Hopland Main Street Corridor Engineered Feasibility Study

Prepared for Mendocino Council of Governments

Submitted by W-Trans

Funded by Mendocino Council of Governments
Caltrans State Planning & Research Planning Grant

October 6, 2015

This report was accepted by the MCOG Board on October 5, 2015 with the understanding that additional edits would be made to address final comments. This final document includes the edits to the Public Outreach documentation.

The preparation of this report was programmed through the Mendocino Council of Governments' FY 2013/2014, 2014/2015 and 2015/2016 Transportation Planning Overall Work Programs, and funded by a $150,000 Caltrans' State Planning & Research planning grant. The project budget includes $15,000 for MCOG Staff; and one contract with Whitlock & Weinberger Transportation Inc. (W-Trans) for $134,865 covering a team of consultants: W-Trans ($70,205); Alta Planning ($26,685); Local Government Commission ($22,676); GHD ($14,299); Data Collection Service ($1,000).

The State Planning and Research (SPR) grants intend to achieve the Caltrans Mission, strengthen government-to-government relationships, encourage regional agencies to partner with Caltrans to identify and address statewide/interregional transportation deficiencies on the state highway system, and to result in programmed system improvements.

Table of Contents

Figures

Tables

Appendices

Introduction

Project Purpose and Goals

The purpose of the Hopland Main Street Corridor Engineering Feasibility Study is to examine transportation alternatives that would optimize the existing facility and provide a complete street environment on US 101 through the downtown Hopland area and on SR 175-Main Street in the Old Hopland area. Improvements suggested would be selected due to their potential to enhance mobility, connectivity, safety, and accessibility for roadway users of all ages and abilities, including automobiles, trucks, transit-users, bicyclists, and pedestrians.

The following goals were used as a guide in the decision-making process to determine the optimal set of improvements to implement within the study area:

- Optimize existing facilities on US 101 and SR 175
- Accommodate through vehicle traffic, including trucks, for at least 20 years
- Provide corridor improvements and priorities in lieu of a bypass
- Address non-motorized needs
- Increase both vehicular and pedestrian safety
- Encourage "complete streets" functionality
- Develop traffic calming/speed reduction measures
- Recommend pedestrian crossing enhancements
- Identify pedestrian walkway needs
- Determine feasibility and potential locations for bicycle facilities
- Provide safe routes for children traveling to and from school transit
- Minimize right-of-way needs

Study Area

The unincorporated community of Hopland is located in southern Mendocino County, approximately nine miles north of the Sonoma County line and approximately 14 miles south of the City of Ukiah. US 101 is the primary highway serving the northern California coastal area and connects to Sonoma County to the south and Humboldt County to the north. The highway runs parallel to the meandering Russian River and provides access to the City of Ukiah as well as other cities and unincorporated areas within Mendocino County. As motorists approach the Hopland community from the south, the highway goes from a high speed undivided four-lane highway to a two-lane conventional highway that primarily serves through traffic travelling between Mendocino and Sonoma Counties. As vehicles approach the downtown core of Hopland, the highway transitions into a main street, intended to serve both local and through traffic as well as bicycles and pedestrians. Crosswalks provide connections to the commercial land uses on either side of the roadway, including markets, wine tasting rooms, restaurants and boutique hotels. Residential land uses are accessed via side streets off of US 101. North of Hopland, the highway continues as a two-lane conventional highway with higher speeds serving as a connection to the City of Ukiah and Humboldt County.

SR 175 is 9.85 miles long within Mendocino County. It is a two-lane undivided highway that runs from its western terminus at US 101 in Hopland to the east where it continues into Lake County. As motorists travel easterly along the highway, they cross over the Russian River and approach "Old Hopland," which is primarily a residential area. Homes are accessed directly from SR 175 or from side streets off of SR 175-Main Street. Past Old Hopland to the northeast, SR 175 intersects with Old River Road and turns easterly as Lakeport-Hopland 175 Road.

Study Roadways

The general study area is shown in Figure 1 and includes the following segments along two highways in the unincorporated Hopland area of Mendocino County:

- US 101 in the downtown Hopland area, from approximately Mountain House Road to Hewlitt & Sturtevant Road
- SR 175-Main Street in the Old Town Hopland area from US 101 to Lakeport-Hopland 175 Road

US 101 is a north-south highway that has two 12-foot travel lanes in the study area. Through Central Hopland, there is a two-way left-turn lane and parking is allowed on both sides of the highway. The posted speed limit 35 mph within the community, 45 mph in the transition zones north and south of Hopland and 55 miles per hour (mph) outside the town area.

State Route (SR) 175 runs from Central Hopland where it intersects US 101 eastward to Lake County where it terminates at its intersection with SR 29. SR 175 has one 12-foot travel lane in each direction, with a posted speed limit of 35 mph in the Old Hopland area and a prima facie speed limit of 55 mph on the segment between US 101 and Old River Road.

Study Intersections

1. US 101/Hewlitt & Sturtevant Road
2. US 101/SR 175
3. US 101/Mountain House Road
4. Feliz Creek Road/Mountain House Road
5. SR 175/Old River Road
6. SR 175-Main Street-Old River Road/SR 175-Lakeport-Hopland 175 Road

US 101/Hewlitt & Sturtevant Road is a tee-intersection with a stop control on the eastbound approach.

US 101/SR 175 is a tee-intersection with a stop control on the westbound approach. Crosswalks are provided across all legs.

US 101/Mountain House Road is a tee-intersection with a stop control on the eastbound approach.

Feliz Creek Road/Mountain House Road is a four-legged intersection with a stop control on the eastbound Feliz Creek. The westbound approach is a driveway, which is uncontrolled.

SR 175/Old River Road is a tee-intersection with the northbound Old River Road approach stop-controlled. Additionally, the eastbound right-turn from SR 175 is channelized and stop-controlled.

SR 175-Main Street-Old River Road/SR 175-Lakeport-Hopland 175 Road is a four-legged roundabout with crosswalks provided across all legs of the intersection. The west leg is a private driveway.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 2.

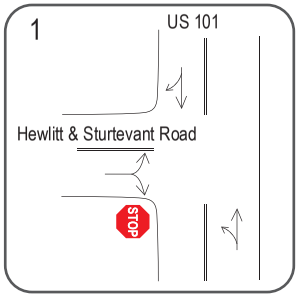
Study Timeline

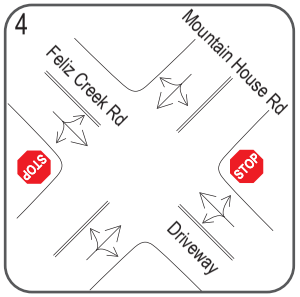
The project's original study timeline is shown below. During the course of this study, the timeline was extended through the end of October, 2015, with completion of the Draft and Final Reports and presentation of the Final Report anticipated to occur in between September and October, 2015.

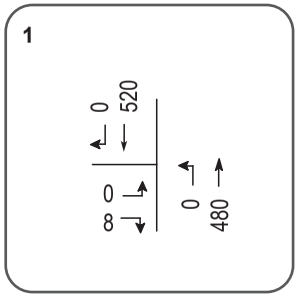
Hopland Main Street Corridor Engineered Feasibility Study

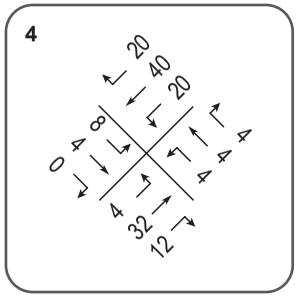
Figure 1: Study Area

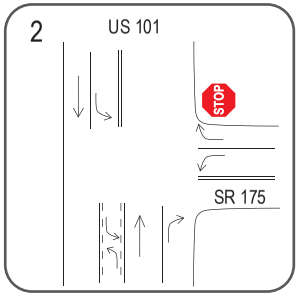
11/14/2014 MEX096

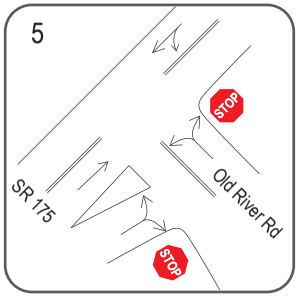


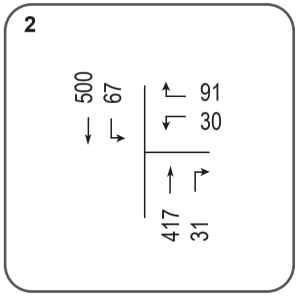


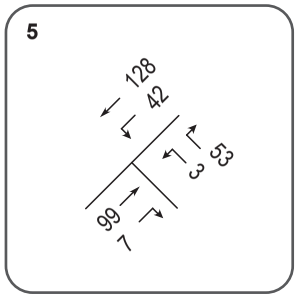


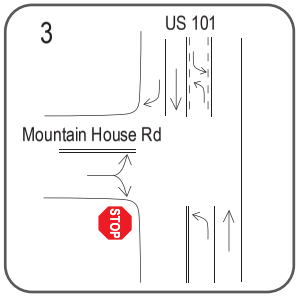


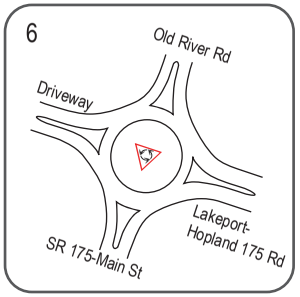


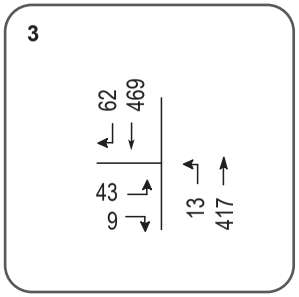


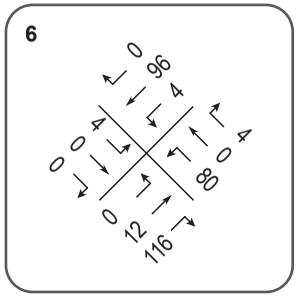












096mex.ai 9/15

Hopland Main Street Corridor Engineered Feasibility Study

Figure 2 – Lane Configurations and Existing Traffic Volumes

W-Trans

101-175 Hopland Main Street Corridor EFS
W-Trans Team Schedule

Tasks and Subtasks	Aug 2014	Sept 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	March 2015	April 2015	May 2015	June 2015	July 2015	Aug 2015	Sept 2015
1. Project Management/Oversight/Grand Administration														
2. Grand Administration/Reporting/Liaison with Caltrans														
2.1 Project Team Status Meetings (in Ukiah)			#		#		#		#		#			
2.1 Project Team Status Meetings (via Conf Call)		**	**	**	**	**	**	**	**	**	**	**	**	*
2.1 Project Team Status Meetings (minutes)		◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
2.2 Quarterly Reports			◊			◊			◊			◊		
2.3 General Administrative Activities		◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
3. Project Kick-off/Data Collection														
3.1 Consultant/Project Team Kick-off Meeting	#◊													
3.2 Project Work Plan and Fact Sheet		◊												
3.3 Gather Background Data			◊											
3.4 Technical Advisory Group (TAG)		#◊			#◊			#◊			#◊			
3.5 Identification of Problem Areas				◊										
3.6 Stakeholder List		◊												
3.7 Analysis of Existing Conditions														
3.8 Existing Conditions Report				◊										
4. Public Participation Process														
4.1 Public Outreach Plan		◊												
4.2 Website				◊										
4.3 Public Workshop or Charrette			#◊			#◊				#◊				
5. Analysis for Data and Cost Estimates														
5.a Development of Alternatives							◊							
5.1 Complete Analysis of Recommended Improvements								◊						
5.2 Cost Estimates									◊					
5.3 Recommended Phasing														
5.4 Potential Grand Funding														
5.5 Alternatives Report										◊				
6. Presentation of Results to Partners/Draft Circulation														
6.1 Administrative and Draft Report											◊	◊		
6.2 Presentation to Partners												#◊		
6.3 Collect Comments											◊			
7. Circulation of Final EFS Report/Presentation														
7.1 Final EFS Report													◊	
7.2 Presentation of the Final EFS Report														#◊
8. Project Close-out														
8.1 Final Invoice & Project Close-out														◊
LEGEND:	* Status Mtgs/Conf Calls						# Meeting in Mendo Co.					◊ = deliverable		

Technical Team Communication

The technical team is comprised of staff from MCOG, Caltrans, W-Trans, Alta Planning & Design and Local Government Commission. Communication between team members included bi-weekly conference calls. These meetings were used to make coordination between team members more efficient.

Community Outreach and Feedback

Technical Advisory Group (TAG) Input

The Technical Advisory Group (TAG) included over 20 stakeholders and community representatives to guide and inform the public outreach and study process. All meetings were held at the Hopland Fire Station. Following is a summary of the meetings which are more detailed in Appendix A:

November 19, 2014 – Discussion focused on key issues to be addressed by the study, identification of stakeholder representatives to engage and the best ways to advertise events and encourage public participation.

January 7, 2015 – The meeting centered on planning the community workshop activities and schedule for February and discussed ways the TAG could help inform the public.

March 10, 2015 – Following the February community workshop, the TAG reviewed proposed improvements developed by the project team based on the community input.

Community Presentations

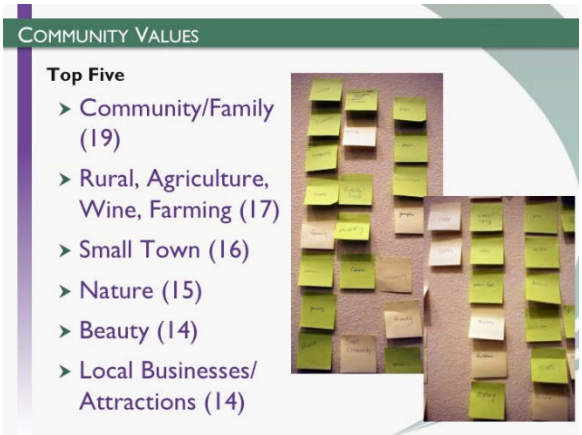
Multi-day Community Design Workshop – Approximately 50 people participated in a series of interactive events over the course of two days, February 11-12, 2015. Activities kicked off February 11 with walking assessments led by members of the project team. Three groups were formed. Two groups departed from the Brutocao Schoolhouse Plaza and walked, observed and discussed conditions along US 101 from Mountain House Road to 1st Street. The other group drove and walked SR 175/Main Street through Old Hopland.

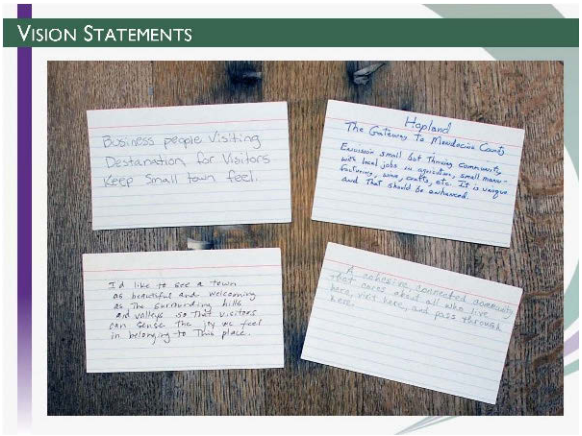
Common issues identified included:

- Lack of sidewalks and safe places to walk and bicycle
- Lack of safe crossings for pedestrians
- Problems with sight lines and visibility for motorists and pedestrians at intersections and crossing locations
- Problems with truck parking
- High vehicle speeds entering downtown
- Space constraints creating a challenge for accommodating on-street bike facilities

Immediately following the walking assessments, participants gathered in the Brutocao Banquet Room where they were asked to write one-to two-word statements describing their visions for Hopland 20 years from now. A second exercise asked participants to identify what they value about their community. The two activities helped to establish common goals for the study corridors which are summarized below.

- Community/Family
- Rural, Agriculture, Wine, Farming
- Small town
- Nature
- Beauty
- Local businesses/Attractions





Next, project team members presented design issues, tools and strategies pertaining to the study area. Participants then broke into small groups around table-sized aerial photos and maps of Hopland to develop ideas for improving the corridors for all types of travel and users. Members from each table presented their results to the entire workshop.

