State of California
**DEPARTMENT OF TRANSPORTATION**

California State Transportation Agency

# Memorandum

***Serious drought.***
***Help Save Water!***

**To:** Michael B. Johnson
State Asset Management Engineer

**Date:** August 13, 2015

**From:** For AMARJEET BENIPAL
District 3 Director

**Subject:** **SHOPP ASSET MANAGEMENT PILOT PROGRAM**

Please find attached the enclosed application for the ***SR 99 Live Oak Livable Downtown Corridor Project***. This project will quantify the needs for operations, drainage and pavement, compliance with the Americans with Disabilities Act (ADA) standards and Caltrans Design Standards, roadside safety and streetscape improvements and multimodal connectivity.

The City and Caltrans District 3 recognize the critical asset this state highway is for regional connectivity and goods movement as well as the role this corridor plays for supporting a livable community in Live Oak. Planning between the City and the District has been an ongoing collaborative effort from which this multi-asset project discussed below, under the purview of Caltrans's Asset Management Program pilot, will serve as a quality example for cost-effective multi-objective project implementation and for meeting the goals of the 2015 Caltrans Strategic Management Plan.

All cost estimates are preliminary at the time of submittal. If you have any questions, please contact Sergio Aceves at (530) 741-5120 or via email at sergio.aceves@dot.ca.gov. Thank you for your consideration.

Attachments

Asset Management Pilot Request Form
SR 99 Live Oak Livable Downtown Corridor Project Application

A. Title Sheet
B. Pictures
C. Sustainability Checklist
D. Support Letter from the City of Live Oak
E. Accident Data
F. SACOG's Regional Bicycle, Pedestrian and Trails Master Plan, Live Oak's Planned and Existing Bicycle Facilities
G. SACOG's Rural Urban Connections Strategy, Live Oak: SR 99 and Pennington Road's Good Movement Significance
H. The City of Live Oak's *General Plan 2030* Land Use Designations
I. Caltrans Headquarters Criteria

# SHOPP Asset Management Pilot Request Form

SHOPPCPR: Ver 3 11/14

Submittal Date 08/13/2015

Caltrans

Division of Transportation Programming
State Highway Operation and Protection Program (SHOPP)

Project Manager: Sergio Aceves

Phone: (530) 741-5120

| Dist | County | Route | Prefix | PM | Prefix | PM | EA | PPNO | Project ID |
|---|---|---|---|---|---|---|---|---|---|
| 03 | Sutter | 99 | | 39.8 | | 40.8 | TBD | TBD | TBD |

☐ Includes Multiple Locations (Complete Page 2 of this Form)

MPO: SACOG

Project Location/Description (Include the nearest city, town or landmark)

On State Route-99 within the vicinity of Live Oak, from Ash Street to Ramsdell Drive.
Widen Shoulders, improve intersection capacity, signal improvements, rehabilitate pavement, improve ADA facilities, drainage facilities, and perform vegetation control.

Need for project and proposed improvements (Elaborate using PID language)

This project proposes to widen shoulders, improve intersection capacity, signal improvements, rehabilitate pavement, improve ADA facilities, drainage facilities, and perform vegetation control on State Route-99 from Ash Street to Ramsdell Drive to provide for complete street elements, bring substandard roadway assets up to current standards, rehabilitate roadway and drainage systems, and improve system operations through shoulder, intersection, and traffic signal improvements.

| | | | | | |
|---|---|---|---|---|---|
| PA&ED / M200 | 12/01/2019 | R/W Cert / M410 | 07/01/2021 | CCA / M600 | 11/01/2023 |
| PS&E / M380 | 03/01/2021 | RTL / M460 | 08/01/2021 | END Project / M800 | 12/01/2023 |

Capital ($1,000)
(Escalated to FY of Programming)

| | FY | Cost |
|---|---|---|
| R/W | 2021/22 | $200 |
| Construction | 2021/22 | $15,440 |
| | Total Capital | $15,640 |

Support ($1,000)

| | FY | Cost |
|---|---|---|
| PA & ED | 2018/19 | $193 |
| PS & E | 2020/21 | $1,434 |
| R/W | 2020/21 | $154 |
| Construction | 2021/22 | $2,570 |
| | Total Support | $4,351 |

