

1. Introduction

Shaped by community input about challenges that San Lorenzo Valley residents currently face and their desires for the future, the **Highway 9/San Lorenzo Valley Complete Streets Corridor Plan** (Hwy9/SLV Corridor Plan) is a planning study that provides a vision, guiding principles, and realistic strategies to improve how people get around the San Lorenzo Valley. There are significant transportation concerns throughout the San Lorenzo Valley, which includes the towns/villages of Felton, Ben Lomond, Brookdale, Boulder Creek, and surrounding neighborhoods in the northwestern region of Santa Cruz County. This mountainous area has high collision rates, narrow curving roadways frequently impacted by steep terrain, significant gaps in bicycle and pedestrian facilities, a lack of walkways to many bus stops, traffic backups at a number of choke points, as well as pavement, drainage, and other assets in disrepair.

In recognition that funding for transportation projects is limited, this plan prioritizes transportation investments that improve multi-modal¹ transportation access and connectivity, safety, and security, operations, economic vitality and environmental quality through the San Lorenzo Valley. The focus of this plan is Highway 9 (SR9, State Route 9) which serves as the backbone for the movement of people and goods through the San Lorenzo Valley. It is the only direct route linking the San Lorenzo Valley communities and is the “main street” for each of the four historic town centers. This plan also identifies investments on county roads that cross or run parallel to Highway 9 in the town centers to increase multimodal connections to transportation facilities and other destinations on Highway 9.

This plan also serves as “toolkit” for Caltrans, Santa Cruz County Public Works, Santa Cruz County Planning, the Santa Cruz County Regional Transportation Commission (RTC), and San Lorenzo Valley (SLV) residents and businesses to use to improve this transportation corridor. This is a “Complete Streets” plan, which means, “a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility.”² A well-designed complete street does not just work better; it *feels* better, particularly for bicyclists and pedestrians, and it *looks* better, with enhanced aesthetics and amenities that complement the setting and adjacent uses.

1.1. Plan Area

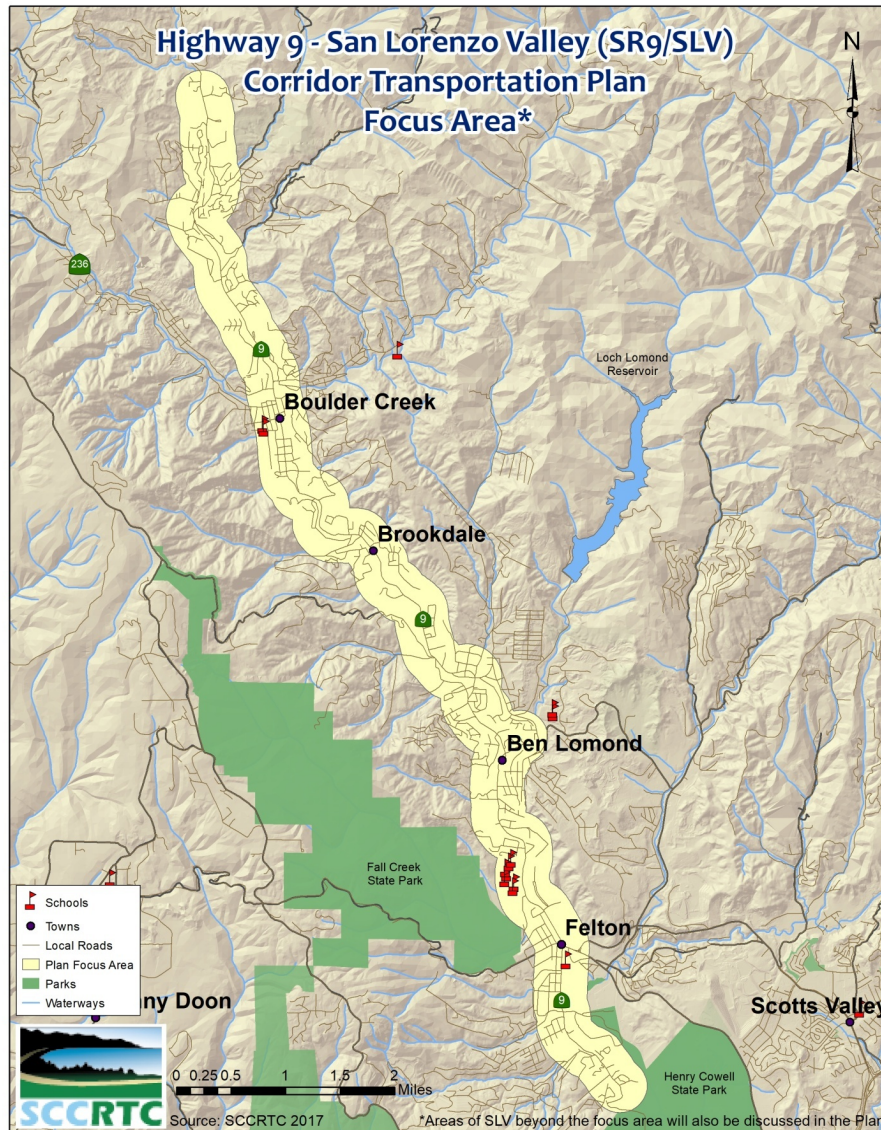
The area of this plan is centered on the Highway 9 travel corridor, including connecting county-maintained streets, roads, and paths through the San Lorenzo Valley, from Henry Cowell State Park in Felton, near Glengarry Road, to the northern intersection of Highway 236 with Highway 9 north of Boulder Creek – a distance of approximately 16 miles (see **Figure 1.1**). The focus of the study is on more “urbanized” areas in and between Felton and Boulder Creek town centers. This section of Highway 9 serves as the primary public space for over 17,000 residents and is the economic center of the San Lorenzo Valley (SLV).