The following day, in a room adjacent to the public workshop venue, the project team fleshed out concepts based on the input and analysis to date, conducted field checks, met with walk-in visitors from the public, and vetted concepts with MCOG and Caltrans staff. The concepts and initial recommendations were presented to community members and stakeholders in the evening.

The workshop attendees provided feedback on the list of priority project components. These results are presented in Appendix A.

June 11, 2015 – A community presentation was held at the Brutocao Banquet Room on June 11, 2015 where the draft preferred plan was presented, with concept design plans posted along the walls. Members of the technical team were available to answer questions from community members. Following a presentation, a question and answer period was held. As listed in Appendix A, the roundabout concept was a high priority for community members at the February 11-12 Community Design Workshop. However, at the June 11 meeting, some community members in attendance were either opposed to the installation of a roundabout at the US 101/SR 175 intersection or had concerns about its impacts.

September 10, 2015 – A community presentation was held at the Brutocao Banquet Room presenting the draft report to the community. Members of the technical team were available to answer questions from community members following the presentation. The project prioritization ranking (described later in this report) was presented to the community. They were asked to participate in a dot exercise where they were asked to place a dot when they either agreed or disagreed with a project ranking. They were also given the opportunity to describe what they believed should have been the appropriate project ranking. In general, the community agreed with the presented project rankings. Following are the noted exceptions: comments from the exercise indicated the roundabout at US 101/SR 175 should be ranked higher, agreement on the project priority was split for the reduced tee-intersection, and there was some support to rank the southbound left-turn lane into Real Goods as the highest priority project. There appeared to be some conflict between the dot exercise and comments in regards to the tee-intersection and roundabout. The results are summarized in Appendix A.

Related Plans

General Plan

The *Mendocino County General Plan* adopted in August 2009 provides the framework for transportation planning within the county. The General Plan established goals that are concerned with the safe and efficient movement of people and goods in and around the county. Transportation-related principles, goals, and policies included in the Mendocino County General Plan that are relevant to the Hopland area are included in Appendix B.

Rail-with-Trail Corridor Plan

MCOG's 2012 *Rail-with-Trail Corridor Plan* (Plan), provides a plan to implement multi-use trails on the Northwestern Pacific Railroad in Mendocino County connecting to northern Sonoma County. The Plan provides an Existing Conditions report and identifies priority segments to be developed along the 103-mile long corridor. The portions of the corridor in Hopland were identified as segments to be included in Phase II, which includes portions to be completed in five to ten years. The Plan's goals and vision for the corridor are summarized in Appendix B.

Mendocino County Regional Transportation Plan (2010)

The *Mendocino County Regional Transportation Plan*, adopted in 2011, was created to provide a 20-year plan for future transportation needs in the area and involves all levels, from the federal government to local and tribal governments, to individual stakeholders. Following are the plan goals related to this effort for US 101 and SR 175. Additional objectives and policies are summarized in Appendix B.

- **Climate Change & The Environment** – *Goal:* Build a combination of transportation facilities that, when evaluated as a group, will result in improved air quality, and reduce transportation-related air toxics and greenhouse gas emissions in Mendocino County.
- **Complete Streets** – *Goal:* To improve our public spaces so the street, road, and transportation system meet the needs of all surface transportation modes, including vehicular, bicycle, pedestrian, and transit.
- **State Highway System** – *Goal:* Provide safe, efficient transportation for regional and interregional traffic while maintaining quality of life for residents of the county.
- **Local Streets and Roads** – *Goal:* Provide a safe and efficient transportation network, connecting local community roads and major transportation corridors and meeting the transportation needs of the communities served by these facilities.
- **Non-Motorized Transportation** – *Goal:* Provide a safe and useable network of bicycle and pedestrian facilities throughout the region as a means to lessen dependence on vehicular travel and improve the health of Mendocino County's residents.
- **Transit** – *Goal:* Provide a coordinated and effective public transit system, which serves the needs of the citizens of Mendocino County, to the extent feasible.

Mendocino County Regional Bikeway Plan (2012)

The Mendocino County Regional Bikeway Plan was adopted in 2012. The purpose of the Bikeway Plan was to compile all proposed bikeway improvements in Mendocino County into a single report, which helps meet the requirements of the California Bicycle Transportation Act. The Bikeway Plan also sets policies and guidelines for both the incorporated towns and unincorporated areas for the planned bicycle facilities in the County.

Vision Mendocino 2030 Blueprint Plan

Vision Mendocino 2030 documents how Mendocino County will accommodate expected growth and how it will do so in the most sustainable way. The Plan discusses County growth impacts to resource lands, city and community development, water districts, local food sources, and multi-modal transportation. The Blueprint Plan is unique because both cities and unincorporated communities were considered when shaping the goals and policies.

The guiding principles of Vision Mendocino 2030, which are summarized in Appendix B, address the following categories:

- Economic Vitality
- Natural Resource Conservation
- Focused Development
- Transportation Choices
- Adequate Housing Supply
- Community Character and Design
- Local Food System

Smart Mobility Framework

The SMF is a planning framework that helps guide and assess how well plans, programs, and projects meet a definition of "smart mobility", which 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
- Efficient use of land

Smart Mobility responds to the transportation needs of the State's people and businesses, addresses climate change, advances social equity and environmental justice, supports economic and community development, and reduces per capita vehicles miles travelled.

Complete Streets Deputy Directive (DD-64-R2)

DD-64-R2 describes a complete street as "a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility." The intent of DD-64-R2 is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of complete streets.

This document contains policy wherein Caltrans states its objective, "to ensure successful implementation of complete streets, manuals, guidance, and training will be updated and developed."

US 101 Bypass

Caltrans District 1 and MCOG previously studied the potential for a US 101 bypass of Hopland, with an array of alternatives in the areas to the east and west of the current highway alignment. However, the environmental process revealed the project would be much more costly than future revenues would be available. Therefore, it was determined that this study, which includes recommendations within the existing right-of-way of US 101, should be pursued at this time in lieu of a bypass project for Hopland.

Background Traffic and Facility Conditions

Data Collection

Vehicle Traffic Volumes

Vehicle traffic volumes were collected at six study intersections and on two roadway segments for use in the operational analysis. The intersections and roadways are listed below and shown in Figures 1 and 2. The traffic volumes were collected on September 10 and 25, 2014 and are included in Appendix C.

Operating conditions during the weekday p.m. peak period were evaluated to capture the highest volumes on the local transportation network. The p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

Non-Motorized Volumes

Bicycle and pedestrian volumes at US 101/SR 175 were provided by Caltrans, which were collected on a Thursday, Saturday and Sunday in late July, 2014 between 7 a.m. and 7 p.m. During the 12-hour period, Thursday volumes consisted of 10 bicycles, two bicycles using crosswalks, and 12 pedestrians crossing the intersection; Saturday volumes consisted of 6 bicycles, no bicycles using crosswalks, and 11 pedestrians; and Sunday volumes totaled 17 bicycles, three bicycles using crosswalks, and 14 pedestrians.

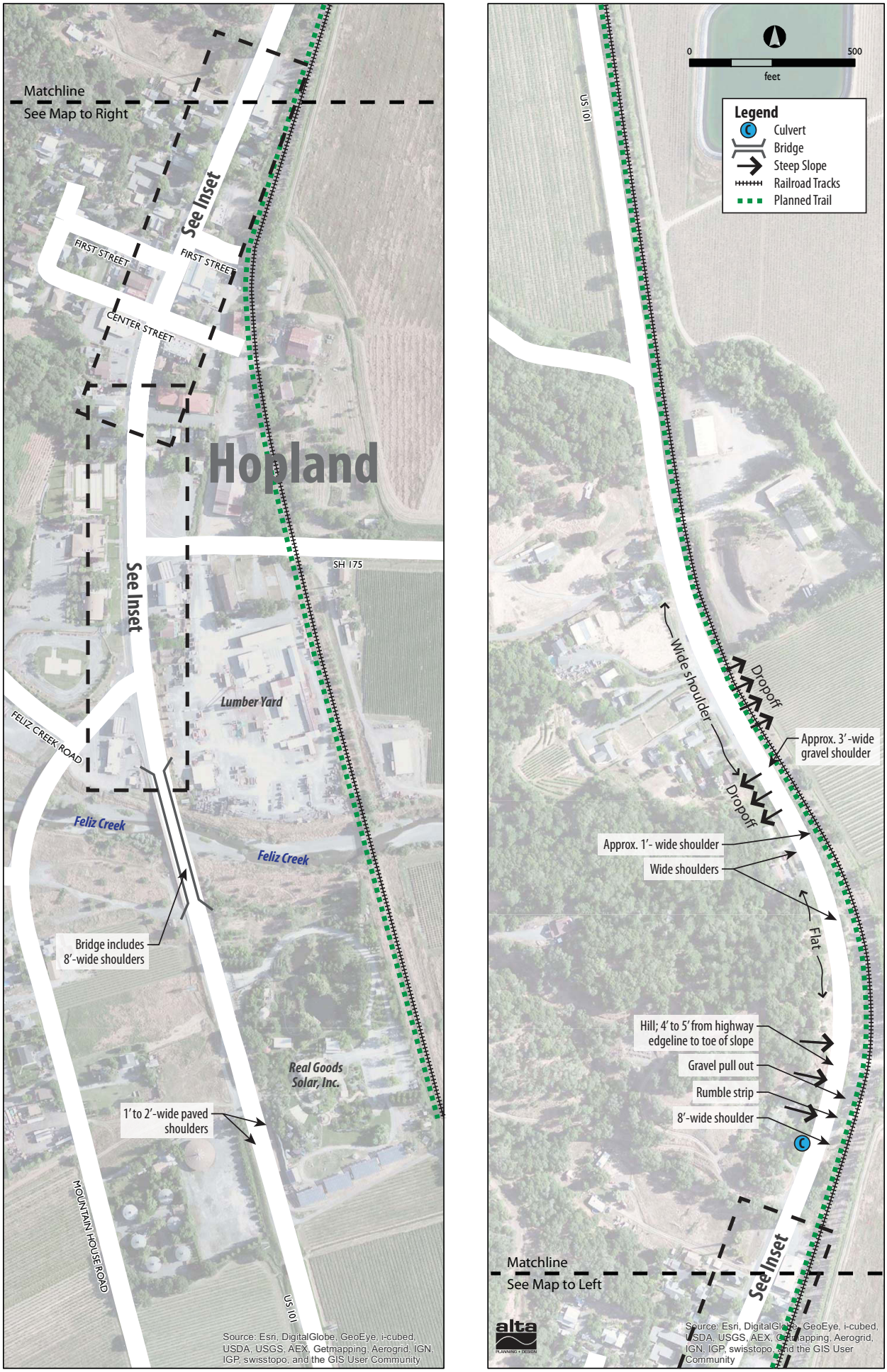
Pedestrian Facilities

US 101

The core of Hopland has some sidewalks and pedestrian amenities, such as street trees and lighting; however the pedestrian experience and access are negatively impacted by gaps in the sidewalk network, sidewalk obstructions, poor sidewalk or path conditions, and uneven surfaces. Vacant commercial buildings and the large vacant parcel north of SR 175 present a discontinuous visitor-serving commercial district, though it is a pleasant environment enhanced by the views of and close proximity to the vineyards on the east and the hills on the west. An overview of pedestrian facilities along US 101 is shown in Figure 3 with details of facilities in Downtown Hopland provided in Figure 4.

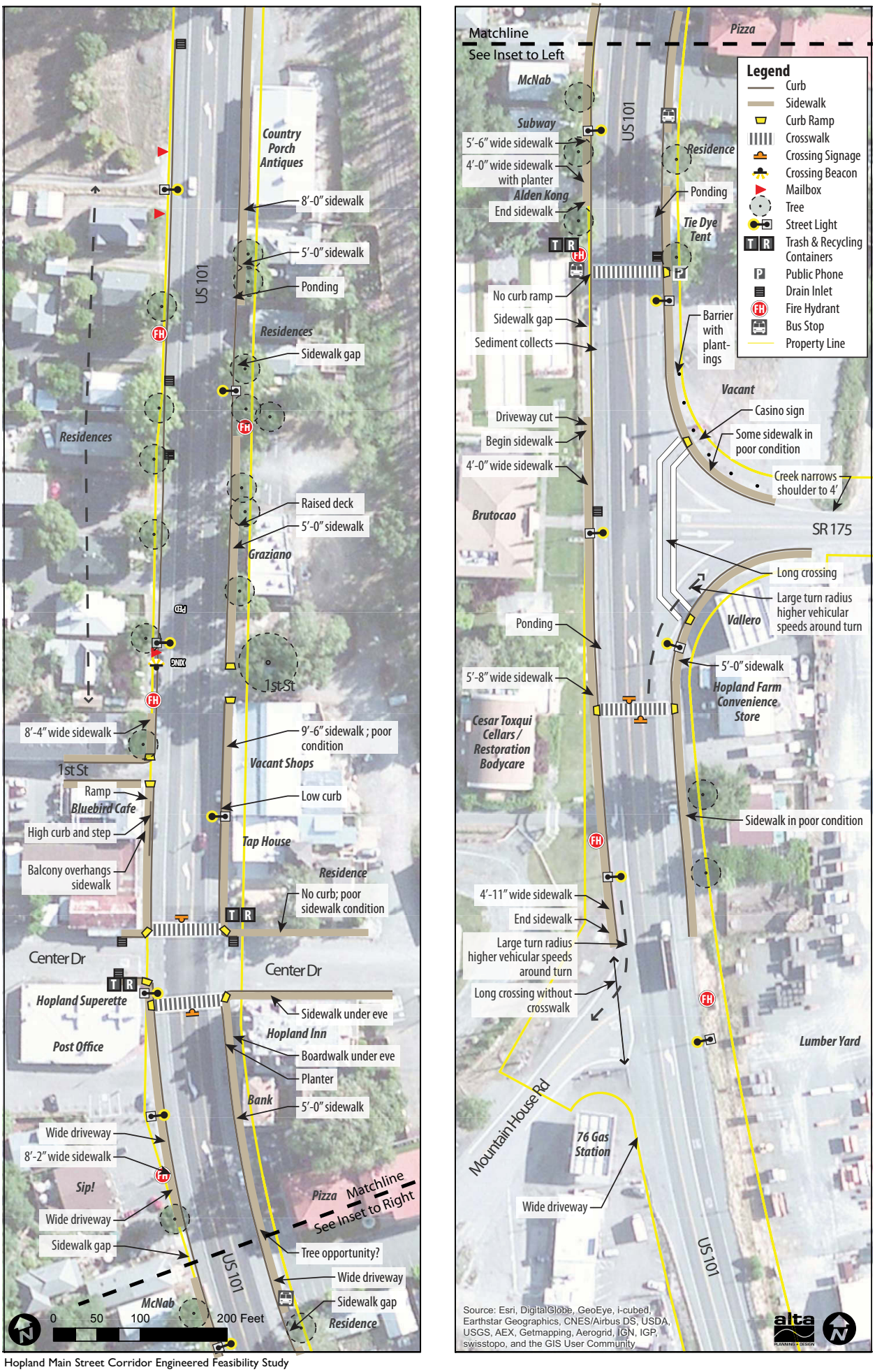
The core of Hopland includes sidewalks and some pedestrian amenities; however, walking opportunities are limited by sidewalk obstructions and gaps in the network.

Sidewalks generally exist on the east side of US 101 from Country Porch Antiques (the former Hopland Hardware store) in the north to Mountain House Road in the south. Sidewalks generally exist on the west side of US 101 from north of First Street to Mountain House Road. Some sidewalk gaps and poor conditions exist within these extents. The curb on the west side of US 101 extends for approximately 700 feet north of Center Drive and appears to be located approximately eight feet from the adjoining property line. Sidewalks are generally concrete and five to eight feet wide. Intermittent planter strips exist along some narrower sidewalk segments. Some sidewalk segments are in poor repair and are not Americans



Hopland Main Street Corridor Engineered Feasibility Study

Figure 3: US 101 Existing Facility Inventory



Hopland Main Street Corridor Engineered Feasibility Study

Figure 4: US 101 Existing Facility Inventory (Inset)

11/6/2014 MEX096

with Disabilities Act (ADA)-compliant. Several wide (e.g., 40 feet) driveways exist along the corridor. Wide driveways result in increased exposure to motor vehicles pulling onto or off of the highway relative to narrower (e.g. 24 foot wide) driveways.

