26.30	21.41	0.73	16.00	35.19	13.78	0.64	22.20	25.36	0.61	15.00	37.54	12.17	0.48
Cypress Ave	Buenaventura Blvd	1.47	35.97	33.38	158.73	0.93	16.00	331.11	172.38	1.09	33.15	159.82	0.92	19.00	278.83	119.01	0.74
Buenaventura Blvd	S Bonnyview Rd	1.79	42.78	40.24	160.18	0.94	12.00	537.15	376.97	2.35	39.39	163.64	0.92	14.00	460.42	296.78	1.81
S Bonnyview Rd	Happy Valley Rd	2.68	45.37	38.64	249.56	0.85	21.00	459.16	209.60	0.84	36.79	262.09	0.81	20.00	482.12	220.03	0.84
Happy Valley Rd	Ox Yoke Rd	3.10	54.31	52.23	213.51	0.96	32.00	348.47	134.96	0.63	51.35	217.14	0.95	37.00	301.38	84.24	0.39
Ox Yoke Rd	South St / Balls Ferry Rd	1.69	48.15	33.65	180.87	0.70	14.00	434.69	253.82	1.40	31.38	193.97	0.65	13.00	468.13	274.16	1.41
South of Pleasant Hills Dr	I-5 (Anderson)	0.51	56.20	48.13	38.20	0.86	31.00	59.31	21.10	0.55	54.21	33.91	0.96	30.00	61.28	27.37	0.81
South St / Balls Ferry Rd	South of Pleasant Hills Dr	1.18	44.76	31.92	133.26	0.71	14.90	285.45	152.19	1.14	25.44	167.20	0.57	11.00	386.65	219.45	1.31

¹ Congestion is evaluated using Travel Time Index (ratio of the average speed (s_{avg}) and the free flow speed (s_f)). Uncongested is shown in green ($s_{avg}/s_f > 0.6$) and congestion is shown in red ($s_{avg}/s_f < 0.6$).

² Reliable Buffer Time Index (BTI) is shown in green (BTI < 0.25), moderately reliable BTI is shown in yellow (0.25 < BTI < 0.50), and unreliable BTI is shown in red (BTI > 0.50).

Person Throughput/Person Hours of Delay

The person throughput and person hours of delay were separate based on the segmentation discussed previously in this report. The 2020 Caltrans ADT was adjusted by a vehicle occupancy rate of 1.75 to determine the person throughput and the Daily Vehicle Hours of Delay (DPHD). The rate is based on the Caltrans Occupancy rate for the Redding area. The delay used to determine the DPHD was based on the northbound and southbound delays at the intersections along each segment. Table 19 below presents the person throughput and DPHD for each segment for existing conditions.

Table 19 Existing Conditions DPHD

ID	Segment Extent (Approximate)	Person Throughput	DPHD
1	I-5 Ramps to south of Lake Blvd	17,325	192.95
2	South of Lake Blvd to Sacramento River	31,150	128.39
3	Sacramento River to south of Cypress Ave	28,350	630.73
4	South of Cypress Ave to north of Buenaventura Blvd	24,675	22.37
5	North of Buenaventura Blvd to south of S Bonnyview Rd	27,300	163.78
6	South of S Bonnyview Rd to south of Girvan Rd	32,550	42.91
7	South of Girvan Rd to Metz Rd	18,725	41.06
8	Metz Rd to south of Latona Rd	18,025	22.95
9	South of Latona Rd to north of Briggs St	17,325	39.44
10	North of Briggs St to I-5 Ramps	16,100	175.06

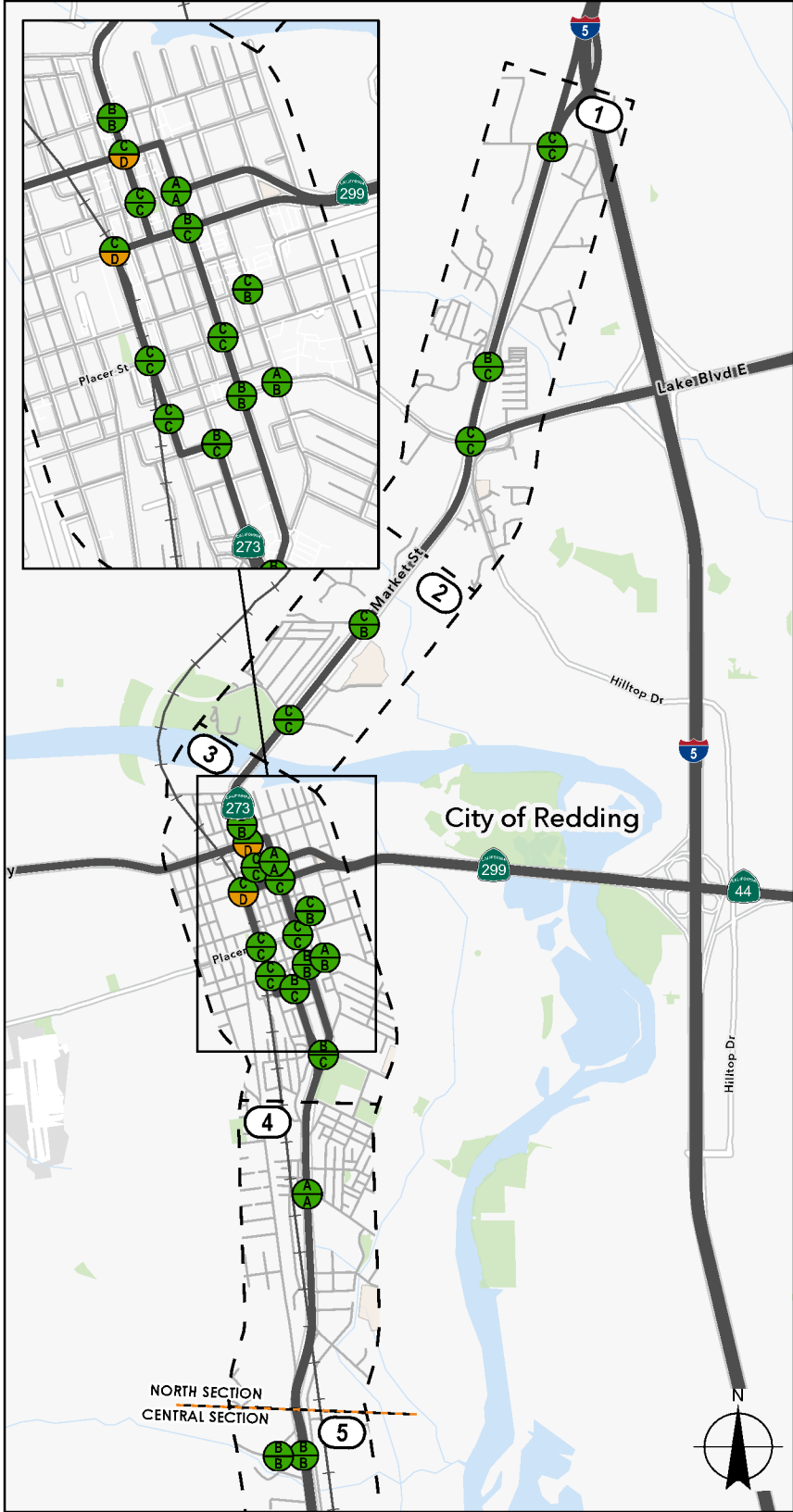
Intersection Level of Service

The LOS results for the AM and PM peak periods for the study intersections along the corridor are presented in Figure 25. The target LOS thresholds applicable to each intersection, as well as associated delay is reported in Table 20. As shown, most of the study intersections along the corridor operate at LOS A, B, or C in both the AM and PM peak periods, indicating acceptable vehicular traffic conditions. While a few intersections are operating at LOS D in the AM or PM peak period, none of the study intersections were found to operate below the identified thresholds for acceptable conditions. Intersections that perform at the Local LOS threshold of D include:

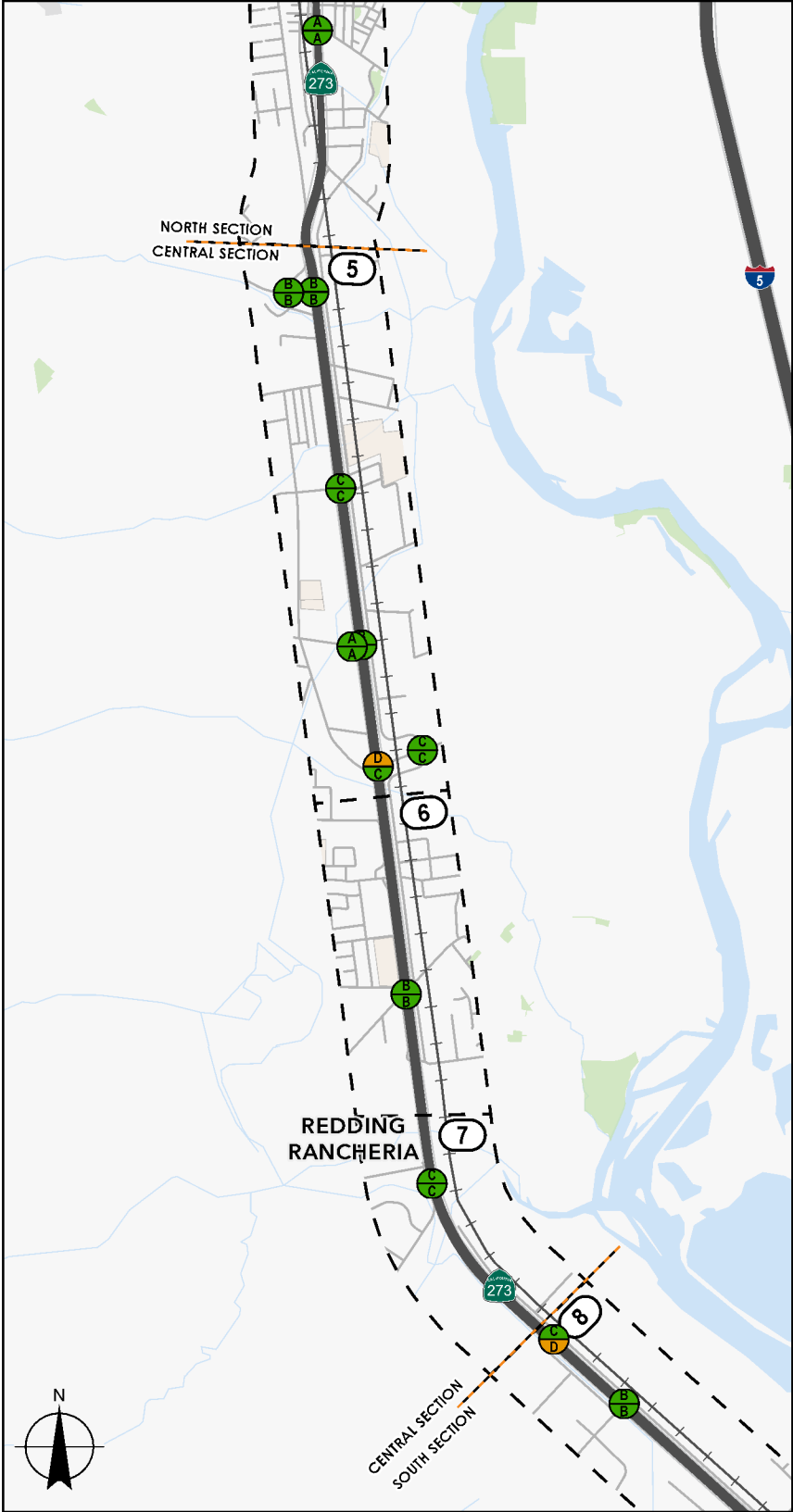
- Market Street (SR 273) and Eureka Way
- California Street (SR 273) and Tehama Street
- SR 273 and Cedars Road/Bonnyview Road
- SR 273 and Whitehouse Drive

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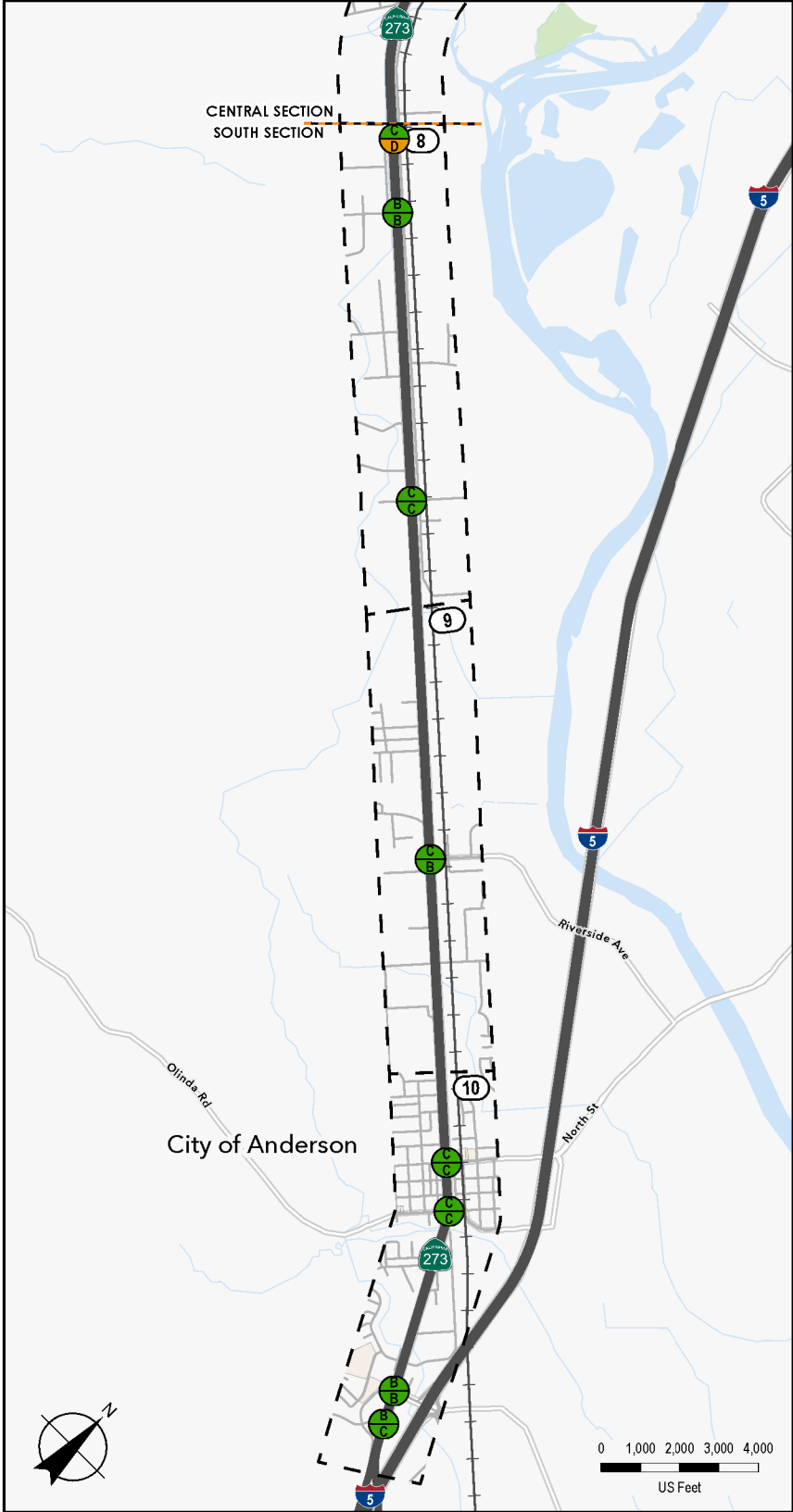
NORTH SECTION



CENTRAL SECTION



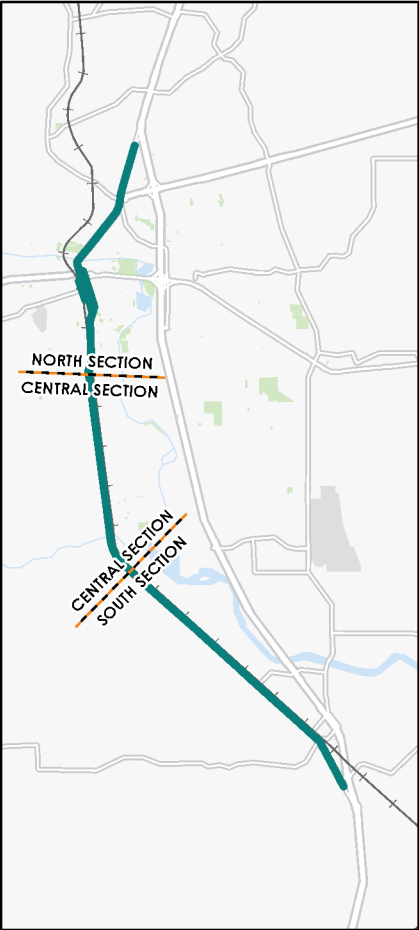
SOUTH SECTION



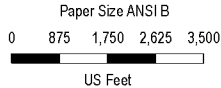
Legend

- AM PM Level of Service
- LOS A, B or C
- LOS D
- LOS E
- LOS F
- Highway/Major Road
- Project Roads
- Railroad
- Corridor Segment
- Schools
- Parks
- Lakes & Streams

LOCATOR MAP



Envision 273: SR 273 Multimodal Corridor Plan
EXISTING INTERSECTION LEVEL OF SERVICE



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Project No. 12560002
Revision No. -
Date February 2024

FIGURE 28

Data source: City of Redding GIS; California State Parks; Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, City of Redding GIS, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METANASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, City of Redding GIS; California State Parks, Esri, TomTom, Garmin, SafeGraph, METANASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS. Created by: pfeet

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Table 20 *Intersection LOS Results*

Study Intersection ID	Intersection Location	Local Jurisdiction / LOS Threshold	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
1	Market St (SR 273) & Caterpillar Rd	City of Redding / D	Signal	27	C	26	C
2	Market St (SR 273) & Northpoint Dr/Twin View Blvd	City of Redding / D	Signal	18	B	24	C
3	Market St (SR 273) & Lake Blvd (SR 299)	City of Redding / D	Signal	29	C	30	C
4	Market St (SR 273) & Benton Dr	City of Redding / D	Signal	21	C	19	B
8	Market St (SR 273) & Quartz Hill Rd/Travelled Wy	City of Redding / D	Signal	27	C	25	C
11	Market St (SR 273) & Trinity St	City of Redding / D	Signal	18	B	17	B
14	Market St (SR 273) & Eureka Wy (SR 299)	City of Redding / D	Signal	30	C	36	D
17	Market St (SR 273) & Shasta St	City of Redding / D	Signal	22	C	22	C
18	Pine St (SR 273) & Shasta St (SR 44)	City of Redding / D	Signal	7	A	10	A
20	California St (SR 273) & Tehama St	City of Redding / D	Signal	28	C	36	D
22	Pine St (SR 273) & Tehama St (SR 44)	City of Redding / D	Signal	16	B	25	C
27	Yuba St & East St	City of Redding / D	Side-Street Stop	15	C	14	B
28	California St (SR 273) & Placer St	City of Redding / D	Signal	27	C	28	C
29	Pine St (SR 273) & Placer St	City of Redding / D	Signal	23	C	21	C
34	California St (SR 273) & South St	City of Redding / D	Signal	25	C	27	C
35	Pine St (SR 273) & South St	City of Redding / D	Signal	16	B	20	B
36	East St & South St	City of Redding / D	All-Way Stop	10	A	11	B
38	Gold St (SR 273) & Market St (SR 273)	City of Redding / D	Signal	17	B	22	C
45	East St & Market St (SR 273)/Cypress Ave	City of Redding / D	Signal	17	B	21	C
51	Market St (SR 273) & Grange St	City of Redding / D	Signal	9	A	8	A
54	Westside Rd/Railroad Ave & Buenaventura Blvd	City of Redding / D	Signal	18	B	19	B
55	SR 273 & Buenaventura Blvd	City of Redding / D	Signal	16	B	14	B

Study Intersection ID	Intersection Location	Local Jurisdiction / LOS Threshold	Traffic Control	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
57	SR 273 & Kenyon Dr	City of Redding / D	Side-Street Stop	24	C	24	C
58	SR 273 & Branstetter Ln	City of Redding / D	Side-Street Stop	11	B	13	B
59	SR 273 & Cedars Rd/Bonnyview Rd	City of Redding / D	Signal	36	D	33	C
60	Eastside Rd & Bonnyview Rd	City of Redding / D	Signal	32	C	28	C
62	SR 273 & Clear Creek Rd	City of Redding / D	Signal	11	B	12	B
64	SR 273 & Canyon Rd / Redding Rancheria	City of Redding / D	Signal	21	C	21	C
65	SR 273 & Whitehouse Dr	City of Redding / D	Side-Street Stop	20	C	26	D
66	SR 273 & Happy Valley Rd	Shasta County / C	Signal	12	B	11	B
67	SR 273 & Amen St/Latona Rd	Shasta County / C	Side-Street Stop	20	C	18	C
69	SR 273 & Ox Yoke Rd	City of Anderson / D	Signal	24	C	18	B
72	SR 273 & North St	City of Anderson / D	Signal	29	C	24	C
73	SR 273 & South St	City of Anderson / D	Signal	30	C	26	C
76	SR 273 & Factory Outlets Dr	City of Anderson / D	Signal	13	B	15	B
77	SR 273 & Pleasant Hills Dr	City of Anderson / D	Signal	18	B	23	C
78	Branstetter Ln & Westside Rd	City of Redding / D	Side-Street Stop	10	A	10	A

Note: LOS results based on *Highway Capacity Manual 6th Edition* and, where applicable, *2000 Edition*

Transit Performance

Transit performance was evaluated for the transit routes that provide service along the corridor. Performance was based on schedule adherence and frequency of the transit routes at each stop. The table below presents the average schedule adherence for each route within the study area. As shown, most routes have a schedule adherence of greater than 80 percent. The routes with lower schedule adherence include Route 1, Route 2E, Route 3, Route 4, Route 5, and Route 11.

Table 21 **Transit Route Schedule Adherence**
Average Schedule Adherence

Route	Average Schedule Adherence
Route 1	68%
Route 2W	82%
Route 2E	74%
Route 3	62%
Route 4	73%
Route 5	68%
Route 6N	85%
Route 6S	80%
Route 7	89%
Route 9	87%
Route 11	76%
Route 14	80%
Route AC	94%
Route CTE	89%
Route SE	93%

Note: Service is considered "on-time" for stop arrivals within 5 minutes of scheduled time.

Appendix C includes maps that show transit route performance based on peak hour on-time arrival percentages, representing schedule adherence. Generally, the segments with the highest average schedule adherence are south of the City of Redding (Segments 8 – 10). Schedule adherence is poor within Segment 5, with several stops for Route 3 at or below 25 percent schedule adherence. Generally, schedule adherence within the remaining segments is fair.

Mobility & Connectivity

The Mobility & Connectivity performance measure results are summarized below and presented by segment in Table 24.

Transit Stop Quality

Most transit stops located directly on SR 273 lack benches or shelters. The segments with the most transit amenities for stop locations within the segment boundaries are Segment 2, Segment 3 (Downtown Redding), Segment 6, and Segment 10 (City of Anderson).

Bicycle Level of Traffic Stress

Most of the corridor is high stress (LTS 4). Low stress (LTS 1 or 2) routes found in pockets along the corridor, often separated by barriers like SR 273 and the UPRR freight rail tracks. Low stress connections within the study area are supplemented by the Class I multiuse paths concentrated near the Sacramento River in Downtown Redding, along South Bonnyview Road between Segments 5 and 6, and within the City of Anderson. Where low stress connectivity is achieved along the corridor, it can often require out of direction travel when the shortest path involves high stress routes of crossings. These results are shown in Appendix C.

Bicycle Origin-Destination Connectivity

Analysis of bicycle origin-destination connectivity was prepared for both total residential origins and residential origins within DACs. The results highlight the differences in safe and comfortable connectivity between residential origins with differing levels of affordability and demographic characteristics. These results are shown in Appendix C. The analysis finds that DACs are not disproportionately affected by poor LTS connectivity. However, this finding does not account for the fact that DACs are disproportionately dependent on transit and non-motorized travel for essential trips.

Sidewalk Coverage

Pedestrian facilities throughout the corridor include a discontinuous network of sidewalk, crosswalks, and multiuse trail connections. This network includes gaps, narrow sections, and vegetation overgrowth in many locations. Most locations with sidewalk vary in width between four and six feet. However, there are some locations that also feature a landscaped area with sidewalk that are as wide as 15 feet. Sidewalk gaps are most prevalent between Downtown Redding and the City of Anderson, within Segments 5 to 9.

Mode Share

The results of the modal split assessment are summarized in the following table. As shown, automobile trips (including both single-occupancy and multiple occupant trips) far outweigh non-auto trips, with approximately 11-times more trips made by a car than by bicycle or foot.

Table 22 Study Area Mode Split (Excluding Transit Trips)

Mode	% Calculated Using	
	SR 273 Network Links ¹	Corridor Segments ²
Auto	88%	80%
Freight Truck	7%	7%
Bike	2%	3%
Walk	2%	8%
Other	0%	2%

¹ Includes trips for a sample set of network links on SR 273, only

² Includes trips on all network links within study segments

Safety

Collision data was presented in Chapter 1 (Corridor Context). Additionally, collision rates were calculated for segments using the Federal Highway Administration (FHWA) collision rate⁷ for both total and fatal + injury collisions. The. These collision rates were compared against California's average collision rate for similar highway facilities (per million entering vehicles). Collision rates for Segments 2 and Segments 4 – 10 exceed the statewide average collision rate. Table 23 presents the results of this assessment. Table 24 provides a summary of the safety performance measure assessment.

Sustainability & Resiliency

This performance measure is assessed in terms of future performance and opportunities (e.g., projects that facilitate and support emergency evacuations).

⁷ https://safety.fhwa.dot.gov/local_rural/training/fhwasa1109/app_c.cfm

For more information, please refer to the Future Performance Forecast section of this Chapter and Chapter 7 .

Equity

The corridor study segments are partially or fully within DACs based on the three criteria categories. The disadvantaged community status of each segment is presented in Table 25. All segments are considered to have a high DAC status except for segment 6, which has a moderate DAC status.

Table 23 Collision Rates by Segment

ID	Segment Extent (Approximate)	Approx. Length (mi)	Highway Type (Typical)	Area Type (Typical)	Total Collisions (2018-2022)	Total FSI Collisions (2018-2022)	AADT (Caltrans 2020)	Collision Rate (Per Million Entering Vehicles)	CA Average Collision Rate (Per Million Entering Vehicles)	Higher than state avg?
1	I-5 Ramps to south of Lake Blvd	1.8	Divided 4 Lanes	Suburban	29	2	9,900	0.89	0.94	
2	South of Lake Blvd to Sacramento River	1.0	Divided 4 Lanes	Suburban	33	2	17,800	1.02	0.94	Yes
3	Sacramento River to south of Cypress Ave	2.5*	Conventional 3 Lanes	Urban	100	4	16,200	1.35	1.61	
4	South of Cypress Ave to north of Buenaventura Blvd	1.2	Divided 4 Lanes	Suburban	30	2	14,100	0.97	0.94	Yes
5	North of Buenaventura Blvd to south of S Bonnyview Rd	2.0	Divided 4 Lanes	Suburban	59	6	15,600	1.04	0.94	Yes
6	South of S Bonnyview Rd to south of Girvan Rd	1.2	Divided 4 Lanes	Suburban	55	8	18,600	1.35	0.94	Yes
7	South of Girvan Rd to Metz Rd	0.9	Divided 4 Lanes	Suburban	24	4	10,700	1.37	0.94	Yes
8	Metz Rd to south of Latona Rd	2.3	Divided 4 Lanes	Rural	61	14	10,300	1.41	0.18	Yes
9	South of Latona Rd to north of Briggs St	2.2	Divided 4 Lanes	Suburban	47	5	9,900	1.18	0.94	Yes
10	North of Briggs St to I-5 Ramps	2.2	Divided 4 Lanes	Suburban	71	12	9,200	1.92	0.94	Yes

*Includes both southbound and northbound couplets.

Note: FSI = Fatal or Severe Injury

Table 24 Performance Measure Results by Segment

SEGMENT PERFORMANCE	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
MOBILITY & CONNECTIVITY										
Transit Stop Quality	Poor	Fair	Fair	Fair	Poor	Fair	Fair	Poor	Poor	Fair
Presence of Amenities (Shelter or Bench) at Transit Stop?	Typically no bench/shelter	Typically no bench/shelter	Typically no bench/shelter	Some with bench	Typically no bench/shelter	Some with bench/shelter	Some with bench/shelter	No bench/shelter	Some with bench	Some with bench/shelter
Sidewalk Connection to Transit Stop? (On SR 273, only)	No stops on SR 273	Yes, sidewalk at SR 273 stops	Yes, sidewalk at SR 273 stops	Some sidewalk at SR 273 stops	No stops on SR 273	Yes, sidewalk at SR 273 stops	Some sidewalk at SR 273 stops	No stops on SR 273	Some sidewalk at SR 273 stops	Some sidewalk at SR 273 stops
Sidewalk Coverage	Minimal; Connectivity near developed area	Minimal; Connectivity near developed area	High	Partially connected	Minimal to None	Minimal to None	Minimal to None	None	None	Medium to High
Bicycle Level of Traffic Stress	High Stress	High Stress	High Stress	High Stress	High Stress	High Stress	High Stress	High Stress	High Stress	High Stress
Bicycle Connectivity via Low Stress Network to Destination Types:	Results shown as # Destinations ¹ (% Connected ²)									
Employment Destinations	3 (0%)	0 (0%)	8 (8%)	1 (0%)	1 (0%)	0 (0%)	1 (6%)	0 (0%)	2 (0%)	3 (27%)
Education Destinations	1 (1%)	1 (18%)	9 (14%)	2 (14%)	6 (4%)	3 (46%)	0 (0%)	0 (0%)	1 (12%)	7 (13%)
Community Services and Shopping Destinations	10 (5%)	3 (3%)	71 (13%)	6 (5%)	9 (1%)	4 (17%)	1 (3%)	2 (0%)	1 (36%)	10 (7%)
Health Care Destinations	1 (0%)	0 (0%)	27 (12%)	4 (4%)	1 (0%)	0 (NA)	0 (NA)	0 (NA)	0 (31%)	2 (7%)
Food Access	1 (0%)	0 (0%)	4 (0%)	1 (0%)	0 (7%)	2 (26%)	0 (0%)	0 (0%)	0 (NA)	3 (0%)
Transit Service Destinations (includes Bike Share locations)	41 (9%)	10 (0%)	93 (13%)	20 (3%)	17 (0%)	9 (0%)	3 (0%)	9 (0%)	6 (6%)	27 (0%)
Civic Service Destinations	1 (1%)	0 (0%)	16 (15%)	2 (5%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (14%)	11 (5%)
Parks/Open Space & Recreation Destinations	5 (18%)	4 (34%)	4 (3%)	3 (28%)	0 (0%)	2 (74%)	0 (0%)	0 (NA)	0 (0%)	1 (0%)
OPERATIONS & RELIABILITY										
Travel Time Reliability	Results provided in Table 18									
Intersection Level of Service	Results provided in Table 20									
Transit Route Schedule Adherence	Results provided in Table 21									
1. The # of destinations reported here are the # of destinations only within the segment. However, low stress connectivity is assessed for connections within and outside of the segment, so long as the location is reachable within a 1.5-mile biking distance. 2. Value of "NA" for the percent connected indicates that there are no connections for that node type in the full stress network within a 1.5-mile biking distance from the residential origins in that segment to compare low-stress connections against.										

SEGMENT PERFORMANCE	Segment 1 I-5 Ramps to south of Lake Blvd	Segment 2 South of Lake Blvd to Sacramento River	Segment 3 Sacramento River to south of Cypress Ave	Segment 4 South of Cypress Ave to north of Buenaventura Blvd	Segment 5 North of Buenaventura Blvd to south of S Bonnyview Rd	Segment 6 South of S Bonnyview Rd to south of Girvan Rd	Segment 7 South of Girvan Rd to Metz Rd	Segment 8 Metz Rd to south of Latona Rd	Segment 9 South of Latona Rd to north of Briggs St	Segment 10 North of Briggs St to I-5 Ramps
SAFETY										
Total Crashes	29	33	100	30	59	55	24	61	47	71
Total Fatal Crashes	2	1	2	1	5	3		4	3	
Total Severe Crashes		1	2	1	1	5	4	10	2	12
Total Crashes Involving a Pedestrian	1	2	8	3	5	2	3	5	3	2
Total Pedestrian Fatalities	1		1	1	4	1		2	2	
Total Crashes Involving a Bicyclist		1	3	1	1			2		2
Total Bicyclists Fatalities								2		
% at Night (Non-Daylight Crashes)	31%	21%	30%	33%	34%	47%	46%	43%	30%	44%
Primary Crash Types	Broadside	Rear End	Broadside & Rear End	Broadside	Rear End	Rear End	Rear End & Broadside	Broadside	Rear End & Hit Object	Broadside & Rear End
Primary Crash Cause	Unsafe Speed & Vehicle Driver Error	Unsafe Speed	Unsafe Speed & Vehicle Driver Error	Vehicle Driver Error & Unsafe Speed	Unsafe Speed	Unsafe Speed	Vehicle Driver Error & Unsafe Speed	Vehicle Driver Error & Unsafe Speed	Vehicle Driver Error & Unsafe Speed	Vehicle Driver Error & Unsafe Speed
Crash Rate (Bold = Exceeds Statewide average)	0.89	1.02	1.35	0.97	1.04	1.35	1.37	1.41	1.18	1.92
Statewide Crash Rate	0.94	0.94	1.61	0.94	0.94	0.94	0.94	0.18	0.94	0.94
EQUITY (DAC STATUS)										
SRTA RTP/SCS Criteria	Majority	Partially	Majority	Partially	Majority	No	Majority	Majority	No	Majority
USDOT BUILD Areas of Persistent Poverty Criteria	Partially	Partially	Majority	Majority	Majority	Majority	Majority	Fully	Majority	Majority
SB 535 CalEPA Criteria	No	No	No	No	No	Partially	Partially	No	No	No

Existing Performance System Profiles

System profiles were developed for each study segment to help visualize the results of the corridor performance assessment. These profiles are provided in the Appendix C. Based on the results of the performance assessment, segments were given an overall assessment result based on the following metrics and criteria. Mobility & Connectivity, Operations & Reliability, and Safety results reflect either poor, fair, or good performance. Equity results reflect high, moderate, or low DAC status, depending on how many DAC criteria were met.