¹ Multimodal definition: more than one transportation mode - auto, bike, pedestrian, transit, truck, etc.

² Caltrans Complete Streets Program website: <http://www.dot.ca.gov/transplanning/ocp/complete-streets.html>

While the focus of this study is on the Highway 9 corridor between Felton and Boulder Creek, the study also recognizes that many people in the San Lorenzo Valley travel south to the City of Santa Cruz, west and east to Bonny Doon and Scotts Valley, and north to Santa Clara County and the greater San Francisco Bay Area. However, community members determined that the

Figure 1.1: Complete Streets Corridor Plan Project Area



area from Felton to Boulder Creek needed a focused study and routes to other areas could not be addressed within the limited budget for the current study.

Bicycle connections from Felton to Santa Cruz were evaluated in the County of Santa Cruz's 2006 *San Lorenzo Valley Trail Study*. Caltrans also has Transportation Concept Reports for all of Highway 9, which provide a high-level overview of this state highway between Saratoga and Santa Cruz. Appendix E provides additional information on these and other relevant studies and plans. Cross section concepts identified for more rural sections of Highway 9 through the study area could also be applied to other areas of Highways 9 and 236, which have lower traffic volumes.

1.2. Plan Contents

This plan for the Highway 9/San Lorenzo Valley corridor:

- Establishes goals, objectives, and criteria for prioritizing transportation projects in the San Lorenzo Valley (SLV) (Chapter 1 *Introduction*)
- Documents existing conditions
- Provides design guidelines and preferred typical cross sections for Highway 9 and neighboring county roads, which can be used as a framework for future updates to infrastructure and facilitate incorporation of multimodal improvements into other project

types (i.e. drainage improvements, bridges, repaving, etc.) (Chapter 2 *Corridor Vision* and Appendix A *Complete Streets Improvements Toolkit*)