At the south end of the study area, the Solar Living Center, operated by Real Goods Solar, Inc., is a popular destination in southern Hopland, but it is not currently served by pedestrian or bicycle facilities. The bridge over Feliz Creek includes wide shoulders, but no sidewalks.

Utilities (e.g., PG&E and Pacific Bell) along US 101 are underground, increasing opportunities for street trees and limiting the number of utility poles creating sidewalk obstructions.

Lighting is provided by streetlights along US 101. Streetlight poles are located approximately 150 feet apart and are on alternate sides of the highway. Some poles are located approximately four feet behind the face of curb, creating pinch points along the sidewalks.

Two transit bus stops exist in Hopland, located north of the Brutocao Cellars Tasting Room on the west side, and south of the Piazza de Campovida Inn on the east side. The stops include signage, but no seating.

Hopland has four high-visibility crosswalks across US 101. Two are located at Center Drive, and there is one each north of the Brutocao Cellars Tasting Room and south of the SR 175 intersection. All crosswalks are approximately 65 feet in length and include in-street pedestrian yield signs. The US 101/SR 175 intersection includes a lengthy – approximately 170-foot long – transverse crosswalk across SR 175. Most roadway crossings include curb ramps; however, some are in need of repair or replacement.

A mix of Sycamore and other trees line US 101, with tree trunks located near the limits of the public right-of-way. Opportunities for additional street trees are limited in some locations in central Hopland due to the presence of building eaves that overhang the sidewalk.

Paved shoulder widths in the northern portion of the study area vary from approximately one to eight feet. Wider, unpaved shoulders exist in front of some residences. North of downtown along a hill on the west side of US 101, the travel lane edgeline is located approximately four to five feet from the toe of slope, limiting opportunities for shoulder widening. North of the hill, the available shoulder width is limited in two locations by steep drop-offs.

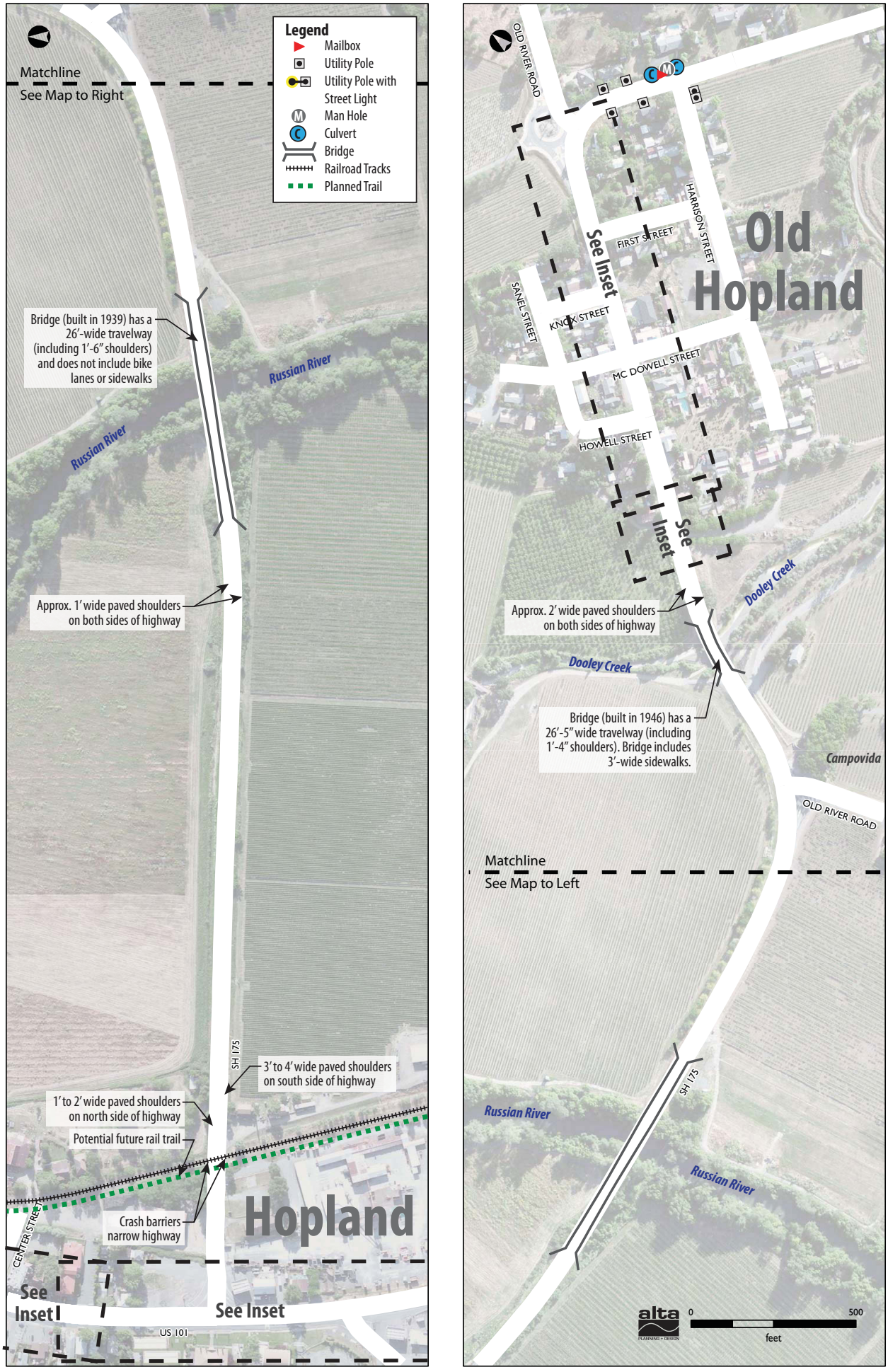
Field observations made in Central Hopland on a weekday during the midday indicate that pedestrians generally walked from vehicles parked along US 101 or from an off-street parking lot to one or multiple shops.

SR 175 and Old Hopland

SR 175 does not have sidewalks east of the US 101 intersection, except along the SR 175/Old River Road roundabout. Sidewalks along the roundabout are seven feet wide, including a two-foot wide paver strip. Paved shoulder widths in Old Hopland vary from approximately four to six feet wide. Pedestrian facilities along SR 175 are shown in Figure 5 with an inset of Old Hopland provided on Figure 6.

One ladder-style crosswalk with pedestrian crossing warning signage exists in Old Hopland on the west leg of the SR 175/ McDowell Street intersection. The crosswalk is approximately 35 feet long, measured from edge-of-pavement to edge-of-pavement.

Pedestrian circulation in Old Hopland is facilitated by the roadway shoulders

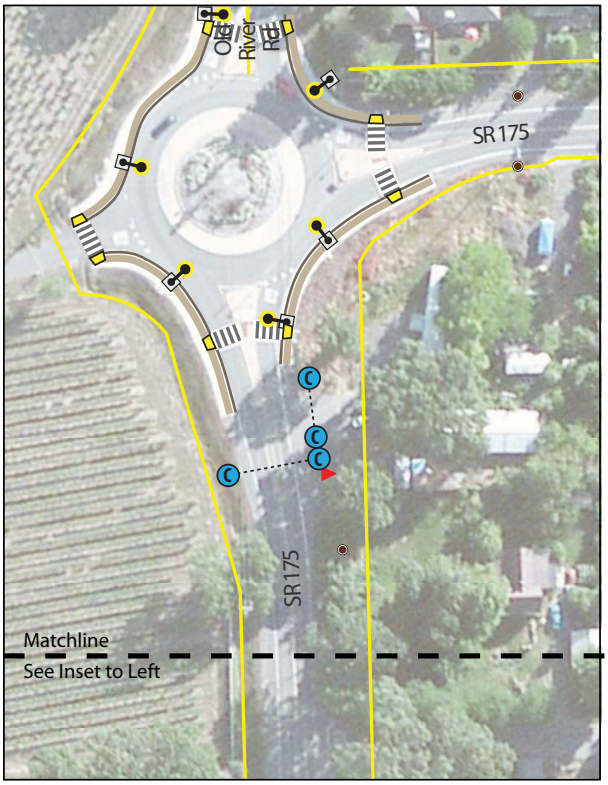


Hopland Main Street Corridor Engineered Feasibility Study

Figure 5: SR 175 Existing Facility Inventory

11/6/2014 MEX096

W-Trans



0 50 100 200 Feet

Legend

- Curb
- Sidewalk
- Curb Ramp
- Crosswalk
- Crossing Signage
- Mailbox
- Utility Pole
- Utility Pole with Street Light
- Street Light
- Trash & Recycling Containers
- Public Phone
- Drain Inlet
- Culvert
- Fire Hydrant
- Property Line

Hopland Main Street Corridor Engineered Feasibility Study

Figure 6: SR 175 Existing Facility Inventory (Inset)

11/6/2014 MEX096

W-Trans

Except in Old Hopland, SR 175 within the study area is unlit. Utility poles (with and without light fixtures), mailboxes, fire hydrants, and a public phone exist within the public right-of-way.

Informal parking exists along both sides of SR 175 in Old Hopland. Vehicles observed during the field work generally parked parallel to the State Route. The market has an unpaved parking lot with access across the entire frontage, increasing the exposure of pedestrians walking along the shoulder to vehicles turning off of or onto to SR 175.

SR 175 within the Study Area includes bridges across the Russian River and Dooley Creek. The bridge over the Russian River was constructed in 1939 and is approximately 650 feet long with a 26-foot wide travelway, consisting of two 11-foot travel lanes and two approximately 1.5-foot wide shoulders (approximately 26 feet overall). The bridge does not include sidewalks. The bridge over Dooley Creek was constructed in 1946 and is approximately 120 feet long with a 26-foot 5-inch wide travelway, consisting of two travel lanes and one-foot four-inch wide shoulders. Three-foot wide raised walkways along the north and south sides of the bridge serve pedestrians.

The *2012 Mendocino County Rail-with-Trail Corridor Plan* includes recommendations for a multi-use trail along the NCRA rail line, which crosses SR 175 within the Study Area.

Bicycle Facilities

There are no designated bikeways in Hopland. The *2012 Mendocino County Regional Bikeway Plan* includes the following "Proposed Bikeway Improvement Projects" in and around Hopland:

- A Class III bike route on along Old River Road to SR 222 at Talmage Road in Ukiah. This facility is characterized as a high need.
- A Class III bike route along SR 175 from US 101 to the Lake County Line. This facility is characterized as a low need.

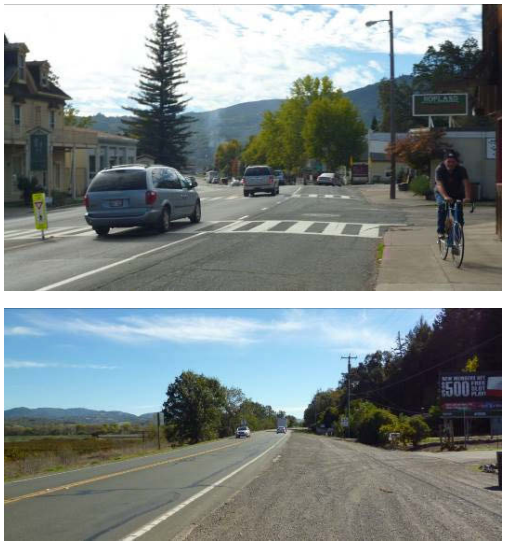
Each Mendocino Transit Authority bus has a bike rack which holds two bikes.

No bike racks or any secure bicycle parking appears to exist in Hopland based on observations during the field work.

US 101

The US 101 right-of-way has sufficient width to accommodate both parking and bicycle lanes within the core of Hopland. As discussed under Pedestrian Facilities, paved shoulders in the north portion of the study area vary from one to eight feet in width. The presence of steep side slopes and mature trees present challenges to providing shoulders in this area. However, the areas with flat, wide gravel shoulders present opportunities for widening. Bicycle facilities along US 101 are shown in general terms in Figure 3 with details for Downtown Hopland provided in Figure 4.

Intersections present potential conflict points as turning vehicles may cross the paths of through bicyclists and vice versa. The large turn radii of the US 101/SR 175 intersection enable vehicles to turn onto and off of SR 175 at relatively high speeds. Northbound drivers turning right onto SR 175 must cross the bike route, creating a potential conflict point. The westbound right turn from SR 175 to US 101 is yield-controlled. To cross this intersection, northbound bicyclists



Wide shoulders in Hopland present an opportunity for bicycle use

must navigate across multiple travel lanes associated with SR 175 and vehicles entering and exiting the Hopland Gas & Mart driveway, located immediately south of the US 101/SR 175 intersection.

Mountain House Road intersects US 101 at an acute angle and with a large turn radius for turns from southbound US 101 to Mountain House Road. The wide crossing results in increased exposure of southbound bicyclists to vehicular traffic. Southbound US 101 includes a right turn pocket onto Mountain House Road. In the absence of a bike lane, a southbound bicyclist traveling through the intersection would need to occupy the southbound through lane to avoid a potential conflict with a southbound vehicle turning onto Mountain House Road.

SR 175

The relatively level and wide right-of-way along SR 175 within the study area presents opportunities for shoulder widening for bicycle use. The major constraint to bicycle use is the bridge over the Russian River, which includes approximately 1.5-foot wide shoulders. SR 175 east of US 101 includes a three- to four-foot wide paved shoulder on the south side and one- to two-foot wide paved shoulders on the north side. Crash barriers at the Northwestern Pacific Railroad (NWP) crossing create a pinch point along the State Route which would require bicyclists to occupy the travel lane. West of the bridge over the Russian River, the paved shoulder width narrows to approximately one foot on either side of SR 175. Approximately two-foot wide paved shoulders with outside gravel shoulders exist east of the bridge over Dooley Creek. General bicycle facilities along SR 175 are shown in Figure 5 with details of Old Hopland provided in Figure 6.

The bridge over the Russian River presents a constraint to bicycle circulation

Travel Speeds

Travel speeds were gathered along five discreet study segments, all of which have a posted speed limit of 35 mph. The 85th percentile speeds, which are shown in Table 1, were determined based on speed surveys taken with a radar gun on September 10, 2014. The speed data is provided in Appendix D.

Table 1 – Speed Survey Summary

Surveyed Segments	Posted Speed Limit	85th Percentile Speed	
		NB/EB	SB/WB
US 101 from Solar Living Dwy to Mountain House Rd	35	48	52
US 101 from Mountain House Rd to SR 175	35	32	40
US 101 from SR 175 to Center Dr	35	31	27
US 101 from Center Dr to 1st St	35	39	32
SR 175 from Howell St to McDowell St	35	37	36

Notes: Speed is measured in miles per hour; LOS = Level of Service

While most of the surveyed segments have 85th percentile speeds similar to the posted speed limit, US 101 from the Solar Living driveway to Mountain House Road was observed to have a much higher 85th percentile speed than the posted speed limit. This is likely because this is where the speed limit transitions from 45-mph to the 35-mph speed limit for the downtown area.

Safety Analysis

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue that could be addressed through the improvements envisioned by this process. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is July 2008 through June 2013.

As presented in Table 2, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2010 Collision Data on California State Highways*, California Department of Transportation. The collision rates calculations are provided in Appendix E.

Table 2 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2007-2012)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. US 101/Hewlitt & Sturtevant Rd	4	**0.22**	0.16
2. US 101/SR 175	4	**0.19**	0.16
3. US 101/Mountain House Rd	1	0.05	0.16
4. Feliz Creek Rd/Mountain House Rd	0	0.00	0.23
5. SR 175/Old River Rd	2	**0.33**	0.16
6. SR 175/Lakeport-Hopland 175 Rd	0	0.00	0.23

Note: c/mve = collisions per million vehicles entering
Source: Statewide Integrated Traffic Records System, 2014

The intersections of US 101/Hewlitt & Sturtevant Road, US 101/SR 175, and SR 175/Old River Road had collision rates higher than the statewide averages for similar facilities.