SAFETY

- Total Crashes
- Total Fatal Crashes
- Total Severe Crashes
- Total Crashes/Fatalities Involving a Pedestrian
- Total Crashes/Fatalities Involving a Bicyclist
- % Occurred at Night (Non-Daylight Crashes)
- Crash Rate compared to Statewide Average Crash Rate



MOBILITY & CONNECTIVITY

- Transit Stop Conditions
- Sidewalk Coverage
- Bicycle Level of Traffic Stress (LTS)
- Bicycle Connectivity via Low Stress Network to Destination Types



OPERATIONS & RELIABILITY

- Transit Stop Reliability
- Travel Time Reliability (TTR)
- Intersection Level of Service (LOS)



EQUITY (DAC Status)

- SRTA RTP/SCS Criteria
- USDOT BUILD Areas of Persistent Poverty Criteria
- SB 535 CalEPA Criteria

The overall assessment results are presented in Table 25. As shown, each segment performs poorly based on the above metrics and criteria. Although some segments have more prevalent multimodal infrastructure and amenities, the low stress (safer and more comfortable) travel routes are limited to pockets along the corridor, often separated by barriers like SR 273 and the UPRR freight rail line. The overall lack of connectivity to destinations along the corridor highlights the need to prioritize low-stress travel options. In addition, the results of the safety assessment reveal that, even for segments with lower crash rates compared to statewide averages, the number and severity of crashes along the corridor results in unsafe travel conditions for all modes, including vehicular travel. Lastly, each segment is either partially or fully within a DAC based on one or all the above DAC status criteria. Therefore, poor corridor performance creates a significant burden for DACs.

Table 25 Segment Overall Performance Assessment Results

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buena Ventura Blvd	North of Buena Ventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
Safety	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor
Mobility & Connectivity	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor
Operations & Reliability	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor
Equity (DAC Status)	High DAC	High DAC	High DAC	High DAC	High DAC	Moderate DAC	High DAC	High DAC	High DAC	High DAC

Future Performance Forecasts

For this study, the SRTA Shasta County Activity-based Travel Model (ShastaSIM 2.0) was used initially for both the 2020 and 2040 models. Upon discovery of inconsistent trip growth assumptions with land use (population and employment) growth assumptions over the next 20 years, GHD with consensus from SRTA staff adjusted the ShastaSIM 2.0 IX-XI trip growth assumptions for the 2040 model. The unadjusted ShastaSIM 2.0 was used for the 2020 model.

Vehicle Miles Traveled

For the study corridor, VMT for the base (2020) years was generated using the unadjusted version of ShastaSIM 2.0 and for the future (2040) years, an adjusted version of ShastaSIM 2.0 was applied. Adjustments to the ShastaSIM 2.0 model were made to the model's IX-XI (regional) trip growth rates, which were found to be different than the population and employment growth estimates. With consensus of SRTA staff on approach, the model's IX-XI trips, which represent trips with at least one trip end (origin or destination) beyond the model's boundary, were adjusted. The IX-XI trip growth in the future scenario was modified to be commensurate with internal model population and employment growth, which primarily affected travel demand in southern model area. The Furness procedure, as documented in National Cooperative Highway Research Program (NCHRP) 765, was applied to develop future turning movement estimates at study intersections.

For no project conditions, the 2020 daily model VMT is 530,544 and the adjusted 2040 daily model VMT is 578,823, representing a roughly 9% increase in VMT.

Air Quality & Emission

As described in the prior report section, neither existing nor baseline future air quality and emissions were quantified as a part of this study. However, an assessment of air quality and emissions benefits is included to demonstrate the relative air quality and emissions effect of proposed projects that are anticipated to reduce vehicular trips through mode shift.

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5 STAKEHOLDER AND PUBLIC OUTREACH

A robust stakeholder and public outreach process was conducted to engage the community and identify community concerns and priorities.

Elements of the outreach process included:

- A PAC and a Stakeholder Working Group
- Online engagement, including a project website and an online survey, ideas wall, and mapping tool
- In person engagement
- A public visioning event
- Public open houses
- A safety campaign

The public outreach summary is provided in Appendix D.

Project Advisory Committee and Stakeholder Working Group

A PAC was created to advise plan development. Members included SRTA, Caltrans, and local agency staff, as well as a local community-based organization (CBO) Shasta Living Streets. The PAC met throughout the plan development process to kick off the project and discuss feasibility studies, scenarios, preliminary recommendations, and the draft plan.

The Stakeholder Working Group was established to engage with a wider variety of community perspectives, including local CBOs, community groups, non-profits, and select residents

Site Visit

A site visit was conducted. The site visit raised 134 comments, 48 of which included suggested improvements. Common themes during the site visit included:

- Pedestrians and bicycle safety and accessibility
- Improvements to pedestrian crossings
- Congestion near schools
- Traffic flow for vehicles and trucks
- Vehicle speeds



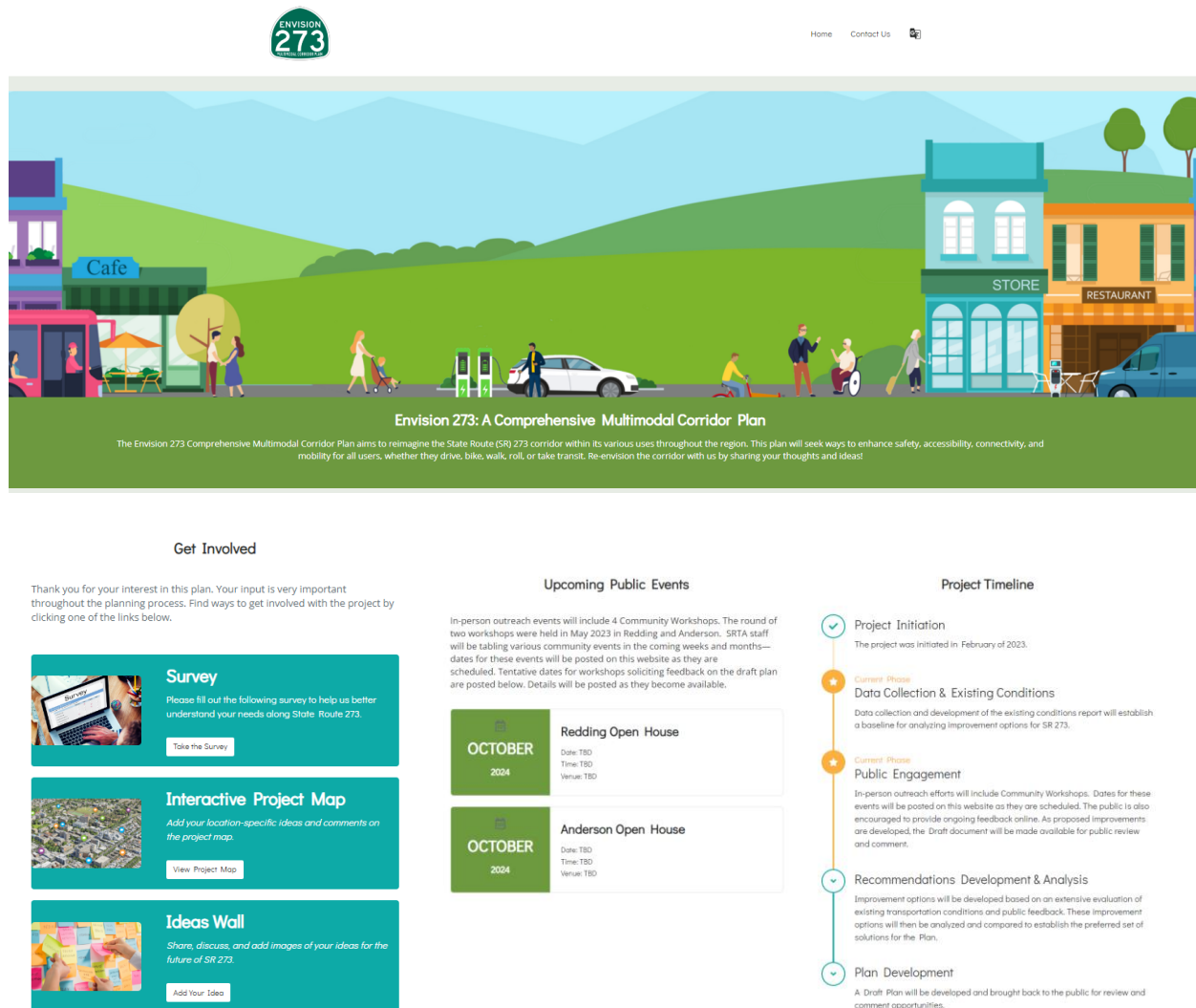
Online Engagement

Project Website

A project website was developed for community members to learn about the project and provide feedback regarding existing conditions and potential improvements. The website included project background, upcoming events, a project timeline, project documents, and examples of complete streets strategies. Visitors to the website were able to engage with three tools:

- A survey for collecting travel behavior and feedback on potential improvements
- An ideas wall for participants to discuss with other users
- A mapping tool for providing location specific comments

The website received 4,330 comments from 2,205 stakeholders.



The screenshot displays the homepage of the 'Envision 273: A Comprehensive Multimodal Corridor Plan' website. At the top, there is a navigation bar with a logo, 'Home', and 'Contact Us' links. Below the navigation bar is a large, colorful illustration of a community scene with a cafe, a store, a restaurant, a car, a person on a bicycle, and a person in a wheelchair. The main heading reads 'Envision 273: A Comprehensive Multimodal Corridor Plan'. Below this, a paragraph states: 'The Envision 273 Comprehensive Multimodal Corridor Plan aims to reimagine the State Route (SR) 273 corridor within its various uses throughout the region. This plan will seek ways to enhance safety, accessibility, connectivity, and mobility for all users, whether they drive, bike, walk, roll, or take transit. Re-envision the corridor with us by sharing your thoughts and ideas!'

The website is divided into three main sections:

- Get Involved**: This section includes a thank-you message and three interactive tools:
 - Survey**: A button labeled 'Take the Survey' with a description: 'Please fill out the following survey to help us better understand your needs along State Route 273.'
 - Interactive Project Map**: A button labeled 'View Project Map' with a description: 'Add your location-specific ideas and comments on the project map.'
 - Ideas Wall**: A button labeled 'Add Your Idea' with a description: 'Share, discuss, and add images of your ideas for the future of SR 273.'
- Upcoming Public Events**: This section lists two events for October 2024:
 - Redding Open House**: Date TBD, Time TBD, Venue TBD.
 - Anderson Open House**: Date TBD, Time TBD, Venue TBD.
- Project Timeline**: This section outlines the project's progress through five stages:
 - Project Initiation**: The project was initiated in February of 2023.
 - Current Phase: Data Collection & Existing Conditions**: Data collection and development of the existing conditions report will establish a baseline for analyzing improvement options for SR 273.
 - Current Phase: Public Engagement**: In-person outreach efforts will include Community Workshops. Dates for these events will be posted on this website as they are scheduled. The public is also encouraged to provide ongoing feedback online. As proposed improvements are developed, the Draft document will be made available for public review and comment.
 - Recommendations Development & Analysis**: Improvement options will be developed based on an extensive evaluation of existing transportation conditions and public feedback. These improvement options will then be analyzed and compared to establish the preferred set of solutions for the Plan.
 - Plan Development**: A Draft Plan will be developed and brought back to the public for review and comment opportunities.

Survey

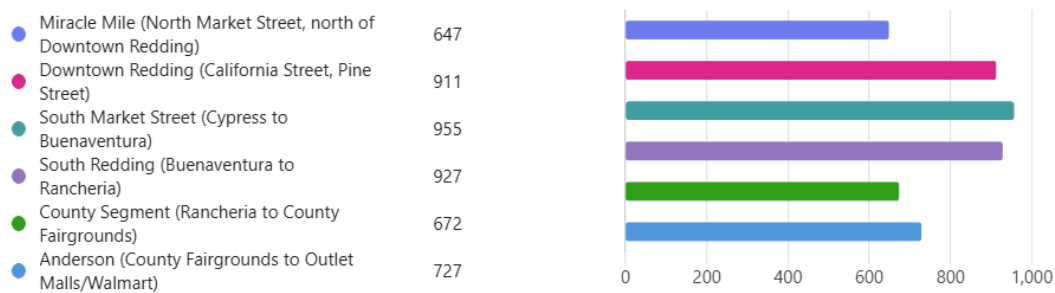
A public input survey was created to collect information about travel behavior along the SR 273 and priorities for the corridor plan.

Travel Information

When asked what portions of SR 273 community members utilized regularly, respondents most often answered South Market Street (Cypress Avenue to Buenaventura Boulevard), followed by South Redding (Buenaventura Boulevard to Redding Rancheria Road) and Downtown Redding (California Street and Pine Street).

2. What portions of SR 273 do you use regularly. *Select all that apply.*

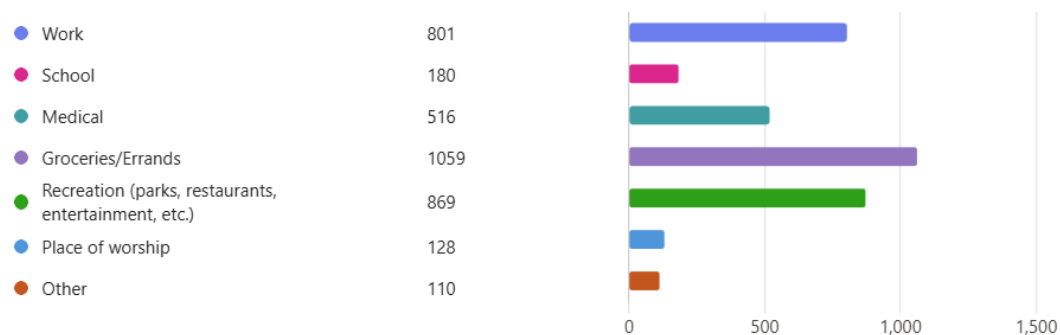
[More details](#)



Community members most often run errands along SR 273, followed by traveling to recreation facilities or commuting to work.

3. What types of trips do you typically utilize SR 273 for? *Select all that apply.*

[More details](#)

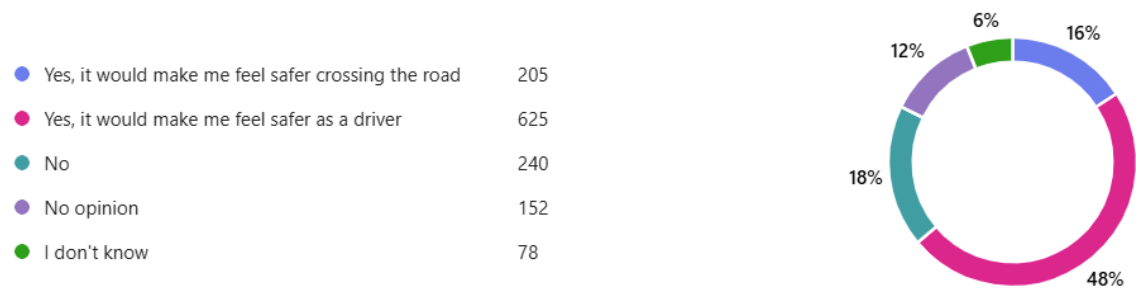


Improvement Priorities

Community members overwhelmingly supported improved crossing locations along SR 273. Almost half of responses came from drivers who felt that enhanced crossings would improve their safety. When asked to prioritize changes along SR 273, the highest proportion of respondents ranked modifying intersections to reduce crash risks as their top choice.

4. Would you support improved crossing locations on SR 273? (particularly outside of downtown Redding / Anderson)

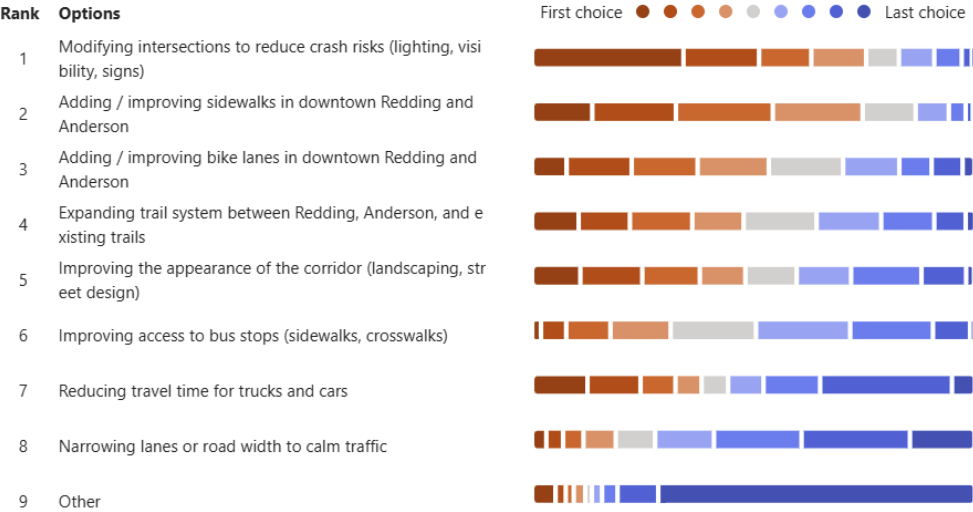
[More details](#)



8. How would you prioritize changes to SR 273? Rank options from most to least important by dragging each option or using the arrows to the right.

1280 Responses

1-291 | 1280



When asked if they would use a paved trail between the City of Redding and the City of Anderson, 536 (41%) community members said they would use the trail and 759 (59%) said they would not.

5. Would you use a paved trail between Redding and Anderson?

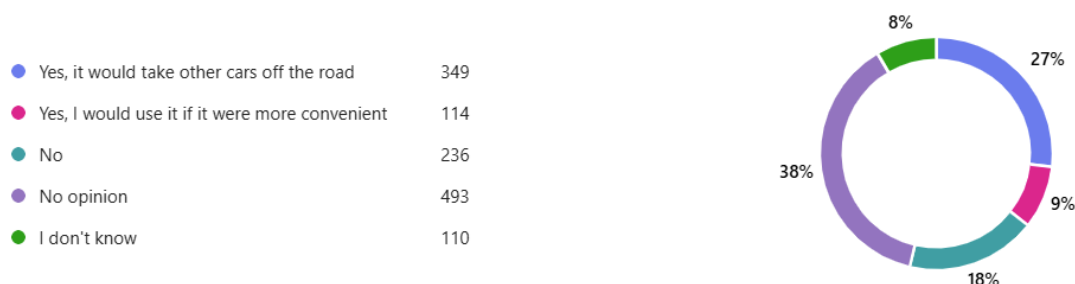
[More details](#)



More than a quarter of survey respondents said they would support improved transit service on SR 273 if it would take cars off the road, and 9% said they would use transit if it were more convenient. Thirty-eight percent of respondents had no opinion on improving transit service and 18% opposed.

7. Would you support improved bus (transit) service on SR 273? (more frequent and reliable)

[More details](#)



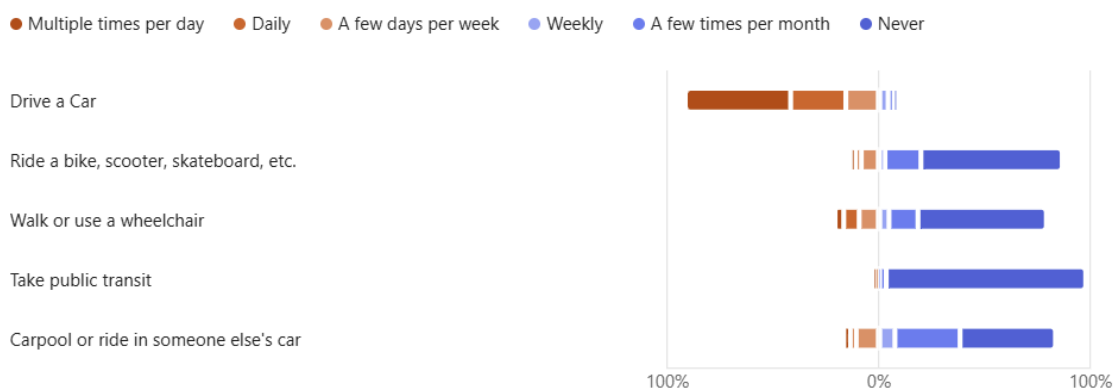
Safety

Community members were asked, on the segments of SR 273 they travelled most, how often they used different modes of transportation, how safe they felt using each mode, and what factors influenced their perceived safety.

A majority of community members drove a car daily or multiple times a day. About 20% of respondents reported walking or using a wheelchair on SR 273 at least a few days per week, while 13% said they rode a bike, scooter, skateboard or other non-motorized mode of transportation.

9. On this segment, how often do you _____? *Select all that apply.*

[More details](#)



Almost half of survey respondents felt moderately safe while driving along SR 273 (47%), followed by somewhat safe (25%) and very safe (22%). Drivers felt that unsafe or speeding drivers impacted their safety most, followed by lack of lighting and poor road surface.

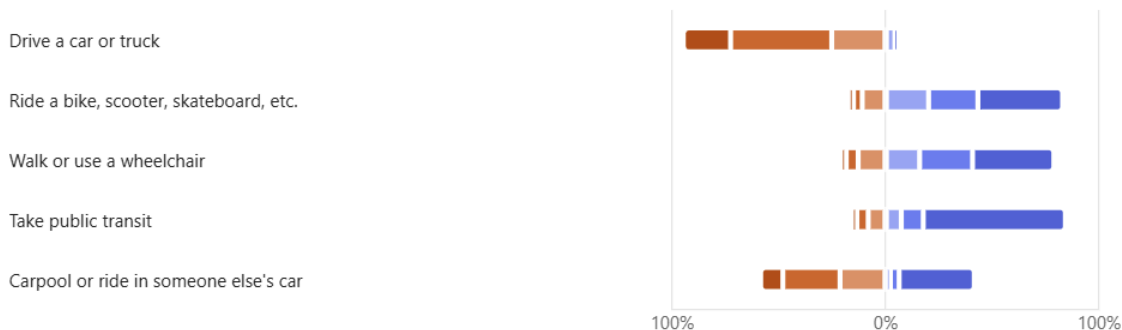
Most respondents said they did not feel safe walking, using a wheelchair, riding a bike or using other non-motorized modes of transportation, said they would not use those modes of transportation along the corridor, or felt they modes were not applicable to them. Community members felt that a lack of sidewalks impacted their safety when walking the most, followed by unsafe or speeding drivers and a lack of crossing opportunities. Respondents said that a lack of bicycle lanes impacted their safety when bicycling along the corridor more, followed by unsafe or speeding drivers.

While very few respondents reported taking public transit, community members felt that a lack of lighting, followed by unsafe drivers and lacking of crossing locations impacted their safety when taking transit most.

10. On this segment, how safe do you feel when you _____? *Select all that apply.*

[More details](#)

Very safe Moderately safe Somewhat safe Not safe I would not do this along the corridor Not applicable



11. If you answered, 'Somewhat unsafe' or 'Not safe,' on the prior question, what makes you feel unsafe? *Select the main reason you feel unsafe.*

[More details](#)

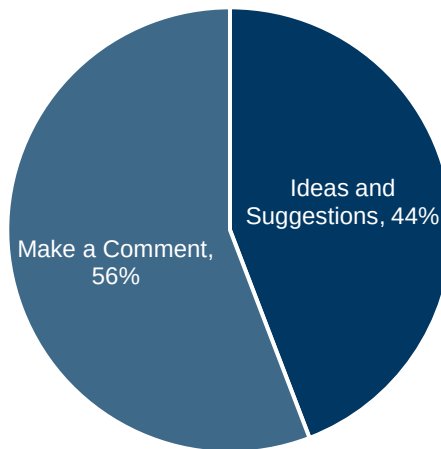
Too much traffic Unsafe / speeding drivers No sidewalks (or unsafe sidewalks) No bike lanes (or unsafe bike lanes) Not enough lighting Poor road surface No way to cross the street (or cross safely)



Ideas Wall

An ideas board was hosted on the website to facilitate discussion among stakeholders. Users were able to add images of improvements they'd like to see, up vote and down vote comments, and start discussions. The ideas was received 43 comments from 28 stakeholders.

Ideas wall users were presented with three prompts: "make a comment", "ideas and suggestions", and "something I like". Users chose to make a comment or provided ideas or suggestions and did not make any "something I like" comments.



Five comments received 10 or more upvotes from stakeholders. Popular comments included installing a “starp” and bicycle facilities along SR 273, congestion, interest in roundabouts, and beautification of the corridor.

Table 26 Top Voted Ideas Wall Comments

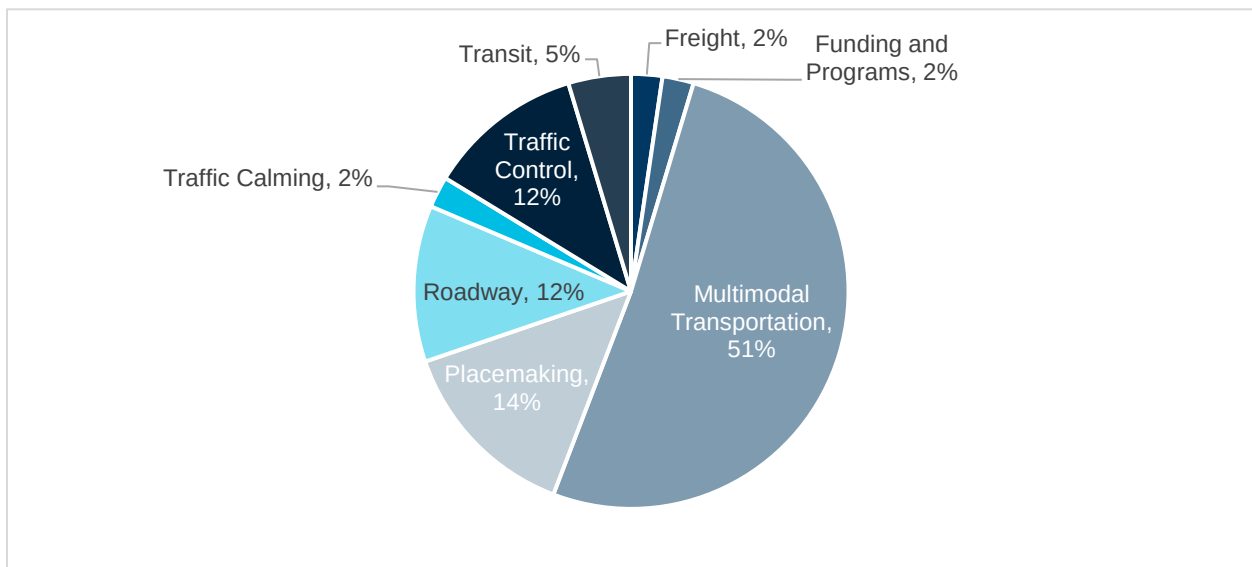
Comment	Up Votes	Down Votes
Maybe starpaths along 273 would encourage more people to use them! A Starpath is a spray-on coating that can be used on any solid surface and works by absorbing UV rays during the day and then expelling them at night. A lot of cities are doing this now and it's cost effective! (There are more pictures online but it can be painted straightforward as shown or more artistically)	18	1
More landscaping, trees/shade, and general beautification of the corridor is desperately needed. Consider using reclaimed water from Clear Creek Wastewater Treatment Plant along 273 to provide greenery even during drought years. This reclaimed water system could potentially be utilized by nearby developments as well.	13	2
Would like to see signal lights replaced with roundabouts in many locations. This would slow down the corridor and prevent fatalities that have happened at many intersections (difficult to come to a stop at a red light when you are going 65 mph). More lighting along the corridor is needed. Beautify the corridor.	13	4
A bike lane the entire length of the corridor would be a plus to the City. I believe this was suggested a while back and the suggestion said there would be a protective barrier of some kind to protect bikers from traffic.	11	1
I regularly commute from China Gulch to Redding via 273. Traffic management on 273 is marginal. The speed limit is 55 mph to 60 mph. However, traffic along 273 is often in perpetual stop and go mode being stopped by lights for one or two cars on the side streets. How is that environmentally friendly? Can some traffic light synchronization be planned like downtown Redding has?	10	1

Ideas wall comments were categorized into eight primary themes, described below. Many comments included multiple themes, of which the most prominent was chosen.

- **Multimodal Transportation:** bicyclists, pedestrians, or ADA accessibility

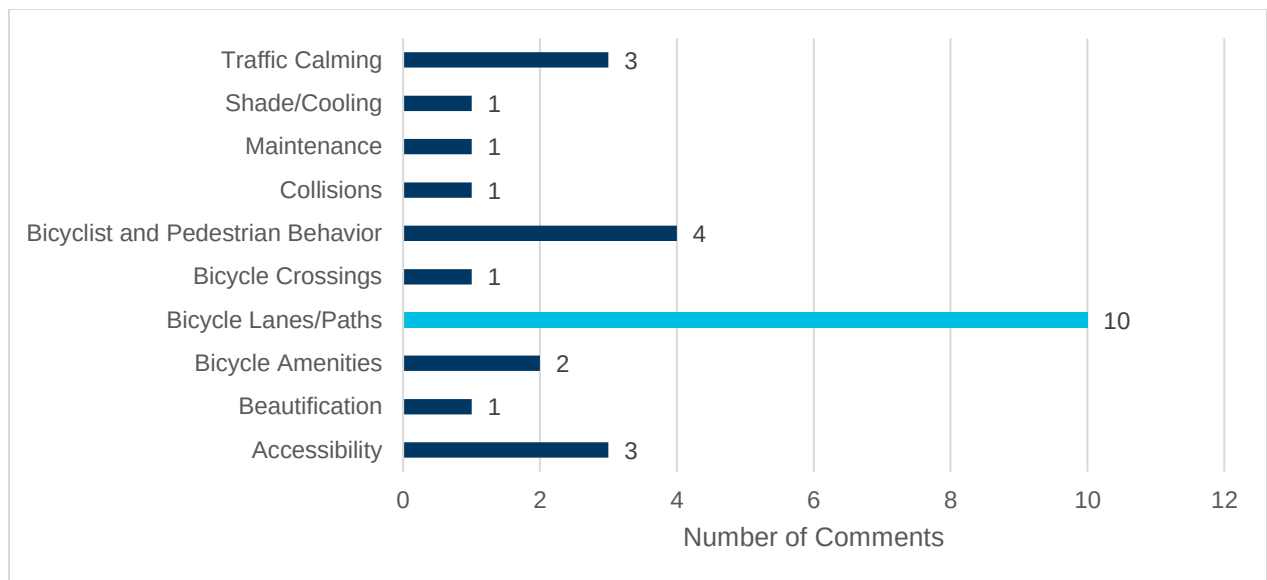
- **Freight Rail:** rail crossings
- **Funding and Programs:** concerns about funding, concerns about homelessness, and funding opportunities
- **Placemaking:** landscaping, greenspace and shade trees, environmental considerations, lighting, and beautification
- **Roadway:** road blockages and access, driver safety concerns and collisions, lane configuration, and congestion
- **Traffic Calming:** speeding concerns and speed reduction
- **Traffic Control:** traffic lights and timing, roundabouts, turn lanes, and signage
- **Transit:** transit stops, including access and relocation

More than half of the 43 ideas wall comments primarily addressed multimodal transportation along SR 273.



Multimodal Transportation

Of the 22 multimodal transportation comments, bicycle lanes and paths were mentioned most often. Community members expressed support for multiuse paths and protected bikeways along the corridor and felt existing conditions are unsafe for non-motorized users. Community members also discussed pedestrian and bicycle behavior, noting that pedestrians cross the road at unmarked locations, increasing collision risk. One commenter questioned why bicycle lanes were needed because there are so few people cycling in along the corridor, but other community members felt that safe bicycle facilities would encourage more people to ride.



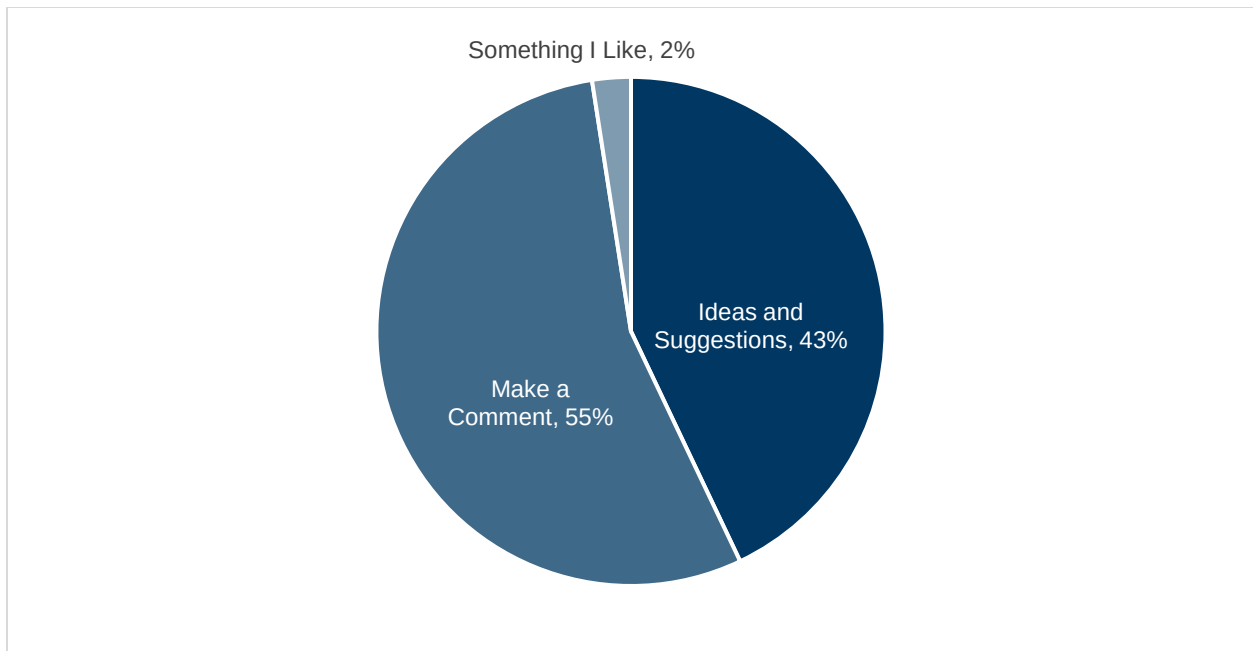
Additional Themes

Other common themes included incorporating placemaking techniques along the corridor, such as landscaping, lighting, benches, and shade to improve the experience of walking and bicycling along SR 273. Community members also raised concerns about congestion, safety, and improving vehicle access to neighborhoods along the corridor.

Mapping Tool

An interactive mapping tool was hosted on the website to gather location specific comments along the project area. The tool was open for comment beginning in spring of 2023 and was closed in fall of 2024. Users were able to add images of improvements they'd like to see, up vote and down vote comments, and start discussions. The map received 163 comments from 89 stakeholders.