- Includes a “toolkit” illustrating the range of potential transportation facilities, projects, and programs, and clarifies what can be done within Caltrans’ right-of-way (Chapter 2 Appendix B *Identified Projects List*)
- Identifies priority projects which address key challenge areas, infrastructure gaps, and potential improvements (Chapter 3 *Priority Projects by Location* and Appendix B)
- Evaluates prioritized transportation projects and concepts and includes short- and long-term implementation recommendations (Chapter 4 *Project Evaluation and Implementation*)
- Identifies potential funding sources, including opportunities to use local Measure D revenues to leverage other local, state, and federal funds. Measure D, which was approved by voters in November 2016, includes \$10 million specifically earmarked for high-priority transportation projects along the Highway 9 corridor (Chapter 4 and Appendix C *Funding Opportunities*)
- Reflects public input. Surveys, meetings, letters, and many years of prior public input and previous studies and plans provide the foundation for this plan (Appendix D *Corridor Plan Public Input* and Appendix E *Background Documents and Prior Community Input*).



1.3. Plan Development

This plan, funded by a Caltrans Sustainable Communities Planning Grant and Santa Cruz County voter-approved Measure D transportation sales tax revenues, builds on prior studies, plans, and public input regarding transportation facilities in the San Lorenzo Valley (SLV). The Santa Cruz County Regional Transportation Commission (RTC) staff worked with a team of transportation consultants from Kimley-Horn and TrailPeople to develop the plan. Extensive public participation identifying transportation challenges, acceptable transportation facilities, and priority projects ensured that this is a “community-based plan.”

The project oversight team, consisting of staff from Caltrans District 5, the Santa Cruz County Regional Transportation Commission (RTC), Santa Cruz County Public Works Department, Santa Cruz County Planning, Santa Cruz Metropolitan Transit District (METRO), and Santa Cruz County District 5 Supervisor Bruce McPherson’s office, met at key intervals to provide input and oversight on the plan.

1.4. Goals and Objectives

Purpose

One of the primary purposes of the Highway 9/San Lorenzo Valley Complete Streets Corridor Plan is to create an actionable short-term and longer-term multimodal complete streets corridor plan that addresses transportation challenges along the Highway 9 corridor through the San Lorenzo Valley (generally Felton to Boulder Creek) and within the town centers. The plan provides a vision for the corridor and serves as a guide for future infrastructure projects through the entire corridor. Based on community input and consistent with other pertinent plans and policies, the plan clarifies and prioritizes projects and concepts based on several objectives, while considering cost and feasibility, so transportation priorities reflect the most “bang for the buck.” Other goals for this plan that were reflected in evaluation criteria are outlined below.

Goals

This plan integrates several goals from the County of Santa Cruz General Plan (GP) and Sustainable Santa Cruz County Plan (SSCC), as well as regional, state (CA), and federal (US) goals.

- **Transportation System:** Provide a convenient, safe, and economical transportation system for the movement of people and goods, promoting the wise use of resources, particularly energy and clean air, and the health and comfort of residents.^{GP}
- **Safety:** Increase the safety of the transportation system for motorized and non-motorized users. Reduce the number and severity of collisions.^{All}
- **Improve Multimodal Mobility and Accessibility for All People:** Increase accessibility and mobility of people and freight.^{US,CA} Provide for the special transportation needs of the elderly and disabled.^{GP} Provide the public with choice in transportation modes on a well-integrated system. Increase walking, bicycling, transit ridership, carpooling, etc.^{GP} Enhance the integration and connectivity of the transportation system, across and between modes.^{US}
- **Strengthen Existing Town Centers:** Vibrant centers are an essential component of a sustainable Santa Cruz County. Provide clear, safe points of access for pedestrians and bicyclists, and manage parking supply and circulation through town centers.^{SSCC, GP}
- **Economy:** Support a vibrant economy and economic vitality.^{US,CA}
- **Preserve the Existing Transportation System:** Maintain, manage, and efficiently utilize the existing transportation system.^{US, CA} Promote efficient system management and operation.^{US} Provide for more efficient use of existing transportation facilities.^{GP}
- **Sustainability:** Promote reliable and efficient mobility for people, goods, and services, while meeting the State's GHG emission reduction goals, preserving the State's natural and working lands, and preserving the unique character and livability of California's communities.^{CA} Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.^{US}
- **Foster Livable and Healthy Communities and Promote Social Equity:** Find transportation solutions that balance and integrate community values with transportation safety and performance, and encourage public involvement in transportation decisions.^{CA}
- **Health:** Decrease exposure to local pollution sources, reduce serious injuries and fatalities on the transportation system, and promote physical activity especially through transportation means.^{CA}
- **Finance:** Plan a system within the County's [and State's] ability to finance and operate.^{GP}