Legislative District Numbers
(Separate multiple Districts with a comma)

| | |
|---|---|
| State Assembly | 3 |
| State Senate | 4 |
| Congressional | 3 |

☐ Approved ☐ Denied

CAPITAL CONSTRUCTION COST ESCALATION RATE: 3.5%

| | | | | | |
|---|---|---|---|---|---|
| District SFP (Print) for | Thomas L. Brannon | District SFP (Sign) | Pauleve Dixon | Phone | (530) 740-4846 |
| District Director (Print) for | Amarjeet S. Benipal | District Director (Sign) | Jim Ballantine | Phone | (530) 741-4233 |
| SHOPP Exec. (Print) | | SHOPP Exec. (Sign) | | Phone | |

# SHOPP Asset Management Program:
# SR 99 Live Oak Livable Downtown Corridor Project

State Route (SR) 99 dissects the small but rapidly growing City of Live Oak. The City and Caltrans District 3 recognize the critical asset this state highway is for regional connectivity and goods movement as well as the role this corridor plays for supporting a livable community in Live Oak. Planning between the City and the District has been an ongoing collaborative effort from which this multi-asset project discussed below, under the purview of Caltrans's new asset management pilot program, will serve as a quality example for cost-effective multi-objective project implementation and for meeting the goals of the 2015 Caltrans Strategic Management Plan.

This pilot project proposes the use of asset management principles to address the overall transportation needs on SR 99 in Sutter County from post-mile 39.84 to 40.81 (See Attachment A for Title Sheet). This pilot project will quantify the needs for operations, drainage and pavement, compliance with the Americans with Disabilities Act (ADA) standards and Caltrans Design standards, and roadside safety; and will propose the corresponding programming for each need. This nomination also includes an estimation of cost and time efficiencies resulting from multi-asset project development. All cost estimates are preliminary at the time of this submittal.

## Purpose and Need

### Purpose:

To incorporate streetscape improvements and address multi-modal needs, rehabilitate the road, and provide drainage improvements in the downtown portion of the SR 99 corridor in the City of Live Oak. The integrated planning and implementation efforts will result in cost and time savings in project planning and delivery.

### Need:

Within the City of Live Oak, SR 99 lacks infrastructure supporting multi-modal connectivity and lacks visual cues encouraging vehicle speed reduction through the Live Oak Downtown area, and is in need of rehabilitation (See Attachment B). SR 99 acts as a physical barrier between the East and West sides of Live Oak and limits opportunity for commerce and community development.

The City envisions itself growing into a self-sufficient city with a population of 45,000 to 53,000 at full general plan build-out. It is critical that the planning of this corridor coincide with population growth and help facilitate, rather than hinder, local and regional economic development.

## Project Background

The City of Live Oak is located in the Sacramento Valley, 10 miles north of Yuba City. It is expected to continue to be a fast growing community; between 1990 and 2009, the City of Live Oak's population increased by 41 percent. In 2010, the City's population was 8,392. Currently, Live Oak is a bedroom community with 92.7 percent of employed residents (2,030) leaving the city limits for work[1], however,

[1] Source: U.S. Census Bureau, OnTheMap Application, http://lehdmap.ces.census.gov

the City is planning to transition to a self-sufficient city and is preparing the community for this growth with its Downtown Reinvestment Plan as one example of continuing efforts. They are also in the process of developing a Bicycle and Pedestrian Master Plan funded by the Sacramento Area Council of Government (SACOG)'s Regional Funding Program.

The City's General Plan 2030 is designed to accommodate a population between 45,000 and 53,000 including retail, service, and employment development. Because of this accelerated growth, it is important that the development of SR 99 not only keep pace with the growth, but be developed in such a way that preserves its utility as a regional and statewide thoroughfare, its role as main street serving Live Oak's existing and proposed commercial districts, and offers an inviting and aesthetically pleasing gateway to the City. These priorities are taken directly from the May 2011 *Collaborative Highway 99 Streetscape Master Plan*[2] which was funded by a Community-Based Transportation Planning Grant from Caltrans. Concepts contained within this plan are a direct result of the outreach to businesses and the community, engagement through public workshops, Technical Advisory Committee meetings, and Caltrans input throughout the entire process.