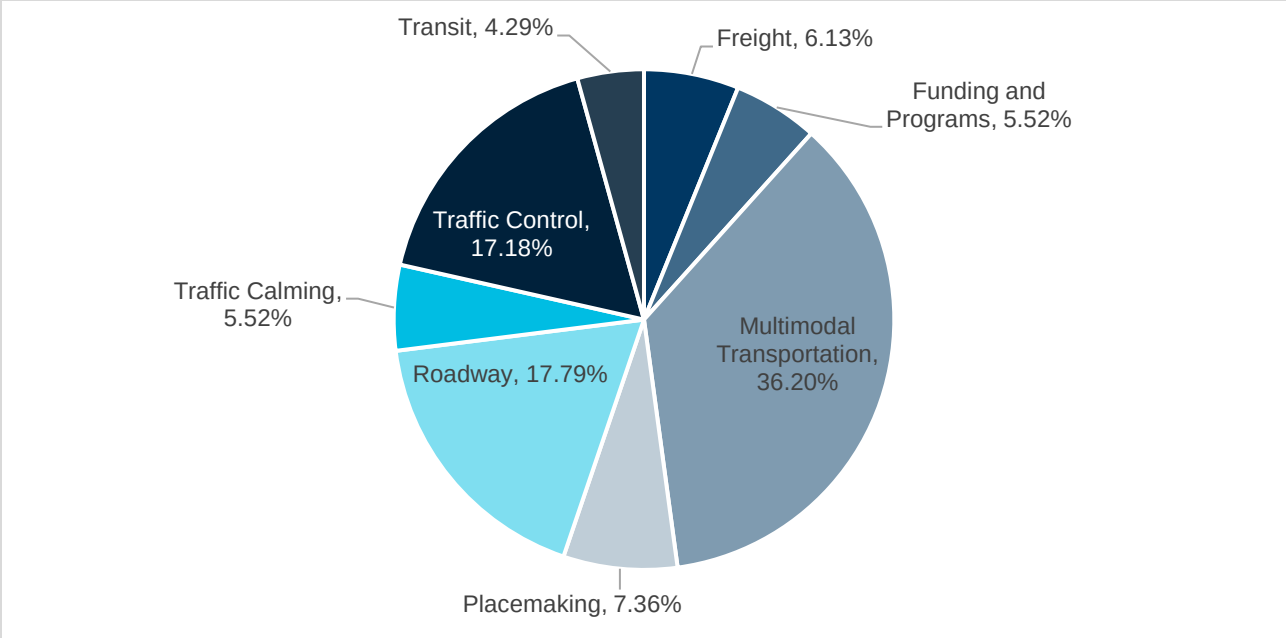
Interactive map users were presented with three prompts: "make a comment", "ideas and suggestions", and "something I like". Most users chose to make a comment or provided ideas or suggestions.



Interactive map comments were categorized into eight broad themes, described below. Many comments included multiple themes, of which the most prominent was chosen.

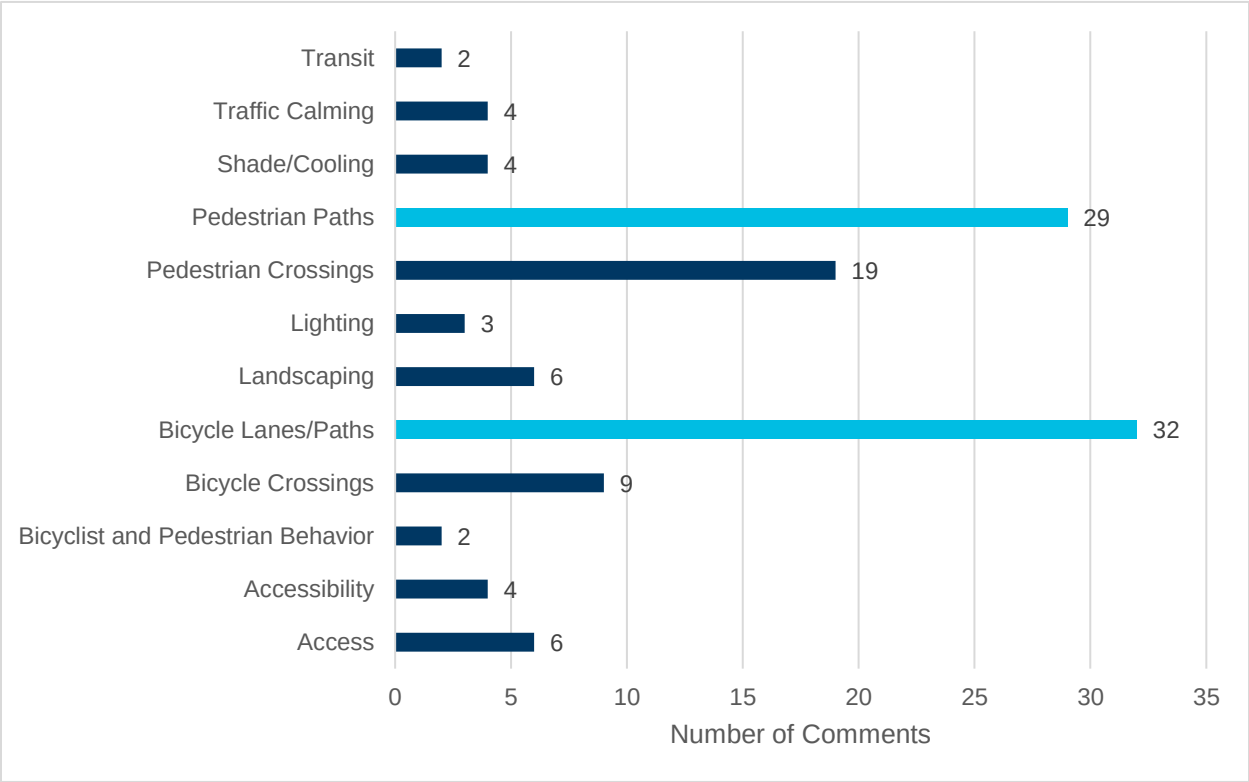
- **Multimodal Transportation:** bicyclists, pedestrians, or ADA accessibility
- **Freight Rail:** rail crossings
- **Funding and Programs:** concerns about funding, concerns about homelessness, and funding opportunities
- **Placemaking:** landscaping, greenspace and shade trees, environmental considerations, lighting, and beautification
- **Roadway:** road blockages and access, driver safety concerns and collisions, lane configuration, and congestion
- **Traffic Calming:** speeding concerns and speed reduction
- **Traffic Control:** traffic lights and timing, roundabouts, turn lanes, and signage
- **Transit:** transit stops, including access and relocation

The largest share of comments were categorized under multimodal transportation (36%), followed by traffic control (18%) and roadways (18%).



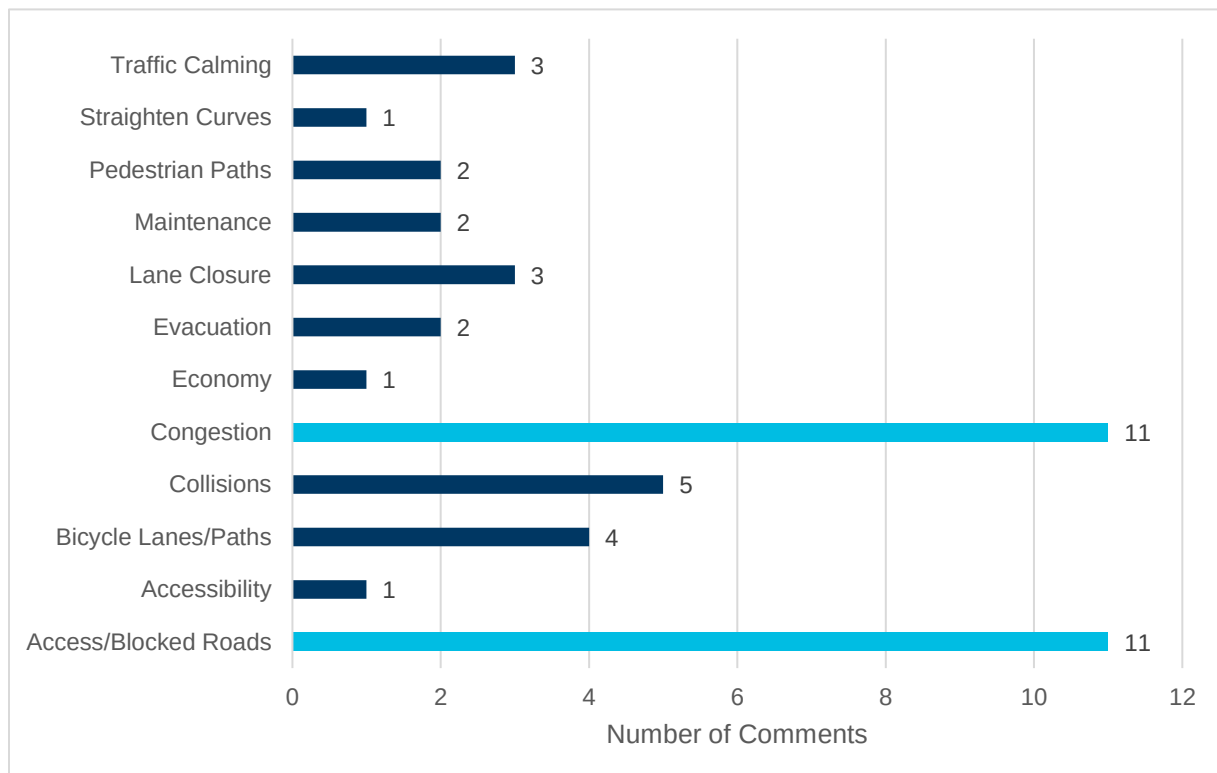
Multimodal Transportation

Of the 58 multimodal transportation comments, most included support for new or improved bicycle and pedestrian paths along the corridor, including sidewalks, protected bicycle lanes, and multiuse pathways. Community members also identified bicycle and pedestrian crossing improvement locations, citing overcrossings, improve crosswalks, and bicycle detection at traffic lights.



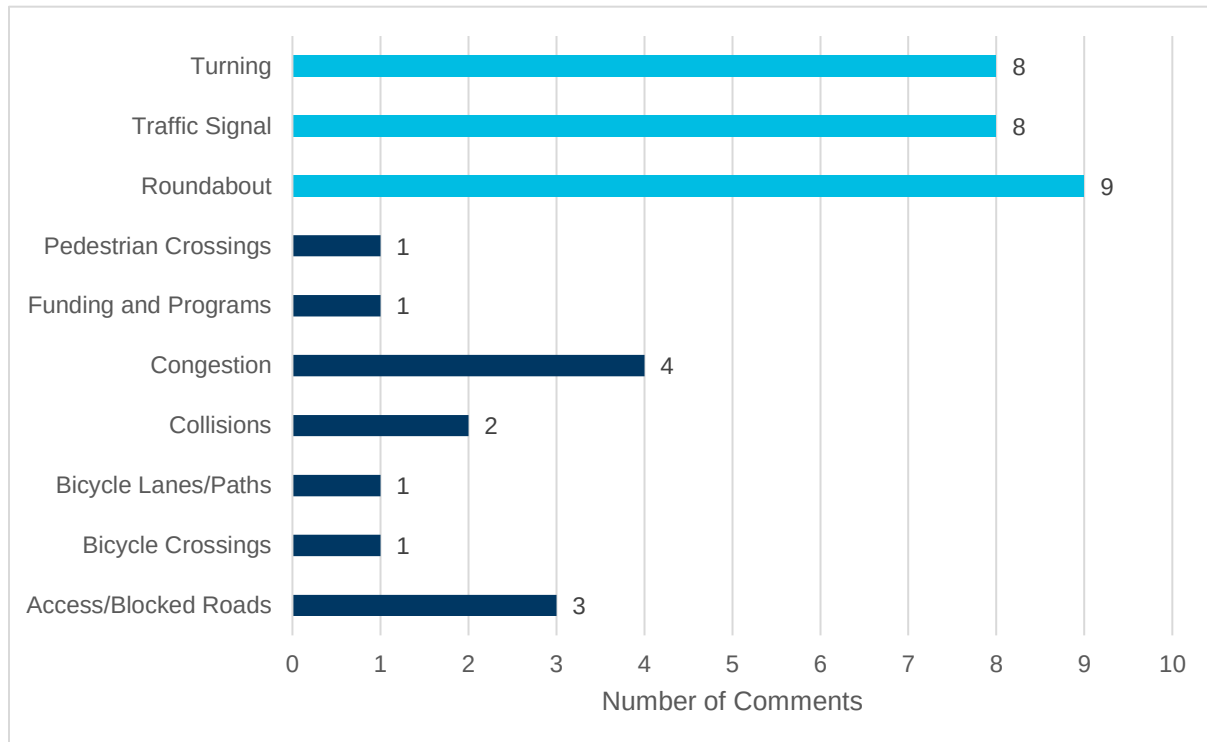
Roadways

Of the 29 comments relating to roadways, congestion, improving vehicle access, and blocked roads were most often mentioned. Community members discussed opening certain intersections blocked to vehicle traffic and discussed additional routes to improve connectivity. Congestion was discussed throughout the corridor, and people were concerned about how the current road closure and bikeway addition impacts traffic. Some community members felt that existing bikeway solutions did not encourage bicyclists, negatively impacted safety and congestion, and felt that pedestrians and bicyclists continued to travel on the side of the road and cross the street at unmarked locations even with new multimodal infrastructure.



Traffic Control

Of the 28 comments regarding traffic control, roundabouts, traffic signals, and turning were mentioned most. Community members had mixed responses about roundabouts; some stated the multimodal safety benefits and support for roundabouts along the corridor, while others felt roundabouts were unsafe, not a the right solution for SR 273, or avoid them all together. Community members noted several locations where they wanted additional turn lanes and to remove no right on red rules. Respondents also mentioned improving traffic timing to reduce congestion.



Eight comments received 10 or more upvotes from stakeholders. The comments included improving pedestrian and bicycle access across SR 273 and the UPRR freight rail line, interest in multiuse pathways, reversing the one-way couplets in downtown Redding, safety concerns about the mousehole undercrossing, improving access at Branstetter Lane, and improving landscaping along the corridor.

Table 27 *Top Voted Interactive Map Comments*

Comment	Up Votes	Down Votes
Put a pedestrian Bridge here over the railroad track and 273 for safe passage to shopping for the neighborhood.	15	2
This undercrossing is extremely dangerous and improvement should be considered. Get railroad on board early to widen span so that a separate ped/bike lane can be accommodated.	13	1
Reopen the left turn from Branstetter Lane on to SR 273 northbound lane. The northbound auto traffic is now using Westside Rd from Branstetter to Kenyon to get on SR 273	12	1
Widen bridge to add Class I, multiuse paths on both sides of bridge. Connect these with Sacramento River Trail.	11	0
It would be spectacular to use some of this right of way for a protected (separate from the highway) path for use by cyclists, scooters, pedestrians, etc. What a lovely way to connect the downtown areas of Anderson and Redding to each other and to the areas in between. Emphasis, however, on separate and protected from the highway. We will always need the light industrial infrastructure in this area, and walking/cycling/wheelchairing near the heavy trucks is terrifying. Lets find a way to share!	11	1
Need to decrease the number of one-way streets and reduce the number of lanes. Pine Street is 3 lanes, 40 feet wide, and if all the lights are green it is essentially a speedway. The same can be said for numerous other roads in the area. The bike lane on Pine is completely unsafe as a result. Can we make this two-way and devote more area to physically separated active transportation infrastructure please?	10	1
Have there been any studies to see how many pedestrians and bicyclists are using the newly designated lane that was assigned to them? A traffic camera installed under the railroad bridge can easily help with that. Another camera near Wyndham could be used to count how many cars ran over the white plastic posts that separate the two lanes.	10	0
The aesthetics of landscaping and water feature are nice here. Retain these and plant more trees along the Hwy 273 corridor.	10	0

In Person Engagement

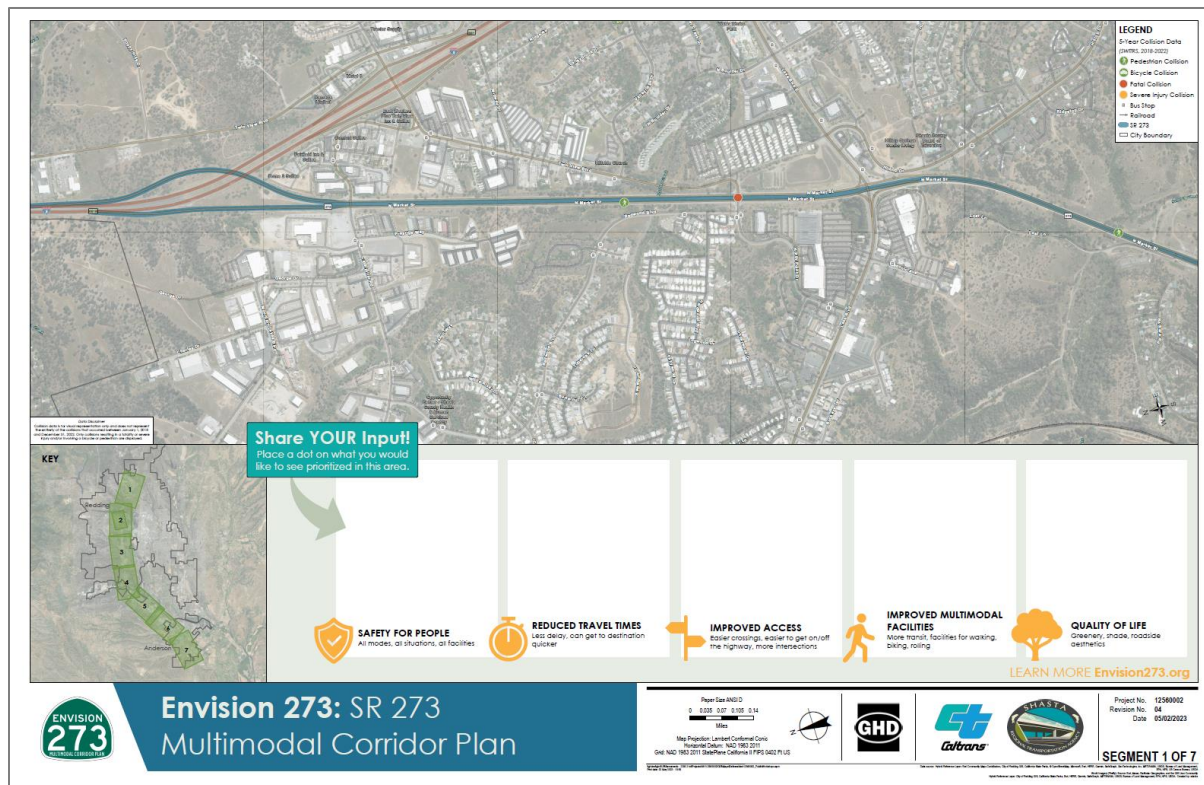
The following section describes in person engagement efforts conducted throughout the planning process. It includes materials developed, outreach events, and feedback from in-person events and online outreach tools.

Materials

Materials for community engagement events aimed to educate the public about the project and gain feedback. Materials developed included:

- **Informational boards** which included history of the corridor and information about the project
- **Fact Sheets** which included information about the project, which were printed in English and Spanish
- **A Prioritization Activity** where participants could choose their top three priorities for corridor improvements. The prioritization activity also included maps of the corridor to gather location-based comments, concerns, and ideas for potential improvements.
- **An Origin and Destination Map Activity** where people identified where they began their trips and where they ended them along the corridor.
- **A Corridor Use Exercise** board where people could identify which modes of transportation they use along the corridor and what types of places they are travelling to.





HOW DO YOU USE STATE ROUTE 273?

Which of these options best describes why you use SR 273?

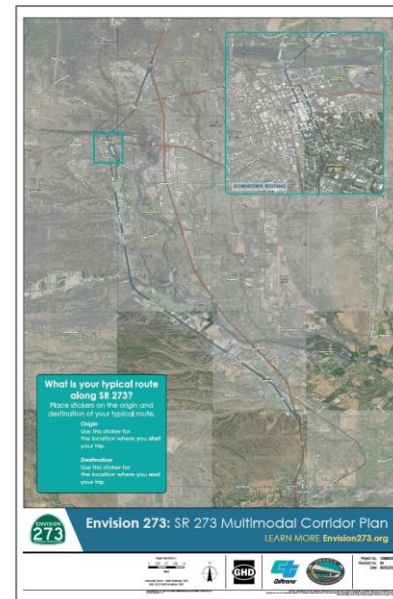
I or my kids go to school close to SR 273	I live on or close to SR 273	I own a business on SR 273	I work on or close to SR 273	I use SR 273 to get to recreational activities	I visit SR 273 (for church, dining, errands, etc.)

How do you typically travel to and/or on SR 273? You may choose more than one.

I walk or use a wheelchair	I ride a bike	I drive a car or motorcycle	I take the bus	I ride in someone else's car (carpool)	Other (tell us more!)

ENVISSION 273

LEARN MORE Envision273.org



Public Visioning Event

In an attempt to encourage planners and the public to “think big” about the SR 273 corridor, SRTA, Caltrans, and GHD developed a multi-day “visioning event” to encourage unconstrained thinking about what the corridor could look like in the future and to share best practices successfully implemented in other communities that could be leveraged in the Shasta Region.

GHD recruited Dan Burden and Michael Williams of Blue Zones to facilitate this brainstorming session and a multi-day program consisting of corridor audits and visioning events. Publicity for this event was performed through a City of Redding podcast interview with Dan Burden, boosted Facebook events, an email blast, posts to the SRTA website, and stories on local media. Following the event, a summary of the findings and recommendations was prepared by Blue Zones (see Appendix D).

Day 1

On August 27, 2024, SRTA staff took the consultant team (GHD and Blue Zones) on a windshield corridor audit in both daylight and night-time conditions along the entire length of the corridor to familiarize them with corridor challenges. The team stopped at key locations to observe and photograph particular challenges and spoke with a few corridor travelers about how they use the corridor.



Day 2

On August 28, 2024, two walking audits (or “corridor tours”) were performed. The first walk audit examined the South City Park “micro-corridor,” starting at the S. Market Street (SR 273)/Cypress Avenue intersection, including Pine Street (SR 273) and East Street, and traveling south to the S. Market Street (SR 273)/Angelo Avenue intersection, including Parkview Avenue and California Streets. Approximately 25 people were in attendance.

The second walk audit examined the Downtown Anderson area, starting at Anderson City Hall and examining the corridor between North and South Streets, with particular focus on the North and South Street crossings of SR 273. Approximately 15 people were in attendance.

A visioning event was held that evening at the Veterans of Foreign Wars Hall in the City of Anderson. Dan Burden provided a presentation on the challenges he observed on the corridor and shared possible solutions that have worked in other communities. Following the presentation, attendees examined maps of the corridor and discussed which possible solutions could be applied to SR 273. Approximately 15 people were in attendance.

Day 3

On August 29, 2024, two additional walking audits were performed. The first walk audit examined the “Miracle Mile” area, starting at the N. Market Street (SR 273)/Quartz Hill Road intersection, traveling north along the eastern side of the corridor to N. Market Street (SR 273)/Arboretum Drive, and then traveling south along the western side of the corridor back to the starting point. Approximately 20 people were in attendance.

The second walk audit examined the northern portion of Downtown Redding where the various state highways (SRs 44, 273, and 299) interchange, traveling from California Street and Eureka Way (SR 299)

across Market Street (SR 273) to Pine Street (SR 273), crossing its intersection with SR 44 (Shasta and Tehama Streets) and then traveling Tehama Street to Market Street and back to the starting point. Approximately 15 people were in attendance.

Another visioning event was held at Viva Downtown (1435 Butte Street) in Downtown Redding. Once again, Dan Burden provided a presentation on the challenges he observed on the corridor and shared possible solutions that have worked in other communities. Following the presentation, attendees examined maps of the corridor and discussed which possible solutions could be applied to SR 273. Approximately 20 people were in attendance.

Summary

BlueZones prepared a vision event summary, including recommendations for the corridor (see Appendix D). Among the key findings was an observation that “there is no engineering or capacity basis for having so many lanes on SR 273” and that “according to the FHWA, ‘typically, a road diet is implemented on a roadway with a current and future average daily traffic of 25,000 or less.’” Key recommendations include traffic calming, intersection improvements, and greening with a focus on shade trees.

Public Open Houses

Workshops 1 to 4: Project Inception

Initial workshops were held in May 2023; two were held in the Cities of Redding and Anderson each. The purpose of Workshops 1 to 4 was to introduce the project and collect feedback from the attendees on challenges, barriers, and needs related to SR 273.

Redding

Workshop 1 was held in front of the Shasta College Downtown Redding Campus building on May 3rd, 2023, from 11:30 am – 1:30 pm. The workshop was a lunchtime “pop-up” and gathered feedback from about 30 people passing through the area.

Workshop 2 was on the same day at the same location (inside the building) from 5:30 – 7:30 pm. Thirteen participants attended.



Anderson

Workshop 3 was held on May 4th, 2023, from 11:30 am – 1:30 pm at the Anderson City Hall Community Center, where 9 people attended.

Workshop 4 was held on the same day from 5:30 – 7:30 pm at the same location and did not attract any participants.



Corridor Origin-Destination Activity

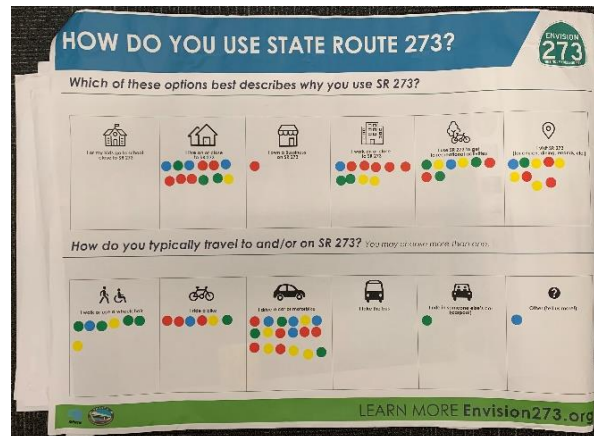
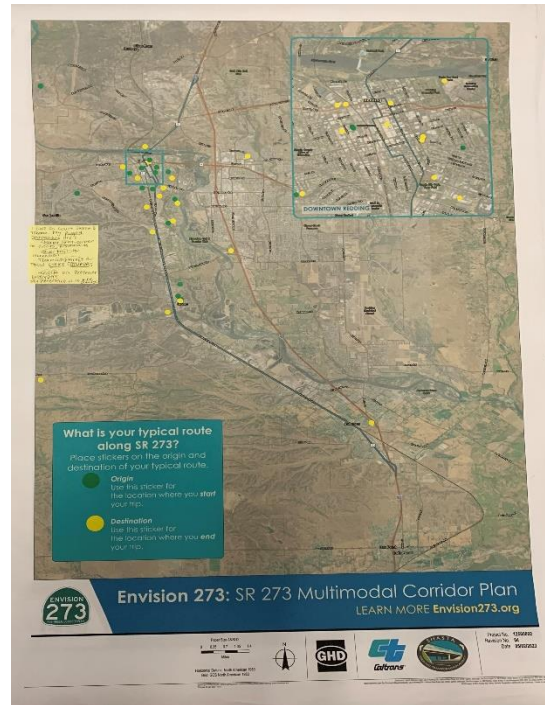
Participants at the Redding workshops originated their trips primarily in or south of downtown Redding, though some began traveling from near Girvan Road. Participants reported traveling to destinations in downtown Redding, south and east of downtown, near Girvan Road, the Costco at Bonnyview Road and to Anderson. Participants at the Anderson workshop reported starting their trips in Anderson near North Street and South Street and travelled along SR 273 to Bonnyview Road and Cypress Avenue.

Corridor Use Activity

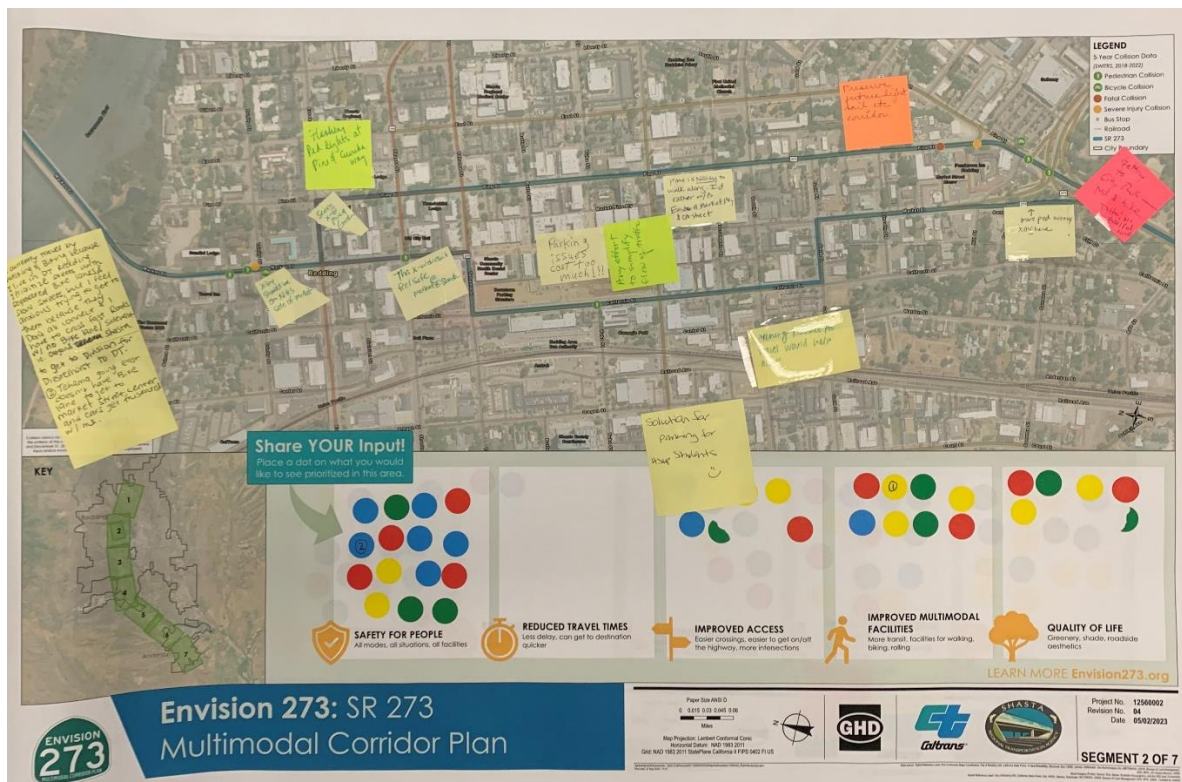
Most Redding responses indicated users lived on or close to SR 273, but many also worked on or close to SR 273, used SR 273 to get to recreational activities, visited SR 273 for various activities (church, dining, errands, etc.), and one resident owned a business on SR 273. Anderson residents reported working on or close to SR 273 and visiting the route for various activities (church, dining, errands, etc.). One respondent reported walking or using a wheelchair, one rode their bicycle, one drove or used a motorbike, and one carpooled.

Corridor Prioritization Activity

Participants at the Redding workshops highlighted their preferred priority, with safety as their top priority, followed by improved multimodal facilities, and quality of life. Similarly, participants at the Anderson workshop prioritized safety, followed by improved multimodal facilities, and quality of life.



Summary of Comments



Feedback from the initial workshops centered around the following themes:

- **Pedestrian and bicycle connectivity**, particularly along Tehama Street to Market Street, between Railroad Avenue and Eastside Road near the mousehole, between downtown Redding and City Hall, and to the Anderson Salmon Runner Bus Station and local parks.
- **Safety and comfort for pedestrians and bicyclists**, including unsafe crossings and high vehicle speeds. Attendees mentioned specific locations where they felt unsafe, listed below:

Roadways

- Market Street (SR 273)
- Pine Street (SR 273)
- Cypress Avenue
- Railroad Avenue
- Eastside Road

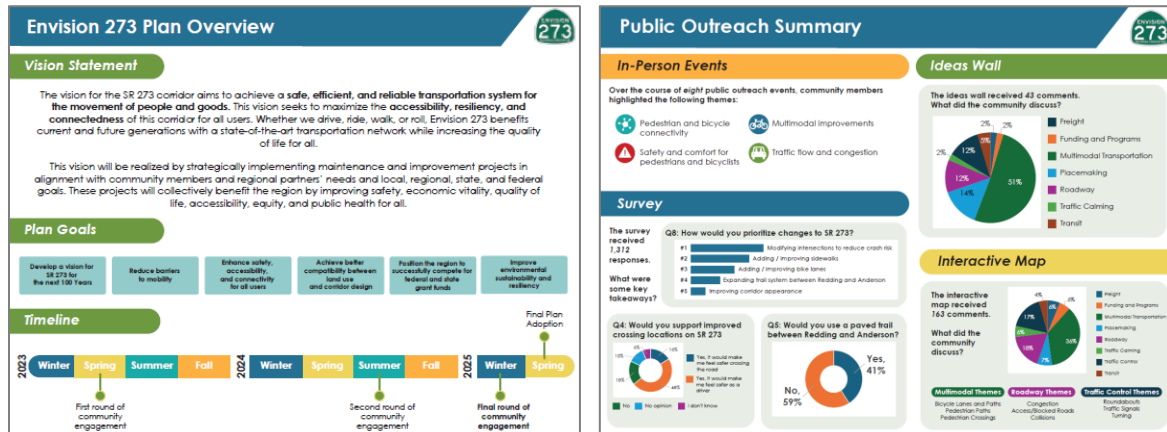
Intersections

- Pine Street (SR 273) and Cypress Avenue
- Pine Street (SR 273) and Eureka Way (SR 299)
- Quartz Hill and N. Market Street
- Eastside Road and Wyndham Lane
- Buenaventura Boulevard and Eastside Road
- SR 273 and S. Bonnyview Avenue
- **Multimodal improvements**, including separated bike lanes, raised crossings, improved freight rail line crossings, lighting and wayfinding, camera sensitive bicycle crossings, landscaped medians, placemaking, RRFBs, HAWKs, and more.
- **Traffic flow and congestion**. Participants mentioned improvements, including widening roadways and installing a roundabout at Pine Street (SR 273) and Cypress Avenue and S.

Market Street (SR 273) and Canyon Road.

Workshops 5 to 8: Release of Draft Project Recommendations

Follow up workshops were held in March 2025; two were held in the Cities of Redding and Anderson each. The purpose of Workshops 5 to 8 was to present the public outreach summary to date and the draft project recommendations, and to collect public feedback on project prioritization.



Redding

Workshop 1 was held near the Viva Downtown Redding building on March 10th, 2025, from 12:00 – 2:00 pm. The workshop was a lunchtime “pop-up” and gathered feedback from people passing through the area. Workshop 2 was on the same day inside the Viva Downtown Redding building from 5:30 – 7:30 pm.

Anderson

Workshop 3 was held on March 11th, 2025, from 12:00 – 2:00 pm at the Anderson City Hall Community Center. Workshop 4 was held on the same day from 5:30 – 7:30 pm at the same location.