Hewlitt & Sturtevant Road intersects US 101 at a skew, and two of the collisions were due to unsafe speeding. The improper turn collision resulted from a northbound vehicle swerving to avoid a vehicle that was stopped waiting to turn left onto Hewlitt & Sturtevant Road. The fourth collision was related to Driving Under the Influence.

US 101/SR 175 is a tee-intersection where two major corridors meet. Two collisions were caused by rear-ends, one collision involved a pedestrian, and one collision was a sideswipe. The pedestrian-involved crash occurred when a pedestrian crossing US 101 had already crossed a distance of over 30 feet and was struck by a vehicle that failed to yield to the pedestrian. This type of incident is to be addressed by proposed pedestrian improvements identified in this report.

SR 175/Old River Road had two reported collisions over the five-year study period, so no particular trend could be identified. The low volumes on SR 175 greatly influences the collision rate.

Collision rates for the study segments were also compared to statewide averages for similar facilities. The results of this review are presented in Table 3.

Table 3 – Collision Rates for the Study Segments			
Study Roadway Segments	**Number of Collisions (2007-2012)**	**Calculated Collision Rate (c/mvm)**	**Statewide Average Collision Rate (c/mvm)**
1. US 101 between PM 10.24 and PM 11.60	35	**0.96**	0.84
2. SR 175 between PM 0.69 and PM 1.16	3	0.67	0.89

Notes: c/mvm = collisions per million vehicles miles; PM = post mile
Source: Traffic Accident Surveillance and Analysis System, 2014

The calculated collision rate on US 101 as a corridor was slightly higher than the Statewide average. The most common primary collision factor on US 101 was speeding for 16 of the 35 collisions and the type of crash for 17 of the 35 collisions was a rear end. Enhancements to this segment to calm traffic may be expected to reduce this type of incident.

There were two pedestrian collisions on US 101 during the ten-year period between October 2002 and September 2012; no bicycle collisions were reported during this period. No pedestrian or bicycle collisions were reported on the segment of SR 175 during the same ten-year time period.

Vehicle Operational Analysis

Level of Service

An explanation of the methodology used to analyze existing operation is provided in Appendix F.

Existing Conditions

Under existing p.m. peak hour conditions, all intersections are operating acceptably at overall Level of Service (LOS) A with minor approaches operating at LOS C or better. Based on County and Caltrans standards, these level of service conditions would all be considered acceptable. The existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 4, and copies of the Level of Service calculations are provided in Appendix G.

Table 4 – Existing (2015) PM Peak Hour Intersection Levels of Service			
Study Intersection ***Approach***		**Existing Conditions**	
		Delay	**LOS**
1.	US 101/Hewlitt & Sturtevant Rd	0.1	A
	Eastbound Approach	*11.6*	*B*
2.	US 101/SR 175	2.0	A
	Westbound Approach	*13.7*	*B*
3.	US 101/Mountain House Rd	0.9	A
	Eastbound Approach	*15.1*	*C*
4.	Feliz Creek Road/Mountain House Rd	2.6	A
	Eastbound Approach	*9.7*	*A*
	Westbound Approach	*9.3*	*A*
5.	SR 175/Old River Rd	4.1	A
	Northbound Approach	*10.0*	*B*
6.	SR 175/Lakeport-Hopland 175 Rd	3.4	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service;
Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Under existing conditions, the US 101 study segment is operating deficiently at LOS D and SR 175 at an acceptable LOS B Per the *HCM 2010* methodology, the free-flow speed on the US 101 study segment was set to 45 miles per hour. This methodology lends itself to a more conservative analysis, resulting in worsened operation on the segment. However, the average travel speed reported for the northbound and southbound segments was approximately 32 miles per hour, which is only slightly lower than the posted speed of 35 miles per hour. A summary of the roadway segment level of service calculations is shown in Table 5, and copies of the Level of Service calculations are provided in Appendix H.

Table 5 – Existing (2015) PM Peak Hour Roadway Segment Levels of Service			
Study Segments		**Existing Conditions**	
		Percent	**LOS**
1.	US 101 between Mountain House Rd and SR 175	PFFS	
	Northbound	**71.6%**	**D**
	Southbound	**71.6%**	**D**
2.	SR 175 east of US 101/Railroad Tracks	PTSF	
	Eastbound	46.9%	B
	Westbound	46.9%	B

Notes: LOS = Level of Service; PFFS = Percent Free-Flow Speed;
PTFS = Percent Time-Spent Following; **Bold** text indicates deficient operation

Future Volume Projections

Caltrans District 1 Growth Factors

Future traffic volumes are often estimated using growth factors. Caltrans District I's factors indicate a 20-year growth of 1.30 for US 101 and 1.40 on SR 175 in Hopland. These factors indicate a growth of approximately 1.3 percent per year on US 101 and 1.7 percent per year on SR 175.

Historical Growth Trends

Based on an investigation of traffic volumes published by Caltrans, daily traffic volumes on the corridors appear to have grown at a slower rate over the last 20 years than is projected for the next 20 years. (The growth rate has been approximately 0.5 to 1.0 percent per year, which is less than growth seen in other areas to the south.) On the other hand, peak hour traffic volumes have remained steady with virtually no growth.

Future Traffic Conditions

Two alternatives for traffic control being considered for the US 101/SR 175 intersection are a roundabout and traffic signal (see discussion later in the report). The intersection was evaluated as a tee-intersection with SR 175 stop-controlled, as currently exists, as a roundabout, and with a traffic signal under future volumes. A summary of the intersection level of service calculations is contained in Table 6 and calculations are included in Appendix G.

Table 6 – Future (2035) PM Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Future Conditions	
	Delay	**LOS**
1. US 101/Hewlitt & Sturtevant Rd	0.1	A
Eastbound Approach	*13.1*	*B*
2. US 101/SR 175 (side street stop)	2.4	A
Westbound Approach	*15.6*	*C*
2. US 101/SR 175 (roundabout)	9.2	A
2. US 101/SR 175 (traffic signal)	9.9	A
3. US 101/Mountain House Rd	1.0	A
Eastbound Approach	*17.2*	*C*
4. Feliz Creek Road/Mountain House Rd	2.6	A
Eastbound Approach	*10.0*	*B*
Westbound Approach	*9.6*	*A*
5. SR 175/Old River Rd	2.5	A
Northbound Approach	*9.3*	*A*
6. SR 175/Lakeport-Hopland 175 Rd	3.7	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service;
Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Under projected future conditions, the US 101 study segment is expected to operate at deficient LOS E and SR 175 at acceptable LOS C. Per the *HCM 2010* methodology, the free-flow speed on the US 101 study segment was set to 45 miles per hour. This methodology lends itself to a more conservative analysis, resulting in worsened

operation on the segment. The average travel speed reported for the northbound and southbound segments was approximately 29 miles per hour. A summary of the roadway segment level of service calculations is shown in Table 7, and copies of the Level of Service calculations are provided in Appendix H.

Table 7 – Future (2035) PM Peak Hour Roadway Segment Levels of Service

Study Segments		Future Conditions	
		Percent	LOS
1.	US 101 between Mountain House Rd and SR 175	PFFS	
	Northbound	**65.0%**	**E**
	Southbound	**65.0%**	**E**
2.	SR 175 east of US 101/Railroad Tracks	PTSF	
	Eastbound	56.2%	C
	Westbound	56.2%	C

Notes: LOS = Level of Service; PFFS = Percent Free-Flow Speed; PTSF = Percent Time-Spent Following; **Bold** text indicates deficient operation

Traffic Signal Warrants

A signal warrant analysis was performed to determine potential need for a traffic signal at US 101/SR 175 under future traffic volumes. A warrant is a set of criteria that can be used to define justification for, or appropriateness of, a particular traffic control device.

Chapter 4C of the *California Manual on Uniform Traffic Control Devices* (CA-MUTCD) provides guidance on when a traffic signal should be considered. For the purposes of this study, Warrant 3, the Peak Hour volume warrant, which determines the need for traffic control based on the highest volume hour of the day, was used as an initial indication of traffic control needs. The use of this signal warrant is common practice for planning studies. Other warrants, which are more generally applicable to existing traffic issues, require collection of traffic volumes for the highest four or eight hours of the day, review of the collision history, and evaluation of the system surrounding the location.

Using Warrant 3, the traffic signal warrant was met for the intersection of US 101/SR 175 based on future traffic volumes. The results of this analysis in and of itself do not indicate that a traffic signal should be installed at this location. It should be noted that Warrant 3 is generally the first traffic signal warrant to be met, and indicates that further study at this location would be beneficial. Results of this analysis is provided in Appendix I.

A further study would be an Intersection Control Evaluation (ICE) analysis required by Caltrans. The analysis, which is a two-step evaluation process with an assessment and engineering analysis, will support the selection of intersection traffic control strategies and access configurations for this particular intersection. The analysis would evaluate the intersection before and after the planned traffic control feature is constructed.

Best Practices and Potential Improvement Measures

The Hopland community gathered at several workshops throughout the Engineered Feasibility Study planning process. At these workshops, sample images of specific pedestrian, bicycle, and transit improvements were presented and feedback was received from Hopland residents. Based on these goals, a summary of best practices, or "toolbox" of potential improvement measures for the Hopland area was developed and is provided in Appendix J. Following are the elements and their potential benefits that received interest based on community input.

Streetscape Improvements

Raised Medians

- Slow traffic
- Create space between vehicles on either side
- Inhibit head on collisions
- Create a pedestrian refuge (where warranted)

Shoulder with Colored Pavement

- Help slow traffic
- Delineate shoulder from travel lanes and parking

Enhanced Crosswalk

- Increase visibility with supplemental flashing lights (Rapid Rectangular Flashing Beacons) – an option
- Increase visibility though improved signage
- Increase driver and pedestrian awareness

Curb Extensions/Bulb-outs

- Reduce crossing distance, allowing pedestrians to cross more safely
- Provide additional visibility and protection for pedestrians, especially children
- Slow and calm traffic, particularly fast traffic turning from a major to a minor road

Wide, Continuous Sidewalks

- Improve comfort for pedestrians
- Make walking around town easier

Street Trees

- Provide shade
- Create visual interest
- Slow down traffic

Intersection Control

Roundabout

- Force vehicles to slow down
- Improve the efficiency of the roadway

- Control the flow of traffic
- Reduce pedestrian crossing distance by using splitter islands
- See Roundabout discussion below.

Pedestrian Facilities

Pedestrian Refuge Island or Raised Medians

- Allow pedestrians to cross one direction of traffic at a time
- Reduce the complexity of the crossing
- Slow and calm traffic
- Decrease delays for motorists
- Reduce collisions

Bike Improvements

Buffered Bike Lanes

- Provide extra space between bicyclists and vehicles
- Increase comfort in the bike lane

Bike Lanes

- Improve conditions for bicyclists by dedicating space for them on the roadway
- Increase visibility for drivers, making it easier to see cyclists
- Promote cycling

Sharrows (Shared Lane Arrows)

- Encourage drivers to share the lane with cyclists where there is not enough space for a bike lane
- Advise cyclists when to "take the lane" where travel lanes are too narrow for riding side by side with vehicles
- Reduce the incidences of wrong-way cycling
- Alert motorists to expect cyclists on the roadway
- Provide guidance to motorists and cyclists along narrow bridges

Parking

On-Street Parking

- Provide access to local businesses in Hopland

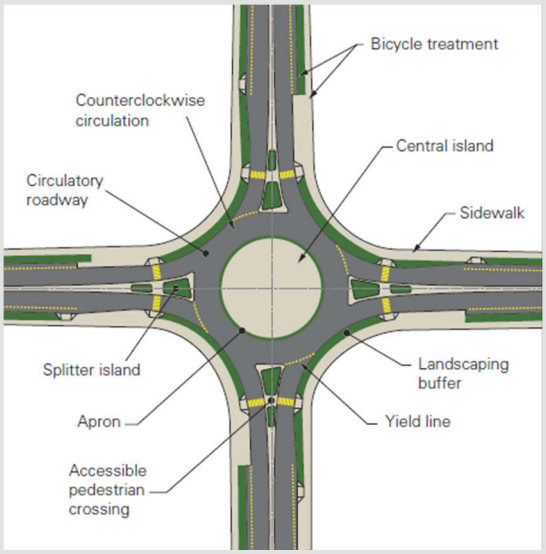
Bicycle Parking

- Provide security for bicyclists while patronizing businesses in central Hopland
- Help ensure that sidewalks are free and clear of obstacles to pedestrian travel

Roundabouts

A roundabout is a form of a circular intersection in which traffic travels counterclockwise around a central island and in which entering traffic must yield to circulating traffic. Roundabouts can offer advantages over traffic signals in terms of safety, aesthetics, speed moderation, fuel consumption, air quality, and relative ease in making U-turns. A properly-designed modern roundabout includes state-of-the-practice safety considerations including speed moderation, speed consistency, and reduction in potential for vehicle conflicts.

Findings from the 2010 National Cooperative Highway Research Program (NCHRP) report *Roundabouts: An Informational Guide* (NCHRP Report 672) indicate that signalized intersections that have been converted to roundabout control have been found to experience a 47.8 percent reduction in total collisions on average. Injury and fatal collisions at the same studies intersections were found to reduce by 77.7 percent.



Caltrans requires that any traffic control improvements to intersections on the State Highway consider a roundabout traffic control. This "Intersection Control Evaluation" (ICE) process is completed in two stages. The first step, *Access Strategy and Configuration Assessment/Screening*, entails identification of potential intersection control configurations including consideration of access strategies, the context of the surrounding circulation system and community, financial constraints, and the ability to achieve performance goals. Planning-level capacity analyses and intersection footprints are typically established for each option. These concepts are then screened by Caltrans to identify potential risks and non-conforming features, with one or more refined alternatives (in addition to the "no project" alternative) then moving forward to the second ICE step. Step 2, Engineering Analysis, activities include intersection traffic control warrant studies, alternative capacity and safety analysis, design performance checks, economic analysis, and consultation with the Caltrans District ICE coordinator.

Roundabout Needs Discussion

Under future traffic volumes, the traffic signal volume warrant was met, as discussed in the Traffic Signal Warrants section. Because roundabouts provide vehicular capacity that is similar to that of a traffic signal, the analysis could similarly be applied to the use of a roundabout for traffic control as an alternative to a traffic signal. Traffic signals are typically inconsistent with the rural character of communities such as Hopland. The collision history of US 101/SR 175, does not, by itself, warrant construction of a roundabout or traffic signal at the intersection.

It should be noted that a roundabout has been a suggested improvement at the US 101/SR 175 intersection for the following reasons:

- as a measure to reduce speeds on the US 101 corridor
- to reduce pedestrian crossing distance on all legs
- to calm traffic by employing intersection geometrics associated with the application of a roundabout that causes drivers to reduce speeds entering and exiting the roundabout
- to be more compatible with Complete Streets principles by providing improved pedestrian crossing facilities, reduced automobile speeds that improves cyclist comfort while navigating the intersection, and aesthetics
- to control turning movements which are projected to increase in the future
- to avoid introducing a new traffic signal on the US 101 corridor

Caltrans has indicated, "*At this time, Caltrans cannot support modifications to an intersection without meeting warrants. Should at a later date, the intersection of US 101 at SR 175 meet traffic warrants, an intersection review (Intersection Control Evaluation) performed by Caltrans Traffic Operations would be used to evaluate all available options*." It should be noted that there are other justifications (discussed above) for the addition of a roundabout, which are not necessarily covered by Caltrans warrants, but are supported by Caltrans' Complete Streets Deputy Directive 64-R2, which supports "safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility." At this time, the full integration of the directive policy into the Caltrans staff review is still in process including potential updates of manuals, guidance and training.

Caltrans has also expressed concern over the ability of a roundabout *to accommodate STAA trucks and oversized permit loads*. It is possible to modify the design of the roundabout to accommodate STAA trucks and oversized permit loads running north-south on US 101 while still keeping the footprint of the intersection within the public right-of-way. It should be noted that the SR 20 corridor in Lake County is also an STAA route and that a roundabout is being analyzed for the intersection of SR 20/SR 53. A roundabout is currently under construction at SR 20/SR 29.

At the two workshops, the community provided mixed comments and acceptance of the roundabout as a future improvement. As part of the third workshop, the community will be provided with additional information on roundabouts and their feedback will be summarized in the final report.