Objectives and Evaluation Criteria

Several overarching objectives and performance criteria were identified to support these goals by evaluating transportation concepts and site-specific projects (as described in Chapter 4

Project Evaluation and Implementation Plan). These objectives and criteria were developed based on public input received during Phase 1 and criteria used in regional, state, and federal grant programs and plans. These criteria are not intended to result in a formal, weighted scoring to determine which projects will be funded from specific grants or revenues; the evaluation is used to compare and contrast a range of investment options in the Highway 9 transportation corridor and identify priorities for implementation.

Based on feedback at public meetings, the following 11 criteria were chosen to use as the basis for evaluating projects and concepts.

- Safety
- Pedestrian Access and Connectivity
- Bike Access and Connectivity
- Transit Connectivity
- Sustainability/Reduce Emissions and Vehicle Miles Traveled (VMT)
- Improve Traffic Flow for Vehicles
- System Preservation
- Anticipated Use
- Economic Vitality
- Town Character Compatibility
- Public Support
- Ease of Implementation

Safety

Evaluation for this objective reviews projects on their ability to potentially reduce collisions; eliminate perceived safety issues; eliminate hazards – e.g. trees in roadways, dips in roads; improve drainage; reduce speeding; improve access to/for emergency services.

Evaluation Criteria:

- Address areas with documented collisions, especially those involving fatalities or injuries (*highest rank*)
- Address areas with collisions involving bicyclists or pedestrians
- Address areas with perceived safety issues or those that do not have safety data because users are avoiding that area (e.g. no pedestrian collisions because people avoid walking there, drive instead)
- Address potential traffic conflict locations and congested locations that add to safety concerns
 - Reduce speeding
 - Improve access to/for emergency services
 - Reduce property damage
 - Improve light of sight/visibility/reaction time available
 - More clearly delineate spaces for pedestrians, bicycles, and autos
 - Project/treatment should be a safety countermeasure that has been shown to eliminate or reduce crashes

Types of projects that would satisfy safety objectives include: slow speeds/reduce speeding, traffic calming, guardrails, new bicycle and pedestrian infrastructure, enforcement of speed limits, safety education programs, intersection safety improvements, more visible pedestrian crossings, drainage improvements, increase site distances, maintain roadways.

Applicability to Grant Funding: High. Safety is one of the highest priorities; it is a measure used in almost all grant and planning programs.

Pedestrian Access/Connectivity

Evaluation for this objective reviews projects on the ability to increase pedestrian access and safety along the corridor and address physical conditions that place pedestrians in close proximity to traffic, especially areas with higher speeds and volumes.

Evaluation Criteria

- Increase number of walking trips
 - Increase percent of population that can walk within 30-min to key destinations
 - Increase percent of trips taken by walking
- Fill gaps in facilities, especially to and within key destinations
 - Make it easier to walk within town centers
 - Better pedestrian connections near schools, which would be heavily used by students
 - Better pedestrian connections between key destinations, including town centers, schools, parks
 - Make it easier to walk across Highway 9 at intersections and key destinations
- Improve health/increase physical activity, especially for youth
- Increase quality of walking facilities
- Length of project/connected facility
- Reduce pedestrian travel distances and wait times at intersections

Types of projects that would satisfy pedestrian access and connectivity objectives include: adding new sidewalks, crosswalks, minimize obstacles; increase shared bike/ped pathways, and high visibility crosswalks.