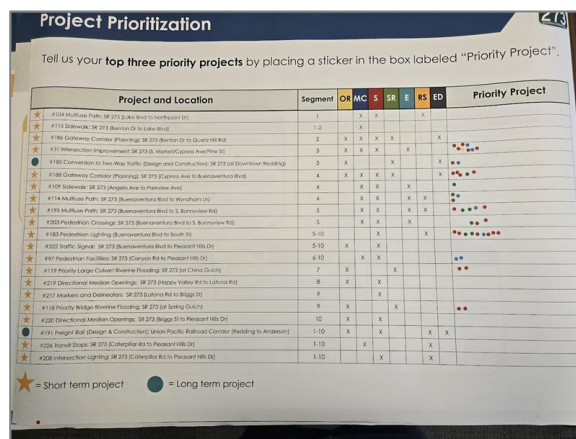
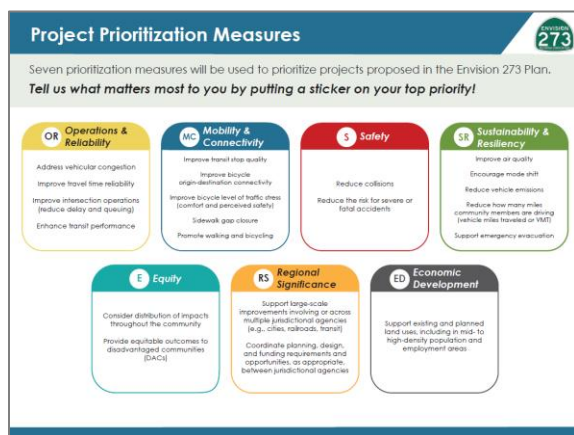


Project Prioritization Activity

Participants were presented with the project prioritization measures, which included the performance measures established for the plan. Participants were asked to provide input on their top three priority projects, across all corridor segments and all performance measures.

Of the projects presented, the highest scoring projects included the following:

- #183 Pedestrian Lighting (Buenaventura Boulevard to South Street) (9 votes)
- #31 Intersection Improvement: SR 273 (S. Market Street/Cypress Avenue/Pine Street) (7 votes)
- #188 Gateway Corridor (Planning): SR 273 (Cypress Avenue to Buenaventura Boulevard) (5 votes)
- #195 Multiuse Path: SR 273 (Buenaventura Boulevard to S. Bonnyview Rd) (5 votes)



Safety Campaign

A road safety campaign was developed to educate and inform the public on safe driving behaviors, with an emphasis on traveling safely with and around commercial truck and freight vehicles. Two fact sheets were created, one for commercial truck drivers and one for all types of roadway users, as well as a series of social media graphics aimed at bicyclists, commercial truck drivers, and pedestrians.

Community Values

Throughout the community engagement process, two primary values emerged concerning 1) interest in pedestrian and bicycle improvements and 2) driver concerns about congestion, access, and safety.

Many community members showed support for protected and separated bicycle and pedestrian facilities along the SR 273 corridor, as well as improved crossing locations. Both drivers and pedestrians and bicyclists voiced concerns about the safety of non-motorized users; pedestrians and bicyclists felt that existing conditions posed barriers to safe active travel within and between the Cities of Redding and Anderson, and drivers felt that unsafe pedestrian and bicyclist behavior (crossing at unmarked locations, walking alongside the road) increase collision risk and impact safety along the corridor.

Community members also had concerns about proposed multimodal and safety improvements. Drivers raised concerns about recent lane closures to create room for bicycle facilities, and felt that it increased congestion, decreased safety, and that the benefit to bicyclists was minimal, favoring overcrossings for non-motorized users. Some community members felt that homelessness along the corridor should be

addressed prior to constructing a trail. People who supported constructing a trail requested placemaking strategies, such as lighting and shade that would improve the experience for users.

Intersection safety was another priority for community members. Online and in-person feedback reflected interest in improving intersections along the corridor, intersections with freight rail tracks, and improvements for pedestrians and bicyclists. Community members had mixed feelings about roundabouts; while some felt roundabouts would enhance safety and relieve congestion, others voiced concerns about comfort of use and impacts on evacuation. However, most stakeholders wished to improve safety and relieve congestion in some way or another.

Although priorities differed between drivers and non-motorized users, there was general interest in investigating corridor solutions that work for everyone.

6 CORRIDOR STRATEGIES AND PROJECTS

Based on the existing performance results and the future performance forecasts, the corridor team identified corridor strategies and projects to carry forward into the corridor improvement analysis. The corridor strategies and projects are intended to address the multimodal corridor objectives and/or corridor performance measures.

Corridor Strategies

Corridor strategies are general kinds of improvements that could be implemented. Corridor strategies include freeway/highway/arterial, transit, freight, complete streets, and climate change/resiliency projects. For example, if the corridor team identifies a freeway/highway/arterial improvement as having the potential to address corridor objectives, that improvement needs to be refined into a project for the corridor analysis and evaluation.

Based on the existing performance results, corridor strategies were developed, as described below.

Freeway/Highway/Arterial Strategies and Projects

Needs

As shown in Table 6, the mean posted speed limit is 55 mph and the primary crash cause is “Unsafe Speed.” This could indicate the need for traffic calming measures to reduce speeds, such as roundabouts, road diets, and reduced lane widths.

As shown in Table 24, “Total Crashes % at Night (Non-Daylight Crashes)” is highest in the rural areas of the corridor (i.e., Segments 6 to 10). More fatal collisions involving a pedestrian and/or a bicyclist occurred during non-daylight hours, including 10 of 21 fatalities in dark conditions where streetlights were not recorded to be present. This could indicate the need for lighting, markers and striping, bicycle and pedestrian facilities, and crossings.

Downtown Redding

Within the corridor, Downtown Redding is unique in that it contains the primary urban core, with recently constructed high-density, mixed-use development. As shown in Figure 26, Downtown Redding is bisected by multiple highways—SR 273 in the north-south direction, which supports mostly intraregional trips, and both SR 44 and SR 299 in the east-west direction, which support (but are not limited to) interregional trips (e.g., freight trucks). Downtown Redding also contains the SR 273 One-way Couplet and other one-way highway portions (see Figure 27), which integrate with local arterials and the downtown street grid.

Downtown Redding needs streets that will help the people and the community thrive, including promoting non-vehicular modes of travel, including walking, bicycling, transit. The City of Redding vision is to “create a revitalized Downtown Redding that is attractive, safe, and economically vibrant” with a mix of “pedestrian- and bicycle-oriented shops, housing, workplaces, parks, and civic facilities, inviting to residents and visitors alike” (City of Redding Downtown Specific Plan Update, 2018).

Figure 26 *Highways in Downtown Redding*

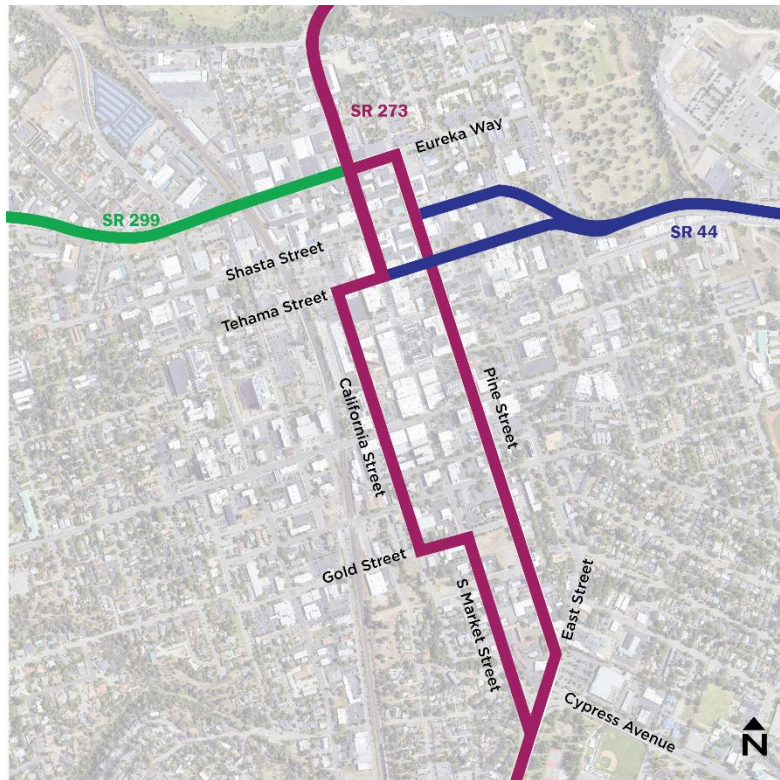


Figure 27 *One-way Highway Portions in Downtown Redding*



Opportunities

Caltrans Main Street, California encourages “people-centered” highway main streets and includes an understanding that supporting multimodal transportation is essential. The guide discusses the design of main streets, including balanced roadways and intersections, design for bicyclists, and design for the pedestrian realm. Additionally, *Caltrans DIB-94* provides contextual design guidance for complete streets, including roadway cross section development to accommodate all modes of travel.

The City of Redding also acknowledges the value of complete streets, including in Downtown Redding and on the state highway system. Although the majority of study area intersections in Downtown Redding are LOS C or better (see Table 20), LOS D is permitted. The City of Redding LOS D threshold is as follows:

“LOS ‘D’ – ‘tolerable delays’—The Downtown area where vitality, activity, and pedestrian, bicycle, and transit use are primary goals. Streets within the state highway system and interchanges and river-crossing street corridors whose capacity is affected by adjacent intersections.”
(City of Redding 2045 General Plan, 2024)

Freeway/Highway/Arterial projects that reduce speeds, implement safety features, and promote complete streets, including and specifically in Downtown Redding, with little to no negative impact on vehicular throughput or travel times, would address multiple corridor objectives.

Rail Strategies and Projects

Needs

As noted in Chapter 1, the UPRR freight rail line runs parallel to the corridor for approximately 9.5 miles (or 59 percent of the total corridor length of 16.2 miles), from just north of Buenaventura Boulevard in the City of Redding to South Street in the City of Anderson.

The UPRR freight rail line crosses SR 273 at one location: north of Buenaventura Boulevard in Redding. This UPRR freight rail crossing is a bridge overcrossing, with freight rail above and SR 273 below. Under the bridge, SR 273 (or the “mousehole”) is limited to two southbound lanes and two northbound lanes with no room for additional facilities. As noted in Chapter 1, a recent quick build multiuse path (Class I) with plastic delineators, part of the Caltrans Downtown Redding CAPM Project, has been implemented to test shared space for bicyclists and pedestrians, replacing one southbound lane.

In addition to the bridge overcrossing pinch point, there are other pinch points along SR 273 associated with both the UPRR freight rail line and local (city and county) arterials. For the same corridor length (approximately 9.5 miles), highway, arterial, and freight rail networks run parallel to each other, with arterial railroad grade crossings.

Opportunities

Passenger and freight rail projects that coordinate multiple purposes and stakeholder agencies would benefit the corridor generally and significantly, as well as address corridor safety specifically.

The existing arterial railroad grade crossings, in addition to the SR 273 crossings (roadway, bicycle, and pedestrian), could be improved in coordination with each other, providing safe solutions for all modes of

transportation. Additional passenger and freight rail overcrossings and undercrossings, to the long-term benefit of users of the transportation system multiple stakeholder agencies, also could be assessed.

Complete Streets Strategies and Projects

Needs

As noted in Chapter 1 and summarized in Table 24, sidewalk coverage is minimal in most corridor segments, excluding developed areas of the Cities of Redding and Anderson (Segments 3 and 10, respectively). Sidewalk gaps are most prevalent between the developed areas, with Segments 8 and 9 having no sidewalks. Additionally, as described above, the “mousehole” (excluding the current quick build project) has no sidewalks and no bicycle facilities.

As noted in Chapter 1, the corridor features bike lanes (Class II) and bike routes (Class III), with a bicycle facility gap (no bicycle facilities) for a large portion of the corridor (from Buena Ventura Boulevard in the City of Redding to South Street in the City of Anderson). This non-contiguous bicycle facility network, as well as high speeds, results in a high stress bicycle LTS. While some intersections contain conflict markings, nearly all intersections lack bicycle buffers, barriers, and/or conflict markings.

Additionally, in a number of corridor segments, SR 273 bicycle and pedestrian crossings only occur at signalized intersections.

Opportunities

Caltrans DIB-94 recommends a multiuse path (Class I) or a separated bikeway (Class IV) where roadways are both at/over 7,000 ADT and at/over 40 mph. Such conditions exist in the corridor (see Table 6).

Caltrans DIB-94 also notes that, in urban areas, Class I may not be feasible due to constrained space. Additionally, separated bicycle and pedestrian facilities (e.g., Class IV) are generally more desirable in urban settings because of higher volumes of users.

At a minimum, a multiuse path, to safely accommodate both pedestrians and bicyclists, should be considered along the corridor.

Corridor Projects

Based on the corridor strategies, corridor projects were developed, as described below.

Planned and Programmed Projects

A list of previously planned and programmed projects, as documented in publicly available plans and reports, was created to help identify corridor projects. As detailed in Appendix E, the previously planned and programmed projects include freeway/highway/arterial, transit, freight, complete streets, and climate change/resiliency projects. Although Caltrans Downtown Redding CAPM is one singular project, for purposes of this plan, individual projects are listed to identify purpose and need (consistent with the plan multimodal corridor objectives and/or corridor performance measures).

Key Plans and Projects

The 2023 Caltrans California Freight Mobility Plan identifies transportation facilities that are critical to the state’s economy and environment. These transportation facilities include freight trucking routes and freight rail. Project types include capacity increasing, system preservation, and operations and

management. The goals of the plan revolve around economic vitality, environmental stewardship, and social equity.

The Caltrans Downtown Redding CAPM identifies improvements on SR 273, SR 44, and SR 299. The purpose of the Downtown Redding CAPM is to reduce distressed lane-miles, improve ride quality, minimize future maintenance and capital efforts and costs, reduce worker exposure, extend the useful pavement life for a minimum of 10 years, and improve safety and facility reliability for all modes for travel and goods movement. The Downtown Redding CAPM will restore the pavement, culvert, and other elements to a good condition and will improve accessibility and ease of travel for bicycles and pedestrians.

The 2022 Caltrans District 2 Active Transportation (CAT) Plan identifies active transportation needs in the district. The study corridor is identified as a Tier 1 priority highway segment. The location-based needs Story Map shows both bicycle and pedestrian needs along the entire length of the corridor, including highway crossings.

The 2020 Caltrans District 2 Adaptation Priorities Report identifies and prioritizes transportation assets vulnerable to climate change impacts. The prioritization methodology considers exposure metrics and consequences metrics, each assigned a weight based on needs and impact of threats. The report ranks bridges, culverts, and roadways assets in the district. The goal of the report is to guide adaptation efforts to enhance resiliency and ensure safety and functionality of transportation infrastructure. Nine bridges on the SR 273 corridor are identified and ranked, including two marked as Priority 1.

The 2024 RABA Short Range Transit Plan (S RTP) is a 5- to 10-year operations plan that guides the development of fixed and demand response transit services with available resources while meeting user needs. During development of this plan, RABA implemented various aspects of the 2024 RABA S RTP, including route elimination and replacement, as detailed in Appendix E.

Corridor Projects Identified for Corridor Improvement Analysis

The corridor projects include a modified list of the planned and programmed projects (Project #s 17-183)⁸, as well as proposed projects (Project #s 184-226), as shown in Table 28. Proposed projects were developed in consultation with stakeholder agencies, including through the development of planning-level feasibility studies (Appendix F).

As shown in Table 28, the proposed projects include scope details that describe the specific physical or operational changes needed to affect the desired result, where costs can be estimated, timeline projected, and major limitations anticipated. Typically, this is far less detail than would be necessary for a Caltrans Project Initiation Document (PID). A rough scope is needed for project evaluation.

Corridor Integration Options

Certain corridor projects may need to be integrated or otherwise work together for benefits to be realized. As such, Chapter 7 will consider system solutions rather than stand-alone activities, where possible.

⁸ To create the modified list of planned and programmed projects, the planned and programmed projects were reviewed. Mostly, only those projects on the corridor were advanced as corridor projects. Bicycle projects within 0.5-mile of the corridor were included/advanced as an exception, to promote corridor bicycle LTS and bicycle origin-destination connectivity.

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Table 28 Corridor Projects

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
17	Arterial	SRTA 2022 RTP	Anderson	SR 273 @ North St - Intersection Improvements	SR 273/North St	SR 273 @ North St - Intersection Improvements	Safety
18	Arterial	SRTA 2022 RTP	Anderson	SR 273 @ South St - Intersection Improvements	SR 273/South St	SR 273 @ South St - Intersection Improvements	Safety
22	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Safety Fences CCEP	SR 273	Install Fencing. In Construction Phase. EA: 3J650. Route 273. Post Miles 17.04/17.09. Program: State.	Safety
23	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Lake Blvd Pavement	SR 273	Pavement Rehabilitation. In Construction Phase. EA: 4H050. Post Miles 18.50/18.70. Program: SHOPP.	Operations & Reliability
24	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Westside Closure (Westside at Breslauer Improvements)	SR 273	Improvements. In Project Development Phase. EA: 0K820. Post Miles 0.00/0.00. Program: MINOR-A.	Mobility & Connectivity
25	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Buena Wyndham Lighting	SR 273	Pedestrian and Bicycle Lighting. In Project Development Phase. EA: 0K800. Post Miles 14.47/15.00. Program: MINOR-A.	Safety
26	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	SR 273 MMBN 16.833/20.03	SR 273	Install Broadband. In Project Development Phase. EA: 4J560. Post Miles 16.83/20.03. Program: LOCAL.	Social Equity
27	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	SR 273 Median Barrier Safety	SR 273	Safety Improvement. In Planning Phase. EA: 0K210. Post Mile 12.85/14.10. Program: SHOPP.	Safety
28	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Downtown Redding CAPM	SR 44	Pavement Preservation. In Planning Phase. EA: 2J600. Post Miles L0.00/L0.54. Program: PLANNING.	Operations & Reliability
29	Highway	Caltrans District 2 Current Projects (https://dot.ca.gov/caltrans-near-me/district-2/d2-projects , Accessed 03/11/24)	Caltrans	Downtown Redding CAPM	SR 273	Pavement Preservation. In Planning Phase. EA: 2J600. Post Miles: 14.50/20.03. Program: PLANNING.	Operations & Reliability

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
31	Complete Streets	City of Redding 2018 ATP	Caltrans	Intersection Improvement: W Cypress Ave and Pine St	W Cypress Ave/Pine St	Bicycle and Pedestrian Intersection Improvement	Mobility & Connectivity; Safety
33	Complete Streets	City of Redding 2018 ATP	Caltrans	Intersection Improvement: SR 273 and Breslauer Way	SR 273/Breslauer Way	Bicycle and Pedestrian Intersection Improvement	Mobility & Connectivity
35	Complete Streets	SRTA 2018 GoShasta Regional ATP	Caltrans	Intersection Improvement: SR 273 and South St	SR 273/South St	Bicycle and Pedestrian Intersection Improvement	Mobility & Connectivity
36	Complete Streets	SRTA 2018 GoShasta Regional ATP	Caltrans	Intersection Improvement: SR 273 and Factory Outlet Dr	SR 273/Factory Outlet Dr	Bicycle and Pedestrian Intersection Improvement	Mobility & Connectivity
37	Complete Streets	SRTA 2018 GoShasta Regional ATP	Caltrans	Intersection Improvement: SR 273 and North St	SR 273/North St	Bicycle and Pedestrian Intersection Improvement	Mobility & Connectivity
40	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 4.1 to 5.9), Anderson Quarter Century Signals	SR 273	Signal Replacement	Operations & Reliability
45	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 14.1 to 19.8), Redding Quarter Century Signals	SR 273	Signal Replacement	Operations & Reliability
47	Highway	SRTA 2022 RTP	Caltrans	SR 44, Remove STAA Barriers	SR 44	Remove STAA Barriers	Operations & Reliability
48	Highway	SRTA 2022 RTP	Caltrans	SR 273/SR 299, Redding Signal Upgrades and Synchronization on SR 299 between Lake Blvd and I-5	SR 273/SR 299	Intelligent Transportation Systems	Operations & Reliability
49	Highway	SRTA 2022 RTP	Caltrans	SR 44/SR 299, Shasta County, Connect I-5 Fiber Backbone to the District Office	SR 44/SR299	Intelligent Transportation Systems	Operations & Reliability
50	Highway	SRTA 2022 RTP	Caltrans	SR 44/SR 299, Redding, Redding Local TMS Fiber Spurs	SR 44/SR299	Intelligent Transportation Systems	Operations & Reliability
51	Highway	SRTA 2022 RTP	Caltrans	I-5/SR 273, Redding Northern Redding TMS Fiber	I-5/SR 273	Intelligent Transportation Systems	Operations & Reliability
52	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 12.68), Bonnyview Rd, 1 CCTV at S. Bonnyview Rd on SR 273	SR 273	Intelligent Transportation Systems	Operations & Reliability
53	Highway	SRTA 2022 RTP	Caltrans	SR 273, Redding, South Redding TMS Fiber Loop	SR 273	Intelligent Transportation Systems	Operations & Reliability
54	Highway	SRTA 2022 RTP	Caltrans	SR 273, Redding, Redding Rural TMS	SR 273	Intelligent Transportation Systems	Operations & Reliability
55	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 16.0R to 16.833), Pine Street	SR 273	Intelligent Transportation Systems	Operations & Reliability
56	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 12.0), South Bonnyview Rd, CMS FNBT	SR 273	Intelligent Transportation Systems	Operations & Reliability
57	Highway	SRTA 2022 RTP	Caltrans	SR 273 (PM 13.5), South Bonnyview Rd, CMS FSBT	SR 273	Intelligent Transportation Systems	Operations & Reliability
58	Highway	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Traffic Signals: SR 273	SR 273 (Multiple Locations)	Replace existing traffic signals at 25 intersections.	Operations & Reliability
59	Highway	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Culverts: SR 274	SR 273 (Multiple Locations)	Replace 20 culvert segments and repair 4 culvert segments	Sustainability

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
61	Highway	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Crash Cushions: SR 273 (n/o Buenaventura Blvd and s/o Wyndham Ln)	SR 273 (n/o Buenaventura Blvd and s/o Wyndham Ln)	Replace two crash cushions at terminals of existing concrete barriers located n/o Buenaventura Blvd and s/o Wyndham Ln.	Safety
62	Highway; Arterial	Caltrans 2023 HSIP Implementation Plan	Caltrans; Redding	Safety Improvements	6 intersections in Redding	4 Focus Areas including 6 Intersections: Continental St/Butte St; Placer St/Continental St; Placer St/East St; Court St/Tehama St; South St/California St; South St/Market St. Provide left turn lanes and left turn protected phasing where none exists at selected intersections. Install striping between intersections to facilitate intersection modifications.	Safety
78	Complete Streets	City of Redding 2018 ATP	Caltrans; Redding	Class IV Bikeway: California St (Division St to Yuba St)	California St	Separated Bike Lane, 0.27 miles	Mobility & Connectivity
79	Complete Streets	City of Redding 2018 ATP	Caltrans; Redding	Class IV Bikeway: California St (Yuba St to Placer St)	California St	Separated Bike Lane, 0.07 miles	Mobility & Connectivity
83	Complete Streets	City of Redding 2018 ATP	Redding	Class I Bike Path: Westside Rd (Buenaventura Blvd to Canyon Rd)	Westside Rd	Shared-Use Path, 3.55 miles	Mobility & Connectivity
84	Complete Streets	City of Redding 2018 ATP	Redding	Class I Bike Path: Eastside Rd (N Bonnyview Rd to S Bonnyview Rd)	Eastside Rd	Shared-Use Path, 1.02 miles	Mobility & Connectivity
89	Complete Streets	City of Redding 2018 ATP	Redding	Class II Bike Lane: Placer St (Pleasant St to Court St)	Placer St	Buffered Bike Lane, 0.95 miles	Mobility & Connectivity
90	Complete Streets	City of Redding 2022-2027 CIP	Redding	Turtle Bay to Downtown	Turtle Bay area	Turtle Bay to Downtown multi-use trail connecting Dana to Downtown and Turtle Bay boat ramp to Continental. Includes a tunnel; shared use path; and pedestrian safety lighting.	Mobility & Connectivity
91	Complete Streets	City of Redding 2022-2027 CIP	Redding	California St Bikeway Project	California St	Construction of a two-way Class IV bikeway along California St, between Yuba St and Tehama St. Improvements of pedestrian access by rebuilding curb ramps, creating bulb-outs, and increasing crossing visibility.	Mobility & Connectivity
93	Complete Streets	SRTA 2018 GoShasta Regional ATP	Anderson; Shasta County	Class II Bike Lane: Rhonda Rd/Pleasant Hills Dr (SR 273 to Cremia Pl)	Rhonda Rd/Pleasant Hills Dr	Bike Lane, 0.05 miles	Mobility & Connectivity
94	Complete Streets	SRTA 2022 RTP	Caltrans; Redding; Shasta County	Known as the North Redding Active Transportation Trunkline, a partnership project to construct Complete Street Elements from sections of Lake Blvd west of SR 273, along 273, on College View Drive in Redding to Old Oregon Trail	SR 273	Complete Street Elements	Mobility & Connectivity
97	Complete Streets	SRTA 2022 RTP	Caltrans	SR 273 (PM 3.812 to 11.1), various locations in high pedestrian areas, Pedestrian Facilities - Consistent with ADA and Caltrans Design Standards	SR 273	Pedestrian facilities	Mobility & Connectivity; Safety

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
98	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Crosswalk: SR 273 (at California St)	SR 273 (at California St) (PM 15.653)	Crosses California St. Requires installing bulb out sidewalk, removing and replacing existing accessible ramp, removing existing valley gutter and fixing any potential drainage issues.	Mobility & Connectivity
99	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Crosswalk: SR 273 (at SR 299)	SR 273 (at SR 299) (PM 18.62)	Crosses SR 299 (Lake Blvd). Requires modification to existing concrete island and sidewalk curbs. Existing striping will need to be modified to accommodate new crosswalks. Traffic signal is being replaced and will accommodate new crossings.	Mobility & Connectivity
100	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Crosswalk: SR 273 (at Twin View Blvd)	SR 273 (at Twin View Blvd) (PM 18.92)	Crosses Twin View Blvd. Requires sidewalk/curb modifications and/or partial rebuild and installing 2 new accessible ramps. Existing striping will need to be modified and traffic signal is being replaced and will accommodate new crossings.	Mobility & Connectivity
101	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Crosswalk: SR 273 (at Northpoint Dr)	SR 273 (at Northpoint Dr) (PM 18.92)	Crosses Northpoint Dr. Requires sidewalk/curb modifications and/or partial rebuild and installing 2 new accessible ramps. Existing striping will need to be modified and traffic signal is being replaced and will accommodate new crossings.	Mobility & Connectivity
102	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Enhanced Crosswalk: SR 273 (near Lincoln St)	SR 273 (near Lincoln St) (PM 16.184)	The enhanced crosswalk at Lincoln St is to be installed before the construction of this project. The Downtown Redding CAPM will connect RRFB across Pine St to power.	Mobility & Connectivity
103	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Enhanced Crosswalk: SR 44 (Eureka and Pine)	SR 44 (Eureka and Pine) (PM L0.079L)	Requires installing solar power RRFB across Pine St and high visibility crosswalk marking/stripping across Eureka Wy.	Mobility & Connectivity
104	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Class I Bike Path: SR 273 (Lake Blvd to Northpoint Dr)	SR 273 (Lake Blvd to Northpoint Dr) (PM 18.64 to 18.9)	Requires cutting into the median approximately 6', includes a new structural section in the median with curb and gutter, shifting the existing highway geometry, and installing a 5'-wide unpaved buffer, 8'-wide class I bike path with 2' shoulders. A soldier pile wall approximately 8' x 339' will be required in existing fill section adjacent to pond. Median may require irrigation for future landscaping. If no modifications are made to the existing median, additional retaining walls may be necessary and construction may include significant earthwork due to varied terrain* (*If a Class I path on this side is not feasible, a Class I path on the east side or Class II bike lanes on each shoulder are possible options.)	Mobility & Connectivity; Safety
105	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Class II Bike Lane: SR 273 (Hill St to California St)	SR 273 (Hill St to California St) (PM 15.66 to 16.04)	Requires removing existing southbound #2 lane on SR 273, installing a Class II bike lane with buffered striping.	Mobility & Connectivity
106	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Class II Bike Lane: SR 273 (Fell St to East St)	SR 273 (Fell St to East St) (PM 15.53 to 16.06)	Requires removing free right on Angelo Ave by adding "STOP" striping and installing "STOP" signage at existing crosswalk. Requires removing free right from Parkview Ave by regrading, installing new accessible ramp and restriping. Requires significant concrete	Mobility & Connectivity

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
						removal and replacement or reconfiguring lanes at Cypress Ave from 12'-0" to 11'-0" wide in order to fit new 5'-0" wide bike lane.	
107	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Class II Bike Lane: SR 273/Pine St (Cypress Ave to Eureka Wy)	SR 273/Pine St (Cypress Ave to Eureka Wy) (PM 16.01R to L-0.078)	Requires lane reduction or elimination of on-street parking and installing striping for buffered bike lane. (This element is dependent on results of a traffic study during the PA&ED phase.)	Mobility & Connectivity
108	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Class II Bike Lane: SR 273 (Northpoint Dr to Caterpillar Dr)	SR 273 (Northpoint Dr to Caterpillar Dr) (PM 17.8 to 18.6)	Requires removing traffic signals from original locations, highway widening for right turn lanes on Twin view Dr and Caterpillar Dr, additional minor concrete/sidewalk repair to accommodate for widening existing highway and installing buffered striping for bike lanes.	Mobility & Connectivity
109	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Sidewalk: SR 273 (Angelo Ave to Parkview Ave)	SR 273 (Angelo Ave to Parkview Ave) (PM 15.72 to 15.8)	Complete segment between Angelo Ave and Parkview Ave; current sidewalk ends mid-block. Future development of empty lot adjacent to SR 273 could impact need.	Mobility & Connectivity; Safety
110	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Sidewalk: SR 273 (Hill St to California St)	SR 273 (Hill St to California St) (PM15.66 to 16.04)	Requires removing existing southbound #2 lane on SR 273, installing retaining wall, curb and gutter, buffered striping for bike lane, retaining wall structure, drain inlets and removing and replacing accessible ramps.	Mobility & Connectivity
111	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Sidewalk: SR 273 (at Benton Dr)	SR 273 (at Benton Dr) (PM 17.8)	Constructing new bulbout east of the intersection of SR 273 and Benton Dr. Construction requires removing existing right turn lane, installing new sidewalk, and removing and replacing accessible ramp. Bulbout will improve pedestrian walking conditions by shortening walking distance within crosswalk.	Mobility & Connectivity
112	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Sidewalk: SR 273 (at Lake Blvd)	SR 273 (at Lake Blvd) (PM 17.8)	Requires constructing 10'-0" wide sidewalk east of SR 273 from existing sidewalk at Lake Blvd to existing continental crosswalk and accessible ramp on Hilltop Dr.	Mobility & Connectivity
113	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A1	Caltrans	Curb Ramps: SR 273	SR 273 (Multiple Locations)	Reconstruct 96 curb ramps and install 10 new curb ramps to accommodate newly installed crosswalks.	Mobility & Connectivity
114	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A2	Caltrans	Multiuse Path: SR 273 (Buenaventura Blvd to Wyndham Ln)	SR 273 (Buenaventura Blvd to Wyndham Ln) (PM 14.5 to 15.0)	Requires repurposing the 2nd southbound lane on SR 273 from Buenaventura Blvd to Wyndham Ln from a traffic lane to a multi-use path. Requires installing a concrete barrier and striping for multiuse path. Complete streets item will require a trial run with plastic delineators to determine if multiuse path will have a significant impact on traffic flow/safety. Trial run was installed by maintenance on June 11, 2023 and will determine feasibility of Multi-Use Path at this location.	Mobility & Connectivity; Safety

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
115	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A2	Caltrans	Sidewalk: SR 273 (Benton Dr to Lake Blvd)	SR 273 (Benton Dr to Lake Blvd) (PM 17.8 to 18.6)	Requires constructing a 6'-wide sidewalk with curb and gutter adjacent to existing highway from Benton Dr to Lake Blvd. Construction will require additional retaining walls and lighting.	Mobility & Connectivity
116	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A2	Caltrans	Class I Bike Path: SR 273 (Lake Blvd to Northpoint Dr)	SR 273 (Lake Blvd to Northpoint Dr) (PM 18.62 to 18.92)	Second design option for #104. Requires constructing new Class I Bike Path on east side of SR 273.	Mobility & Connectivity; Safety
117	Complete Streets	Caltrans Downtown Redding CAPM PIR: Alternative A2	Caltrans	Class II Bike Lane: SR 273 (Lake Blvd to Northpoint/Twinview Dr)	SR 273 (Lake Blvd to Northpoint Dr/Twinview Dr) (PM 18.62 to 18.92)	Third design option for #104. Requires widening southbound travel way with a retaining system and installing striping for bike lanes.	Mobility & Connectivity
118	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Bridge: Bridge Number 06 0006	SR 273 (crossing Spring Gulch) at PM 7.1	Priority Bridge: Riverine Flooding	Sustainability
119	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Large Culvert: Bridge Number 06 0007	SR 273 (crossing China Gulch) at PM 10.97	Priority Large Culvert: Riverine Flooding	Sustainability
120	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 11.816 to 12.674)	SR 273 (PM 11.816 to 12.674)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
121	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 16.834 to 17.381)	SR 273 (PM 16.834 to 17.381)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
122	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 17.385 to 17.809)	SR 273 (PM 17.385 to 17.809)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
123	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 3.825 to 4.493)	SR 273 (PM 3.825 to 4.493)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
124	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 5.053 to 5.441)	SR 273 (PM 5.053 to 5.441)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
125	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 6.398 to 7.419)	SR 273 (PM 6.398 to 7.419)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
126	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 9.427 to 11.096)	SR 273 (PM 9.427 to 11.096)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
127	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 11.819 to 12.671)	SR 273 (PM 11.819 to 12.671)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
128	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 16.834 to 17.382)	SR 273 (PM 16.834 to 17.382)	Priority Roadway: Temperature Change Pavement Performance	Sustainability

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
129	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 17.561 to 17.819)	SR 273 (PM 17.561 to 17.819)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
130	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 3.812 to 4.589)	SR 273 (PM 3.812 to 4.589)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
131	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 5.052 to 5.439)	SR 273 (PM 5.052 to 5.439)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
132	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 6.395 to 7.458)	SR 273 (PM 6.395 to 7.458)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
133	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM 9.424 to 11.095)	SR 273 (PM 9.424 to 11.095)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
134	Climate Change Adaptation and Resiliency	Caltrans 2020 D2 Adaptation Priorities Report	Caltrans	Priority Roadway: SR 273 (PM R16.659R to R16.73R)	SR 273 (PM R16.659R to R16.73R)	Priority Roadway: Temperature Change Pavement Performance	Sustainability
135	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class IV Separated Bikeway	Trinity Street: Center Street to Continental	Complete Streets Elements	Mobility & Connectivity
136	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class IV Separated Bikeway	Continental Street: Trinity St to Butte St	Complete Streets Elements	Mobility & Connectivity
137	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Pine St: Trinity St to Eureka Way	Complete Streets Elements. Extends Caltrans CAPM recommended Class II Buffered Bike Lane north of Eureka Way to Trinity St	Mobility & Connectivity
138	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	East St: Trinity St to Placer St	Complete Streets Elements	Mobility & Connectivity
139	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class IV Separated Bikeway	Butte St: Continental St to Yuba St	Complete Streets Elements	Mobility & Connectivity
140	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class IV Separated Bikeway	Yuba St: Continental St to California St	Complete Streets Elements	Mobility & Connectivity
141	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding; Caltrans	Class II Bike Lane	Eureka Way (SR 299): Buenaventura Blvd to Court St	Complete Streets Elements. Subject to Caltrans Process Bike Lane	Mobility & Connectivity
142	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	Shasta St (Court St to Walnut Ave)	Complete Streets Elements	Mobility & Connectivity
143	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Court St (South to Court St/Schley Ave);	Complete Streets Elements	Mobility & Connectivity