Preferred Plan

Objectives

The purpose of the plan is to provide a set of transportation improvements that are feasible from an engineering standpoint and meet the needs of a complete street environment for the US 101 and SR 175 study corridors. Although features outlined in the plan will require formal approval from Caltrans, the community has identified the following plan objectives through the public outreach process:

- Improve Safety
- Calm Traffic
- Enhance Beauty/Nature
- Increase Business Visitation
- Increase Sense of Community and Neighborhood Health
- Maintain "American Historic Town" Character
- Provide More Opportunities/Connections to Recreation

Geographic Overview

The Preferred Plans for Central Hopland and Old Hopland were developed by applying best practices to meet the needs of the community as envisioned through public outreach and further refined with input from the community.

Following are the general preferred improvements for each roadway segment identified on Figure 7.

Section A – This section would include a new median island with entryway signing at the north end of town to provide traffic calming; buffered bike lanes, on-street parallel parking, reconstructed sidewalks; and trees.

Section B – Because of the non-standard slope of the roadway, the existing crosswalks at Center Drive would be replaced with a new crosswalk including a raised median island and bulb-outs approximately 150 feet south of Center Drive. This section of US 101 will need to be ground down and repaved, as discussed in Appendix K. The section also includes buffered bike lanes, on-street parallel parking, reconstructed sidewalks and trees.

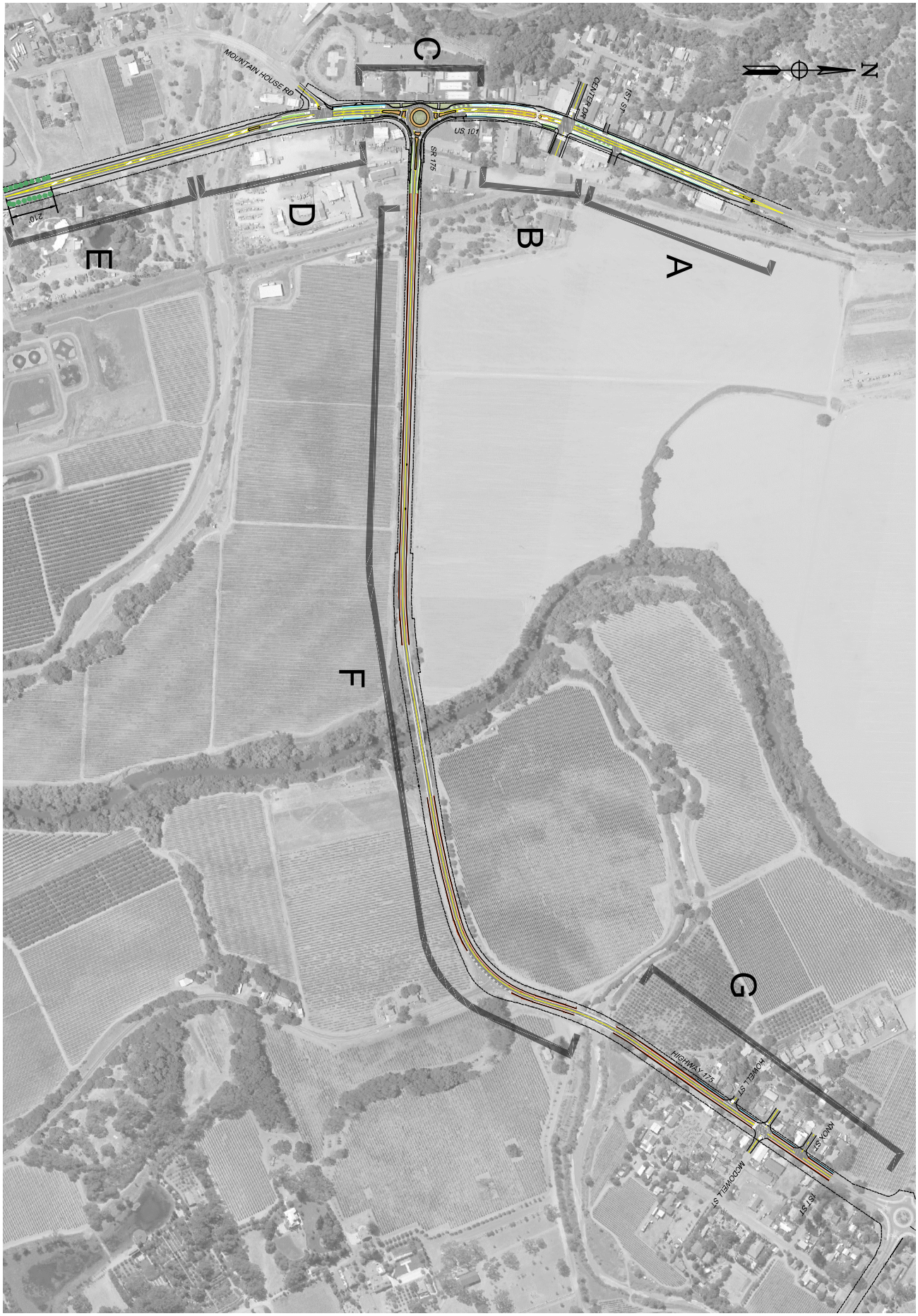
Section C – As a short-term improvement, the intersection of US 101/SR 175 would be redesigned with a narrower footprint to better accommodate pedestrian crossings. In the future, additional traffic controls in the form of either a traffic signal or roundabout may be needed to serve increased traffic volumes. The roundabout option would provide an added benefit of tempering speeds in the core of Hopland.

Section D – The pavement width would be reduced at the existing US 101/Mountain House Road intersection, new crosswalks provided on the Mountain House Road leg and a raised median island installed that can serve as a pedestrian refuge area. Wide parking aisles for trucks would be provided on both sides of US 101 between SR 175 and the Feliz Creek Bridge.

Section E – Improvements to be installed include a median island to the north of the Feliz Creek bridge for traffic calming; a two-way left-turn lane serving left-turn access into and out of the Real Goods Solar Living Center Driveway; and trees along the southerly 200 feet of the segment with twin entryway signs as a traffic calming feature for traffic entering Hopland.

Section F – The existing shoulders would be widened to provide on-street bike lanes between US 101 and Old Hopland except at the Russian River and Dooley Creek bridges where warning signs and lighting would be provided. A future alternative for this corridor includes a separate multi-use path south of SR 175 and bicycle/pedestrian bridges over the Russian River and Dooley Creek.

Section G – The shoulders would be widened and colored red west of Powell Street to 1st Street to calm traffic, provide for parking, and serve pedestrian and bike travel.



Hopland Main Street Corridor Engineered Feasibility Study

Figure 7: Roadway Segments

July 2015

The Preferred Plan for central Hopland is shown in Figures 8 and 9. Following are descriptions of the preferred improvements.

Entryway Signs

Entryway signs serve as an indicator to drivers that they are entering the Hopland community. Currently, there is a "Welcome to Hopland" sign south of town, but it is set back from the highway, overshadowed by a tree, and does not correspond to the actual entry to the town.

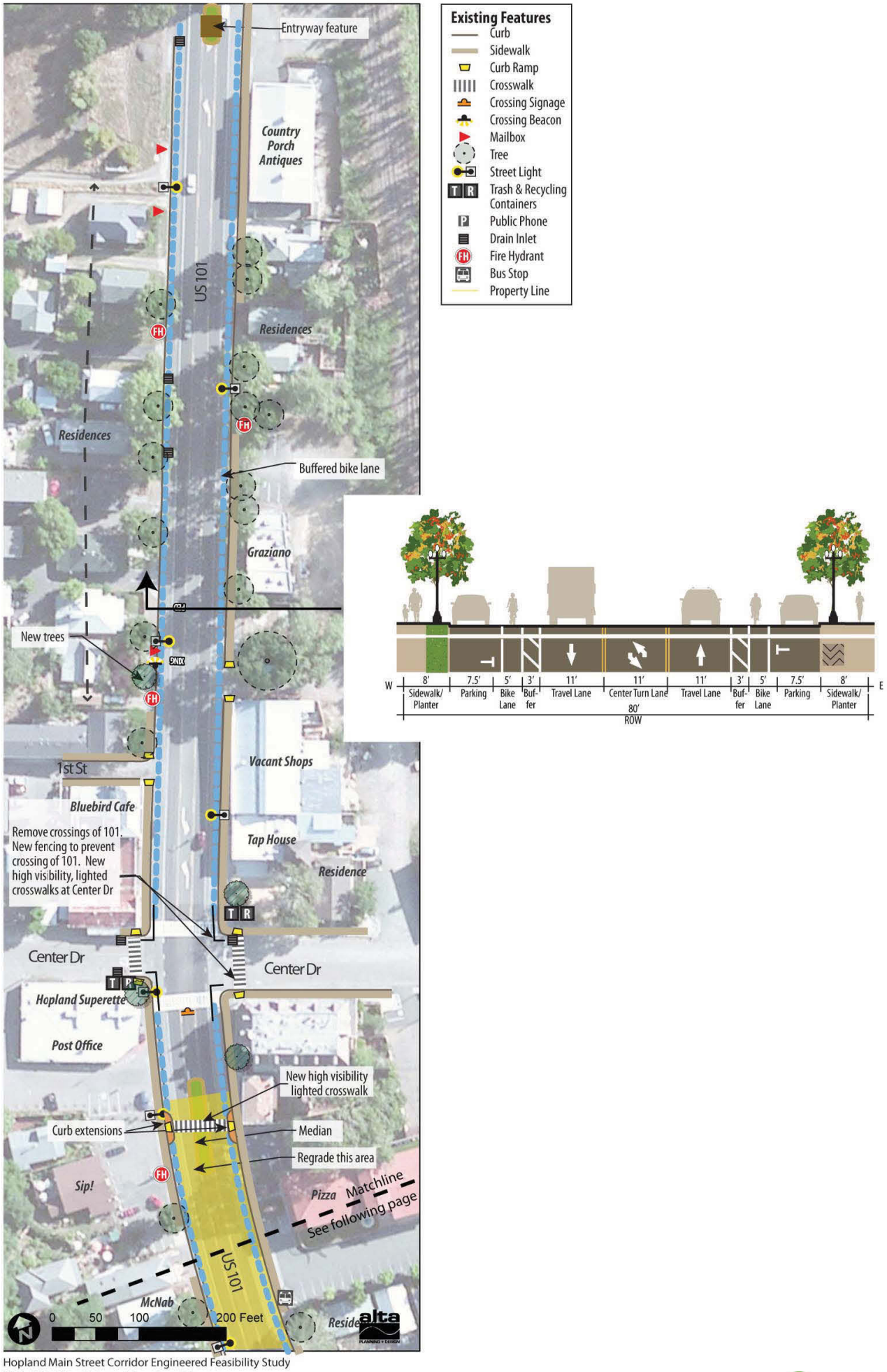
A more prominent set of entry features may be beneficial for increased economic activity and as a traffic calming measure. A potential theme for the signs is that Hopland is the first town on Historic US 101 north of San Diego where the highway is the main street business district.

Twin entryway signs are proposed south of the Real Goods Solar Living Center, just north of the Rosetti Creek Bridge. The concept of taller entry signs on the south side of town was favored by several community members. This entry statement would be enhanced by rows of trees on either side of the highway. The clear zone would require trees to be located at least 20 feet from the edge of traveled way. It should be noted that Caltrans retains sole discretion for determining the location, appropriate size, content, colors and other elements of entryway signage.

To the north of Central Hopland, a single tall entry sign would be installed on a median island. Alternatively, the sign could be installed near the existing speed limit sign posted approximately 750 feet north of the antiques store.

The locations of the entryway signs include the north end of Section A and south end of Section E.

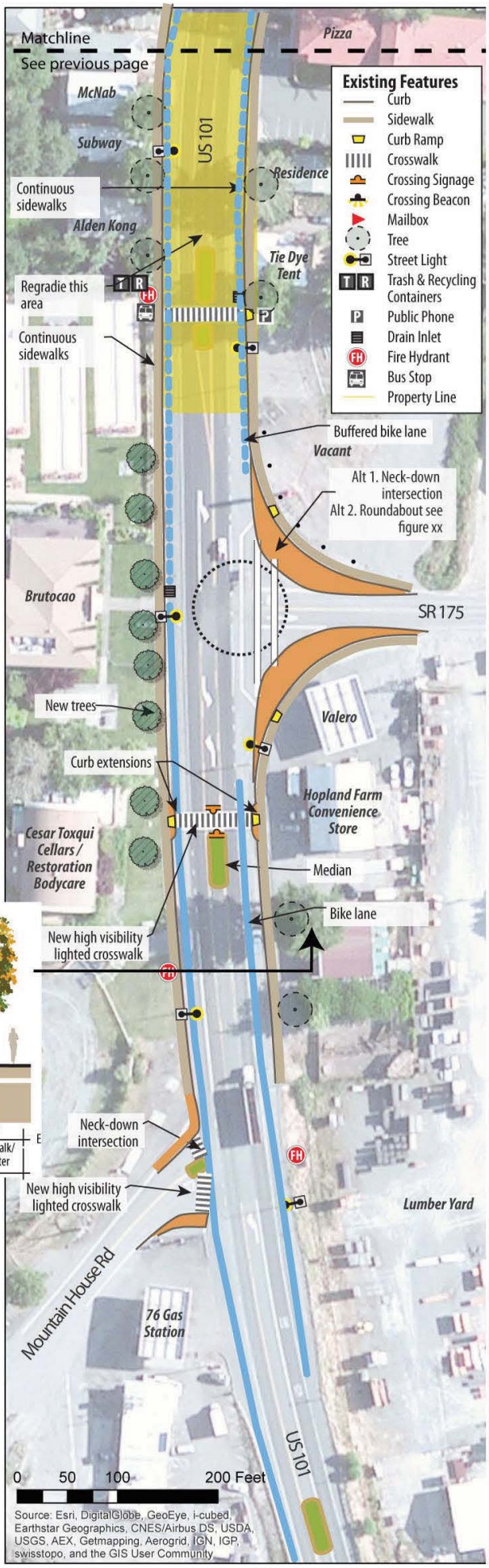
The entry signs and trees would require an encroachment permit from and maintenance agreement with Caltrans, and potentially a permit from Mendocino County for the sign structures. Additionally, funding and maintenance would need to be provided by the local entity. Preferable forms and content for the entryway signs vary widely, but there is potential for increasing community involvement through a design competition.

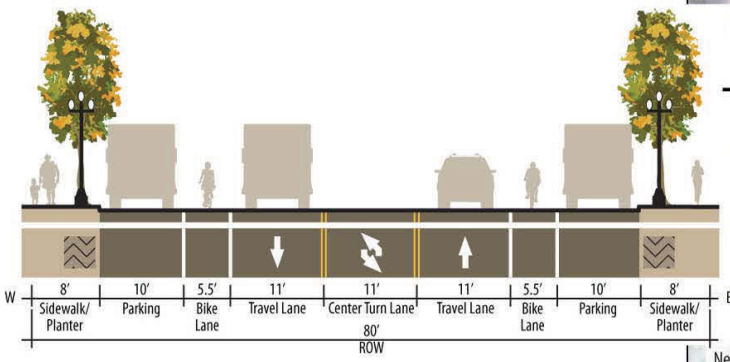


Hopland Main Street Corridor Engineered Feasibility Study

US 101 Corridor - Hopland Insets

May 2015





Hopland Main Street Corridor Engineered Feasibility Study

US 101 Corridor - Hopland Insets

May 2015

Speed Reduction Measures

Speed reduction measures include the use of raised medians, colored pavement, curb bulbouts, and street trees.

Raised medians would be installed north of the antique store together with an entryway sign at the new crosswalk location south of US 101/Center Drive, as part of the roundabout, north of the Feliz Creek bridge, and on Mountain House Road at US 101. These locations provide the benefits of traffic calming, beautification, and pedestrian refuge areas without limiting access.

The existing central Hopland frontage features a number of mature sycamore street trees. Figures 8 and 9 show potential locations where trees could be added. Any installation of new landscaping will need to be coordinated with driveway locations and be located outside of the clear recovery zone. Landscaping could also be added in the medians. Trees in the medians create a maintenance and clearance problem, so they are not recommended.