Applicability to Grant Funding: Medium/Low. Used in some grant and planning programs.

Bicycle Access/Connectivity

Evaluation for this objective reviews projects on the ability to increase bicyclist access and safety along the corridor and address physical conditions that place bicyclists in close proximity to traffic, especially areas with higher speeds and volumes.

Evaluation Criteria

- Increase number of biking trips
 - Increase percent of population that can bike within 30-min to key destinations
 - Increase percent of trips taken by bicycle
- Fill gaps in facilities, especially to and within key destinations
 - Make it easier to bike within town centers
 - Better bicycling connections between key destinations, including town centers, schools, parks
 - Better connections between key destinations, including town centers, schools, parks
- Improve health/increase physical activity, especially for youth
- Increase quality of bicycle facilities
- Length of project/connected facility
- Provide safe route to school facility
- Reduce bicycle travel distances and wait times at intersections

Types of projects that would satisfy bicyclist access and connectivity objectives include those that: minimize obstacles, increase shared bike/ped pathways, widen shoulders for bicycles, and add bicycle box at intersections.

Applicability to Grant Funding: Medium/Low. Used in some grant and planning programs.

Sustainability/Reduce Emissions and Vehicle Miles Traveled (VMT)

Evaluation for this objective reviews projects on the ability to reduce emissions by either reducing congestion or reducing vehicle miles traveled.

Evaluation Criteria

- Reduce emissions, air pollution, and greenhouse gas
- Reduce number and distance of automobile trips
- Shift automobile travel to alternative modes, increase proportion of trips accomplished by biking, walking, transit or carpool, decrease SOV mode share
- Reduce idling, improve average speeds

Applicability to Grant Funding: High. Used in many grant and planning programs.

Improve Traffic Flow for Vehicles

Evaluation for this objective reviews projects on the ability to improve traffic flow along the corridor for vehicles.

Evaluation Criteria

- Maintain Traffic Flow
- Reduce congestion at intersections
- Reduce travel times through intersections

Applicability to Grant Funding: Medium/Low. Used in some grant and planning programs.

System Preservation

Evaluation for this objective reviews projects on the ability to improve the condition of transportation infrastructure, including roadway pavement, sidewalks, bicycle, transit, and other transportation facilities. Projects with high scores in System Preservation likely extend useful life of a transportation facility or program and help maintain a state of good repair.

Evaluation Criteria:

- Improve pavement condition
- Reduce percent of transportation facilities in distressed condition
- Improve storm water drainage
- Reduce roadway closures
- Extend useful life of facilities
- Climate adaptation/climate preparedness

Applicability to Grant Funding: High. Used in many grant and planning programs.

Anticipated Use

Evaluation for this objective reviews projects on the ability to serve many roadway users. Projects with high anticipated use scores include popular destinations, such as schools, parks, town centers, and denser residential neighborhoods. These destinations demonstrate locations with high demand for bike, pedestrian or transit access; connections between significant community facilities; and major connection roads.

Evaluation Criteria:

- School Connection
- Park Connection
- Town Center Connection
- Residential Neighborhood Connection
- Bike Facility Connection
- Pedestrian Facility Connection
- Transit Stop Connection
- Major Road Connection

Applicability to Grant Funding: High. Projects that demonstrate a high demand and/or are expected to be used by the greatest number of users typically rank higher.

Transit Connectivity

Evaluation for this objective reviews projects on the ability of a project to demonstrate increase transit options, improve transit facilities, access/pathways to transit stops

Evaluation Criteria:

- Likelihood to increase transit use
- Increase transit access for people with limited mobility (e.g. seniors, people with disabilities, youth)
- Increase destinations served by transit and/or number of trips that can be taken by transit
- Improve access to transit stops, including pathways to bus stops
- Increase attractiveness of transit – bus stop areas locations and amenities
- Improve travel times and travel time reliability
- Provide improved access to transit stops or services
- Increase percent of households and jobs within 0.5 miles of transit stops with frequent transit service
- Increase farebox recovery ratio

Types of projects that would satisfy transit connectivity objectives include: transit service, paratransit service, community transit, upgrade bus stops with shelters, benches, and egress to stops.