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
					Schley Ave (Court St to Sheridan St)		
144	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	Court St (Eureka Way to South St)	Complete Streets Elements	Mobility & Connectivity
145	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	West St; Gold St; Airpark Dr (West St/Eureka Way to Airpark Dr/Placer St)	Complete Streets Elements	Mobility & Connectivity
146	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	South St (West St to Court St)	Complete Streets Elements	Mobility & Connectivity
147	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Route	Tehama St (Court St to California St)	Complete Streets Elements	Mobility & Connectivity
148	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Route	Yuba St (Court St to California St)	Complete Streets Elements	Mobility & Connectivity
149	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	Continental St (Butte St to South St)	Complete Streets Elements	Mobility & Connectivity
150	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	Placer St (Continental St to terminus of proposed Class I e/o Sequoia St)	Complete Streets Elements	Mobility & Connectivity
151	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Route	Market St (Placer St to South St)	Complete Streets Elements	Mobility & Connectivity
152	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding; Caltrans	Class I Shared Use Path	Placer Street (Off-Street): (Placer St (East End) to Park Marina Dr	Complete Streets Elements. Subject to Caltrans Process Shared Use Path	Mobility & Connectivity
153	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Railroad Ave (Grandview Ave to Buenaventura Blvd)	Complete Streets Elements	Mobility & Connectivity
154	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	Twinview Blvd (Mountain View Dr to N Market St(SR 273)); Northpoint Dr (N Market St(SR 273)) to Lake Blvd	Complete Streets Elements	Mobility & Connectivity
155	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Lake Blvd (Northpoint Dr to SR 273)	Complete Streets Elements	Mobility & Connectivity

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
156	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Adjacent to SR 273 in Sulphur Creek Hill Area, connecting from s/o Lake Blvd at SR 273, Benton Dr at SR 273 and SR 273 near Sulphur Creek	Complete Streets Elements	Mobility & Connectivity
157	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	Benton Dr (SR 273 to Quartz Hill Rd)	Complete Streets Elements	Mobility & Connectivity
158	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Route	Locust St / Civic Center Dr (SR 273 to Cypress Ave)	Complete Streets Elements	Mobility & Connectivity
159	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	East St (Locust St to Pine St)	Complete Streets Elements	Mobility & Connectivity
160	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Cypress Ave (S Market St to Athens Ave)	Complete Streets Elements	Mobility & Connectivity
161	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	South City Park, Tiger Field Perimeter at west side; along Parkview Ave; along Cypress Ave to Cottonwood Canal	Complete Streets Elements	Mobility & Connectivity
162	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Cottonwood Canal (Cypress Ave to Parkview Ave)	Complete Streets Elements	Mobility & Connectivity
163	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Cottonwood Canal (Parkview Ave to N Bonnyview Rd / Eastside Rd)	Complete Streets Elements. ACID Canal Trail	Mobility & Connectivity
164	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path, New Sidewalk	Railroad Ave (South St to Buenaventura Blvd)	Complete Streets Elements	Mobility & Connectivity
165	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Buenaventura Blvd (S Market St to Existing Class I Path terminus at Canyon Creek Rd)	Complete Streets Elements	Mobility & Connectivity
166	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Buenaventura Blvd (S Market St to Placer St)	Complete Streets Elements	Mobility & Connectivity
167	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Turtle Bay Boat Launch Area (Existing Class I terminus near Riverfront Park to	Complete Streets Elements	Mobility & Connectivity

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
					Proposed Class I along north side of SR 299)		
168	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	S Bonnyview Rd (S Market/273 to Bechelli Ln)	Complete Streets Elements	Mobility & Connectivity
169	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Bike Lane	Girvan Rd (SR 273 to Creekside St)	Complete Streets Elements	Mobility & Connectivity
170	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Butte St (Continental Dr to Sundial Bridge Dr)	Complete Streets Elements	Mobility & Connectivity
171	Complete Streets	City of Redding 2018 ATP	City of Redding	Class II Bike Lane	N Market St (Sulphur Creek Rd Proposed Class I to Benton Dr)	Complete Streets Elements	Mobility & Connectivity
172	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class II Buffered Bike Lane	Buenaventura Blvd (Placer St to Eureka Way)	Complete Streets Elements	Mobility & Connectivity
173	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Buenaventura Blvd (Placer St to Eureka Way) (Already constructed between Foothill Blvd and Eureka Way)	Complete Streets Elements	Mobility & Connectivity
174	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding; Caltrans	Class I Shared Use Path	SR 44 Crossing (Park Marina Dr to WB SR 44 On- and Off-Ramps)	Complete Streets Elements. Subject to Caltrans Process Shared-Use Path	Mobility & Connectivity
177	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	Walnut Ave (Eureka Way to Shasta St)	Complete Streets Elements	Mobility & Connectivity
178	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	LAKESIDE DR; FOOTHILL BLVD; LAS ANIMAS DR; MONTE BELLO DR; MANZANITA HILLS AVE (MANZANITA HILLS AVE/SHASTA ST to LAKESIDE DR/ BUENAVENTURA BLVD)	Complete Streets Elements	Mobility & Connectivity
180	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Buenaventura Blvd (east side): Placer St to Starlight Blvd	Complete Streets Elements	Mobility & Connectivity
181	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class I Shared Use Path	Off Street (Linden Creek): Buenaventura Blvd to West St	Complete Streets Elements	Mobility & Connectivity

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
182	Complete Streets	City of Redding 2045 General Plan Transportation Element; City of Redding 2018 ATP	City of Redding	Class III Bike Blvd	West St; Logan St (West St / Linden Ave to Logan St / Railroad Ave	Complete Streets Elements	Mobility & Connectivity
183	Complete Streets	Caltrans High-Cost Safety Projects Tier 4 Fact Sheet	Caltrans	Pedestrian Safety Corridor Lighting Project (Brighter 273 Safety)	PM 5.206/14.47 (South St intersection in Anderson to Buenaventura Blvd in Redding)	Provide continuous lighting for both northbound and southbound SR 273 that meets Caltrans conventional highway lighting standards. Install buried conduit in the median from PM 5.206 to 11.1. Install conduit in the median concrete barrier (Type 60M and 60MC) from PM 11.1 to 14.47. Install luminaires and pull boxes every 180'. Update all existing intersection/crosswalk lighting to meet American National Standards Institute / Illuminating Engineering Society (ANSI/IES) standards. Install service connections throughout the project (about 13). Potentially consider combining median concrete barrier project 02-0K210 for construction to add luminaires and electrical components (PM 12.68 to 14.18).	Safety
184	Highway	Envision 273 CMCP	Caltrans	Conversion to Two-Way Traffic (Planning): SR 273	SR 273 (at Downtown Redding)	For a portion of the SR 273 one-way couplet in Downtown Redding (s/o Tehama St), convert from one-way traffic to two-way traffic. SB conversion: California St (Tehama St to Gold St); Gold St (California St to Market St); Market St (Gold St to Cypress Ave). NB conversion: Pine St (Cypress Ave to Tehama St). Planning could include: public and stakeholder outreach, operations and maintenance (e.g., Caltrans relinquishments), geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes, pedestrian crossings.	Operations & Reliability; Mobility & Connectivity
185	Highway	Envision 273 CMCP	Caltrans	Conversion to Two-Way Traffic (Design and Construction): SR 273	SR 273 (at Downtown Redding)	Following planning (#184), design and construction.	Operations & Reliability; Mobility & Connectivity
186	Complete Streets	Envision 273 CMCP	Caltrans	Gateway Corridor (Planning): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	For SR 273 north of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes (Class IV), pedestrian crossings.	Operations & Reliability; Mobility & Connectivity; Safety
187	Complete Streets	Envision 273 CMCP	Caltrans	Gateway Corridor (Design and Construction): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	Following planning (#186), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety
188	Complete Streets	Envision 273 CMCP	Caltrans	Gateway Corridor (Planning): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	For SR 273 south of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets, reduce left-turn conflicts), signals, roundabouts, parking lanes,	Operations & Reliability; Mobility & Connectivity; Safety

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
						separated bike lanes (Class IV), multiuse paths (Class I), pedestrian crossings.	
189	Complete Streets	Envision 273 CMCP	Caltrans	Gateway Corridor (Design and Construction): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	Following planning (#188), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety
190	Freight	Envision 273 CMCP	UPRR	Freight Rail (Planning)	UPRR Corridor (from City of Redding to City of Anderson)	Along the Union Pacific (UPRR) Corridor from the City of Redding to the City of Anderson, including portions of the UPRR Corridor adjacent to SR 273, complete a grade crossing closure study. The study should evaluate and exhaust all options (e.g., grade separation projects) before requesting new at-grade crossing projects and consider applicable ratios (e.g., 3 closures for 1 new crossing).	Operations & Reliability; Safety
191	Freight	Envision 273 CMCP	UPRR	Freight Rail (Design and Construction)	UPRR Corridor (from City of Redding to City of Anderson)	Following planning (#190) and UPRR coordination/approval, design and construction.	Operations & Reliability; Safety
192	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (north of Caterpillar Rd to Northpoint Dr)	Class I	Mobility & Connectivity; Safety
193	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Lake Blvd to Benton Dr)	Class I	Mobility & Connectivity; Safety
194	Complete Streets	Envision 273 CMCP	Caltrans	Class IV Bikeway: SR 273	SR 273 (at Downtown Redding)	Class IV on NB and SB SR 273 couplets. Along SB SR 273, for consistency with existing planned projects, consider bi-directional Class IV.	Mobility & Connectivity; Safety
195	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Buenaventura Blvd to S. Bonnyview Rd)	Class I	Mobility & Connectivity; Safety
196	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (S. Bonnyview Rd to Girvan Rd)	Class I	Mobility & Connectivity; Safety
197	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Girvan Rd to Happy Valley Rd)	Class I	Mobility & Connectivity; Safety
198	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Class I	Mobility & Connectivity; Safety
199	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Latona Rd to Briggs St)	Class I	Mobility & Connectivity; Safety

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
200	Complete Streets	Envision 273 CMCP	Caltrans	Multiuse Path (Class I): SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Class I	Mobility & Connectivity; Safety
201	Complete Streets	Envision 273 CMCP	Caltrans	Pedestrian Fencing: SR 273	SR 273 (Multiple Locations)	Install pedestrian median fencing. Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Safety
202	Complete Streets	Envision 273 CMCP	Caltrans	Pedestrian Crossings: SR 273	SR 273 (Multiple Locations)	Install pedestrian crossings and pedestrian count down signal heads at signalized intersections. Multiple locations along SR 273 (Caterpillar Rd to Lake Blvd).	Mobility & Connectivity; Safety
203	Complete Streets	Envision 273 CMCP	Caltrans	Pedestrian Crossings: SR 273	SR 273 (Multiple Locations)	Install pedestrian crossings and pedestrian count down signal heads at signalized intersections. Multiple locations along SR 273 (Buenaventura Blvd to S. Bonnyview Rd).	Mobility & Connectivity; Safety
204	Complete Streets	Envision 273 CMCP	Caltrans	Pedestrian Crossings: SR 273	SR 273 (at Latona Rd)	Install/upgrade pedestrian crossings at uncontrolled locations (with enhanced safety features).	Mobility & Connectivity; Safety
205	Complete Streets	Envision 273 CMCP	Caltrans	Lead Pedestrian Interval: SR 273	SR 273 (Multiple Locations)	Install lead pedestrian interval at signalized intersections. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity; Safety
206	Complete Streets	Envision 273 CMCP	Caltrans	Lighting: SR 273	SR 273 (Caterpillar Rd to Quartz Hill Rd)	Add roadway lighting	Safety
207	Complete Streets	Envision 273 CMCP	Caltrans	Lighting: SR 273	SR 273 (Buenaventura Blvd to South St)	Add lighting	Safety
208	Complete Streets	Envision 273 CMCP	Caltrans	Lighting: SR 273	SR 273 (Multiple Locations)	Add lighting (at signalized and non-signalized intersections). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety
209	Highway	Envision 273 CMCP	Caltrans	Variable Speed Warning Signs: SR 273	SR 273 (at Quartz Hill Rd)	Install variable speed warning signs upon approach to Downtown Redding.	Operations & Reliability; Safety
210	Highway	Envision 273 CMCP	Caltrans	Variable Speed Warning Signs: SR 273	SR 273 (at Parkview Ave)	Install variable speed warning signs upon approach to Downtown Redding.	Operations & Reliability; Safety
211	Highway	Envision 273 CMCP	Caltrans	Variable Speed Warning Signs: SR 273	SR 273 (Multiple Locations)	Install variable speed warning signs. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Operations & Reliability; Safety
212	Highway	Envision 273 CMCP	Caltrans	Flashing Beacons: SR 273	SR 273 (Between Lake Blvd and Benton Dr)	Install flashing beacons as advanced warning (signalized intersection).	Operations & Reliability; Safety
213	Highway	Envision 273 CMCP	Caltrans	Flashing Beacons: SR 273	SR 273 (Multiple Locations)	Install flashing beacons as advanced warning (signalized intersections). Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Operations & Reliability; Safety
214	Complete Streets	Envision 273 CMCP	Caltrans	Lane Widths: SR 273	SR 273 (Multiple Locations)	Reduce lane width to 11 feet. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity; Safety

Project #	Type of Project	Source	Jurisdiction	Name	Location	Scope	Purpose and Need
215	Highway	Envision 273 CMCP	Caltrans	Rumble Strips: SR 273	SR 273 (Multiple Locations)	Install centerline and edgeline rumble strips/stripes. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety
216	Highway	Envision 273 CMCP	Caltrans	Markers and Striping: SR 273	SR 273 (at Happy Valley Rd)	Install raised pavement markers and striping (through intersection) (signalized intersection)	Safety
217	Highway	Envision 273 CMCP	Caltrans	Markers and Delineators: SR 273	SR 273 (Latona Rd to Briggs St)	Install delineators, reflectors, and object markers along SR 273	Safety
218	Highway	Envision 273 CMCP	Caltrans	Pavement Markers: SR 273	SR 273 (Latona Rd to Briggs St)	Upgrade intersection pavement markings (non-signalized intersections)	Safety
219	Highway	Envision 273 CMCP	Caltrans	Directional Median Openings: SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Happy Valley Rd to Latona Rd).	Operations & Reliability; Safety
220	Highway	Envision 273 CMCP	Caltrans	Directional Median Openings: SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Briggs St to Pleasant Hills Dr).	Operations & Reliability; Safety
221	Highway	Envision 273 CMCP	Caltrans	SR 273 (at Sulphur Creek)	SR 273 (at Sulphur Creek Rd)	Install/upgrade larger or addition stop signs, improve sight distance to intersection, upgrade intersection pavement markings (non-signalized intersection).	Safety
222	Highway	Envision 273 CMCP	Caltrans	Traffic Signal: SR 273	SR 273 (Multiple Locations)	Install signals. Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Operations & Reliability; Safety
223	Highway	Envision 273 CMCP	Caltrans	Signal Timing: SR 273	SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Improve signal timing along SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Operations & Reliability; Safety
224	Highway	Envision 273 CMCP	Caltrans	Roundabout: SR 273	SR 273 (Pine St (SR 273)/East St)	Convert intersection to roundabout (e.g., to address crash fatality and improve operations)	Operations & Reliability; Safety
225	Highway	Envision 273 CMCP	Caltrans	Roundabouts (Planning and Design): SR 273	SR 273 (Multiple Locations)	Install roundabouts at multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr)	Operations & Reliability; Safety
226	Transit	Envision 273 CMCP	Caltrans	Transit Stops: SR 273	SR 273 (Multiple Locations)	Install transit-supporting infrastructure (e.g., shelters/benches at bus stops and sidewalks to bus stops). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity

7 CORRIDOR IMPROVEMENT ANALYSIS

This chapter presents the analysis of the corridor projects. The corridor projects were evaluated based on the performance measures selected and identified in Chapter 1 .

Corridor Project Grouping

The corridor projects, as listed in Table 28, were grouped by plan type.

- Plan Type 1 Corridor Projects. Includes the modified list of planned and programmed projects from existing plans (Project #s 17-183)⁹.
- Plan Type 2 Corridor Projects. Includes the proposed projects from this plan (Project #s 184-226).

For the Plan Type 1 Corridor Projects, project planning and development is documented in other existing plans. For details regarding these projects, see the applicable source plan, as noted in Appendix E.

For the Plan Type 2 Corridor Projects, project performance results are discussed in detail in this chapter. These projects were developed with the specific intent of meeting corridor needs and performance measures.

Corridor Project Performance Results

For the Plan Type 2 Corridor Projects, the performance results are discussed by performance measure below. In some instances, Plan Type 1 Corridor Projects are referenced in the analysis, including to establish contiguous transportation networks.

Operations & Reliability

Intersection Level of Service

For the intersection LOS analysis, the corridor projects evaluated included signal and roundabout projects (Project #s 186/187, 188/189, 222, and 225), as well as the one-way couplet conversion project (Project #184/185).

Target Level of Service

For the analysis, the City of Redding LOS thresholds were applied to all intersections where signalized intersection feasibility was analyzed. For the purposes of the signalized intersection feasibility analysis, study intersections were analyzed at a threshold of LOS D in accordance with City of Redding Guidelines.

To determine the target LOS for proposed roundabouts, the City of Redding Traffic Impact Analysis Guidelines, which outline LOS standards consistent with the City of Redding General Plan, were considered, including the following:

- LOS D for streets within the State highway system and interchanges

⁹ Non-sequential, as some projects were removed; hence, the “modified list of planned and programmed projects.”

- Caltrans strives to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities

Additionally, use of SR 273 as an evacuation route also was considered. For the roundabout analysis, the target LOS used was LOS C. For more information regarding intersection LOS criteria, see Table 29.

Table 29 *Intersection Level of Service Criteria*

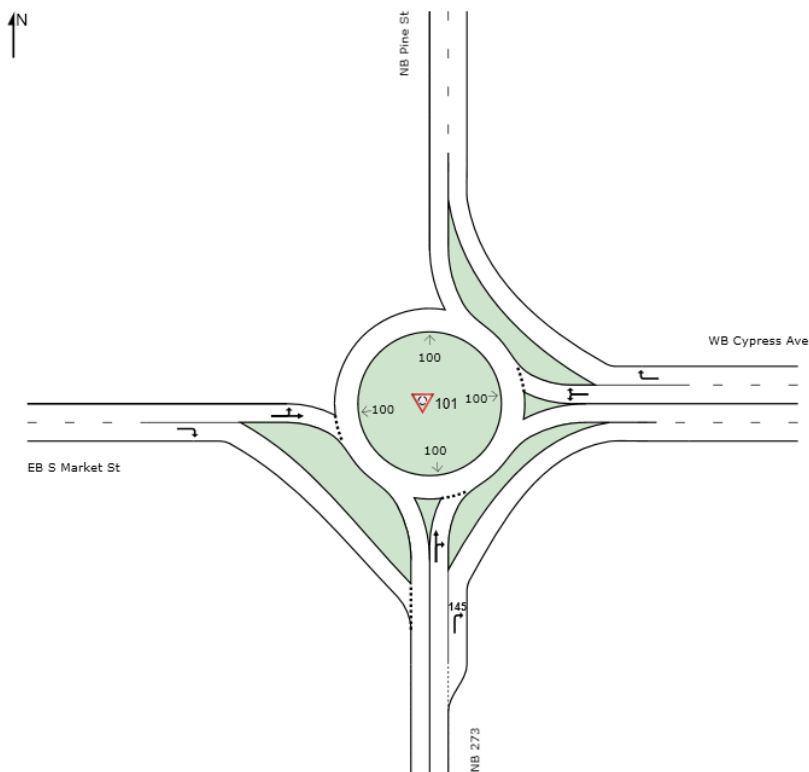
LOS	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (Seconds)	
				Signalized/ Roundabout	Side-Street/ All Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	<10.0	<10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10.0 and <20.0	>10.0 and <15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20.0 and <35.0	>15.0 and <25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35.0 and <55.0	>25.0 and <35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative or poor progression, long cycle lengths, and high volume-to-capacity ratio. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55.0 and <80.0	>35.0 and <50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	>80.0	>50.0

Cypress Avenue to Buenaventura Boulevard

From Cypress Avenue to Buenaventura Boulevard, four design alternatives were analyzed, as described below:

- **Alternative 1**
 - Maintain the current Cypress Avenue intersection configuration
 - Signalization of Parkview Avenue
 - Closure of the Angelo Street Leg of the Market Street (SR 273)/California Street/Angelo Street intersection.
- **Alternative 2**
 - Installation of a roundabout at Cypress Avenue
 - Signalization of Parkview Avenue
 - Partial lane reconfiguration
 - Closure of the Angelo Street Leg of the Market Street (SR 273)/California Street/Angelo Street intersection.

The image below shows a potential configuration for the Cypress Avenue Roundabout.

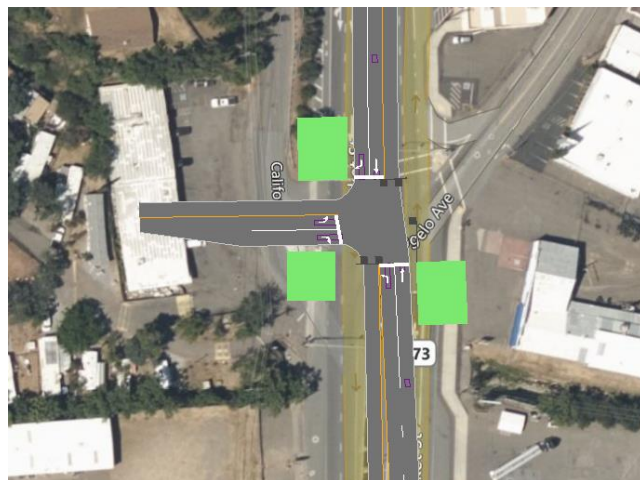


- **Alternative 3**
 - Intersection reconfiguration and compact signal at Cypress Avenue
 - Full lane reconfiguration (closure of one northbound lane and one southbound lane)
 - Signalization of Parkview Avenue
 - Closure of the Angelo Street Leg of the Market Street (SR 273)/California Street/Angelo Street intersection.
- **Alternative 4**
 - Intersection reconfiguration and compact signal at Cypress Avenue
 - Partial lane reconfiguration (closure of one southbound lane)
 - Signalization of Parkview Avenue

- Closure of the Angelo Street Leg of the Market Street (SR 273)/California Street/Angelo Street intersection.

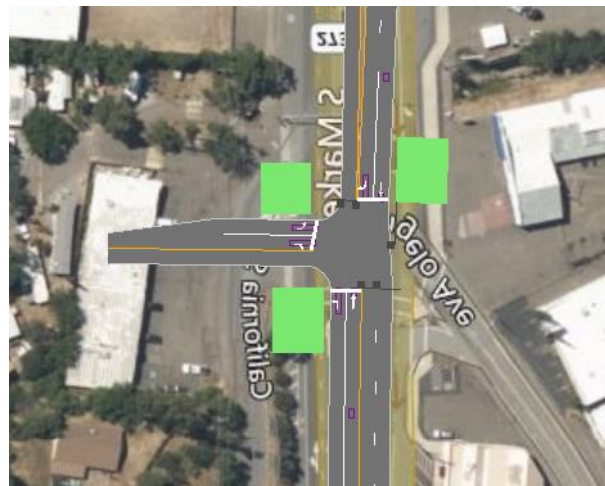
Images of intersection reconfigurations Cypress Avenue, Parkview Avenue, California Street, and the Angelo Avenue closure are shown below. The first set of images shows Alternative 3 with the full lane reconfiguration, and the second shows Alternative 4 with a partial lane reconfiguration. Intersection configurations shown for Parkview Avenue and California Street are also applicable to Alternatives 1 and 2.

Alternative 3



Potential alignments for Alternative 3 at Cypress Avenue (top), Parkview Avenue (left) and California Street (right).

Alternative 4



Potential alignments for Alternative 4 at Cypress Avenue (top), Parkview Avenue (left) and California Street (right).

Table 30 provides LOS for cumulative volume conditions for the year 2040 for the four alternatives at Cypress Avenue, Parkview Avenue, and California Street, and Table 31 provides the monetized delay benefits for Alternatives 2, 3 and 4. As noted in the table, Alternative 2, the roundabout alternative, provides the best delay benefits for all three intersections, followed by Alternative 4. Alternative 3 increases delay and provides a negative delay benefit.

Caterpillar Road to Quartz Hill Road

From Caterpillar Road to Quartz Hill Road, five roundabout concepts were developed. Locations analyzed included Caterpillar Road, Twin View Road, Benton Drive, Arboretum Drive, and Quartz Hill Road.

Table 32 shows intersection operations for the future conditions with a no build alternative and a roundabout alternative, and Table 34 includes monetized delay benefits for the roundabouts. The analysis utilizes future year volumes (2040) for the no build alternative and a Flow Scale constant of 1.3, assuming a 30 percent increase in traffic volumes for the roundabout alternative. This analysis was prepared concurrently with the traffic analysis, prior to a growth rate being established. Therefore, a conservative 30 percent growth estimate was applied to assess sensitivity to future development and population growth. All intersections operate above the target LOS of C. The roundabout alternative improves LOS at all intersections compared to the no build alternative.

The roundabout alternatives improve LOS for all intersections to LOS A or B, reducing congestion and improving travel time reliability through this section of the corridor.

Corridor Wide Roundabouts

South of Cypress Avenue, an additional 12 roundabout concepts were developed. Table 33 shows intersection operations for the future conditions with a no build alternative and a roundabout alternative, and Table 34 includes monetized delay benefits for the roundabouts. The analysis utilizes future year volumes (2040) for the no build alternative and a Flow Scale constant of 1.3, assuming a 30 percent increase in traffic volumes for the roundabout alternative. As shown below, all roundabouts operate acceptably above the target LOS. LOS is maintained or improved at every intersection except Kenyon Drive, where PM peak LOS changes from A to B. Overall, the roundabout alternatives would reduce congestion and improve travel time reliability.

Table 30 Cypress to California: Signal and Roundabout Alternative Operations Analysis (Cumulative Conditions)

#	Intersection	Alternative 1: Maintain Cypress Intersection				Alternative 2: Cypress Roundabout				Alternative 3: Cypress Signal/Full Road Diet				Alternative 4: Cypress Signal/Partial Road Diet			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
45	SR 273/Cypress Ave	18	B	26	C	9	A	10	A	34	C	39	D	21	C	27	C
49	SR 273/Parkview Ave	58	F	83	F	10	B	11	B	16	B	15	B	10	B	11	B
50	SR 273/California St	23	C	26	C	10	A	8	A	10	A	8	A	10	A	8	A

Table 31 Cypress to California: Signal and Roundabout Alternative Delay Benefits

	Alternative 2: Cypress Roundabout	Alternative 3: Cypress Signal/Full Road Diet	Alternative 4: Cypress Signal/Partial Road Diet
SR 273/Cypress Ave	\$2,720,000	\$(2,940,000)	\$(520,000)
SR 273/Parkview Ave	\$(770,000)	\$(1,040,000)	\$(770,000)
SR 273/California St	\$2,380,000	\$2,380,000	\$2,380,000
Total Benefit	\$4,330,000	\$(1,600,000)	\$1,090,000

Table 32 Caterpillar to Quartz Hill: Roundabout Alternative Operations Analysis (Cumulative Conditions)

#	Intersection	Lanes	Geometry	Future Conditions: No Build				Future Conditions: Roundabouts			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	SR 273/Caterpillar Rd	1 (Hybrid)	Four-leg	31	C	27	C	12	B	9	A
2	SR 273/Twin View Rd	1	Four-leg	22	C	25	C	6	A	7	A
4	SR 273/Benton Dr	2	T	24	C	19	B	22	C	10	A
8	SR 273/Quartz Hill Rd	1	Four-leg	25	C	25	C	12	B	8	A

Table 33 Corridor Wide Roundabouts: Cumulative LOS

#	Intersection	Lanes	Geometry	Future Conditions: No Build				Future Conditions: Roundabouts			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
51	SR 273/Grange St	1	T	11	B	9	A	6	A	4	A
55	SR 273/Buenaventura Blvd	1 (Hybrid)	T	17	B	15	B	11	A	7	A
57	SR 273/Kenyon Dr	1	T	3	A	3	A	6	A	23	B
58	SR 273/Branstetter Ln	1	T	0	A	0	A	4	A	4	A
65	SR 273/Whitehouse Dr	1	Four-leg	2	A	2	A	5	A	5	A
66	SR 273/Happy Valley Rd	1	T	13	B	12	B	6	A	6	A
67	SR 273/Latona Rd	1	Four-leg	2	A	2	A	5	A	5	A
69	SR 273/Ox Yoke Rd	1	T	24	C	21	C	9	A	7	A
72	SR 273/North St	1 (Hybrid)	Four-leg	32	C	29	C	8	A	7	A
73	SR 273/South St	1	Four-leg	38	D	31	C	10	A	9	A
76	SR 273/Factory Outlets Dr	1(Hybrid)	T	13	B	15	B	8	A	6	A
77	SR 273/Pleasant Hills Dr	1 (Hybrid)	Four-leg	17	B	19	B	7	A	8	A

Table 34 Roundabout Delay Benefits

Intersection	Delay Benefits
SR 273/Caterpillar Rd	\$ 2,400,000
SR 273/Twin View Rd	\$ 2,080,000
SR 273/Benton Dr	\$ 1,810,000
SR 273/Quartz Hill Rd	\$ 3,520,000
SR 273/Cypress Ave	\$ 2,720,000
SR 273/Grange St	\$ 680,000
SR 273/Buenaventura Blvd	\$ 1,470,000
SR 273/Kenyon Dr	\$ (640,000)
SR 273/Branstetter Ln	\$ (620,000)
SR 273/Whitehouse Dr	\$ (330,000)
SR 273/Happy Valley Rd	\$ 720,000
SR 273/Latona Rd	\$ (410,000)
SR 273/Ox Yoke Rd	\$ 2,330,000
SR 273/North St	\$ 2,760,000
SR 273/South St	\$ 3,220,000
SR 273/Factory Outlets Dr	\$ 920,000
SR 273/Pleasant Hills Dr	\$ 2,010,000
Total Benefits	\$ 12,110,000

One-way Couplet Conversion

The feasibility of converting the SR 273 One-way Couplet in Downtown Redding from one-way streets to two-way streets also was evaluated.

In the southbound direction, SR 273 consists of Market Street (from Eureka Way to Tehama Street), Tehama Street (from Market Street to California Street), California Street (from Tehama Street to Gold Street), Gold Street (from California Street to Market Street), and Market Street (from Gold Street to Cypress Avenue). In the northbound direction, SR 273 consists of Pine Street (from Cypress Avenue to Eureka Way) and Eureka Way (from Pine Street to Market Street).

Two alternatives were considered:

- 1) Partial Conversion (the streets south of Tehama Street)
- 2) Full Conversion (all of the streets listed above)

The following are the assumptions used in the traffic analysis:

- One-left turn lane on every approach where the street is being converted from one-way to two-way
- One through lane in each direction
- No dedicated right-turn lanes

Assumptions

The following are the specific roadway conversion assumptions for the Partial Conversion Alternative:

- California Street: Convert to two-way between Tehama Street and Gold Street
- Gold Street: Convert to two-way between California Street and Market Street
- Market Street: Convert to two-way between Gold Street and the Market Street/Cypress Avenue Intersection
- Reconfigure Market Street/Cypress Avenue intersection to a standard compact four-legged intersection (all movements in all directions allowed)
- Pine Street: Convert to two-way between Cypress Avenue and Tehama Street

The following are the specific roadway conversion assumptions for the Full Conversion Alternative:

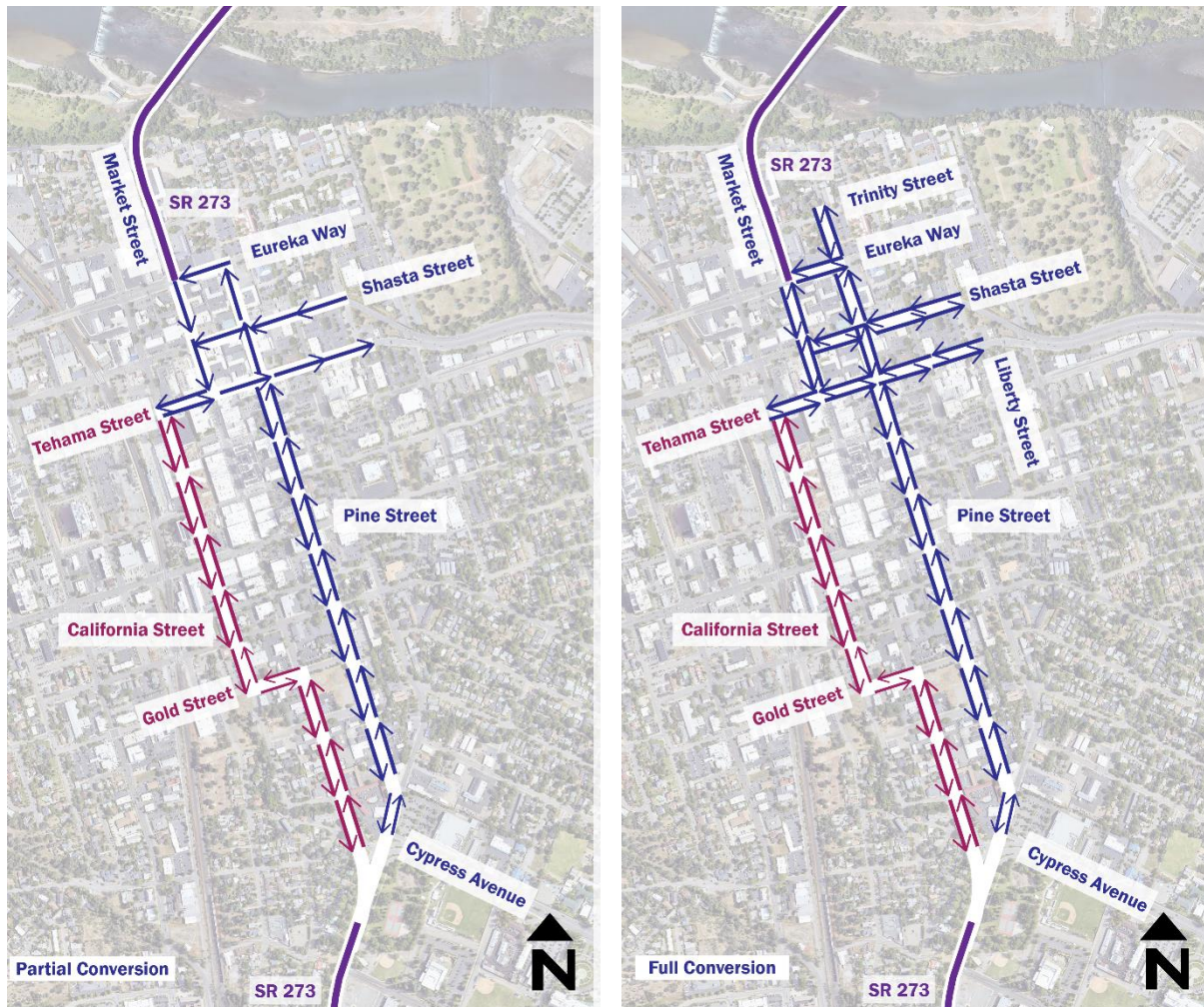
- Same assumptions as the Partial Conversion Alternative
- Market Street: Convert to two-way between Tehama Street and Eureka Way
- Pine Street: Convert to two-way between Tehama Street and Trinity Street
- Tehama Street: Convert to two-way between Market Street and Liberty Street
- Shasta Street: Convert to two-way between Market Street and Liberty Street
- Eureka Way: Convert to two-way between Market Street and Pine Street

The following assumptions were used to redistribute the traffic under both alternatives:

- Total traffic volume into and out of the study area remains constant
- Existing traffic volumes are redistributed within the State Highway System
- Traffic volume redistributed based on:

- Available origin-destination data (source: Replica)
- Engineering judgement (assume drivers would choose faster/more direct travel route)

The images below depict the partial couplet reversion (left) and the full couplet reversion (right) as described above.