Although there are currently radar feedback signs, north and south of Hopland, they are generally too far away from the core of the community to impact speeds in the town. The plan proposes radar feedback signs immediately on the north and south of the community where the 35 mph signs first appear.

One of the alternative future treatments at the US 101/SR 175 intersection, the roundabout, would provide additional speed reduction which is discussed under Intersection Control below.

Alternative - *Colored pavement treatments would be installed on the shoulders of US 101 between the entryway signs at the south end of Hopland to the Real Goods Solar Living Center.*

Intersection Control

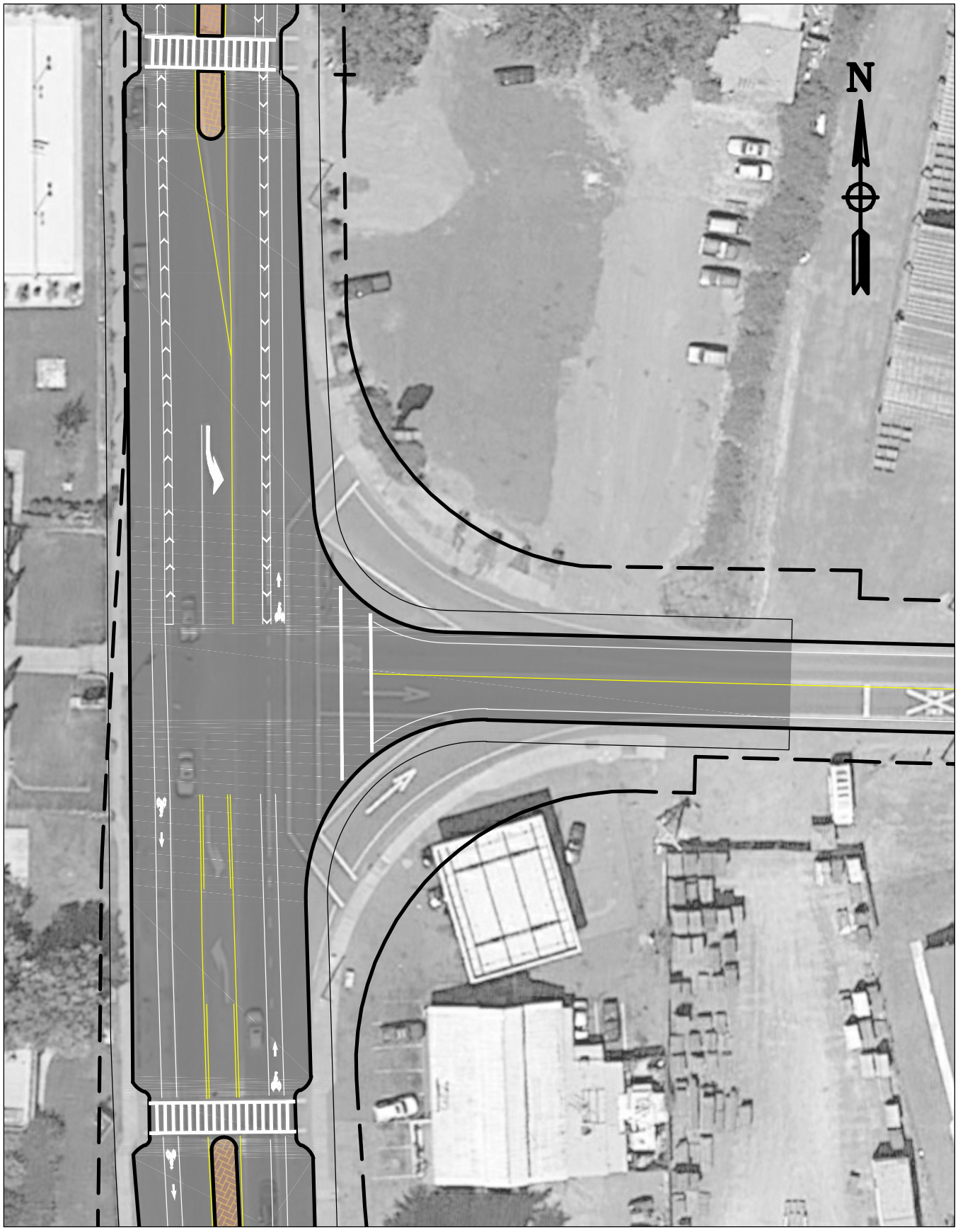
Intersection modifications are proposed for the intersection of US 101/SR 175 under both the short term and long term.

Short Term – The intersection of US 101/SR 175 would be reduced in size to more appropriately serve pedestrians and control speeds. This option would include the removal of the northbound and westbound channelized right-turn lanes and implementing smaller radii returns. See Figure 10.

Long Term – Ultimately, the intersection of US 101/SR 175 will warrant traffic controls to serve increased future traffic. There are two options to serve this need: traffic signals or a roundabout. Both options would result in the following:

- Acceptable intersection level of service (LOS) as shown in Table 6.
- Additional, but acceptable delay to north-south traffic compared to minimal delay under existing conditions.
- Slower speeds in the north-south direction compared to existing free flow conditions. (Speeds with the traffic signal speeds would fluctuate dependent on the green or red phase encountered by approaching vehicles.)
- Additional, but minimal queuing in the north-south direction compared to minimal queuing under existing conditions.

At the time that Caltrans and/or MCOG have determined that the traffic controls are warranted and funding has become available, the Intersection Control Evaluation (ICE) process (or similar process required at that time) would be initiated which would consider the merits, feasibility and impacts of both options.



Hopland Main Street Corridor Engineered Feasibility Study

Figure 10: US101/SR175 Alternative Design

September 2015

Traffic Signal – The design of the traffic signal equipment would be dictated by design guidelines at the time of project initiation. It is recommended that the roadway geometrics reflect those shown in Figure 10 for the short term improvements which would have eliminated the wide channelized right-turn lanes on the east side of the intersection. As part of the signal design, driveway access issues would need to be resolved, especially for the gas station on the southeast corner.

Roundabout – The concept design for the roundabout is shown in Figure 11[1]. This design may have to be adjusted so that the intersection could more fully accommodate STAA sized trucks and oversized loads.[2] The intention of the roundabout design including the splitter islands would be to also act as a speed reduction measure by forcing vehicles to slow to approximately 20 mph as they enter Central Hopland while still maintaining adequate access to adjacent properties including the gas station on the southeast corner.

Channelization and Turn Lanes

On Section E, a two-way left-turn lane would be installed and provide access for southbound vehicles turning into the Real Goods Solar Living Center as well as access to other driveways on the south side of town. Although there is no history of collisions at this location, the left-turn volume does meet left-turn lane warrants. Based on feedback from Caltrans, since the turn lane would provide enhanced access to a private business, local public and/or private funding would need to be used to implement this alternative.

The existing northbound left-turn lane at US 101/Mountain House Road would be shortened. The design of the two-way left-turn lane is subject to approval of a design exception by Caltrans since it is proposed to be narrower than the standards contained in the Highway Design Manual, which is a minimum of 12 feet.

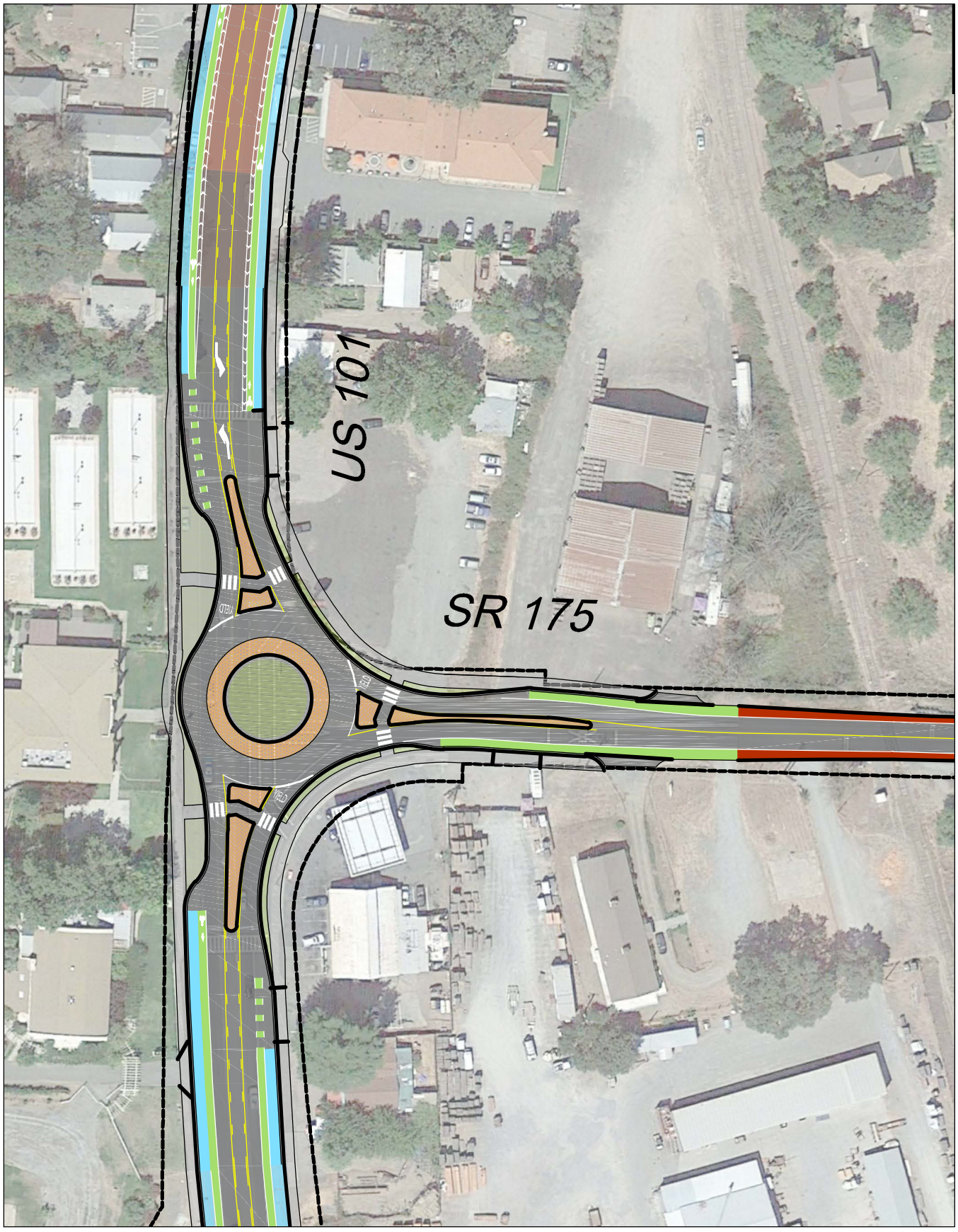
Mountain House Road Intersection Improvements

Currently, Mountain House Road at US 101 presents difficulties for pedestrians given the wide expanse of pavement. No striped crosswalks are currently provided and the crossing distance is substantial. The plan proposes converting to smaller curb return radii and installing crosswalks on the Mountain House Road leg in addition to a raised median island that can be used by pedestrians as a refuge area. This is shown on Section D.

---

[1] Design Details for the roundabout shown in Figure 11: Inscribed circle diameter = 130 feet; Splitter island length = 100 feet (north), 105 feet (south) and 170 feet (east); Sidewalk/shared use path width = 10 feet between bike lane terminus locations. Designed to accommodate STAA sized trucks.

[2] The roundabout inscribed circle diameter may need to be 130-140 foot range. Future design should include counts of heavy vehicles to better determine the percent of heavy vehicles. The design vehicle should be a STAA truck or alternative suggested by Caltrans.



Hopland Main Street Corridor Engineered Feasibility Study

Figure 11: US101/SR175 Roundabout

Pedestrian Facilities

Reconstructed and extended sidewalks are proposed in central Hopland on Sections A, B and C, where existing sidewalks are discontinuous or in poor condition. Figures 8 and 9 shows the area where sidewalk improvements would be made. Materials are envisioned that are appropriate for a rural small town, yet durable, such as colored concrete or concrete pavers. There are a number of locations with relatively new conventional sidewalks, so if a new decorative sidewalk type is sought it would need to be phased in and coordinated with County development codes and standards.

Pedestrian Crossing Improvements

Pedestrian crossing improvements include installing an enhanced crosswalk approximately 100 feet south of US 101/Center Drive (Section B). This would replace the existing crosswalk on the north and south legs of US 101/Center Drive because of existing slope issues which do not comply with accessibility requirements. Center Drive has a noticeable elevation difference between the east and west sides of the street. These slope issues and constraints are detailed in Appendix K. The crosswalk would be enhanced with curb extensions or "bulbouts", a median refuge island to the north and south, and user-activated warning lights such as rectangular rapid flashing beacons (RRFBs).

The existing crosswalk on US 101 south of SR 175 (Section C) would be removed if the roundabout option were pursued. A crosswalk would be added across Mountain House Road (Section D).

Lighting

Pedestrian scale street lighting to augment or replace the "cobra head" lights on wood poles that exist along US 101 is an improvement that is often included in complete street plans; however, community feedback indicated street lighting was not desirable. Local merchants expressed concern that Pacific Gas and Electric (PG&E) was prohibiting the attachment of banners to the existing poles, which will constrain announcement of local events. Options to address this may include forming a landscaping and lighting assessment district through Mendocino County to transfer responsibility of these poles from PG&E, or erecting a set of poles for hanging banners, which would require an encroachment permit from Caltrans.

Bicycle Facilities

Buffered bike lanes would be installed on US 101 north of SR 175 (Sections A, B and C), while standard bike lanes would extend to the south on US 101 from SR 175 to the Real Goods Solar Living Center driveway (Sections D and E). These improvements are illustrated in Figure 8 and 9. It is noted that per the Streets and Highways Code, bike lanes should not extend beyond pedestrian facilities. Therefore, the bike lanes should only extend between the bridge, south of Mountain House Road, to the south and to the Country Porch Antiques store to the north.

Alternative - *The 2012 Mendocino County Rail-with-Trail Corridor Plan includes recommendations for a multi-use trail along the Northwestern Pacific rail line paralleling US 101 just east of central Hopland. Some public comments during the study supported this as a better alternative for bicyclists than bike lanes on US 101.*

Amenities

Bicycle parking and street furniture in addition to other amenities such as trash receptacles, orientation kiosks and way-finding signs would help complete the bicycle routes and pedestrian facilities in Hopland. Locations for these amenities are provided in Figures 8 and 9.

Parking

On-street parallel parking would be provided through central Hopland (Sections A, B and C), which would allow convenient access to businesses as illustrated in Figures 8 and 9.

Truck Parking

Truck parking will be provided on both sides of the street between US 101/SR 175 and the gas station located on the southwest corner of US 101/Mountain House Road (Section D).

The Preferred Plan for Old Hopland is shown in Figures 12, 13 and 14.

Speed Reduction Measures

Stamped colored asphalt shoulders would provide for a traffic calming effect and underscore that the shoulders are pedestrian space in this small community. These improvements are shown in Figure 12.

Bicycle Facilities

The following improvements focus on bicycle facilities on SR 175 between Old Hopland and US 101.