In July 2014, Caltrans staff completed a *Project Study Report- Project Development Support* document to study the feasibility and incorporation of the City of Live Oak's *Collaborative Highway 99 Streetscape Master Plan*. The City of Live Oak funded this effort with $60,000 in awarded SACOG funds and $40,000 from local funds. Again, illustrating the commitment from the city to move this project forward.

The SR 99 Live Oak Livable Downtown Corridor Project is taken directly from these plans. Further collaboration will occur during project development regarding Maintenance Agreements and Cost Sharing Agreements. See support letter from City, Attachment D.

## Project Description

Currently, SR 99 through the City of Live Oak is a two-lane conventional highway with a center left-turn lane and inconsistent sidewalks and shoulders varying from zero to 20 feet. The project area land use is mixed use and the city is committed to creating a walkable corridor, specifically in the project boundaries. Beyond the City, the primary surrounding land use is agricultural. See Attachment H for land use designations around the project area.

The City and Caltrans District 3 have had a positive productive relationship in envisioning the future of the corridor through the City of Live Oak. This project would enhance aesthetics, safety, multi-modal accessibility, and quality of life for residents and visitors. It would also preserve the regional significance of SR 99 as a goods movement corridor (see Attachment G).

It is the City's top priority to widen the facility to a four travel lane facility with a two-way left-turn lane (TWLTL). Caltrans is in agreement with this need considering the anticipated population growth. Also, the SR 99 Transportation Concept Report identifies this route as a 4-lane ultimate facility. In anticipation of this, Caltrans has maintained 100 feet of right of way all along this corridor in Live Oak. The City also

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[2]Source:http://www.dot.ca.gov/hq/tpp/offices/ocp/completed_projects/cbtp_cs_streetscape/D3_Collaborative%20State%20Route%2099%20Streetscape%20Master%20Plan/Hwy99_Streetscape_Master_Plan_Final.pdf

wants landscaping and would accept the responsibility for maintaining landscaped features through a Maintenance Agreement. The City does not currently have funding for these improvements, however, the significant planning work done for this project, awarding of this project in the SHOPP Asset Management Program pilot, and the City's commitment to aggressively pursue funding makes this a strong candidate for leveraging grant funding opportunities such as through the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant program, the SACOG Regional Funding Programs and/or the Active Transportation Program.

The project will involve rehabilitating the pavement and 15 culverts in addition to streetscape improvements. This will include on-street parallel parking on both sides of the highway, pedestrian infrastructure including sidewalks, bicycle wayfinding signs and parking, and landscaping enhancements including small and medium trees between the traveled way and sidewalks. Other work includes detours, grinding, equipment staging, drainage/culvert extensions, work adjacent to the railroad, potential right-of-way acquisition, temporary easements, utility relocations, ground disturbance, tree/vegetation removal, and night work.

Below is a table describing the SHOPP program, Performance Measures, description of work, and preliminary cost of each asset.

**Table 1: SHOPP Program Asset Details**

| Item (Program) | Performance Measures | Description of Work | Cost |
|---|---|---|---|
| Safety (015) | 59 collisions over 20 years | Shoulder improvements. | $2,000,000 |
| Operational Improvements (310) | 130,000 vehicle-hours delay reduced | Additional through-lanes at Elm, Pennington, and Kola St intersections to reduce queues. | $1,000,000 |
| Transportation Management Systems (315) | 3 Intersections | Installation of new traffic signal or Roundabout at Kola Street (depending on Intersection Control Evaluation process), signal coordination. | $400,000 |
| ADA (361) | 105 ADA Units | Bring all Curb cuts up to current Caltrans design and ADA standards, install compliant Accessible Pedestrian Signals, bring sidewalks up to current ADA standards and place sidewalk where currently missing. | $600,000 |
| Pavement Rehabilitation (120) | 2 Lane Miles Rehabilitated | Rehabilitate pavement and bring up to current standards any non-standard pavement features. | $ 8,000,000 |
| Culvert Rehabilitation (151) | 15 Culverts Rehabilitated | Rehabilitate 15-culverts to extend service life and ensure they perform as designed during storm events. | $2,500,000 |
| Roadside Safety Improvements (235) | 1 Location | Install vegetation control at approximately 300 LF of guardrail at one guardrail location across from Ash Street to reduce recurrent on-foot maintenance activities and/or chemical spraying associated with weed removal. | $5,000 |