The two alternatives were evaluated under existing (2023) traffic volumes and future year (2040) traffic volumes. Future year (2040) traffic volumes were developed based on the Shasta County Activity-Based Travel Model 2.0. In general, traffic volumes are anticipated to grow by about 0.5 percent per year during the AM and PM peak hour.

Existing Traffic Volumes

Table 35 presents the LOS for the AM peak hour, while Table 36 presents the LOS for the PM peak hour under various roadway configurations (Existing, Partial Conversion, and Full Conversion).

AM Peak Hour

Under the Partial Conversion Alternative, the intersection LOS during the AM Peak hour is anticipated to remain the same, excluding Gold Street/Market Street (LOS would improve from LOS B to LOS A) and East Street/Market Street/Cypress Avenue (LOS would degrade from LOS B to LOS C).

Under the Full Conversion Alternative, the intersection LOS during the AM Peak hour is anticipated to worsen at several of the study intersections including:

- Market Street/Eureka Way (from LOS C to LOS F)
- Market Street/Shasta Street (from LOS C to LOS D)
- Shasta Street/Pine Street (from LOS A to LOS F)
- Pine Street/Tehama Street (from LOS B to LOS F)
- East Street/Market Street/Cypress Avenue (from LOS B to LOS C)

As shown in Table 35, several of the study intersections are expected to operate at LOS F under the Full Conversion Alternative. The AM peak hour traffic volumes on Market Street, Shasta Street, and Tehama Street exceed the capacity of a single through lane at the intersections and cannot accommodate two-way travel.

PM Peak Hour

Under the Partial Conversion Alternative, all of the study intersections are anticipated to operate at acceptable service levels during the PM peak hour. At Gold Street/Market Street, LOS would improve from LOS C to LOS A. However, LOS would degrade at the following intersections:

- Shasta Street/Pine Street (from LOS A to LOS B)
- East Street/Market Street/Cypress Avenue (from LOS C to LOS D)

Under the Full Conversion Alternative, the intersection LOS during the PM Peak hour is anticipated to worsen at several of the study intersections including:

- Market Street/Eureka Way (from LOS D to LOS F)
- Shasta Street/Pine Street (from LOS A to LOS F)
- Pine Street/Tehama Street (from LOS C to LOS F)
- East Street/Market Street/Cypress Avenue (from LOS C to LOS D)

As shown in Table 38 several of the study intersections are expected to operate at LOS F under the Full Conversion Alternative. Similar to the AM peak hour, the PM peak hour traffic volumes on Market Street, Shasta Street, and Tehama Street exceed the capacity of a single through lane at the intersections and cannot accommodate two-way travel.

Table 35 One-Way Couplet Conversion: AM Peak Hour LOS (Existing Traffic Volumes)

Intersection	Traffic Control	Existing Configuration		Partial Conversion		Full Conversion	
		Delay	LOS	Delay	LOS	Delay	LOS
Market St & Eureka Wy	Signal	30	C	30	C	125	F
Market St & Shasta St	Signal	22	C	22	C	38	D
Shasta St & Pine St	Signal	7	A	8	A	265	F
California St & Tehama St	Signal	28	C	32	C	34	C
Pine St & Tehama St	Signal	16	B	15	B	96	F
Yuba St & East St	Side-Street Stop	15	C	16	C	15	C
California St & Placer St	Signal	27	C	26	C	27	C
Pine St & Placer St	Signal	23	C	26	C	25	C

California St & South St	Signal	25	C	23	C	24	C
Pine St & South St	Signal	16	B	18	B	17	B
East St & South St	All-Way Stop	10	A	10	A	10	A
Gold St & Market St	Signal	17	B	8	A	8	A
East St & Market St/Cypress Ave	Signal	17	B	31	C	32	C

Table 36 *One-Way Couplet Conversion: PM Peak Hour LOS (Existing Traffic Volumes)*

Intersection	Traffic Control	Existing Configuration		Partial Conversion		Full Conversion	
		Delay	LOS	Delay	LOS	Delay	LOS
Market St & Eureka Wy	Signal	36	D	34	C	147	F
Market St & Shasta St	Signal	22	C	22	C	26	C
Shasta St & Pine St	Signal	10	A	11	B	115	F
California St & Tehama St	Signal	36	D	40	D	41	D
Pine St & Tehama St	Signal	25	C	24	C	394	F
Yuba St & East St	Side-Street Stop	14	B	14	B	14	B
California St & Placer St	Signal	28	C	25	C	26	C
Pine St & Placer St	Signal	21	C	26	C	25	C
California St & South St	Signal	27	C	24	C	25	C
Pine St & South St	Signal	20	C	23	C	22	C
East St & South St	All-Way Stop	11	B	11	B	11	B
Gold St & Market St	Signal	22	C	9	A	9	A
East St & Market St/Cypress Ave	Signal	20	C	36	D	36	D

Future Year (2040) Traffic Volumes

Based on the results presented in Table 37 and Table 38, the Full Conversion Alternative was not advanced for further evaluation under future year (2040) traffic volumes given that the alternative severely degrades operations at the intersections of Market St & Eureka Way, Shasta St & Pine St, and Pine St & Tehama St with Existing traffic volumes.

Under the Partial Conversion Alternative, the intersection LOS during the AM Peak hour is anticipated to remain the same, excluding Gold Street/Market Street (LOS would improve from LOS B to LOS A) and East Street/Market Street/Cypress Avenue (LOS would degrade from LOS B to LOS C).

Under the Partial Conversion Alternative, all of the study intersections are anticipated to operate at acceptable service levels during the PM peak hour. LOS would improve at Market Street/Eureka Way (from LOS D to LOS C) and Gold Street/Market Street (from LOS C to LOS A). However, LOS would degrade at the following intersections:

- Shasta Street/Pine Street (from LOS A to LOS B)
- Pine Street/South Street (from LOS B to LOS C)
- East Street/Market Street/Cypress Avenue (from LOS C to LOS D)

Table 37 One-Way Couplet Conversion: AM Peak Hour LOS (Year 2040 Traffic Volumes)

Intersection	Traffic Control	Existing Configuration		Partial Conversion	
		Delay	LOS	Delay	LOS
Market St & Eureka Wy	Signal	30	C	30	C
Market St & Shasta St	Signal	22	C	22	C
Shasta St & Pine St	Signal	8	A	8	A
California St & Tehama St	Signal	29	C	33	C
Pine St & Tehama St	Signal	16	B	15	B
Yuba St & East St	Side-Street Stop	18	C	21	C
California St & Placer St	Signal	27	C	26	C
Pine St & Placer St	Signal	23	C	27	C
California St & South St	Signal	25	C	24	C
Pine St & South St	Signal	17	B	19	B
East St & South St	All-Way Stop	11	B	11	B
Gold St & Market St	Signal	20	B	9	A
East St & Market St/Cypress Ave	Signal	18	B	34	C

Table 38 *One-Way Couplet Conversion: PM Peak Hour LOS (Year 2040 Traffic Volumes)*

Intersection	Traffic Control	Existing Configuration		Partial Conversion	
		Delay	LOS	Delay	LOS
Market St & Eureka Wy	Signal	36	D	33	C
Market St & Shasta St	Signal	22	C	22	C
Shasta St & Pine St	Signal	10	A	11	B
California St & Tehama St	Signal	36	D	41	D
Pine St & Tehama St	Signal	25	C	25	C
Yuba St & East St	Side-Street Stop	17	C	17	C
California St & Placer St	Signal	28	C	25	C
Pine St & Placer St	Signal	21	C	26	C
California St & South St	Signal	27	C	24	C
Pine St & South St	Signal	20	B	23	C
East St & South St	All-Way Stop	11	B	11	B
Gold St & Market St	Signal	25	C	10	A
East St & Market St/Cypress Ave	Signal	20	C	37	D

Conclusion

The Partial Conversion Alternative will have less potential impact on the intersections within the one-way couplet area over the Full Conversion Alternative. While a few locations do see a degradation of the LOS from existing conditions, the overall system will operate at the same or slightly better delay with Partial Conversion Alternative in both peak hours, potentially reducing congestion and improving travel time reliability.

The Full Conversion Alternative severely degrades operations at the intersections of Market Street & Eureka Way, Shasta Street & Pine Street, and Pine Street & Tehama Street. These three intersections are vital connections between SR 273, SR 44, and SR 299 and see high traffic volumes that a two-way system cannot handle without roadway widening. Therefore, to maintain the integrity of these intersections and the connections to these corridors, it is recommended that the Partial Conversion Alternative be considered over the Full Conversion Alternative.

Travel Time Reliability

Forecasting future travel time reliability would require a corridor-wide microsimulation model to be developed, which was not included as part of this study. However, any corridor-wide projects that would reduce collisions would have a positive effect on travel time reliability by eliminating a frequent source of corridor performance fluctuations. Due to the lack of determination on future intersection control along the corridor (namely, additional signalization, signal modifications, roundabout control), the potential for a partial conversion of Downtown Redding couplets from one-way to two-way streets, and the lack of clarity regarding the potential for railroad grade crossing consolidation, modification, or elimination, it is unclear the degree to which travel time reliability would change in future years. Subsequent travel time reliability and corridor congestion analysis, to inform specific investment decisions and/or support competitive grant applications, could provide beneficial in the future once additional clarity is obtained on specific projects.

Transit Performance

For the transit performance analysis, no corridor projects were evaluated.

As noted in Chapter 6, during the development of this plan, RABA implemented various aspects of the 2024 RABA SRTP, including the elimination and replacement of transit routes along the corridor. As noted in Chapter 4, old Route 3 and old Routes 1 and 5 had the lowest average schedule adherence (on-time performance) of 62 percent and 68 percent, respectively. It is assumed that recent RABA updates will improve transit performance both systemwide and in the corridor.

Mobility & Connectivity

Transit Stop Quality

For the transit stop quality analysis, Project #226 was evaluated. This project will install corridor wide transit-supporting infrastructure (e.g., shelter/benches at transit stops and sidewalks to transit stops). This project would improve transit stop quality in the corridor. Transit stops are a destination considered in the bicycle origin-destination connectivity analysis.

Bicycle Origin-Destination Connectivity

For the bicycle origin-destination connectivity analysis, the corridor projects evaluated included the Class I multiuse path and Class IV bikeway projects (Project #s 104/116, 114, 186/187, 188/189,192-200).

As shown in Table 39, the largest effect to percent connectivity (% Connected Corridor Projects) occurred in Segments 3 and 4, due to the higher density of origins and destinations in and around Downtown Redding.

The Class I multiuse path projects along the western side of the corridor (from Segment 5 to Segment 10) had a smaller impact on percent connectivity than anticipated. This is due to the LTS of the roads leading to the Class I multiuse path projects, as well as the smaller amount of destinations in the southern half of the corridor. Additionally, bicyclists on the eastern side of the corridor are faced with making the high stress crossing across the corridor to reach the Class I multiuse path projects.

Bicycle Level of Traffic Stress

For the bicycle LTS analysis, the corridor projects evaluated included the Class I multiuse path and Class IV bikeway projects (Project #s 104/116,114, 186/187, 188/189,192-200).

Due to their separation from the roadway, Class I multiuse path and Class IV bikeway projects were categorized as LTS 1. As shown in Table 39, this resulted in “Low Stress” bicycle LTS for every segment of the corridor. This improved the existing “High Stress” bicycle LTS of the corridor.

Sidewalk Coverage

For the sidewalk coverage analysis, the Class I multiuse path projects (Project #s 114, 192, 193, and 195-200) were evaluated. These projects will provide pedestrian infrastructure along the corridor, including from Downtown Redding to the City of Anderson where sidewalk gaps exist or sidewalks do not exist. These projects would improve sidewalk coverage in the corridor.

Mode Share

For the mode share analysis, the corridor projects evaluated included the following:

- Walking: Class I multiuse path projects (Project #s 104/116, 114, 188/189, 192, 193, and 195-200) and pedestrian crossing projects (Project #s 202-204)

- Bicycling: Class IV bikeway projects (Project #s 186/187, 188/189, 194) and Class I multiuse path projects (Project #s 104/116, 114, 188/189, 192, 193, and 195-200)
- Public Transit: Transit stop project (Project #226)

Currently, the predominate mode is automobile (88 percent). All other modes are substantially less (2 to 7 percent). Automobile trips are anticipated to continue to outweigh other trips. However, compared to existing conditions, an increase in bike trips (from 2 percent) and walk trips (from 2 percent) is anticipated, as the corridor projects propose a contiguous active transportation network along the entire length of the corridor, where none currently exists.

Monetized mobility and connectivity benefits can be found in Table 40.

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Table 39Corridor Project Bicycle Results

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
Bicycle Level of Traffic Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress	Low Stress
Bicycle Connectivity via Low Stress Network to Destination Types:	Results shown as # Destinations ¹ (% Connected Existing ¹) (% Connected Corridor Projects ²)									
Employment Destinations	3 (0%)	0 (0%)	8 (8%) (+1%)	1 (0%) (+2%)	1 (0%)	0 (0%)	1 (6%)	0 (0%)	2 (0%)	3 (27%)
Education Destinations	1 (1%)	1 (18%)	9 (14%) (+2%)	2 (14%) (+3%)	6 (4%)	3 (46%) (+1%)	0 (0%)	0 (0%)	1 (12%) (+6%)	7 (13%)
Community Services and Shopping Destinations	10 (5%)	3 (3%) (+1%)	71 (13%) (+7%)	6 (5%) (+24%)	9 (1%) (+1%)	4 (17%)	1 (3%)	2 (0%)	1 (36%)	10 (7%)
Health Care Destinations	1 (0%)	0 (0%)	27 (12%) (+4%)	4 (4%) (+6%)	1 (0%)	0 (NA)	0 (NA)	0 (NA)	0 (31%)	2 (7%)
Food Access	1 (0%)	0 (0%)	4 (0%)	1 (0%)	0 (7%) (+7%)	2 (26%) (+26%)	0 (0%)	0 (0%) (+100%)	0 (NA)	3 (0%)
Transit Service Destinations (includes Bike Share locations)	41 (9%)	10 (0%) (+4%)	93 (13%) (+5%)	20 (3%) (+22%)	17 (0%) (+1%)	9 (0%)	3 (0%)	9 (0%)	6 (6%) (+3%)	27 (0%)
Civic Service Destinations	1 (1%)	0 (0%)	16 (15%) (+3%)	2 (5%) (+18%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (14%)	11 (5%)
Parks/Open Space & Recreation Destinations	5 (18%)	4 (34%)	4 (3%) (+4%)	3 (28%) (+15%)	0 (0%)	2 (74%)	0 (0%)	0 (NA)	0 (0%)	1 (0%)
1. Value of "NA" for the percent connected indicates that there are no connections for that node type in the full stress network within a 1.5-mile biking distance from the residential origins in that segment to compare low-stress connections against.										
2. No entry for this type indicates that the corridor projects did not influence percent connectivity.										

Table 40Bicycle Facility Benefits

Bicycle Facility Benefits	Segment									
	1	2	3	4	5	6	7	8	9	10
	I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps
Annual Mobility Benefit	\$76,918	\$219,390	\$194,944	\$161,462	\$94,811	\$50,567	\$32,306	\$16,586	\$59,295	\$75,890
Annual Health Benefit										
High Estimate	\$17,935	\$50,083	\$53,262	\$40,413	\$23,215	\$12,694	\$7,845	\$4,029	\$15,599	\$20,062
Moderate Estimate	\$9,962	\$28,226	\$30,302	\$22,902	\$13,142	\$7,169	\$4,424	\$2,280	\$8,844	\$11,380
Low Estimate	\$7,240	\$20,762	\$22,462	\$16,923	\$9,702	\$5,282	\$3,255	\$1,683	\$6,538	\$8,416
Annual Recreation Benefit										
High Estimate	\$370,461	\$1,022,115	\$1,078,328	\$820,926	\$472,013	\$258,599	\$160,026	\$81,941	\$316,745	\$407,203
Moderate Estimate	\$143,109	\$398,842	\$423,614	\$321,594	\$184,767	\$101,058	\$62,469	\$32,068	\$124,124	\$159,628
Low Estimate	\$65,476	\$186,017	\$200,054	\$151,091	\$86,683	\$47,264	\$29,156	\$15,038	\$58,352	\$75,090
Annual Decreased Auto Use Benefit	\$185	\$481	\$486	\$377	\$218	\$218	\$218	\$218	\$218	\$218
Total Annual Benefit, High	\$465,500	\$1,292,069	\$1,327,021	\$1,023,177	\$590,258	\$322,077	\$200,395	\$102,774	\$391,857	\$503,373
Total Annual Benefit, Moderate	\$230,175	\$646,939	\$649,347	\$506,335	\$292,938	\$159,012	\$99,416	\$51,152	\$192,482	\$247,115
Total Annual Benefit, Low	\$149,820	\$426,651	\$417,946	\$329,852	\$191,415	\$103,331	\$64,935	\$33,525	\$124,403	\$159,613

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Safety

For the safety analysis, the corridor projects evaluated included the Class I multiuse path and Class IV bikeway projects (Project #s 104/116,186/187, 188/189,192-200) and the safety projects (Project #s 201-225). The results are summarized below.

Table 41 presents the anticipated roadway countermeasure safety benefits and Table 42 presents the anticipated intersection (signalized and non-signalized) countermeasure safety benefits. Safety benefits are the potential monetized benefits from crash reductions due to the implementation of countermeasures. The table presents benefits for individual countermeasures rather than cumulative benefit as improvements are awaiting review and approval. Once countermeasures are selected for implementation, cumulative benefits may be calculated using the Highway Safety Improvement Program (HSIP) Safety Benefit Analyzer or another comparable tool.

Segment Improvements

Many segment countermeasures provided significant safety benefit throughout the corridor. R35PB (install sidewalk/pathway) also known as the Class I pathway throughout the corridor received the highest safety benefit of over \$100 million. Other countermeasures with significant safety benefit include segment lighting, followed by installing dynamic/variable speed warning signs and installing a median barrier.

Separated bike lanes did not receive any monetary benefits as no bicycle collisions were reported during the study period. However, separated bikeways will improve riding conditions for bicyclists in segments three and four.

Intersection Improvements

Many intersection countermeasures provided significant safety benefit throughout the corridor. The highest benefit was awarded to adding intersection lighting. Many intersection collisions occurred at night during the study period, including three fatal collisions in between Segments 5 and 6. Installing flashing beacons as advanced warning throughout the corridor provided the second largest benefit, followed by creating directional median openings to allow (and restrict) left-turns and u-turns (NS.I.) in Segments 8 and 10.

Installing/upgrading pedestrian crossings at uncontrolled locations (with enhanced safety features) and installing RRFBs did not receive any monetary benefits because no pedestrian or bicycle crashes were reported at the analyzed locations. However, with the introduction of new bicycle facilities comes an increase in ridership and the potential risk of collisions. Safety features such as RRFBs and crossings at uncontrolled locations will provide an added safety benefit, even if not calculated in the table below.

Signals and Signalized Pedestrian Crossings

Using the HSIP analyzer, benefits were calculated for installing signals at five intersection locations: Parkview Avenue, California Street, Whitehouse Drive, Latona Road, and Marx Way, shown in Table 43. Whitehouse Drive, Latona Road, and Marx Way provided significant monetary safety benefits. Caltrans may determine to assess the feasibility of signals at additional locations, which may impact other improvements, such as pedestrian crossing locations. Installing pedestrian countdown signal heads, installing pedestrian crossing at a signalized intersection, and leading pedestrian intervals (LPIs) are all included in the project list and received the highest benefits for pedestrian and bicycle intersection improvements. However, many signalized intersections currently have one or more pedestrian crossings and pedestrian countdown signal heads. When seeking funds and/or programming improvements at these intersections, it will be necessary to determine if existing crossing facilities are adequate, or if additional facilities are needed. Once determined, benefits may be assessed. Additionally, pedestrian

countdown signal heads and crosswalks should be considered where signals are implemented, though accurate benefits for said improvements cannot be calculated until signal locations are determined.

Roundabouts

Roundabout benefits were analyzed throughout the corridor using the HSIP analyzer, shown in Table 44 and Table 45. Crash reduction potential for roundabouts varies – the HSIP analyzer assesses project location (urban or rural), intersection type (four-leg or two leg), whether the roundabout has one or two lanes, and average daily traffic for major and minor roads in the intersection. Many of the roundabouts analyzed are designed as hybrid roundabouts, for which the HSIP analyzer does not provide an option. Hybrid roundabouts with two or more two-lane segments were identified as two-lane roundabouts, and hybrid roundabouts with one two-lane segment were considered one-lane roundabouts.

Of the 13 roundabouts analyzed for existing signalized intersections, six had a calculated significant monetary safety benefit, including Buenaventura Boulevard, Happy Valley Road, and North Street. As shown in Table 45, of the three roundabouts analyzed for existing non-signalized intersection, two had a calculated significant monetary safety benefit, including Whitehouse Drive and Amen Street/Latona Road.

Table 41 Corridor Project Roadway Countermeasure Safety Benefits

CM	Description	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Corridor Wide
		I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps	
R01NT	Add segment lighting	\$4,194,400	\$229,600	\$4,719,400	\$4,914,000	\$8,929,200	\$9,711,800	\$9,457,000	\$17,997,000	\$13,328,000	\$201,600	\$60,152,400
R03	Install median barrier	-	-	-	-	\$8,111,000	\$16,731,000	\$13,059,000	\$19,837,000	\$13,239,000	-	\$57,738,000
R10PB	Install pedestrian median fencing on approaches	-	-	-	-	\$8,338,400	\$8,338,400	\$4,593,400	\$16,947,000	\$12,507,600	\$0	\$38,217,200
R14	Road diet (reduce travel lanes from 4 to 3 lanes and add a two way left-turn and bike lanes)	-	\$5,810,000	\$4,464,600	\$5,247,200	-	-	-	-	-	-	\$15,521,800
R26	Install dynamic/variable speed warning signs	\$1,819,200-	\$2,490,000	-	\$2,248,800	\$4,866,600	\$10,038,600	\$7,835,400	\$11,902,200	\$7,943,400	\$97,200	\$39,381,600
R27	Install delineators, reflectors and/or object markers	-	-	-	-	-	-	-	-	-	\$3,971,700	\$3,971,700
R30	Install centerline rumble strips/stripes	\$1,212,800	\$1,660,000	\$1,795,600	\$1,499,200	\$3,244,400	\$6,692,400	\$5,223,600	\$7,934,800	\$5,295,600	\$64,800	\$29,262,800
R31	Install edgeline rumble strips/stripes	\$909,600	\$1,245,000	\$1,346,700	\$1,124,400	\$2,433,300	\$5,019,300	\$3,917,700	\$5,951,100	\$3,971,700	\$48,600	\$21,947,100
R34PB	Install separated bike lanes	-	-	\$0	\$0	-	-	-	-	-	-	\$0
R35PB	Install sidewalk/pathway (to avoid walking along roadway)	\$9,529,600	\$352,000	-	\$9,529,600	\$19,059,200	\$19,059,200	\$10,499,200	\$38,736,000	\$28,588,800	\$0	\$106,764,800
R36PB	Install/upgrade pedestrian crossing (with enhanced safety features)	-	\$154,000	-	-	-	-	-	-	-	-	\$154,000

Gray = benefits not analyzed

\$0 = benefits calculated, no collisions present

Table 42 Corridor Project Intersection Countermeasure Safety Benefits

CM	Description	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Corridor Wide
		I-5 Ramps to south of Lake Blvd	South of Lake Blvd to Sacramento River	Sacramento River to south of Cypress Ave	South of Cypress Ave to north of Buenaventura Blvd	North of Buenaventura Blvd to south of S Bonnyview Rd	South of S Bonnyview Rd to south of Girvan Rd	South of Girvan Rd to Metz Rd	Metz Rd to south of Latona Rd	South of Latona Rd to north of Briggs St	North of Briggs St to I-5 Ramps	
SI01NT	Add intersection lighting (S.I.)	\$1,468,800	\$366,400	\$2,227,200	\$484,800	\$11,225,600	\$8,678,400	\$675,200	\$233,600	\$308,800	\$18,862,400	\$44,531,200
SI02	Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number	\$1,421,700	\$1,163,100	\$3,009,900	\$365,700	\$2,690,700	\$2,633,400	\$244,500	\$1,442,700	\$376,500	\$8,041,200	\$21,389,400
SI03	Improve signal timing (coordination, phases, red, yellow, or operation)	\$1,421,700	\$1,163,100	\$3,009,900	-	\$2,690,700	\$2,633,400	\$244,500	\$1,442,700	\$376,500	\$8,041,200	\$21,023,700
SI08	Install raised pavement markers and striping (Through Intersection)	-	-	-	-	-	-	-	\$961,800	-	-	\$961,800
SI09	Install flashing beacons as advance warning (S.I.)	\$2,843,400-	\$2,326,200	-	-	\$5,381,400	\$5,266,800	\$489,000	\$2,885,400	\$753,000	\$16,082,400	\$33,184,200
SI15	Reduced Left-Turn Conflict Intersections (S.I.)	-	-	-	\$2,438,000	-	-	-	-	-	-	\$2,438,000
SI18PB*	Install pedestrian countdown signal heads	\$0	\$303,000	-	\$193,000	\$4,627,000	\$0	\$0	\$0	\$0	\$4,627,000	\$9,750,000
SI19PB*	Install pedestrian crossing (S.I.)	\$0	\$303,000	-	\$193,000	\$4,627,000	\$0	\$0	\$0	\$0	\$4,627,000	\$9,750,000
SI22PB*	Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	\$0	\$363,600	\$4,016,400	\$231,600	\$5,552,400	\$0	\$0	\$0	\$0	\$5,552,400	\$15,716,400
NS01NT	Add intersection lighting (NS.I.)	-	-	\$5,504,000	\$366,400	\$0	\$0	\$5,504,000	\$11,374,400	\$0	\$86,400	\$22,835,200
NS08	Install/upgrade larger or additional stop signs or other intersection warning/regulatory signs	-	\$0	-	-	-	-	-	-	-	-	\$0
NS09	Upgrade intersection pavement markings (NS.I.)	-	\$0	-	-	-	-	-	-	\$123,500	-	\$123,500
NS13	Improve sight distance to intersection (Clear Sight Triangles)	-	\$0	-	-	-	-	-	-	-	-	\$0
NS17	Create directional median openings to allow (and restrict) left-turns and u-turns (NS.I.)	-	-	-	-	-	-	-	\$22,638,000	-	\$8,860,000	\$31,498,000
NS22PB	Install pedestrian crossing at uncontrolled locations (new signs and markings only)	-	-	-	-	-	-	-	\$3,440,000	-	-	\$3,440,000
NS23PB	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	-	-	-	\$0	-	-	-	-	-	-	\$0
NS24PB	Install Rectangular Rapid Flashing Beacon (RRFB)	-	-	\$0	-	-	-	-	-	-	-	\$0

Gray = benefits not analyzed
\$0 = benefits calculated, no collisions present
* = benefits are calculated by segment, but Caltrans must identify specific locations to add pedestrian crossings, signal heads, and LPIs. Therefore, benefits will vary upon location selection and implementation.

Table 43 *Signal Safety Benefits*

Segment	Intersection	Benefit
4	SR 273 / Parkview Ave	\$21,601
4	SR 273 / California St	\$64,801
7	SR 273 / Whitehouse Dr	\$12,669,601
8	SR 273 / Latona Rd	\$9,126,001
10	SR 273 / Marx Way	\$5,294,401

Table 44 *Roundabout Safety Benefits: Signalized*

Segment	Intersection	Location	Lanes	Geometry	Benefit
1	N Market St / Caterpillar Rd	Urban	1 (Hybrid)	Four-leg	\$0
1	N Market St / Northpoint Dr/Twin View Blvd	Urban	1	Four-leg	\$545,102
2	N Market St / Benton Dr	Urban	2	T	\$8,186,294
2	S Market St / Quartz Hill Rd	Urban	1	Four-leg	\$3,117,859
4	SR 273 / Cypress Ave	Urban	1 (Hybrid)	Four-leg	\$0
4	S Market St / Grange St	Urban	1	T	\$0
5	S Market St / Buenaventura Blvd	Urban	1 (Hybrid)	T	\$2,625,972
5	S Market St / Branstetter Ln	Urban	1	T	\$0
8	S Market St / Happy Valley Rd	Rural	1	T	\$0
9	SR 273 / Ox Yoke Rd	Rural	1	T	\$6,867,936
10	SR 273 / North St	Urban	1 (Hybrid)	Four-leg	\$5,012,706
10	SR 273 / South St	Urban	1	Four-leg	\$6,900,882
10	SR 273 / Factory Outlets Dr	Urban	1 (Hybrid)	T	\$2,732,492
10	SR 273 / Pleasant Hills Dr	Urban	1 (Hybrid)	Four-leg	\$0

Table 45 *Roundabout Safety Benefits: Non-signalized*

Segment	Intersection	Location	Lanes	Geometry	Benefit
5	S Market St / Kenyon Dr	Rural	1	T	\$545,102
7	S Market St / Whitehouse Dr	Rural	1	Four-leg	\$8,186,294
8	SR 273 / Amen St/Latona Rd	Rural	1	Four-leg	\$3,117,859

Sustainability & Resiliency

The potential for reduced VMT along the corridor was based on the anticipated induced demand, and commensurate mode shift, from vehicle travel to bicycle travel associated with proposed active transportation facilities.

Latent and Induced Demand / Bicycle Mode Shift

Based on research cited in the National Cooperative Highway Research Program (NCHRP) Report 552, Guidelines for Analysis of Investment in Bicycle Facilities, bicycle facilities proposed in the plan may result in induced bicycling demand for new facilities among both existing and new bicyclists. The NCHRP 552 methodology describes an approach for estimating the induced demand associated with a given bicycle facility and translates the demand to the monetized benefit categories described below.

- **Mobility Benefits** represent the time cost associated with a shift to a new bicycle facility based on the time bicycle commuters are willing to spend to access an improved facility.
- **Health Benefits** represent the annual per-capita health cost savings from physical activity benefits associated with a new bicycle facility.
- **Recreation Benefits** represent the time cost that new bicyclists induced by a new bicycle facility are willing to spend on a typical recreation day.
- **Decreased Auto Use Benefits** represent the user cost savings associated with reduced congestion and air pollution.

This analysis (see Appendix G) quantifies the induced bicycling demand expected to be associated with the proposed improvements and monetizes the annualized mobility, health, recreation and decreased auto use benefits provided by the projected induced bicycling demand at high, moderate, and low estimates based on Census population and commuter pattern data and average bicycling trip length estimates from Fall 2022 Replica data. The methodology is based on several assumptions:

- Existing bicyclists near a new facility will shift from the existing nearby facility to the new facility.
- The new facility will result in an induced number of bicyclists as a function of the number of existing bicyclists, relative to the attractiveness of the proposed facility (i.e., Class I shared-use path vs. Class II bicycle lanes).
- People are more likely to ride a bicycle if they live within 1.5 miles of a facility than if they live outside that distance.

The NCHRP 552 methodology suggests that existing bicycle commute mode share can be utilized to estimate the number of existing and future bicycle ridership based on low, moderate, and high likelihood multipliers and the population within 1.5-mile, 1-mile, and 0.5-mile buffers that surround a given bicycle facility. According to the NCHRP 522 research, the total rate of adult bicycling ranges from a low estimate, based on the Census bicycling commute mode share, to a high estimate, based on 0.6 percent plus three times the Census commute share.¹⁰

Moreover, the highest likelihood of a member of the population using the facility exists if they live within a 0.5-mile buffer around the facility. Thus, demand is calculated at low, medium, and high estimates for the populations at each buffer distance. Each buffer area—at 0.5-, 1- and 1.5-mile distances from a proposed bicycle improvement is created using a network-based analysis in a GIS environment.

Estimated Bicycling Demand Results

Based on the medium estimate likelihood multiplier, it is estimated that new bicycling trips induced by bicycle improvements along the entire corridor could include more than 15,000 commute trips, over 250,000 adult non-commute (including recreational) trips and almost 90,000 trips by children annually. Detailed estimates of existing and induced bicycling demand are provided in the Appendix G.

¹⁰ U.S. Census Bicycle Commute Mode Share Estimates, American Community Survey (ACS) 2021 5-Year Estimates, Table S0801 Commuting Characteristics by Sex

Vehicle Miles Traveled Reduction

It is estimated that the bicycle improvements along the corridor could result in a daily VMT reduction of nearly 1,000 VMT. This could translate to over 230,000 VMT annually upon construction of the analyzed system. High quality active transportation connections to the transit system may further increase mode shift beyond these estimates, especially with service reliability and quality improvement.

Air Quality & Emissions

Air quality and emissions were calculated using the Cal B/C SB 1 Emissions Calculator. All requisite on-road activity inputs (i.e. corridor VMT and vehicle speeds) for this analysis were generated from existing travel demand documented earlier in this report, forecasting using the ShastaSIM 2.0 model, and induced mode shift estimated through the application of the NCHRP 552 methodology described previously. This Plan's analysis does not include intersection-level quantification of air quality or emissions reductions and thus may understate the benefits of full plan implementation.