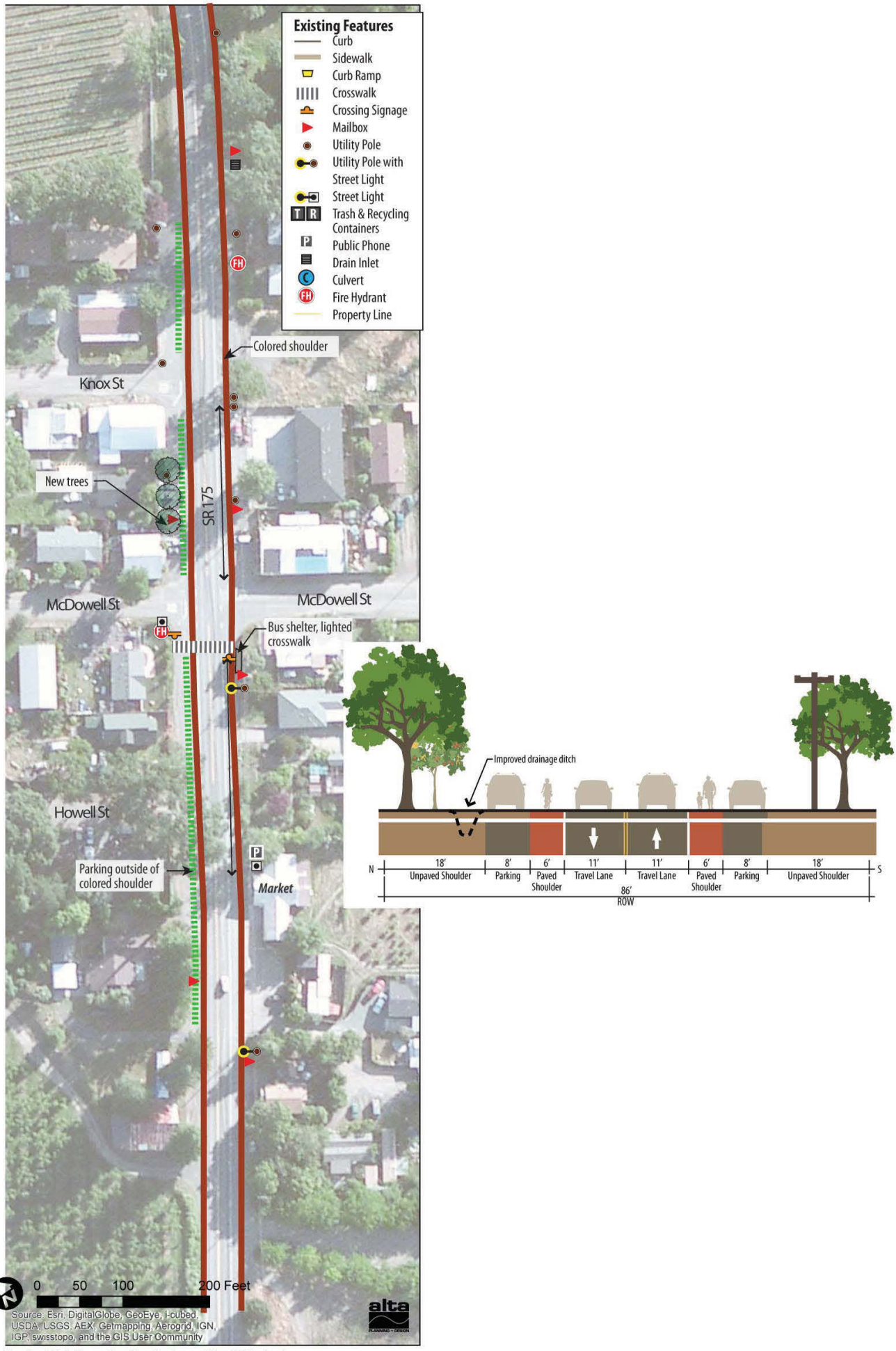
Phase 1 - The plan would include shoulder widening to provide standard 5-foot on-street bike lanes on Section E with gaps at the two existing bridges as shown in Figure 13.

The narrow 650-foot long Russian River Bridge and the slightly wider 120-foot long Dooley Creek bridge would have sharrows and "share the road" and "bicycles and pedestrians" signs as a short-term improvement. Also, this phase could include a user-activated warning light system that flashes to indicate that bicyclists or pedestrians are on the bridge similar to the example shown below.

Phase 3 - As part of a latter phase, as shown in Figure 14, a dedicated multi-use path for bicyclists and pedestrians would be installed south of SR 175, with bicycle and pedestrian bridges spanning the Russian River and Dooley Creek in the long term.

Parking

The colored shoulders would be combined with paved parking aisles beyond the shoulders, with signs requiring or encouraging parallel parking, and prohibiting parking blocking the shoulder area designated for pedestrian and bicycle use. Because the wide shoulders of SR 175 in Old Hopland drain poorly and have evidence of ponding in some locations, the addition of the paved parking aisle should be combined with some grading work and replacement of base rock on either side to create more positive drainage. This may entail collection/infiltration ditches if there is nowhere else for the runoff to go.

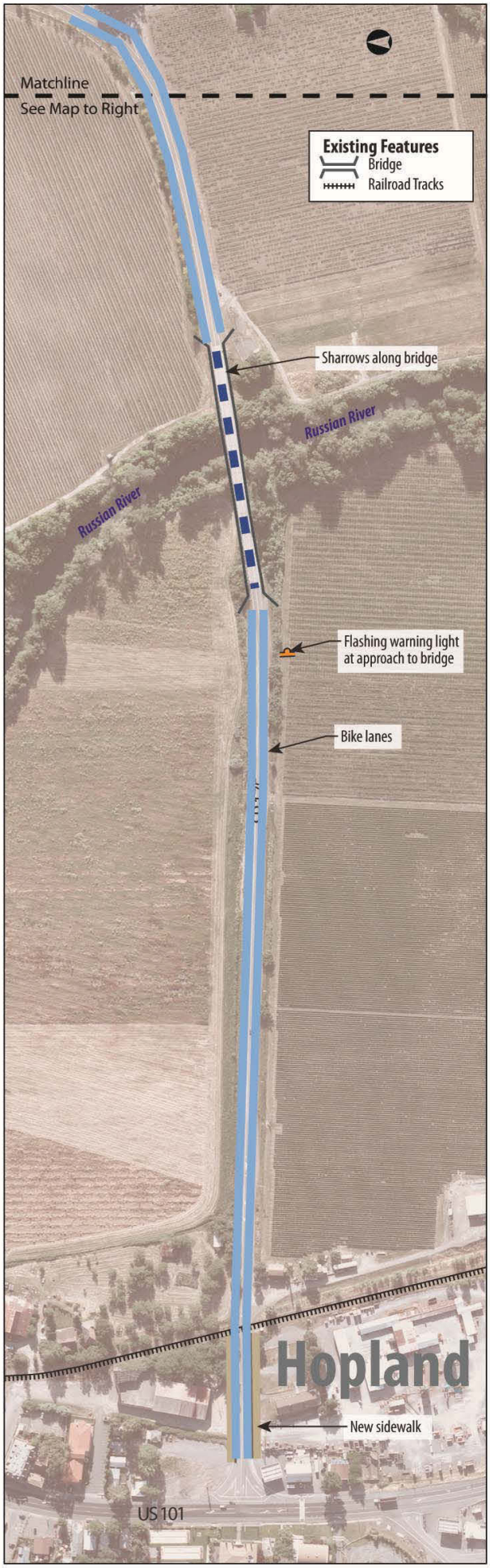


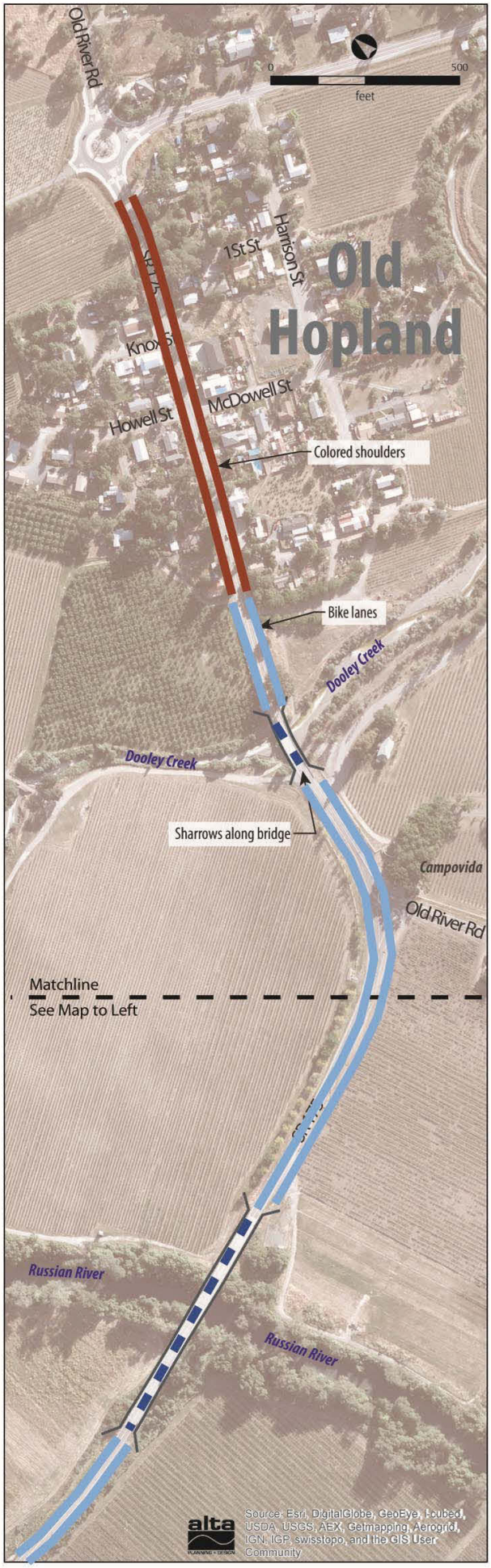
Hopland Main Street Corridor Engineered Feasibility Study

SR 175 Corridor - Old Hopland Insets

May 2015

W-Trans



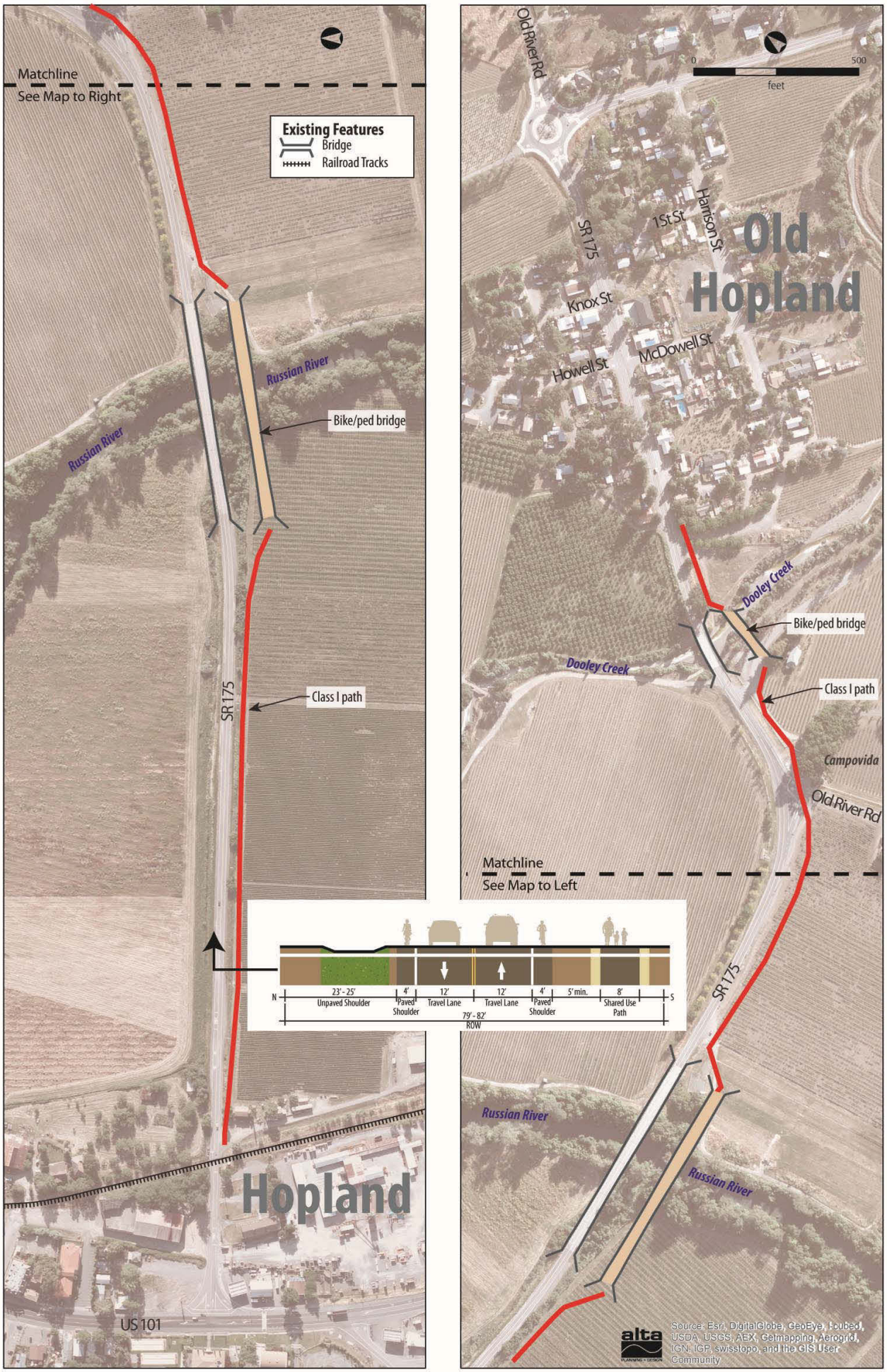


Hopland Main Street Corridor Engineered Feasibility Study

SR 175 Corridor

May 2015

W-Trans



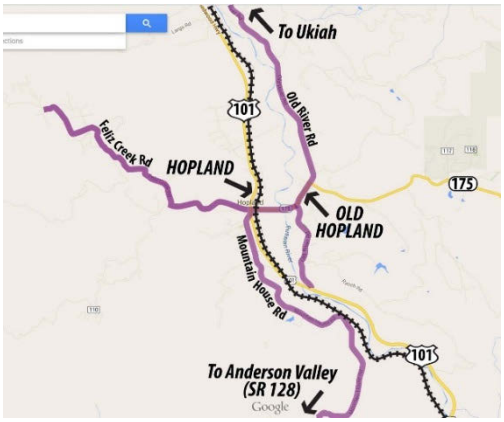
Hopland Main Street Corridor Engineered Feasibility Study

SR 175 Corridor

May 2015

W-Trans

Old River Road, which extends up the east side of the valley parallel to US 101, was identified by many public comments as the primary north-south bike route. While it is outside the study area for this project, it was discussed at the workshop due to bicyclist safety concerns. It is a winding 55-mph rural road with many curves, and generally little to no shoulder. Widening the shoulders overall would be a very significant project. Bicycling on surrounding roads is pertinent to bicycle improvements in the study area because they would support connections to town from residents in outlying areas, and connections for bicycling tourists. Old River Road, Feliz Creek Road and Mountain House Road are fairly typical scenic rural roads for the region, and might support increased bicycle tourism in combination with improved bicycle facilities in Hopland, especially if the separate Rail-with-Trail project were completed.



Public Input on Priorities

First Workshop – At the first public workshop, attendees were presented with the list of project components and asked to identify their top three desired projects. The proposed roundabout at the intersection of US101/SR 175 was clearly the most desired improvement project on the list followed by the relocated and enhanced crosswalk on US 101 near Center Street, added landscaping and trees, and colorized shoulders in Old Hopland.

Second Workshop – There were a number of attendees who were either opposed to the roundabout or concerned about its operation and impacts.

Third Workshop – A community presentation was held at the Brutocao Banquet Room presenting the draft report to the community. Members of the technical team were available to answer questions from community members following the presentation. The project prioritization ranking (described later in this report) was presented to the community. They were asked to participate in a dot exercise where they were asked to place a dot when they either agreed or disagreed with a project ranking. They were also given the opportunity to describe what they believed should have been the appropriate project ranking. In general, the community agreed with the presented project rankings. Following are the noted exceptions: comments from the exercise indicated the roundabout at US 101/SR 175 should be ranked higher, agreement on the project priority was split for the reduced tee-intersection, and there was some support to rank the southbound left-turn lane into Real Goods as the highest priority project. There appeared to be some conflict between the dot exercise and comments in regards to the tee-intersection and roundabout. The results are summarized in Appendix A.

The complete list of improvements and the results on public input is provided in Appendix A.

Cost Estimates

Cost Estimates

Preliminary construction costs were developed based on workshop planning documents and discussions with the project team. Construction scope items were assumed for each design option and work quantity measurements approximated from available on-line tools, such as Google Earth. Topographic survey, boundary survey, geotechnical information, existing utility mapping, and other resources were not available to complete the preliminary opinion of construction cost. As quantities of work could vary significantly, a 35 percent contingency was applied.