Applicability to Grant Funding: Medium/Low. Used in some grant and planning programs.

Economic Vitality

Evaluation for this objective reviews projects on the ability of a project to provide economic benefits.

Evaluation Criteria:

- Greater flexibility in use of sidewalks/right-of-way near businesses
- Better organized commercial parking/frontages and access/driveways
- Facilitate economic growth in area
 - Increase access to jobs, job growth/job creation
- Reduce vehicle operating costs, household transportation costs, and/or amount of personal income spent on gasoline
- Increase freight and goods movement efficiency (throughput)
- Increase transportation options for people who are disadvantaged due to age, income, ability or minority status
- Reduce costs associated with fatalities and injuries
- Enhance travel and tourism, increase visitor tax revenues
- Limit level of public investment required

Applicability to Grant Funding: Medium/Low. Used in some grant and planning programs.

Town Character Compatibility

Evaluation for this objective reviews projects on the ability of a project to demonstrate minimal impact on adjacent properties, residential and commercial/business uses; minimal removal of trees or vegetation; improvements compatible/consistent with rural mountain character and aesthetics, and to avoid urban-type improvements.

Evaluation Criteria

- Maintain/enhance rural mountain character (avoid urban-type improvements)
- Protect neighborhoods
- Have less pavement; preserve vegetation where feasible
- Minimize impacts on existing private facilities in the ROW and/or adjacent private properties
- Improve access to businesses
- Minimize impacts to waterways, wildlife, and other environmental assets
- “Green” drainage to intercept and slow runoff

Applicability to Grant Funding: Low. Not typically used by grant and planning programs.

Ease of Implementation

Evaluation for this objective reviews projects on the ability of a project to realistically be implemented in both short and medium term, taking into consideration relative physical constraints, engineering or permitting challenges, right-of-way availability, known environmental constraints, availability of funding for project/project type and overall cost-effectiveness.

Evaluation Criteria

- Improvements remain in Caltrans right-of-way (ROW)
- No structure/building removal
- No tree removal/relocation
- Limited utility removal/relocation
- Limited sign/stripping removal/relocation
- Limited earthwork/embankment removal/relocation

- Meets Caltrans standard design
- Reasonable to finance

Information used to assess ease of implementation were: GIS-based classification of existing conditions in roadway and along shoulders (on site, Google Earth and Streetview inventory); Caltrans record drawings; planning-level cost estimates, project descriptions and illustrations for the study; data from analysis of corridor conditions; review of applicable standards, policies and plans; priorities of various potential funding sources; Comments from agency or entity representatives. Projects were reviewed for their limited physical constraints; support or concerns expressed by the transportation system operators (e.g. Caltrans, County of Santa Cruz, METRO) and other stakeholder agencies and entities, including CHP, fire, etc.; consistency with state plans; comparing estimated costs of potential improvements; considering ongoing maintenance requirements, responsibilities, abilities and costs.

Applicability to Grant Funding: Medium. Deliverability/risk level is a factor in some grant programs. Meeting standards is sometimes a basic screening criterion. Projects cannot typically be implemented unless they meet standards.

Public Support

Evaluation for this objective reviews projects on the ability of a project to address the public need and support expressed for the project, and geographic balance; consistency with local, regional plans that underwent public review. Projects identified by public preferences from surveys, workshops, stakeholder and other meetings, comments received (recent and past); and consistency with local, regional plans.

Evaluation Criteria

- How many people were concerned about the issue/location being addressed, and/or how many supported (or opposed) the project concept. More support = higher score.

Applicability to Grant Funding: Medium. Projects must often demonstrate community support.