Total $14,505,000

# Multi-Objective Project Prioritization

The SR 99 Live Oak Livable Corridor Project is an example of partnerships and multi-objective project development. Below are detailed descriptions of the Strategic Objectives from the Caltrans 2015 Strategic Management Plan that this project addresses:

*Strategic Objective 1: Effectively manage transportation assets by implementing the asset management plan, embracing a fix-it-first philosophy*
Goal 2: Stewardship and Efficiency
Performance Measures: Distressed lane miles; Intelligent Transportation System (ITS) elements

Funds are limited. This project represents a key opportunity to partner with a local jurisdiction to meet our long-term needs for increased capacity and our more immediate needs for safety, maintenance, and operation efficiency. One of the purposes of multi-asset project development is to save duplicative costs in construction and project support. This nomination will showcase these needs and quantify the savings. In the project location a major operations and safety concern is that the culverts are not connected to a storm drainage system. This results in ponding of water along and into the travel lanes of SR 99, of which the extreme cross slope exacerbates the flooding problem (See Attachment B, Figures 1-4). At Pennington Rd the high crown is at an 18 percent slope. When this area floods it creates a physical barrier for pedestrians and bicyclists wanting to cross at one of two current signalized intersections. Pipes are substandard and drainage is a pressing problem.[3] This project would save costs and time by coordinating these improvements with cross slope correction, and road widening. In addition, coordinating these efforts with the city would minimize disruptions for users during construction. This project would also provide another accessible crossing point and would coordinate ITS elements for efficient movement of all modes, including truck movement. SR 99 at Pennington Rd is the primary intersection in Live Oak, and also has the highest Annual Average Daily Traffic (AADT) of any City street. It also has a relatively high percentage of truck traffic; 9.2 percent of total vehicles in 2013 traffic volumes (See Attachment B, Figure 5). Pennington Rd and SR 99 have been identified by SACOG's Rural Urban Connections Strategy (RUCS) program as a Regional Goods Movement Route in Sutter County (See Attachment G). The improvement of this facility would improve access and movement for trucks, vehicles, and active modes of transportation. Caltrans and the City need to improve the drainage system, the City desires widening the facility, and the cross slope is a barrier for multi-modal transportation. Coordinating these efforts through an integrated SHOPP funding effort and leveraging local funds can result in huge savings for project planning and implementation.

*Strategic Objective 2: People, Planet, Prosperity*
Goal 3: Sustainability, Livability and Economy
Performance Measures: Percentage increase of non-auto modes for: Bicycle, Pedestrian, Transit; Per capita vehicle miles traveled; percent reduction of transportation system-related air pollution

According to the U.S. Census, walking has nearly tripled in Live Oak from 2010 to 2013, from 0.4 to 1.1 percent mode share. Bicycling is becoming a more viable and attractive option as the City continues to

[3] City of Live Oak Master Drainage Study, March 2011

implement biking infrastructure. However, without this project, SR 99 will continue to be a barrier for East and West connectivity. The City is committed to revitalizing its downtown (immediately adjacent to SR 99) and increasing retail, commercial and employment uses within the City. It takes less than 2 miles to get from one end of the city to Live Oak's center, making it very realistic and practical to support active modes of transportation. As the city grows via an increase in local key destinations such as shopping, recreational opportunities, and employment there will be a greater need for active transportation facilities, especially connectivity across SR 99. The greater number of trips taken locally will result in a direct and significant reduction in vehicle miles traveled (VMT) considering that a larger choice of shopping and dining opportunities are available in Yuba City, 10 miles away (20 miles roundtrip). Replacing one 20 mile trip with a local trip means a reduction in 18 VMT **minimum per round trip**. To provide a comprehensive assessment of the potential market support for retail uses in the Live Oak's commercial districts, the City hired a consultant to develop the Live Oak Retail Market Analysis report, completed in June 2009. Below is a conclusion highlighting the need for more retail development in Live Oak.

> "A comparison of retail supply (estimated from actual retail sales) and potential retail demand (based on Market Area residents' consumer expenditure patterns) indicates a sales leakage in all retail categories. A leakage occurs when retail demand exceeds supply, meaning that consumers are looking outside of the Market Area for retail goods and services. An estimated $25.6 million in retail sales is leaving the Love Oak Market Area."