Caltrans District 1 was consulted regarding the construction costs and provided comments in the letter, dated April 29, 2015, provided in Appendix L. Based on comments received, revisions were made to the traffic control and miscellaneous utility adjustment items. There appears to be potential for underground and/or above-ground utility adjustments with most potential projects, but it is not known which utilities would be impacted or the exact extent of such work.

The cost estimates were based on a Class 4 (concept evaluation) estimate of probable construction cost as defined by the Association for the Advancement of Cost Engineering, International (AACE). AACE defines the "Class 4" estimate as follows:

> *Generally prepared based on limited information and subsequently have fairly wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval. Typically, engineering is from 1% to 15% complete. Class 4 estimates are prepared for a number of purposes, such as but not limited to, detailed strategic planning, business development, project screening at more developed stages, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval or approval to proceed to the next stage. The typical accuracy range for this class estimate are -15% to -30% on the low side, and +20% to +50% on the high side, depending on the technical complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination.*

Cost estimates also included Preliminary Engineering (25% of construction cost), Construction Engineering (15% of construction cost), and Right-of-Way (variable). The resulting preliminary opinion of probable construction costs which are detailed in Appendix L for design options are as follows:

A. $3,553,800 (Roundabout at US 101/SR 175)
B. $636,600 (Relocated US 101/Center Drive crosswalk with curb extensions)
C. $235,400 (Colorized shoulders in Old Hopland)
D. $363,800 (Entry features on US 101 at the north and south entry points into Central Hopland)
E. $667,600 (Sidewalk reconstruction through Central Hopland)
F. $589,000 (New southbound left-turn lane into Real Goods Solar Living Center)
G. $407,600 (Additional medians along US 101 through Central Hopland)
H. $1,734,600 (Bike lanes on SR 175)
I. $1,795,000 (US 101/SR 175 reduced tee-intersection alternative)

The total of all projects is estimated at $9,983,400.

Environmental Analysis

Preliminary environmental existing conditions and potential impacts related to various environmental resources identified under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) were completed for the Hopland Main Street Corridor Engineered Feasibility Study. The environmental analysis is identified in further detail in Appendix M, and there could be environmental impacts associated with the following resource sections: Historical/Cultural/Paleontological Resources; Hydrology and Floodplains; Water Quality and Stormwater Runoff; Geology and Soils; Hazardous Waste/Materials; Air Quality and Climate Change; Noise and Vibration; and Biological Resources.

The following recommendations provide a brief overview of the initial findings from the environmental analysis:

Historic/Cultural Resources/Paleontological Resources

- A professional archaeologist should assess the recorded archaeological resource in the study area and provide project-specific recommendations. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.
- There is a high potential for Native American archaeological resources and a low potential for historic-period archaeological resources to be within the study area. It is recommended that a qualified archaeologist conduct further archival and field study to identify cultural resources within those portions of the project area that have not been subject to previous survey coverage. A good faith effort should be made to identify buried archaeological deposits that may show no signs or indications on the surface. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.
- The Northwestern Pacific Railroad (P-23-003663) alignment crosses the project area. The project area also includes the US Highway 101 over Feliz Creek Bridge (10 0003) and the State Route 175 over Russian River Bridge (10 0045). In addition, the Thatcher Hotel (Tax Certification No. 537.9-23-0002) is located adjacent to the proposed project area. Therefore, it may be that a Section 106 consultation with the Office of Historic Preservation regarding potential impacts to this building and structures is necessary.
- Any identified cultural resources found during field studies should be recorded on DPR 523 historic resource recordation forms.

Hydrology and Floodplains

It is not anticipated that the nature of the proposed improvements would alter the existing drainage pattern in the area as a majority of the improvements are minor and are simply reconfiguring existing infrastructure, and design of the pedestrian bridges would comply with the County of Mendocino Municipal Code's floodplain requirements.

Water Quality and Stormwater Runoff

Depending on the size and nature of the construction activities, appropriate water quality and stormwater runoff measures would likely be required during construction.

Geology and Soils

Construction of new pedestrian bridges may require site-specific geotechnical investigation. It is anticipated that the design of the pedestrian bridges would comply with any recommendations made in the geotechnical investigations.

Hazardous Waste/Materials

If the project requires ground disturbance near or within the open Leaking Underground Storage Tank (LUST) cleanup case, contaminated soil may be encountered. Appropriate measures should be in place to properly handle and dispose of contaminated material.

Air Quality and Climate Change

Construction activities may result in air quality impacts related to the generation of dust and exhaust. Depending on the length and nature of the construction, appropriate measures may be required to control dust and exhaust during construction activities. Operation of the project is not anticipated to create any air pollutants and only minor indirect greenhouse gas emissions from electricity use of the new lights.

Noise and Vibration

Depending on the duration of construction and type of equipment used during construction, additional measures may be necessary. In addition, depending on the method of installation for the pedestrian bridge, vibration impacts may occur. A noise and vibration study to further investigate the potential noise and vibration impacts may be required.

Biological Resources

Appropriate surveys and measures would be required if work were to occur within the Russian River, Dooley Creek, and Feliz Creek.

Cumulative Impacts

At this time it is not known what potential projects may occur at the same time as implementation of the Hopland Main Street Corridor plan, or that may result in cumulative impacts to which the plan would contribute. This will be evaluated once project activities have been better defined and a general timeline has been determined.

Resources Agency Permitting Requirements

Permits may be required from the following agencies:

- US Army Corps of Engineers
- US Fish & Wildlife Service
- State Historic Preservation Office
- San Francisco Bay Regional Water Quality Control Board
- California Department of Fish and Wildlife (CDFW) Northern Region

Project Prioritization

An evaluation was completed in order to develop a screening process to prioritize the improvement projects in the Hopland plan. The "Project Prioritization Matrix" provides a means to score and identify the projects with more or less priority which is needed given the constraints of funding and implementation. Based on feedback from the technical team and MCOG, seven evaluation criteria were selected for evaluation and scoring. Each category was assigned a weight factor as a means to weigh the importance of each criteria relative to each other. A weighted score was then calculated and the projects were ranked. Following is a summary of the prioritization scoring components:

Evaluation Criteria

- **Safety Improvements** (17 percent) –Measures the project's potential safety enhancements both for vehicle and/or active transportation modes within the study area.
- **Active Transportation Enhancements** (14 percent) – Measures the project's ability to construct new or improve active (pedestrian and bicycle) transportation facilities.
- **Potential Environmental Impacts** (12 percent) – Measures the project's potential impacts to CEQA environmental evaluation issues. The bigger the impact, the lower the score.
- **Right-of-Way Impacts** (12 percent) – Measures the project's impact to existing right-of-way constraints. The bigger the impact, the lower the score.
- **Constructability and Engineering Feasibility** (17 percent) – Measures the ability to efficiently and effectively construct the project.
- **Cost** (14 percent) – Measures the project's estimated cost relative to other projects. The higher the cost, the lower the score.
- **Community Priority** (14 percent) – Each project was assessed based on feedback received from community members during the public outreach process. The process included a public workshop where projects were voted on based on their highest priority. *(Note: This criteria will be updated after the third and final workshop).*

Scoring

For all categories a scale of one to five was applied as follows:

- 5 – very positive
- 4 – positive
- 3 – neutral
- 2 – negative
- 1 – very negative

Weight Factors

Each criteria was given a weight factor (shown above with the criteria) ranging from 17 percent to 12 percent. With seven evaluation criteria, the average weight factor would be approximately 14 percent. This range was determined to be the most appropriate, since the resulting assignments produce less than a 50 percent difference between categories (17 percent as compared to 12 percent).

Prioritization Results

The results of the project prioritization matrix evaluation are shown in Table 8.

Table 8 – Project Prioritization Matrix									
Improvement Project	**Safety Improvements**	**Active Transportation Enhancements**	**Potential Environmental Impacts**	**Right of Way Impacts**	**Constructability and Engineering Feasibility**	**Cost**	**Community Priority**	**Total Weighted Score**	**Rank**
Weight Factor	**17%**	**14%**	**12%**	**12%**	**17%**	**14%**	**14%**	**100%**	
Colorized shoulders in Old Hopland	4	4	3	3	5	5	5	**4.21**	**3**
Roundabout at US 101/SR 175	5	4	4	3	2	1	4	**3.29**	**10**
Additional medians along US 101 through Central Hopland	4	4	4	5	5	4	4	**4.29**	**2**
Radar Feedback Signs	5	3	4	5	5	5	5	**4.60**	**1**
Relocated US 101/Center Drive crosswalk with curb extensions	5	5	4	3	3	3	4	**3.88**	**6**
Bike lanes on US 101	5	5	4	4	5	2	2	**3.92**	**5**
Sidewalk reconstruction through Central Hopland	5	5	4	3	4	3	4	**4.05**	**4**
New southbound left-turn lane into Real Goods Solar Living Center	5	1	3	3	4	3	2	**3.09**	**11**
US 101/SR 175 reduced intersection alternative	4	4	4	4	5	2	3	**3.75**	**7**
Entry features on US 101 at the north and south entry points into Central Hopland	4	1	4	3	4	4	3	**3.32**	**9**
Bike lanes on SR 175	5	5	2	3	2	3	4	**3.47**	**8**

Note: Scale of one to five, with one being the lowest benefit and five being the highest benefit.

Project Phasing

Based on the highest priority projects as indicated by the community together with the project cost estimates and likely implementation feasibility issues, phasing of the project is suggested as follows.

Phase I - Short-Term Improvements (within 5 years)

US 101 - Central Hopland

- Install Radar Feedback Signs at 35 mph transition, north and south ends of US 101
- Reconstruct sidewalks in high pedestrian areas
- Relocate US 101/Center Drive crosswalks with curb extensions with re-grading
- Implement medians on US 101 for traffic calming and pedestrian safety crossings

SR 175 - Old Hopland

- Install colorized shoulders in Old Hopland
- Paved on-street parallel parking

Phase II - Mid-Term Improvements (5-10 Years)

US 101 - Central Hopland

- US 101/SR 175 – Install Reduced tee-Intersection alternative design
- US 101/SR 175 – Conduct Intersection Control Evaluation or similar Caltrans process
- Stripe Buffered Bike Lanes on US 101 between north end and SR 175
- Provide intersection channelization and new crosswalk on Mountain House Road near US 101
- Provide Entryway features/median (north end) and tree-lined entry (south end)
- Stripe Truck Parking on US 101 between SR 175 and Feliz Creek Bridge
- Install new southbound left-turn lane on US 101 into Real Goods
- Reconstruct additional sidewalks in Hopland
- Install streetscape improvements including: added landscaping and trees, bike parking, benches, pedestrian scale street lighting, and supplemental street furniture
- On-street parallel parking

SR 175 - Old Hopland

- Create bike lanes on SR 175 between US 101 and SR 175 roundabout
- Warning signal lights at bridge with sharrows on bridge

Phase III - Long-Term Improvements (10-20 Years)

US 101 - Central Hopland

- US 101/SR 175 – Construct either traffic signal or roundabout

SR 175 - Old Hopland

- SR 175 – Construct multi-use path with ped/bike bridges spanning the Russian River and Dooley Creek

Potential Funding Sources

This section describes potential sources of grant funding available to plan and construct bicycle and pedestrian facilities.

The latest congressional federal-aid highway funding act created the US Department of Transportation program *Moving Ahead for Progress in the Twenty-First Century* (MAP-21). MAP-21 combined previous federal "alternative modes" programs including Transportation Enhancements, Safe Routes to School, and Recreational Trails into a single source called the Transportation Alternatives Program (TAP).

More information on TAP, including eligible activities, can be found below and at: *http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm*

In California federal monies are administered through the California Department of Transportation (Caltrans) and Metropolitan Planning Organizations (MPOs) – in this case Mendocino Council of Governments (MCOG).

Active Transportation Program (ATP)

In 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP). This program is a consolidation of the Federal Transportation Alternatives Program (TAP), California's Bicycle Transportation Account (BTA), and Federal and California Safe Routes to School (SRTS) programs.

The ATP program is administered by Caltrans Division of Local Assistance, Office of Active Transportation and Special Programs.

The ATP program goals include:

- Increase the proportion of trips accomplished by biking and walking,
- Increase safety and mobility for non-motorized users,
- Advance the active transportation efforts of regional agencies to achieve greenhouse gas reduction goals,
- Enhance public health,
- Ensure that disadvantaged communities fully share in the benefits of the program, and
- Provide a broad spectrum of projects to benefit many types of active transportation users.

As of this Plan (August 2015), the first call for projects has been awarded. The Cycle 2 statewide call for projects was due in June 1, 2015.

The California Transportation Commission ATP Guidelines are available at www.catc.ca.gov/programs/ATP.htm

The following types of bicycle, pedestrian and Safe Routes to School projects are eligible for ATP funding:

- Infrastructure Projects: Capital improvements that will further program goals. This category typically includes planning, design, and construction.
- Non-Infrastructure Projects: Education, encouragement, enforcement, and planning activities that further program goals. The focus of this category is on pilot and start-up projects that can demonstrate funding for ongoing efforts.
- Infrastructure projects with non-infrastructure components

The minimum request for non-SRTS projects is $250,000. There is no minimum for SRTS projects.

The local match requirement for non-SRTS projects is 11.47 percent. There is no local match requirement for projects benefiting a disadvantage community, stand-alone non-infrastructure projects and SRTS projects. Hopland is considered a disadvantaged community, therefore there is no match requirement for a project in this community.

Annual funds will be approximately $130 million for fiscal year 2015-2016. In the initial program, a minimum of $24 million per year is available for SRTS projects, with at least $7.2 million for non-infrastructure grants.

State Highway Account

Section 157.4 of the Streets and Highways Code requires Caltrans to set aside $360,000 for the construction of non-motorized facilities that will be used in conjunction with the State highway system. The Office of Bicycle Facilities also administers the State Highway Account fund. Funding is divided into different project categories. Minor B projects (less than $42,000) are funded by a lump sum allocation by the California Transportation Commission and are used at the discretion of each Caltrans District office. Minor A projects (estimated to cost between $42,000 and $300,000) must be approved by the CTC. Major projects (more than $300,000) must be included in the State Transportation Improvement Program and approved by the CTC. Funded projects have included fencing and bicycle warning signs related to rail corridors.

Transportation Development Act (TDA)

MCOG routinely designates a portion of its TDA funding for use in development of pedestrian and bicycle facilities. Although the yearly funding amount is modest (approximately $55,000), this source is often used to provide a match for other grants that fund active transportation projects.

Regional Surface Transportation Program (RSTP)

MCOG sets aside a portion of its annual apportionment of federal RSTP funds for the Partnership Funding Program. These funds are available to foster partnership with other agencies to complete regionally important transportation projects. Partnership agencies could include Mendocino County, the four incorporated cities, and Caltrans.

Study Participants and References

Study Participants – Consulting Team

W-Trans

Principal in Charge	Steve Weinberger, PE, PTOE
Assistant Project Manager	Smadar Boardman, EIT
Roundabout Design	Zack Matley
Technician/Graphics	Deborah J. Mizell
Technician/Design	William Petker, EIT
Editing/Formatting	Angela McCoy
Report Review	Dalene J. Whitlock, PE, PTOE

Alta Planning + Design

Principal I	Randy Anderson, PLA
Senior Planner/Designer	Kristin Maravilla
Senior Designer	Brian Burchfield

GHD

Principal	Bill Silva, PE
Civil Engineer	Matt Wargula, PE, LEED AP, QSD
Environmental Planner	Kristine Gaspar
Environmental Planner	Katherine Ross

Local Government Commission

Community Planning	Josh Meyer
Community Planning	Paul Zykofsky

References

2010 Collision Data on California State Highways, California Department of Transportation, 2010

2012 Mendocino County Regional Bikeway Plan: A Capital Improvement Program of Commuter Bikeways in the Mendocino County Region, Dow & Associates, 2012

Mendocino County General Plan, PMC, 2009

Mendocino County Rail-with-Trail Corridor Plan, Alta Planning + Design, 2012

Mendocino County Regional Transportation Plan, Dow & Associates, 2011

Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol, 2008-2013

MEX096