Emergency Evacuations

Project #s 118-134 include bridge, roadway, and culvert projects developed to enhance resiliency and ensure safety and functionality of the transportation infrastructure. These enhancements will support emergency evacuations, especially as their design would leave infrastructure less susceptible to damage during extreme climate events (e.g., flooding and wildfires). Roadway maintenance projects will provide improved pavement condition, also increasing system resilience in the face of extreme climate events, and improving emergency evacuation and response times. Roundabouts, if constructed, can be provide better traffic control during emergency evacuations in the event traffic signals fail due to power loss. However, none of the proposed projects evaluated would add new roadway connections or expand roadway capacity that would substantially increase traffic throughput during an emergency evacuation.

Equity

For the equity analysis, the corridor projects evaluated included those with a location-specific scope (i.e., Project #s 184/185, 186/187, 188/189, 190/191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 204, 209, 210, 212, 216, 217, 218, 219, 220, 221, and 224). The results are summarized below.

Table 46 presents the corridor project equity performance assessment, using the CTEDD Transportation Equity Scorecard. As described in Chapter 4, scoring is comprised of a basic score and a weight score (DAC Impact). For the basic score, scores range from 0 to 2 points. For the weighted score, scores range from 0 (project does not serve DACs) to 2 (project serves high concentration of DACs) points. The basic score is multiplied by the weighted score, for a maximum of 4 points per category factor and a maximum of 60 points for all categories.

Projects that do not serve DACs have the lowest score of zero. This includes Projects #186/187 and 209, both of which are located in the Miracle Mile area, which lacks DACs. These projects scored zero.

When considering all equity criteria, overall, the highest scoring project is Project #200—the Class I multiuse path (Briggs Street to Pleasant Hills Road) project—at 34 points. High points of this project included density of Access to Opportunity and Heath and Environment destinations, Affordability (e.g., high adjacent affordable housing), Mobility (e.g., active transportation), and High DAC Impact (i.e., project serves high concentrations of DACs).

Table 46 Corridor Project Equity Performance Assessment

Criteria	184/ 185	186/ 187	188/ 189	190/ 191	192	193	194	195	196	197	198	199	200	204	209	210	212	216	217	218	219	220	221	224
Access to Opportunity	8	0	6	10	6	0	8	6	6	2	2	0	10	0	0	6	0	0	0	0	2	10	0	6
Health and Environment	4	0	0	6	4	4	4	0	4	0	0	0	8	0	0	2	0	0	0	0	0	6	0	2
Safety and Emergency Evacuation	2	0	4	0	0	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2
Affordability	0	0	10	0	4	4	6	4	6	4	4	4	8	2	0	0	0	0	0	0	0	0	0	0
Mobility	0	0	8	0	6	6	6	6	6	6	6	6	6	4	0	0	0	0	0	0	0	0	0	0
Burdens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	14	0	28	16	20	16	26	18	24	14	14	12	34	8	0	10	2	2	2	2	4	18	2	10

Notes: Scores range from 0 to 60 points, with score of 0 points for projects that do not serve DACs.

Performance Assessment Matrix

For the Plan Type 2 Projects (Project #s 184-226), the performance assessment looked at a total of seven measures, including the five performance measures and two additional measures.

The five performance measures were scored as follows:

- **Safety (S)**
 - Safety is given a weight of 2 points as a prioritized performance measure. Each safety score is multiplied by two in the performance matrix.
 - Benefit of \$4.5 million or more: 3 points
 - Benefit of less than \$4.5 million: 2 points
 - No benefit calculated due to lack of reported collisions, but the project would improve safety conditions: 1 point
 - No benefit: 0
- **Operations and Reliability (OR)**
 - Significant calculated delay reduction: 3 points
 - Calculated delay reduction (or assumed for projects with benefits not calculated): 2 points
 - Potential benefit for project benefits not calculated but assumed based on scope: 1 point
 - No benefit: 0
- **Mobility and Connectivity (MC)**
 - Most commuters (existing and induced) and most connections between new origins and existing destinations: 3 points
 - Some commuters and some new origin/destination connections: 2 points
 - Few commuters and few destination connections: 1 point
 - No benefit: 0
- **Sustainability and Resiliency (SR)**
 - Highest VMT / GHG reduction calculated: 3 points
 - Some VMT / GHG reduction calculated (or assumed for projects with benefits not calculated): 2 points
 - Minor VMT / GHG reduction calculated (or assumed for projects with benefits not calculated): 1 point
 - No benefit: 0
- **Equity (E)**
 - Equity score of 20 or more: 3 points
 - Equity score of 10 or more: 2 points
 - Equity score of less than 10: 1 point
 - No equity benefit: 0

Two additional measures—Feasibility (F) and Community Support (CS)—were scored.

- A Feasibility score was developed on a scale of 1-3 points based on cost, right-of-way constraints, complexity, and implementation timeframe, with 3 points given to projects that can be implemented with viable funding sources in the short term, 2 points if the project requires additional studies and funding, 1 point if there are significant constraints, cost, or right-of-way concerns, and 0 points if the project is likely infeasible. Additional detail on the feasibility assessments is included in Appendix F.
- A Community Support score was developed on a scale of 1 to 3 points based on feedback received at the final community workshops where a list of representative draft projects was presented to the community. Projects received 3 points if they received the most support at the workshop, 2 points if they received moderate support, 1 point if they received minor support, and 0 points if they did not receive support or were not specifically included as a representative

project. An initial list of projects was presented at a previous workshop and projects that received opposition informed the representative draft project list. For example, corridor-wide lane reconfiguration received opposition and was therefore not included in the representative draft project list at final community workshops.

The performance assessment matrix is provided in Table 47.

Table 47 Performance Matrix

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
188	Complete Streets	Gateway Corridor (Planning): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	For SR 273 south of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets, reduce left-turn conflicts), signals, roundabouts, parking lanes, separated bike lanes (Class IV), multiuse paths (Class I), pedestrian crossings.	Operations & Reliability; Mobility & Connectivity; Safety	3	1	3	2	3	3	3	21
189	Complete Streets	Gateway Corridor (Design and Construction): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	Following planning (#188), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety	3	1	3	2	3	1	3	19
195	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Buenaventura Blvd to S. Bonnyview Rd)	Class I	Mobility & Connectivity; Safety	3	0	3	2	2	2	3	18
200	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Class I	Mobility & Connectivity; Safety	3	0	2	2	3	2	2	17
184	Highway	Conversion to Two-Way Traffic (Planning): SR 273	SR 273 (at Downtown Redding)	For a portion of the SR 273 one-way couplet in Downtown Redding (s/o Tehama St), convert from one-way traffic to two-way traffic. SB conversion: California St (Tehama St to Gold St); Gold St (California St to Market St); Market St (Gold St to Cypress Ave). NB conversion: Pine St (Cypress Ave to Tehama St). Planning could include: public and stakeholder outreach, operations and maintenance (e.g., Caltrans relinquishments), geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes, pedestrian crossings.	Operations & Reliability; Mobility & Connectivity	2	2	1	2	2	3	2	16
196	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (S. Bonnyview Rd to Girvan Rd)	Class I	Mobility & Connectivity; Safety	3	0	2	1	3	2	2	16
199	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Latona Rd to Briggs St)	Class I	Mobility & Connectivity; Safety	3	0	2	1	2	2	2	15
203	Complete Streets	Pedestrian Crossings: SR 273	SR 273 (Multiple Locations)	Install pedestrian crossings at signalized intersections. Multiple locations along SR 273 (Buenaventura Blvd to S. Bonnyview Rd).	Mobility & Connectivity; Safety	3	1	3	0	1	2	2	15
225	Highway	Roundabouts (Planning and Design): SR 273	SR 273 (Multiple Locations)	Install roundabouts at multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr)	Operations & Reliability; Safety	3	3	2	2	1	1	0	15

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
190	Freight	Freight Rail (Planning)	UPRR Corridor (from City of Redding to City of Anderson)	Along the UPRR Corridor from the City of Redding to the City of Anderson, including portions of the UPRR Corridor adjacent to SR 273, complete a grade crossing closure study. The study should evaluate and exhaust all options (e.g., grade separation projects) before requesting new at-grade crossing projects and consider applicable ratios (e.g., 3 closures for 1 new crossing).	Operations & Reliability; Safety	2	2	2	1	2	3	0	14
186	Complete Streets	Gateway Corridor (Planning): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	For SR 273 north of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes (Class IV), pedestrian crossings.	Operations & Reliability; Mobility & Connectivity; Safety	2	2	3	2	0	3	0	14
197	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Girvan Rd to Happy Valley Rd)	Class I	Mobility & Connectivity; Safety	3	0	1	1	2	2	2	14
198	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Class I	Mobility & Connectivity; Safety	3	0	1	1	2	2	2	14
205	Complete Streets	Lead Pedestrian Interval: SR 273	SR 273 (Multiple Locations)	Install leading pedestrian interval at signalized intersections. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity; Safety	3	1	2	0	1	3	0	13
223	Highway	Signal Timing: SR 273	SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Improve signal timing along SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Operations & Reliability; Safety	3	2	0	1	1	3	0	13
194	Complete Streets	Class IV Bikeway: SR 273	SR 273 (at Downtown Redding)	Class IV on NB and SB SR 273 couplets. Along SB SR 273, for consistency with existing planned projects, consider bi-directional Class IV.	Mobility & Connectivity; Safety	1	0	3	3	3	2	0	13
192	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Caterpillar Rd to Northpoint Dr)	Class I	Mobility & Connectivity; Safety	3	0	1	1	3	2	0	13
222	Highway	Traffic Signal: SR 273	SR 273 (Multiple Locations)	Install signals. Multiple locations along SR 273 (Whitehouse Drive, Latona Road, Marx Way)	Operations & Reliability; Safety	3	2	2	0	1	2	0	13
206	Complete Streets	Lighting: SR 273	SR 273 (Caterpillar Rd to Quartz Hill Rd)	Add roadway lighting	Safety	3	1	1	0	0	2	3	13
207	Complete Streets	Lighting: SR 273	SR 273 (Buenaventura Blvd to South St)	Add roadway lighting	Safety	3	1	1	0	0	2	3	13
208	Complete Streets	Lighting: SR 273	SR 273 (Multiple Locations)	Add lighting (at signalized and non-signalized intersections). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety	3	1	1	0	0	2	3	13
185	Highway	Conversion to Two-Way Traffic (Design and Construction): SR 273	SR 273 (at Downtown Redding)	Following planning (#184), design and construction.	Operations & Reliability; Mobility & Connectivity	2	2	1	2	2	1	1	13

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
191	Freight	Freight Rail (Design and Construction)	UPRR Corridor (from City of Redding to City of Anderson)	Following planning (#190) and UPRR coordination/approval, design and construction.	Operations & Reliability; Safety	2	2	2	1	2	1	0	12
187	Complete Streets	Gateway Corridor (Design and Construction): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	Following planning (#186), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety	2	2	3	2	0	1	0	12
226	Transit	Transit Stops: SR 273	SR 273 (Multiple Locations)	Install transit-supporting infrastructure (e.g., shelters/benches at bus stops and sidewalks to bus stops). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity	1	1	3	1	2	2	0	11
220	Highway	Directional Median Openings: SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Briggs St to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	2	2	0	11
210	Highway	Variable Speed Warning Signs: SR 273	SR 273 (at Parkview Ave)	Install variable speed warning signs upon approach to Downtown Redding.	Operations & Reliability; Safety	2	1	0	0	2	3	0	10
201	Complete Streets	Pedestrian Fencing: SR 273	SR 273 (Multiple Locations)	Install pedestrian median fencing. Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Safety	3	1	0	0	0	3	0	10
211	Highway	Variable Speed Warning Signs: SR 273	SR 273 (Multiple Locations)	Install variable speed warning signs. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	0	3	0	10
213	Highway	Flashing Beacons: SR 273	SR 273 (Multiple Locations)	Install flashing beacons as advanced warning (signalized intersections). Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	0	3	0	10
215	Highway	Rumble Strips: SR 273	SR 273 (Multiple Locations)	Install centerline and edgeline rumble strips/stripes. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety	3	1	0	0	0	3	0	10
193	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Lake Blvd to Benton Dr)	Class I	Mobility & Connectivity; Safety	2	0	1	1	2	2	0	10
219	Highway	Directional Median Openings: SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Happy Valley Rd to Latona Rd).	Operations & Reliability; Safety	3	1	0	0	1	2	0	10

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
212	Highway	Flashing Beacons: SR 273	SR 273 (Between Lake Blvd and Benton Dr)	Install flashing beacons as advanced warning (signalized intersection). Multiple locations along SR 273 (Lake Blvd to Benton Dr).	Operations & Reliability; Safety	2	1	0	0	1	3	0	9
216	Highway	Markers and Striping: SR 273	SR 273 (at Happy Valley Rd)	Install raised pavement markers and striping (through intersection) (signalized intersection)	Safety	2	1	0	0	1	3	0	9
217	Highway	Markers and Delineators: SR 273	SR 273 (Latona Rd to Briggs St)	Install delineators, reflectors, and object markers along SR 273	Safety	2	1	0	0	1	3	0	9
202	Complete Streets	Pedestrian Crossings: SR 273	SR 273 (Multiple Locations)	Install pedestrian crossings at signalized intersections. Multiple locations along SR 273 (Caterpillar Rd to Lake Blvd).	Mobility & Connectivity; Safety	1	1	3	0	1	2	0	9
204	Complete Streets	Pedestrian Crossings: SR 273	SR 273 (at Latona Rd)	Install/upgrade pedestrian crossings at uncontrolled locations (with enhanced safety features).	Mobility & Connectivity; Safety	1	1	3	0	1	2	0	9
209	Highway	Variable Speed Warning Signs: SR 273	SR 273 (at Quartz Hill Rd)	Install variable speed warning signs upon approach to Downtown Redding.	Operations & Reliability; Safety	2	1	0	0	0	3	0	8
218	Highway	Pavement Markers: SR 273	SR 273 (Latona Rd to Briggs St)	Upgrade intersection pavement markings (non-signalized intersections)	Safety	1	1	0	0	1	3	0	7
214	Complete Streets	Lane Widths: SR 273	SR 273 (Multiple Locations)	Reduce lane width to 11 feet. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity; Safety	1	1	1	1	0	2	0	7
224	Highway	Roundabout: SR 273	SR 273 (Pine St/East St)	Convert intersection to roundabout (e.g., to address crash fatality and improve operations)	Operations & Reliability; Safety	1	1	1	0	2	0	0	6
221	Highway	SR 273 (at Sulphur Creek)	SR 273 (at Sulphur Creek Rd)	Install/upgrade larger or addition stop signs, improve sight distance to intersection, upgrade intersection pavement markings (non-signalized intersection).	Safety	0	1	0	0	1	3	0	5

Notes: S = Safety; OR = Operations & Reliability; MC = Mobility & Connectivity; SR = Sustainability & Resiliency; E = Equity; F = Feasibility; CS = Community Support.

8 PRIORITIZED SOLUTIONS

The prioritized solutions presented here reflect comprehensive evaluations and stakeholder input. Prioritization criteria included safety benefits, multimodal connectivity, equity considerations, economic outcomes, and project feasibility.

Project Evaluation

As described in the Performance Assessment Matrix section of Chapter 7, corridor projects were evaluated at a high level, on a 0- to 3-point scale, on the basis of their potential benefits to improve:

- Safety
- Operations & Reliability
- Mobility & Connectivity
- Sustainability & Resiliency
- Equity
- Feasibility
- Community Support:

The feasibility assessment resulted in three main categories of projects:

- “Short-Term” projects are those that are ready to be implemented today, with limited need for additional funding, engineering, environmental study, right-of-way acquisition, or stakeholder coordination. These projects include the Caltrans Downtown Redding CAPM project and the Caltrans Brighter 273 Safety Lighting project, as well as other signal modification projects and other planning studies, such as the railroad grade corridor study.
- “Medium-Term” projects are those that have greater potential feasibility due to a clearer understanding of right-of-way needs, constructability, and environmental study requirements. These projects include a corridor-wide system of separated bikeways and the installation of signalized crossings.
- “Long-Term” projects are those that will require more substantial engineering, are anticipated to have right-of-way impacts, will require additional environmental study, and will require additional or extensive stakeholder coordination for funding and implementation. These include potential roundabout installations, the one-way to two-way Downtown Redding couplet conversions, more transformational gateway projects north and south of Downtown Redding, as well as any projects that result from studies completed in the short- and medium- term project list such as the railroad grade corridor study.

Selected Prioritized Projects

Projects that have been included in this section scored higher than 10 points in the Performance Assessment Matrix presented in Chapter 7. It is important to note that projects that scored lower than 10 points may still be worthy projects for implementation, especially in conjunction with other projects that are anticipated to have a greater benefit to the corridor. For example, while variable speed warning signs may not have scored a sufficiently high score to be selected as prioritized individual projects, they may well be worthwhile additions to the corridor as part of a traffic calming strategy, as they result in a high

predicted safety benefit, despite their low score on other identified prioritization criteria such as equity, mobility, and sustainability. Furthermore, projects that scored particularly well on safety benefit may compete favorably for safety-specific grant applications despite falling short of selection in this comprehensive plan that prioritizes multi-benefit projects.

Short-Term Projects (Near Term: By 2030)

The prioritized projects shown in Table 51 are included and consolidated in this section, in addition to the two most significant projects being undertaken by Caltrans within the 2030 timeframe.

Caltrans Projects

Benefits and costs for the Downtown Redding CAPM and Brighter 273 Safety Lighting projects were not monetized as part of this study. However, these projects represent core elements of the ultimate improvement strategy for the corridor.

Downtown Redding CAPM

The Downtown Redding CAPM project includes significant pavement preservation elements along the entire length of its extents. However, this project also includes the replacement of 25 signals throughout the corridor, the implementation of LPIs, the replacement of culverts, ADA improvements to a significant number of curb ramps at intersections and sidewalks, the installation of new crosswalks, the installation of bulbouts, the installation of new sidewalk to close corridor gaps, the installation of new or enhanced Class II bikeways, and the repurposing of a southbound lane on SR 273 (Buenaventura Boulevard to Wyndham Lane) to allow for the installation of a multiuse path.

This project is vast in scope and consistent with the vision of the SR 273 CMCP vision. Elements of the project are also supported by the community based on outreach conducted as part of this plan, including culvert replacements to address flooding and drainage issues, improved multimodal connectivity through the Cypress Avenue and Pine Street intersection, and sidewalk gap closures. This project is anticipated to generate significant benefits such as: improved operations and reliability, mobility and connectivity, safety, and sustainability and resiliency.

Brighter 273 Safety Lighting

This project addresses a significant safety concern along the corridor by adding roadway lighting and pedestrian lighting (e.g., updating all existing intersection/crosswalk lighting to meet American National Standards Institute/Illuminating Engineering Society (ANSI/IES) standards) along poorly lit sections of SR 273 from south of Downtown Redding at Buenaventura Boulevard, to South Street in Anderson. Pedestrian and roadway lighting received high levels of community support during engagement activities. As with the Downtown Redding CAPM, the societal benefits of this project were not quantified as part of this study. However, the project extends from Segment 5 into Segment 10 of this study and would be anticipated to generate close to \$100M in safety benefits through reduced nighttime collisions.

Additional elements of this project include median barriers along the corridor to deter pedestrians crossing at unsignalized intersections and reduce crossover collisions from vehicles crossing over into oncoming traffic.

Planning Studies

Four proposed planning studies received high scores in the plan's prioritization matrix. These planning studies are prerequisites to implementation of their corresponding project concepts. The planning studies themselves have not been attributed to costs or quantified benefits, but may be eligible for funding through competitive grant programs themselves. The studies and rough scopes of work for each are included below.

Gateway Corridor: Cypress Avenue to Buenaventura Boulevard

This southern gateway in Downtown Redding scored highest in this study's prioritization assessment and was selected as a high community priority for enhancement. Elements of the Downtown Redding CAPM project overlap with this project, as do elements of the corridor-wide separated bikeway projects identified as Medium-Term projects below. This project is consistent with the City of Redding General Plan's *South Market Street Focus Area*.

Additional study along this gateway corridor should include:

- Focused community engagement on proposed recommendations with local stakeholders, including residents and business owners
 - Importantly, engagement to discuss reorientation of vehicular access to/from SR 273 from Angelo Avenue to Parkview Avenue
- Microsimulation of corridor No Build and Build conditions
 - Importantly, No Build conditions must represent the final design (currently pending) of the Downtown Redding CAPM
- Develop Project Initiation Document (PID) and initiate Project Approval/Environmental Document (PA/ED) phase in coordination with Caltrans
- Intersection Safety and Operational Assessment Process (ISOAP), which would be coordinated between applicable partners (Caltrans, Cities, and SRTA) to determine preferred intersection configuration
 - This should consider a roundabout and more compact signalized intersection design
- Topographic survey to better assess right-of-way, constructability of roundabout, and feasibility of pedestrian connection along utility easement west of SR 273

Gateway Corridor: Benton Drive to Quartz Hill Road

This northern gateway in Downtown Redding scored third highest in this study's prioritization assessment and received community support from immediate residents during walking tours but mixed support from wider engagement activities. Elements of the corridor-wide separated bikeway projects identified as Medium-Term projects below overlap with this project. This project is consistent with the City of Redding General Plan's *NorthMarket Street Focus Area*.

Additional study along this gateway corridor should include:

- Focused community engagement on proposed recommendations with local stakeholders, including residents and business owners
- Microsimulation of corridor No Build and Build conditions
- Mesoscopic simulation of wildfire evacuation scenarios to address community concerns
- Develop Project Initiation Document (PID) and initiate Project Approval/Environmental Document (PA/ED) phase in coordination with Caltrans
- Intersection Safety and Operational Assessment Process (ISOAP) which would be coordinated between applicable partners (Caltrans, Cities, and SRTA) to determine preferred intersection configuration
 - This should consider roundabouts and traffic signals, both within context of a potential road diet
- Topographic survey to better assess right-of-way and constructability of single-lane, and potentially hybrid or multi-lane roundabouts

Downtown Redding Conversion to Two-Way Traffic

The concept of converting some or all of Downtown Redding's one-way streets into two-way streets has been discussed for many years. The study scored second highest in this study's prioritization assessment but received mixed community support due to uncertainty of potential impacts to vehicular circulation and conflicts with the movement of heavy vehicles and trucks through Redding, between SR 299 and SR 44, and along SR 273.

Additional study for the conversion of Downtown Redding's one-way streets to two-way streets should include:

- Focused community engagement on proposed recommendations with local stakeholders
 - Parking survey and analysis
 - Economic impact analysis
- Focused agency stakeholder coordination on right-of-way implications
 - In particular, potential relinquishment of State right-of-way along California Street alignment to City of Redding as a consequence of conversion to two-way traffic
- Microsimulation of Downtown Redding No Build and Build conditions
 - Importantly, No Build conditions must represent the final design (currently pending) of the Downtown Redding CAPM
- Develop Project Initiation Document (PID) and initiate Project Approval/Environmental Document (PA/ED) phase in coordination with Caltrans

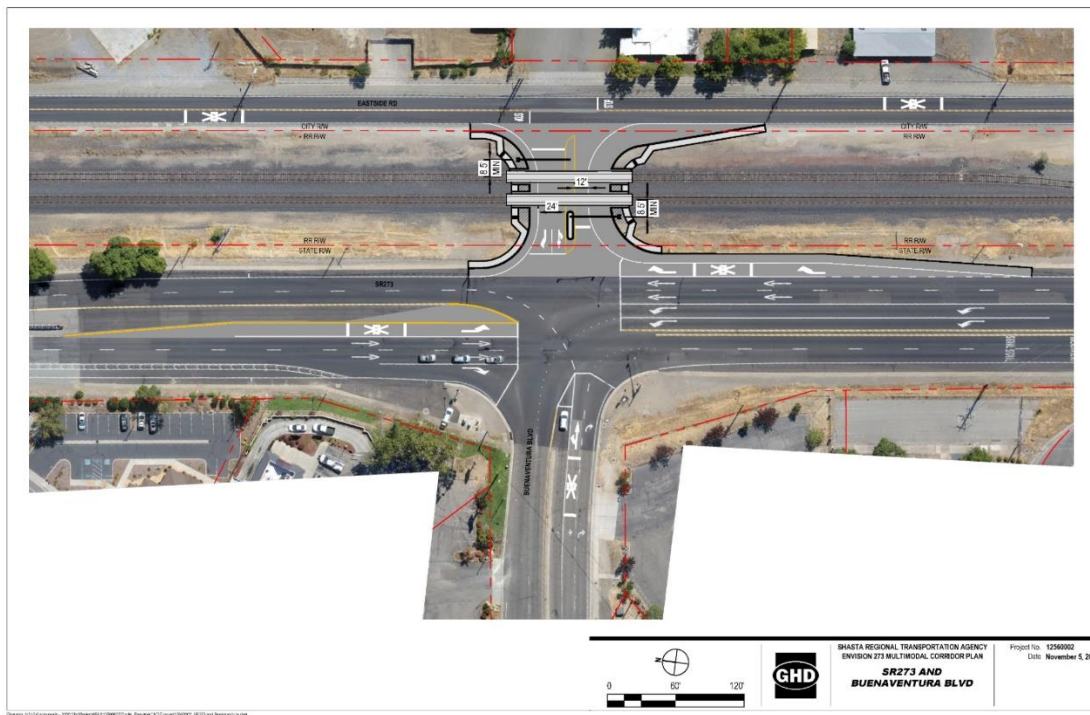
Rail Grade Crossing Study

The UPRR freight and passenger rail line runs parallel to the corridor, affecting SR 273 and local roads in the Cities of Redding and Anderson, as well as Shasta County. A corridor wide crossing closure study, which the UPRR requires for consideration of any new grade crossing, would serve in the interest of multiple stakeholders. The study scored third highest in this study's prioritization assessment.

The crossing closure study should explore a full range of grade crossing options/projects for the corridor and beyond, including new grade separated overpass crossings and the use of roads leading to existing grade separated crossings, other grade crossings, and access from other directions. For any viable proposed new at-grade crossings, existing crossing closures (using the most recent UP ratio, currently 3:1) should be identified. UPRR insists that all other options be exhausted before applying for a new grade crossing or major improvements may be made to an existing crossing.

An example of a potential railroad grade crossing at Buenaventura Boulevard is shown below. This is a conceptual design and is meant for illustrative purposes only.

Figure 28 Railroad Grade Crossing Example at SR 273 and Buena Ventura Boulevard



Smaller-Scale Safety Projects (Signage, Fencing and Rumble Strips)

A few categories of smaller scale safety projects that are appropriate for short-term implementation should funding become available, emerged as priority projects. These include traffic signal timing, flashing beacons for intersection approaches, speed feedback signs, pedestrian fencing, and rumble strip projects which received scores for 10 or higher in the plan's prioritization matrix. These projects provide tangible safety benefits and may be implementable within a short-term implementation time frame.

Traffic Signal Timing

Traffic signal timing can be implemented in a variety of ways depending on transportation priorities. Some timing plans may prioritize total vehicular throughput, or throughput for specific movements or coordinated corridors, whereas other timing plans may prioritize multimodal movements or traffic safety. The Downtown Redding CAPM project will include new timing plans for many traffic signals along SR 273. Additional safety benefit may be achieved by retiming traffic signal timing along the balance of SR 273 to safety for vehicles or active transportation users.

Flashing Beacons and Speed Feedback Signs

Speed feedback signs and flashing beacons on intersection approaches vary in estimated safety benefit depending on corridor segment. Segment 3 is not included as these countermeasures would not be appropriate in the Downtown Redding setting. Segments 6, 7, 8 and 10 saw the highest benefit/cost on the corridor.

Table 48 *Beacons and Speed Feedback Sign Benefits*

Location	Length (Miles)	Count	Cost	Safety Benefit	Benefit/Cost
Segment 1	1.8	7	\$ 728,000	\$ 4,662,600	6.40
Segment 2	1	4	\$ 416,000	\$ 4,816,200	11.58
Segment 4	1.2	5	\$ 520,000	\$ 2,248,800	4.32
Segment 5	2	8	\$ 832,000	\$10,248,000	12.32
Segment 6	1.2	5	\$ 520,000	\$15,305,400	29.43
Segment 7	0.9	4	\$ 416,000	\$ 8,324,400	20.01
Segment 8	2.3	9	\$ 936,000	\$14,787,600	15.80
Segment 9	2.2	9	\$ 936,000	\$ 8,696,400	9.29
Segment 10	2.2	9	\$ 936,000	\$16,179,600	17.29
All Segments			\$ 6,240,000	\$85,269,000	13.66

Pedestrian Median Fencing

To address the high number of reported pedestrian collisions along the southern half of the corridor, pedestrian median fencing provides safety benefit by preventing crossings outside of designated crosswalks. However, new and improved crossing locations should be considered to provide viable crossing opportunities for pedestrians and bicyclists using the corridor to encourage crossing at designated crossing locations.

Table 49 *Pedestrian Median Fencing Benefit*

Location	Length (Miles)	Cost	Safety Benefit	Benefit / Cost
Segment 5	2	\$ 390,000	\$ 8,338,400	21.38
Segment 6	1.2	\$ 234,000	\$ 8,338,400	35.63
Segment 7	0.9	\$ 175,500	\$ 4,593,400	26.17
Segment 8	2.3	\$ 448,500	\$16,947,000	37.79
Segment 9	2.2	\$ 429,000	\$12,507,600	29.16
All Segments		\$1,677,000	\$50,724,800	30.25

Rumble Strips

Rumble strips can provide safety benefit where roadway departures and head on collisions are present. Rumble strips provide a significant safety benefit on Segments 7 through 10.

Table 50 *Rumble Strip Safety Benefit*

Location	Length (in Miles)	Cost	Safety Benefit	Benefit/Cost
Segment 7	0.9	\$ 17,550	\$ 9,141,300	520.87
Segment 8	2.3	\$ 44,850	\$ 13,885,900	309.61
Segment 9	2.2	\$ 42,900	\$ 9,267,300	216.02
Segment 10	2.2	\$ 42,900	\$ 113,400	2.64
All Segments		\$ 148,200	\$ 32,407,900	218.68

Table 51 Short-Term Prioritized Projects

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
188	Complete Streets	Gateway Corridor (Planning): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	For SR 273 south of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets, reduce left-turn conflicts), signals, roundabouts, parking lanes, separated bike lanes (Class IV), multiuse paths (Class I), pedestrian crossings.	Operations & Reliability; Mobility & Connectivity ; Safety	3	1	3	2	3	3	3	21
184	Highway	Conversion to Two-Way Traffic (Planning): SR 273	SR 273 (at Downtown Redding)	For a portion of the SR 273 one-way couplet in Downtown Redding (s/o Tehama St), convert from one-way traffic to two-way traffic. SB conversion: California St (Tehama St to Gold St); Gold St (California St to Market St); Market St (Gold St to Cypress Ave). NB conversion: Pine St (Cypress Ave to Tehama St). Planning could include: public and stakeholder outreach, operations and maintenance (e.g., Caltrans relinquishments), geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes, pedestrian crossings.	Operations & Reliability; Mobility & Connectivity	2	2	1	2	2	3	2	16
190	Freight	Freight Rail (Planning)	UPRR Corridor (from City of Redding to City of Anderson)	Along the UPRR Corridor from the City of Redding to the City of Anderson, including portions of the UPRR Corridor adjacent to SR 273, complete a grade crossing closure study. The study should evaluate and exhaust all options (e.g., grade separation projects) before requesting new at-grade crossing projects and consider applicable ratios (e.g., 3 closures for 1 new crossing).	Operations & Reliability; Safety	2	2	2	1	2	3	0	14
186	Complete Streets	Gateway Corridor (Planning): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	For SR 273 north of Downtown Redding, create a transition zone or gateway. Planning could include: public and stakeholder outreach, geometric modifications (e.g., road diets), signals, roundabouts, parking lanes, separated bike lanes (Class IV), pedestrian crossings.	Operations & Reliability; Mobility & Connectivity ; Safety	2	2	3	2	0	3	0	14
205	Complete Streets	Lead Pedestrian Interval: SR 273	SR 273 (Multiple Locations)	Install leading pedestrian interval at signalized intersections. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity ; Safety	3	1	2	0	1	3	0	13
223	Highway	Signal Timing: SR 273	SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Improve signal timing along SR 273 (Caterpillar Rd to Pleasant Hills Dr)	Operations & Reliability; Safety	3	2	0	1	1	3	0	13
210	Highway	Variable Speed Warning Signs: SR 273	SR 273 (at Parkview Ave)	Install variable speed warning signs upon approach to Downtown Redding.	Operations & Reliability; Safety	2	1	0	0	2	3	0	10
201	Complete Streets	Pedestrian Fencing: SR 273	SR 273 (Multiple Locations)	Install pedestrian median fencing. Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Safety	3	1	0	0	0	3	0	10
211	Highway	Variable Speed Warning Signs: SR 273	SR 273 (Multiple Locations)	Install variable speed warning signs. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	0	3	0	10

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
213	Highway	Flashing Beacons: SR 273	SR 273 (Multiple Locations)	Install flashing beacons as advanced warning (signalized intersections). Multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	0	3	0	10
215	Highway	Rumble Strips: SR 273	SR 273 (Multiple Locations)	Install centerline and edgeline rumble strips/stripes. Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety	3	1	0	0	0	3	0	10

Notes: S = Safety; OR = Operations & Reliability; MC = Mobility & Connectivity; SR = Sustainability & Resiliency; E = Equity; F = Feasibility; CS = Community Support.

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Traffic Signal Modifications

The installation of leading pedestrian intervals (LPI) and signal timing improvements both scored highly in this study's prioritization assessment. As part of the Downtown Redding CAPM, many traffic signals will be upgraded to address these issues. Elsewhere along the corridor, traffic signals outside of the Downtown Redding CAPM should be modified to include LPIs, optimize signal timings for improved safety, improve signal hardware, and install pedestrian countdown heads where applicable and currently missing.

As mentioned in Chapter 7, benefit costs for these modifications cannot be determined until an inventory of existing traffic signal hardware and configurations is confirmed. However, significant societal benefit is anticipated from implementation of these projects, including safety benefits, travel time savings, and reduced emissions from idling.

Medium-Term Projects (2030 – 2040)

The prioritized projects shown in Table 56 are consolidated and described in this section. These projects are found to meet the prioritization metrics of this study and mostly generated substantial community support. Although additional study will be needed to implement these projects, as is the case for the Long-Term projects described subsequently, these projects are found to be more readily feasible based on the information on hand at the time of preparing this study. Furthermore, unlike the projects listed in the Long-Term section, especially those that require additional planning studies (in Short-Term section), these projects may only necessitate the consideration of relatively few different alternatives.