At this time it is difficult to estimate in numbers but as the City develops, it is reasonably expected that the improvement of this corridor will result in more trips will be taken locally, and would therefore improve air quality and health for residents and reduce transportation system-related air pollution. Residents would save money in transportation if they don't have to travel as far and this will also result in more dollars being spent locally, benefiting the local economy and improving the health of the community by facilitating active transportation options.

### *Strategic Objective 3: Increase the number of Complete Streets features on State highways that are also local streets in urban, suburban, and small town settings*

Goal 4: System Performance

Performance measures: Percentage of projects that include Complete Streets features; Number of Complete Streets features on State highway system; Percentage of high-focus actions fully implemented from the Complete Streets Implementation Action Plan 2.0

This project goes beyond adding complete streets elements and contributes to the multi-modal *network* already present in the City or planned within the City. For example, no bike lanes will be provided on SR 99 for this project. Instead, bicyclists are provided separate parallel routes on Broadway Ave and Larkin Road, where speeds are much lower and there is increased accessibility to shops, restaurants, and downtown activity. The City has done extensive work on their bike infrastructure, building paths such as the Class I facility on the abandoned Sacramento Northern Railroad right-of-way, and marking bike lanes throughout the City. See Attachment F for Live Oak's planned facilities as identified in the SACOG's *Regional Bicycle, Pedestrian, and Trails Master Plan (2013)*. While bike lanes are not planned to be included on SR 99, Attachment F displays the importance of connectivity via Pennington Rd across SR 99, providing access to schools and between residential areas and the city center. There is a high "crown"

on SR 99 that discourages people from crossing; by leveling the road, this project will offer attractive crossing points and result in crosswalks that are ADA accessible (See Attachment B, Figure 6). This project will bring all curb cuts to current Caltrans Design and ADA standards and install Accessible Pedestrian Signals at intersections. Another critical need for multi-modal accessibility in this location is the lack of continuous sidewalks (See Attachment B, Figures 7-9). Along newer development, sidewalks are present but that leaves big gaps between sidewalk sections. This project will fill those gaps and bring sidewalks up to current Caltrans Design and ADA standards. District 3 has begun work on the district-wide Complete Streets Plan, a high-focus action in the Complete Streets Implementation Action Plan 2.0. The work done for this project directly correlates with the Complete Streets goals of these efforts and meets the goals of Deputy Directive 64-R3, *Complete Streets- Integrating the Transportation System*.

Caltrans also looked at the need to provide transit access facilities. Yuba-Sutter Transit recently increased runs from 2 round trips on Monday, Wednesday and Friday to five days a week from Live Oak to Yuba City and Marysville. At this time, Yuba-Sutter Transit and the City of Live Oak have not identified additional transit needs in Live Oak. Therefore, transit stops are not planned for the SR 99 corridor at this time but the on-street parallel parking can serve as a future bus stop when the need presents itself and the City requests it.

Caltrans will continue to stay flexible and work with the City to ensure multi-modal transportation is a viable option for residents and visitors.

## Caltrans Strategic Management Plan 2015 Goals

### Safety and Health

District 3 is committed to our Department's goal for Zero Worker Fatalities, reducing user injuries and fatalities, and promoting community health through active transportation and reduced pollution in communities. District 3 is proud to report that there have been no work-zone related deaths in at least

[redacted]

[redacted]

As AADT is expected to increase, we have also looked for opportunities to reduce the exposure time of our employees performing maintenance and construction activities. This project has elements of vegetation control treatment under existing guardrail that will reduce recurrent on-foot maintenance activities and chemical spraying associated with weed removal. AADT for 2014 was estimated at 19,400 and by 2030 will increase to an estimated 26,600 according to the PSR/PDS findings.

Safety and Health is an important goal of Caltrans, and as the City of Live Oak continues to grow, we want to ensure through this project that we are doing what we can to provide adequate facilities for connectivity and access and reduce potential for conflicts between different modes. This work promotes active transportation and studies have shown that there are great benefits to health when a community chooses to walk and bike as a mode of transportation. This project facilitates that mode share.

## Stewardship and Efficiency

Transportation represents by far the largest share of total deferred maintenance costs, according to the 2014 California 5-Year Infrastructure Plan. Today we are being asked to do more with even less. This project represents an opportunity to collaborate with local partners to meet our goals for efficiency and cost-effectiveness. SHOPP dollars do not fund capacity increasing projects. However, this portion of SR 99 will have the traffic volumes and increased conflict with adjacent rail, that require widening of this facility for safety and throughput efficiency, in addition to multi-modal East and West community accessibility. Partnering with the City to coordinate rehabilitation, drainage improvements, and other elements of this project with local or regional dollars to fund widening will give Caltrans the opportunity to provide the appropriate facility, without using State Transportation Improvement Program (STIP) dollars. The City is committed to seeking funding for widening this facility. Working with the City to coordinate this project's full implementation will result in efficient use of dollars and leveraging of funds, ensure holistic project implementation, and eliminate unnecessary duplication of efforts.

Table 3 below depicts the pre-project conditions of each asset and the expected post project condition.

**Table 3- Pre and Post Project Condition of Asset**

| SHOPP Program | Asset | Total Quantity | Pre-Project Condition | | | | Post- Project Condition | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Good | Fair | Poor | | Good | Fair | Poor |
| 015 | Shoulder widening | 2 lane Miles | 0 | 0 | 2 | | 2 | 0 | 0 |
| 120 | Pavement Rehabilitation | 2 lane miles | 0 | 2 | 0 | | 2 | 0 | 0 |
| 310 | Signal Improvement | 3 Intersections | 0 | 2 | 1 | | 3 | 0 | 0 |
| 310 | Intersection Capacity | 3 Intersections | 0 | 0 | 3 | | 3 | 0 | 0 |
| 361 | ADA improvement | 105 ADA Units | 0 | 0 | 105 | | 105 | 0 | 0 |
| 235 | Vegetation Control under Guardrail | 1 location | 0 | 0 | 1 | | 1 | 0 | 0 |
| 151 | Drainage System Restoration | 15 Culverts | 0 | 15 | 0 | | 15 | 0 | 0 |

## Sustainability, Livability, and Economy

This project stimulates sustainable growth and development. The attractiveness of SR 99 encourages development within the community and that infill development typically results in lower costs for the City in infrastructure such as electrical, plumbing and water. SR 99 plays an important role in being the gateway to the City and promoting community development. The SR 99 Live Oak Livable Downtown Corridor project works with the City's goals to create an inviting atmosphere for businesses and families.

There are three schools located within one half mile on both sides along Pennington Road (also one of the locations with the steepest crown at 18 percent- See Attachment F for location of schools). Leveling out this segment of SR 99 will provide increased visibility for pedestrians, bicyclists, and for ADA accessibility. And will encourage more people to access employment, shopping, recreation, and educational events via foot or another mode of active transportation.

Please see Sustainability Checklist Attachment C for more details on how this project addresses Caltrans' goal for Sustainability, Livability, and Economy.

## System Performance

This project implements ITS features to efficiently facilitate the movement of different modes such as through-traffic and active modes, reduce delay, and improve air quality. Two intersections in the project limits are signalized: Pennington Road and Elm St. A third signal is planned at Kola Street for a total of three signalized intersections along SR 99 in Live Oak. These signals will be coordinated to allow for efficient movement of vehicles. This project would also install Pedestrian Activated Signals at the intersections. This coordination and accessibility would make it more attractive for pedestrians and bicyclists. As previously mentioned and as seen in Attachment G, SR 99 and Pennington Road are identified in SACOG's RUCS as significant routes for agricultural goods movement. The ITS elements and improved road surface will facilitate smoother access for larger vehicles and trucks entering and exiting the facility, and for traveling through the City to other regional destinations. These elements together are another component to show how this project will contribute to a high-performing, integrated transportation system.