Corridor-Wide Separated Bikeway Network

Through the corridor's existing bikeway network, implementation of projects currently underway, and implementation of the Class I and Class IV projects in this section, a corridor-wide system of separated bikeways would be in place along the length of SR 273. Although there are anticipated to be complexities in the implementation of a continuous separated bikeway system along SR 273, Caltrans right-of-way is found to be generally sufficient to accommodate this project. The following is a summary of anticipated societal benefits and high-level planning cost estimates for implementation in order to demonstrate the potential benefit/cost of implementing a separated bikeway along each segment and corridor wide (for more details, see Appendix G). A low-stress regional connection between the Cities of Redding and Anderson for people walking and bicycling would be a major milestone in implementing the "Regional Trunk Line System" defined in the SRTA GoShasta Regional Active Transportation Plan.

As shown in Table 52, nearly all corridor segments are anticipated to generate a positive return-on-investment from implementation of separated bikeways. To maximize utility of the system, this Plan recommends implementing separated bikeways along the entire length of the corridor, which is anticipated to generate a positive return-on-investment. If the projects are implemented in phases, care should be taken not to create new network gaps or exacerbate existing gaps.

Signalization and Crossing Improvement Projects

The signalization of intersections emerged as a priority Medium-Term project in our assessment and is supported by community sentiment, especially along the more rural segments of the corridor. Additionally, the provision of pedestrian crossings at existing signalized intersections emerged as a priority project with community support based on improved predictability of pedestrian movements along the corridor. The quantified benefits for these signalization projects are provided in terms of safety benefit and delay benefit (with the exception of Marx Way, for which existing traffic counts were not available).

The images below depict the potential intersection alignment for proposed Parkview Avenue and California Street traffic signals.

Table 52 *Bicycle Facility Benefits*

	Cost	Mobility Benefit	Safety Benefit	Air Quality Benefit	Total Benefit	Benefit/Cost
Segment 1	\$8,450,000	\$6,925,464	\$9,529,600	\$10,365	\$16,465,429	1.95
Segment 2	\$7,800,000	\$19,222,729	\$352,000	\$33,589	\$19,608,318	2.52
Segment 3	\$19,500,000	\$19,742,722	\$-	\$33,519	\$19,776,241	1.02
Segment 4	\$8,200,000	\$15,222,297	\$9,529,600	\$25,597	\$24,777,494	3.03
Segment 5	\$12,350,000	\$8,781,545	\$19,059,200	\$12,343	\$27,853,088	2.26
Segment 6	\$7,670,000	\$4,791,693	\$19,059,200	\$7,934	\$23,858,827	3.12
Segment 7	\$7,600,000	\$2,981,366	\$10,499,200	\$5,421	\$13,485,987	1.78
Segment 8	\$14,700,000	\$1,529,021	\$38,736,000	\$2,249	\$40,267,270	2.74
Segment 9	\$14,100,000	\$5,829,842	\$28,588,800	\$8,388	\$34,427,030	2.45
Segment 10	\$11,700,000	\$7,488,920	\$-	\$10,626	\$7,499,546	0.65
All Segments	112,070,000	\$92,515,597	\$135,353,600	\$150,031	\$228,019,228	2.04

Pedestrian crossing safety benefits were calculated for each segment that included pedestrian crossing collisions where crossings were not present, namely Segments 2, 4, 5 and 10. However, with the proposal of new pedestrian and bicycle facilities along SR 273, improving crossing locations throughout the entirety of the corridor could provide future safety benefit, with the exception of Segment 3 where crossings are largely present or anticipated as part of the Downtown Redding CAPM. Included in the safety benefit are new crosswalks, pedestrian countdown signal heads, and LPIs. While specific crossing improvement locations are not identified, an assessment of existing signalized intersections, as well as proposed signals should be conducted to identify specific improvement locations that best benefit existing and future multimodal users along the corridor. The image below shows recent pedestrian safety improvements at Girvan Road that could be employed throughout the corridor.



SR 273 and Girvan Road intersection in 2020 (left) and in 2024 (right). Image source: Google earth 2020 and 2024.

The HSIP does not include pedestrian refuge islands at signalized intersection therefore no monetary benefit can be calculated for these improvements. However, the FHWA includes median islands as a proven countermeasure. At existing or new crossing locations, pedestrian median refuge may provide added benefit at locations with long crossing distances.

As shown Table 53, each of the signalization projects is anticipated to generate a positive return on investment. The pedestrian crossing projects are anticipated to increase that benefit when the societal benefits and costs of these projects are added to those of the traffic signals.

Table 53 **Signalization Benefits**

Improvement	Cost	Safety Benefit	Delay Benefit	Total Benefit	Benefit/ Cost
Whitehouse Dr	\$2,600,000	\$12,669,601	\$(330,000.00)	\$12,339,601	4.75
Latona Rd	\$2,600,000	\$9,126,001	\$(410,000.00)	\$8,716,001	3.35
Marx Wy	\$2,600,000	\$5,294,401	\$-	\$5,294,401	2.04
Pedestrian Crossings	\$104,000	\$9,750,000	\$-	\$9,750,000	93.75
Signalization Projects	\$7,800,000	\$27,090,003	\$(740,000)	\$26,350,003	3.38
Signalization and Crossings	\$7,904,000	\$36,840,003	\$(740,000)	\$36,100,003	4.57

Note: Delay benefits were not quantified for Marx Way as there were no available traffic counts.

Directional Median Openings - Reduced Left-Turn Conflict Intersections

In more rural parts of the corridor where there is an abundance of yield-controlled intersections, directional median openings that control and/or channelize certain turn movements, or reduced left-turn conflict intersections can be used where signals or roundabouts are not warranted but safety improvements for vehicles turning or crossing from minor streets are still necessary. Types of reduced left-turn conflict intersections include restricted crossing U-turn (RCUT) and median U-turn (MUT). RCUTs require drivers seeking to make a left-turn or cross the major street to instead make a right turn followed by a U-turn at a designated location. MUTs also require drivers seeking to make a left turn to make a U-turn at a designated location but allow for traffic at the main intersection. Reduced left-turn conflict intersections are appropriate on Segments 8 and 10, especially in junction with new and improved intersection controls at nearby locations. Further analysis is needed to identify the appropriate countermeasures for each location and the subsequent cost.

Table 54 Reduced Left-Turn Conflict Intersection Benefits

Location	Cost	Safety Benefit	Benefit/Cost
Segment 8	\$390,000	\$22,638,000	58.05
Segment 10	\$260,000	\$ 8,860,000	34.08
All Segments	\$650,000	\$31,498,000	48.46
Note: Cost assumes directional median openings without RCUT or MUT implementation			

Lighting

As mentioned in the Short-Term project section, the benefits of safety lighting along the corridor are high due to the number and severity of nighttime collisions along the corridor. Building off of the Brighter 273 Safety Lighting Project, another Medium-Term priority project is to continue the lighting of SR 273 to cover the balance of the corridor segments and their intersections, for both vehicles and pedestrians. The community was supportive of this endeavor. Lighting projects include both pedestrian-scale lighting and roadway lighting projects. Segment lighting cost is based on a similar project design to Brighter 273.

As Table 55, the segment lighting project between Caterpillar Road and Quartz Hill Road is not anticipated to generate a positive return on investment independently. However, when combined with intersection lighting projects outside of the Brighter 273 project, the benefit/cost is positive.

Table 55 Lighting Benefits

	Cost	Safety Benefit	Total Benefit	Benefit/Cost
Caterpillar Rd to Quartz Hill Rd	\$ 12,800,000	\$ 4,424,000	\$ 4,424,000	0.35
Intersections	\$ 8,700,000	\$ 23,409,600	\$ 23,409,600	2.69
Lighting Projects	\$ 21,500,000	\$ 27,833,600	\$ 27,833,600	1.29

Transit

The recommended transit system improvements and potential increases in transit ridership are associated with an annualized reduction in VMT. However, the primary elasticity associated with increased transit ridership (and the corresponding reduction in VMT) is based on service frequency, coverage, and reliability improvements, not stop improvements. Therefore, quantified benefits for transit stop improvements are not calculated. Still, transit stop improvements in junction with service changes make transit a more attractive option for riders. Caltrans and SRTA should collaborate with RABA to identify locations for new transit stops in addition to improving existing stops.

Table 56 Medium-Term Prioritized Projects

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
195	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Buenaventura Blvd to S. Bonnyview Rd)	Class I	Mobility & Connectivity; Safety	3	0	3	2	2	2	3	18
200	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Class I	Mobility & Connectivity; Safety	3	0	2	2	3	2	2	17
196	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (S. Bonnyview Rd to Girvan Rd)	Class I	Mobility & Connectivity; Safety	3	0	2	1	3	2	2	16
199	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Latona Rd to Briggs St)	Class I	Mobility & Connectivity; Safety	3	0	2	1	2	2	2	15
203	Complete Streets	Pedestrian Crossings: SR 273	SR 273 (Multiple Locations)	Install pedestrian crossings at signalized intersections. Multiple locations along SR 273 (Buenaventura Blvd to S. Bonnyview Rd).	Mobility & Connectivity; Safety	3	1	3	0	1	2	2	15
197	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Girvan Rd to Happy Valley Rd)	Class I	Mobility & Connectivity; Safety	3	0	1	1	2	2	2	14
198	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Class I	Mobility & Connectivity; Safety	3	0	1	1	2	2	2	14
194	Complete Streets	Class IV Bikeway: SR 273	SR 273 (at Downtown Redding)	Class IV on NB and SB SR 273 couplets. Along SB SR 273, for consistency with existing planned projects, consider bi-directional Class IV.	Mobility & Connectivity; Safety	1	0	3	3	3	2	0	13
192	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Caterpillar Rd to Northpoint Dr)	Class I	Mobility & Connectivity; Safety	3	0	1	1	3	2	0	13
222	Highway	Traffic Signal: SR 273	SR 273 (Multiple Locations)	Install signals. Multiple locations along SR 273 (Whitehouse Drive, Latona Road, Marx Way)	Operations & Reliability; Safety	3	2	2	0	1	2	0	13
206	Complete Streets	Lighting: SR 273	SR 273 (Caterpillar Rd to Quartz Hill Rd)	Add roadway lighting	Safety	3	1	1	0	0	2	3	13
207	Complete Streets	Lighting: SR 273	SR 273 (Buenaventura Blvd to South St)	Add roadway lighting	Safety	3	1	1	0	0	2	3	13

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
208	Complete Streets	Lighting: SR 273	SR 273 (Multiple Locations)	Add lighting (at signalized and non-signalized intersections). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Safety	3	1	1	0	0	2	3	13
226	Transit	Transit Stops: SR 273	SR 273 (Multiple Locations)	Install transit-supporting infrastructure (e.g., shelters/benches at bus stops and sidewalks to bus stops). Multiple locations along SR 273 (Caterpillar Rd to Pleasant Hills Dr).	Mobility & Connectivity	1	1	3	1	2	2	0	11
220	Highway	Directional Median Openings: SR 273	SR 273 (Briggs St to Pleasant Hills Dr)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Briggs St to Pleasant Hills Dr).	Operations & Reliability; Safety	3	1	0	0	2	2	0	11
193	Complete Streets	Multiuse Path (Class I): SR 273	SR 273 (Lake Blvd to Benton Dr)	Class I	Mobility & Connectivity; Safety	2	0	1	1	2	2	0	10
219	Highway	Directional Median Openings: SR 273	SR 273 (Happy Valley Rd to Latona Rd)	Create directional median openings to allow (and restrict) left-turns and u-turns (non-signalized intersections). Multiple locations along SR 273 (Happy Valley Rd to Latona Rd).	Operations & Reliability; Safety	3	1	0	0	1	2	0	10

Notes: S = Safety; OR = Operations & Reliability; MC = Mobility & Connectivity; SR = Sustainability & Resiliency; E = Equity; F = Feasibility; CS = Community Support.

Long-Term Projects (2040 and Beyond)

The prioritized projects in Table 60 are described in this section. These projects are found to meet the prioritization metrics of this study and generated substantial community support. However, despite general agreement on a need to improve these gateway corridors and intersections, these projects nonetheless contain elements that were polarizing among some stakeholders and community members. In particular, despite their proven effectiveness at increasing safety, the potential to reduce travel lanes and/or install roundabouts as intersection control were topics that generated concern due to their potential to either introduce unfamiliar infrastructure or the perception they may possibly impact emergency evacuations negatively. For this reason, additional study will be needed to implement these projects, as described in the Short-Term projects section.

Gateway Corridor: Benton Drive to Quartz Hill Road

This project is not yet fully defined, as it requires additional study, as described previously in this report. However, many of the systemic improvements described in this report are applicable to this gateway corridor and would provide benefit. Table 57 presents the monetized benefits for various elements that are anticipated as part of this project. Notably, it remains to be determined whether roundabouts at Quartz Hill Road, Benton Drive, and Arboretum Drive will emerge as the preferred intersection controls. As such, the return on investment analysis presents both a roundabout option and a modified traffic signal. In both cases, a road diet, which will reduce the roadways from three to two lanes and provide space for parking, bicycle lanes, and sidewalks, is considered as part of the improvement package.

As shown in the results, both project alternatives are anticipated to generate a positive return-on-investment. As shown in our preliminary feasibility studies, both alternatives are also largely considered feasible from a traffic operations perspective and constructability perspective. However, notable concerns from stakeholders and members of the community were road diet and roundabout impacts on emergency evacuation scenarios, and right-of-way impacts, especially at Benton Drive (where the highest safety benefit would be achieved).

Table 57 Gateway Corridor: Benton Drive to Quartz Hill Road

Project Element	Cost	Mobility Benefit	Safety Benefit	Delay Benefit	Total Benefit	Benefit /Cost
Class I / Class IV (one side, 2,900')	\$ 3,800,000	\$ 19,222,729	\$ 229,600		\$ 19,452,329	5.12
Roadway Reconfiguration (curb, gutter, sidewalk, drainage, utilities)	\$ 4,524,000	\$ -	\$ 5,810,000		\$ 5,810,000	1.28
Roundabout Alternative (1 Single Lane, 1 Hybrid)	\$ 26,000,000	\$ -	\$ 3,117,859	\$ 9,810,000	\$ 12,927,859	0.50
Improved Signal Alternative (New Signal Installations)	\$ 5,200,000	\$ -	\$ 2,992,800		\$ 2,992,800	0.58
Variable Speed Warning (2x)	\$ 104,000	\$ -	\$ 2,490,000		\$ 2,490,000	23.94

Project Element	Cost	Mobility Benefit	Safety Benefit	Delay Benefit	Total Benefit	Benefit /Cost
Upgrade Pedestrian Crossings	\$ 104,000	\$ -	\$ 303,000		\$ 303,000	2.91
Add Lighting (2,900')	\$ 1,885,000	\$ -	\$ 596,000		\$ 596,000	0.32
Install Flashing Beacons as Advance Warning (2x)	\$ 104,000	\$ -	\$ 2,326,200		\$ 2,326,200	22.37
Total w/ Roundabouts	\$ 36,521,000	\$ 19,222,729	\$ 14,872,659	\$ 9,810,000	\$ 43,905,388	1.20
Total w/ Improved Signals	\$ 15,721,000	\$ 19,222,729	\$ 14,747,600	\$ -	\$ 33,970,329	2.16

Gateway Corridor: Cypress Avenue to Buenaventura Boulevard

This project is not yet fully defined, as it requires additional study, as described previously in this report. However, many of the systemic improvements described in this report are applicable to this gateway corridor and would provide benefit. Table 58 presents the monetized benefits for various elements that are anticipated as part of this project. Notably, there remains a question of whether a roundabout at Cypress Avenue and Pine Street will emerge as the preferred intersection control. As such, the return on investment analysis presents both a roundabout option and a modified, compact traffic signal option at Cypress Avenue that would reduce pedestrian crossing distance and minimize turn lanes. In both cases, the Plan suggests that the access to Angelo Avenue from SR 273 may be closed to vehicular traffic as SR 273 will instead be accessible via a newsignalized intersection at Parkview Avenue, though further coordination and study with the City of Redding is needed.

As shown in the results, both project alternatives are anticipated to generate a positive return-on-investment. As shown in our preliminary feasibility studies, both alternatives are also largely considered feasible from a traffic operations perspective and constructability perspective. Also within this corridor is the potential for a new pedestrian crossing opposite Parkview Avenue. However, the feasibility for this project will require additional study, including topographic survey, and while the quantifiable return on investment may be low, it would satisfy ongoing neighborhood and community desire for better connectivity to South City Park.

Table 58 Gateway Corridor: Cypress Avenue to Buenaventura Boulevard Benefits

Project Element	Cost	Mobility Benefit	Safety Benefit	Delay Benefit	Total Benefit	Benefit/ Cost
Class I / Class IV (one side, 1,800')	\$2,340,000	\$15,222,297	\$9,529,600		\$24,751,897	10.58
Roadway Reconfiguration (curb, gutter, sidewalk, drainage, utilities)	\$2,808,000		\$5,247,200		\$5,247,200	
Roundabout Alternative (1	\$20,800,000	\$-	\$2,712,374	\$4,330,000	\$7,042,374	0.34

Project Element	Cost	Mobility Benefit	Safety Benefit	Delay Benefit	Total Benefit	Benefit/Cost
Hybrid at Cypress, New Signals at Parkview & Angelo)						
Improved Signal Alternative (New Signals at Cypress, Parkview, & Angelo)	\$7,800,000	\$-	\$3,079,202	\$1,090,000	\$4,169,202	0.53
Variable Speed Warning (x2)	\$104,000	\$-	\$2,248,800		\$2,248,800	21.62
Upgrade Pedestrian Crossings (Crosswalks)	\$56,000	\$-	\$303,000		\$303,000	5.41
Add Lighting (1,800')	\$1,170,000	\$-	\$5,398,800		\$5,398,800	4.61
Install Flashing Beacons as Advance Warning (x2)	\$104,000	\$-	-		\$-	0.00
Total w/ Roundabouts	\$27,382,000	\$15,222,297	\$25,439,774	\$4,330,000	\$44,992,071	1.64
Total w/ Improved Signals	\$14,382,000	\$15,222,297	\$25,806,602	\$1,090,000	\$42,118,899	2.93

Convert Intersections to Roundabouts

Although community and stakeholder support for corridor-wide roundabout considerations requires further outreach prior to implementation, the safety, reliability, and delay benefit of roundabouts could be significant along SR 273. Challenges to implementing roundabouts along the corridor exist, however, including the presence of at-grade railroad crossings that complicate safe design by requiring careful consideration of crossing arms at intersection approaches. The benefits shown in Table 59 show that some intersections would benefit more than others from roundabout implementation. Besides the question of railroad grade crossings, additional study as to the feasibility of a multi-lane or hybrid roundabout at Buenaventura Boulevard is also required from a right-of-way perspective. As shown in the Medium-Term projects, the benefits of signalization at Whitehouse Drive and Latona Drive may make these a preferred intersection option, railroad crossings considered, and the results of an Intersection Safety and Operational Assessment Process (ISOAP) would guide investment at these locations. Additional intersections beyond those shown in the table below would also function well as roundabouts, as shown in Chapter 7, and may provide mobility and connectivity benefits and traffic calming benefits that improve corridor safety, especially in a road diet configuration.

Table 59 *Convert Intersections to Roundabouts Benefits*

Location	Cost	Safety Benefit	Delay Benefit	Total Benefit	Benefit/Cost
Grange St	\$10,400,000	\$2,337,129	\$680,000	\$3,017,129	0.29
Buenaventura Blvd	\$15,600,000	\$-	\$1,580,000	\$1,580,000	0.10
Kenyon Dr	\$10,400,000	\$4,335,502	\$(640,000)	\$3,695,502	0.36
Branstetter Ln	\$10,400,000	\$-	\$(620,000)	\$-	0.00
Whitehouse Dr	\$10,400,000	\$9,930,982	\$(330,000)	\$9,600,982	0.92
Happy Valley	\$10,400,000	\$6,867,936	\$720,000	\$7,587,936	0.73
Latona Rd	\$10,400,000	\$13,811,144	\$(410,000)	\$13,401,144	1.29
Ox Yoke Rd	\$10,400,000	\$5,012,706	\$2,330,000	\$7,342,706	0.71
North St	\$10,400,000	\$6,900,882	\$2,760,000	\$9,660,882	0.93
South St	\$10,400,000	\$2,732,492	\$3,220,000	\$5,952,492	0.57
All Locations	\$109,200,000	\$51,928,773	\$9,290,000	\$61,838,773	0.57

Downtown Redding Conversion to Two-Way Traffic

This project is not yet fully defined, as it requires additional study. As previously described in this report, our feasibility study identified a partial conversion of one-way streets to two-way streets, converting only those streets south of Tehama Street, to be more feasible than a full conversion of all streets. This determination was based on vehicular level-of-service and consideration of truck routes and connectivity between SR 44, SR 299, and SR 273 at their downtown junctions. As shown previously in the report, automobile delay is anticipated to be similar to current conditions in this partial conversion scenario. As such, there are no quantifiable delay benefits. The Local Roadway Safety Manual (LRS) also does not provide a quantifiable safety benefit for the conversion of one-way streets to two-way streets. However, if the total number of through lanes is reduced in a conversion scenario, it could be appropriate to apply the road diet safety benefit for this project, which could be significant as shown in Chapter 7.

Rail Corridor Enhancements and Grade Crossing Modifications

This project is not yet fully defined, as it requires additional study. As mentioned in the Short-Term projects section, the crossing modification and closure study should explore a full range of grade crossing options/projects for the corridor and beyond, including new grade separated overpass crossings and the use of roads leading to existing grade separated crossings, other grade crossings, and access from other directions. If implemented, a project to consolidate and standardize grade crossings or increase the number of grade-separated crossings would provide substantial travel time, reliability, safety, and emergency response benefits that cannot be quantified until a plan is in place.

Table 60 Long-Term Priority Projects

Project #	Type of Project	Name	Location	Scope	Purpose and Need	S	OR	MC	SR	E	F	CS	Total Points
189	Complete Streets	Gateway Corridor (Design and Construction): SR 273	SR 273 (Cypress Ave to Buenaventura Blvd)	Following planning (#188), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety	3	1	3	2	3	1	3	19
225	Highway	Roundabouts (Planning and Design): SR 273	SR 273 (Multiple Locations)	Install roundabouts at multiple locations along SR 273 (Buenaventura Blvd to Pleasant Hills Dr)	Operations & Reliability; Safety	3	3	2	2	1	1	0	15
185	Highway	Conversion to Two-Way Traffic (Design and Construction): SR 273	SR 273 (at Downtown Redding)	Following planning (#184), design and construction.	Operations & Reliability; Mobility & Connectivity	2	2	1	2	2	1	1	13
191	Freight	Freight Rail (Design and Construction)	UPRR Corridor (from City of Redding to City of Anderson)	Following planning (#190) and UPRR coordination/approval, design and construction.	Operations & Reliability; Safety	2	2	2	1	2	1	0	12
187	Complete Streets	Gateway Corridor (Design and Construction): SR 273	SR 273 (Benton Dr to Quartz Hill Rd)	Following planning (#186), design and construction.	Operations & Reliability; Mobility & Connectivity; Safety	2	2	3	2	0	1	0	12

Notes: S = Safety; OR = Operations & Reliability; MC = Mobility & Connectivity; SR = Sustainability & Resiliency; E = Equity; F = Feasibility; CS = Community Support.

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9 IMPLEMENTATION

Introduction

The successful realization of the SR 273 CMCP relies on strategically phased projects and collaborative funding approaches. This chapter provides a detailed implementation strategy categorized into short-term, medium-term, and long-term projects, along with a robust framework for identifying potential funding sources and fostering partnerships among key stakeholders.

Project Delivery Process

Projects on the State Highway System, including any project on SR 273, must follow specific Caltrans project delivery processes. These processes are outlined in the Caltrans Project Development Procedures Manual (PDPM). Major milestones in these processes include the Project Initiation Document (PID), Project Approval & Environmental Document (PA&ED), Plans, Specifications & Estimates (PS&E), Right-of-Way (ROW) and Permits, and Construction. Typical timelines for these processes can vary significantly depending on the complexity of a project, funding, and environmental sensitivities. A project that is relatively straightforward may achieve readiness-to-list (RTL) status in as little as 5 years, whereas a more complex project may take over 10 years.

Project Implementation Horizons

Short-Term Projects (Near Term: By 2030)

Short-term projects are currently funded and expected to achieve RTL status by 2030:

- **Caltrans Capital Preventive Maintenance (CAPM) Project:** Maintenance and minor rehabilitation to extend the life of existing pavement infrastructure. Sidewalk gap fills and Class II bikeways. Signal upgrades, including LPIs and optimized timings
- **Brighter 273 Safety Lighting Project:** Installation and upgrades of safety lighting along critical segments of SR 273 to improve roadway and pedestrian visibility and reduce nighttime accidents.
- **Note:** Caltrans has committed to delivering a series of lighting projects along the corridor that are not yet programmed, but are under development.

These projects serve as foundational improvements, enhancing immediate safety and pavement conditions. Additional projects that could be developed in the near term are:

- **Planning Studies:** Including the northern and southern Gateway Studies, the Downtown Redding two-way conversion study, and the Rail Grade Crossing Study to address safety and operational efficiency at railroad crossings.
- **Smaller-Scale Safety Projects:** Including signal timing changes to prioritize safety, variable speed feedback signs, flashing beacons, and rumble strips.

Medium-Term Projects (2030 - 2040)

Medium-term projects have been identified based on community input, feasibility studies, available planning documents, and an analysis demonstrating their high returns in terms of monetized societal benefits and equity outcomes:

- **Class I and/or Class IV bikeways:** Construction of dedicated Class I and/or Class IV bicycle and pedestrian paths to promote active transportation and connectivity along SR 273.
- **Directional Median Openings:** Construction of median openings that provide improved access and/or control left turn movements along SR 273. Projects may include RCUT or MUT treatments to displace left turns and reduce left turn conflicts.
- **Signalization & Crossing Improvements:** Construct traffic signals, as warrants indicate, to improve access and safety along SR 273
- **Lighting:** Implement additional roadway and intersection lighting, including pedestrian-scale lighting along SR 273
- **Transit:** Improve existing transit stops and consider new transit stop locations along SR 273
- **Note:** Elements of long-term projects may be implemented as part of medium-term projects, such as Class I/IV facilities.

These projects generally are deemed relatively feasible with minimal additional studies needed to determine preferred project alternatives.

Long-Term Projects (2040 and Beyond)

Long-term projects typically necessitate significant stakeholder coordination, environmental analysis, right-of-way acquisition, and substantial funding strategies. These projects scored highly in benefit analyses but were found less feasible for near-term construction due to additional planning needs:

- **Rail Grade Crossing Study:** Design and Construction of physical improvements to address safety and operational efficiency at passenger and freight railroad crossings as determined by the planning study.
- **Gateway Projects:** Design and Construction of gateway enhancements at key entry points into communities to improve aesthetics, traffic calming, and place-making following recommendations of comprehensive analysis.
- **Downtown Redding:** Design and Construction of two-way streets in Downtown Redding following recommendations of comprehensive analysis
- **Roundabout Intersections:** Beyond the Gateway Projects, Design and Construction of roundabouts at existing stop-controlled and signalized intersections following completion of comprehensive analysis, including ISOAP study.

Funding Sources

Securing diverse funding sources is critical for successful implementation. The current federal infrastructure bill (Infrastructure Investment and Jobs Act (IIJA)) expires in September 2026, but legislators and stakeholders have already begun the process of working towards a new multi-year federal transportation bill. Although there is uncertainty of what the next federal surface transportation bill may look like due to changing federal priorities and their potential downstream impacts on the State, SRTA and Caltrans have a proven track record of successfully adapting to changing federal and state priorities and securing discretionary grant funds for the Shasta Region. Staff will continue to monitor the evolving funding environment, but current key funding opportunities, as of April 2025, include:

State Funding Programs

- **Affordable Housing & Sustainable Communities (AHSC):** Provides funding for affordable housing developments (new construction or renovation) and transportation infrastructure. This may include sustainable transportation infrastructure, such as new transit vehicles, sidewalks, and bike lanes; transportation-related amenities, such as bus shelters, benches, or shade trees; and other programs that encourage residents to walk, bike, and use public transit. This would likely necessitate a partnership with another applicant.

California Transportation Commission (CTC) (SB 1)

- **Solutions for Congested Corridors Program (SCCP):** Supports multimodal projects that mitigate congestion.
- **Trade Corridor Enhancement Program (TCEP):** Focuses on improving freight mobility along key corridors.
- **Sustainable Transportation Planning Grants (STPG):** Includes the Sustainable Communities program, which funds planning projects that further the region's RTP/SCS and the Strategic Partnerships program, which funds planning projects that partner with Caltrans to address needs on the State Highway System. Either of these programs could fund the additional planning needs identified in this plan.
- **Local Partnership Program:** Provides \$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, whereby taxes or fees are dedicated solely for transportation improvements.
- **Active Transportation Program (ATP):** Funds bicycle and pedestrian infrastructure to increase safety and active mobility.

Caltrans Programs

- **State Highway Operation and Protection Program (SHOPP) Major:** Funds large-scale preservation and rehabilitation projects.
- **SHOPP Minor A & B:** Provides funding for smaller-scale highway projects to maintain safety and operational standards.
- **State Transportation Improvement Program/Interregional Transportation Improvement Program (STIP/ITIP):** Provides funding to Caltrans for state highway improvements, intercity rail, and regional highway and transit improvements.

Regional Funding Sources

- **State Transportation Improvement Program/Regional Transportation Improvement Program (STIP/RTIP):** Allocates funds through regional agencies for priority transportation projects on state highways and other transportation facilities. As planned regional I-5 improvements are nearly complete, STIP/RTIP funds may be available for SR 273 improvements in the future.
- **Regional Non-Motorized Program:** SRTA sets aside 2 percent of funds annually available under the Transportation Development Act to support regional bicycle and pedestrian projects, typically as match funds to competitive grants.
- **Local Transportation Funds (LTF) and Surface Transportation Block Grant Program/Regional Surface Transportation Program (STBGP/RSTP):** Flexible funding sources available to cities and counties that can be used to support various multimodal and roadway improvements.

Federal Funding Programs

- **IJA:** Provides substantial funds across various transportation infrastructure categories.
- **USDOT Better Utilizing Investments to Leverage Development (BUILD):** Supports multimodal, community-focused infrastructure projects.
- **FHWA Highway Safety Improvement Program (HSIP):** Targets projects designed to reduce traffic fatalities and serious injuries.
- **FHWA Congestion Mitigation and Air Quality Improvement Program (CMAQ):** Supports projects that contribute to air quality improvements and congestion reduction.
 - *Note: Shasta County is currently ineligible for CMAQ funding as it is not in a Federal air quality nonattainment or maintenance area.*
- **FHWA Carbon Reduction Program (CRP):** Provides funding for projects that support the reduction of transportation emissions, such as bicycle and pedestrian facilities and ITS improvements
- **Federal Railroad Administration (FRA) Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program:** Provides funding for capital projects that improve passenger and freight rail in terms of safety, efficiency, or reliability.
- **FRA Railroad Crossing Elimination (RCE) Program:** Provides funding for highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods.
- **Bridge Investment Program:** Provides planning and capital funding to improve bridge conditions and the safety, reliability, and efficiency of moving people and freight over bridges.

Leveraging and Strategic Funding Approaches

Projects often become more competitive through strategic leveraging of multiple funding sources. Effective strategies include:

- **Local Match Commitment:** Demonstrating local financial investment to improve competitiveness.
- **Cross-Program Bundling:** Integrating roadway, multimodal, and safety enhancements into comprehensive project packages.
- **Performance Metrics and Data:** Utilizing data-driven justification demonstrating safety, mobility, economic, and environmental benefits.

To ensure successful project implementation, a diverse and strategic funding approach should be pursued. Some preliminary recommendations are provided below:

- **Short-Term Projects:** The Caltrans CAPM and Brighter 273 Safety Lighting projects are already funded through the SHOPP, leveraging both Major and Minor A/B programs due to their immediate roadway safety and operational improvements. Recommended planning studies, including the railroad grade crossing study, could be supported by funding through a variety of State programs, including the Sustainable Transportation Planning Grant (STPG).
- **Medium-Term Projects:** Class I paths strongly align with the ATP, designed specifically to fund bicycle and pedestrian infrastructure projects. ATP is a competitive, resource-intensive endeavor; as such, pre-construction activities could be completed prior to improve project odds of receiving construction funds. Additionally, in conjunction with additional Medium- and Long-Term projects, these bikeway projects may be combined to be competitive candidates for the SCCP, considering their cumulative impact on reducing congestion and enhancing multimodal connectivity, especially

with roundabout intersections. Federal programs, such as BUILD, are also viable funding sources due to their focus on sustainability, congestion reduction, and equity.

- **Long-Term Projects:** The projects resulting from the Railroad Grade Crossing Study may be candidates for funding from a combination of TCEP, IIJA, and USDOT Railroad Crossing Elimination Grant programs, given their scale and scope. These larger, more complex projects, including the Gateway Enhancements, Downtown Redding couplet conversions, and corridor roundabouts can also leverage regional funding streams such as the RTIP and LTF to fulfill local match requirements and enhance competitiveness for state and federal grants.

To enhance competitiveness across all funding applications, projects will demonstrate strong local commitments, bundle complementary multimodal enhancements, and clearly articulate project benefits using data-driven justifications related to safety, equity, economic vitality, and environmental sustainability.

Collaboration and Stakeholder Coordination

Effective collaboration among stakeholders is crucial for securing funding and implementing projects. Key partners include:

- **Cities of Redding, Anderson, and Shasta County:** Local funding commitments, stakeholder engagement, and project prioritization.
- **Caltrans:** State funding, technical oversight, and integration with statewide priorities.
- **UPRR:** Coordination for railroad crossing improvements.
- **SRTA:** Regional coordination, funding strategy leadership, and overall project management.
- **Tribal Governments:** Coordination for tribal consultation generally, as well as potential improvements on or adjacent to tribal lands. Redding Rancheria is located adjacent to the corridor.
- **RABA:** Transit operator and maintains transit facilities.

Regular coordination meetings, formalized agreements, and ongoing stakeholder communication will facilitate smooth project implementation, minimize conflicts, and maximize resource efficiency.

Monitoring and Performance Measurement

Continuous project monitoring and performance evaluation will involve:

- **Key Performance Indicators (KPIs):** Safety, mobility improvements, equity metrics, environmental sustainability.
- **Data Collection:** Regular intervals by project leads.
- **Reporting:** Annual reports to stakeholders and public updates.

Adaptive Management

Implementation strategies will adapt to changing circumstances through:

- Regular review of project status and funding availability.
- Flexible project phasing to accommodate new funding sources or revised priorities.
- Stakeholder workshops to reassess and update project priorities as needed.

Conclusion

Implementing the SR 273 CMCP requires an ongoing commitment amongst regional partners to regularly meet and maintain open collaborative communication; establish a structured approach to pursuing projects; leveraging multiple funding opportunities; continued information sharing with federal/state funding stakeholders, elected officials, and community members; and robust stakeholder engagement. Through clearly defined implementation horizons and collaborative funding strategies, the plan will progressively realize its vision for a safer, more connected, and multimodal corridor.