## Organizational Excellence

In opportunities such as the one this project represents, District 3 strives to implement projects that take into consideration local needs and balances those with regional needs for connectivity and goods movement. We are flexible and open to consideration of design exceptions that align with the recently Caltrans officially endorsed: National Association of City Transportation Officials (NACTO) Urban Street Design Guide and Urban Bikeway Design Guide. We strive to provide aesthetics where feasible to promote community cohesiveness. For example, for this project we will paint the crosswalks across SR 99 in the downtown area to promote safety and comfort for local access. We will continue to work with The Office of Risk Management and Environmental Compliance to ensure we are using best practices for safety. The District is committed to the implementation of PD-09 and has created a Risk Register report for this project to identify and plan for risk management. Some considerations were: potential to uncover unsuitable material for compaction, sensitive specie habitats (hawk nesting seasons—which will require a more thorough report by environmental), affecting the agricultural industry, etc. As this project moves forward we will continue to address these risks early on and don't anticipate any of these being detrimental to project implementation. The coordination of these projects also saves time, money, and risk associated with employee exposure by only needing to implement one Traffic Management Plan and associated Temporary Traffic Controls during construction. This is all in addition to our continued commitment to partner with the City in developing this project.

# Funding Plan

**Landscaping and road widening are not included in the cost estimates for this project because those costs are anticipated to be provided by the City of Live Oak**; however, estimates will be included in future planning to ensure we get an understanding of the project in its entirety. Costs will be separated to ensure a clear understanding of funds provided by SHOPP versus the City's share. We will support the City via Support Letters for any grant programs they apply to. Awarding of the SHOPP Asset Management Pilot Program would make future grant applications by the City even more competitive.

Table 4 depicts all of the programmed and un-programmed needs broken down by project component. Currently we have funding for PA&ED and have started that process. We anticipate completion of PA&ED in mid-2017. If funded by this pilot program, we expect the PS&E phase to align perfectly with the SHOPP 2018 programmed funds. Table 5 under "Project Savings" isolates each SHOPP Program and shows total estimated savings.

**Table 4- SHOPP Management Program Estimate**

| | Total Need (x1,000) | Programmed (x1,000) | Un-programmed SHOPP Needs (x1,000) |
|---|---|---|---|
| PAED | $ 1,000 | $810 | $ 190 |
| PS&E | $ 1,400 | $0 | $ 1,400 |
| Right of Way Support | $ 150 | $0 | $ 150 |
| Construction Support | $ 2,500 | $0 | $ 2,500 |
| Subtotal Support | $ 4,240 | | $ 4,240 |
| Right of Way Capital | $ 200 | $0 | $ 200 |
| Construction Capital | $ 14,505 | $0 | $ 14,505 |
| Subtotal Capital | $ 14,705 | | $ 14,705 |
| Total Project Cost | $ 18,945 | $0 | $ 18,945 |

*Total Support/Capital Cost ratio is 29%

## Project Savings

Combining several SHOPP Programs into one project will result in both capital and support cost project savings. While more effort will be expended during project planning phases to coordinate with several Program Advisors to develop project scope, significant savings will be achieved in subsequent project development phases. Savings in capital costs will be achieved by combining work items and obtaining savings from utilizing larger material and labor quantities. Larger contracts are more attractive to contractors due to the ability for them to be more efficient with their resources. This will translate into lower contract bids resulting in additional savings.

The following table shows estimated cost savings between programming projects under separate SHOPP programs versus programming as a SHOPP Asset Management project. For comparison purposes, Traffic Control (10%) and Mobilization (10%) items were used to show capital cost savings. It is assumed that additional savings will be achieved when a more detailed estimate is completed during development of the Project Initiation Document.

District 3 will track those cost and time savings to provide a full report to Caltrans Headquarters on the success of the SHOPP Asset Management Pilot Program.

**Table 5 – Individual SHOPP Program Cost Estimates and Estimated Savings**

| Cost Estimate | SHOPP Program (x1,000) | | | | | | | Total Cost (x1,000) | SHOPP Asset Management Program (x1,000) | Estimated Savings (x1,000) |
|---|---|---|---|---|---|---|---|---|---|---|
| | 015 | 310 | 120 | 361 | 235 | 151 | 315 | | | |
| Construction Capital | $2,300 | $1,150 | $9,200 | $690 | $5 | $2,900 | $460 | $16,705 | $14,505 | $2,200 |
| RW Capital | $28 | $14 | $110 | $8 | $0 | $34 | $6 | $200 | $400 | $0 |
| Support | $660 | $800 | $2,640 | $480 | $5 | $825 | $320 | $5,730 | $4,240 | $1,490 |
| Total Project Cost | $2,988 | $1,964 | $11,950 | $1,178 | $10 | $3,759 | $786 | $22,635 | $18,945 | $3,690 |

# Attachment A

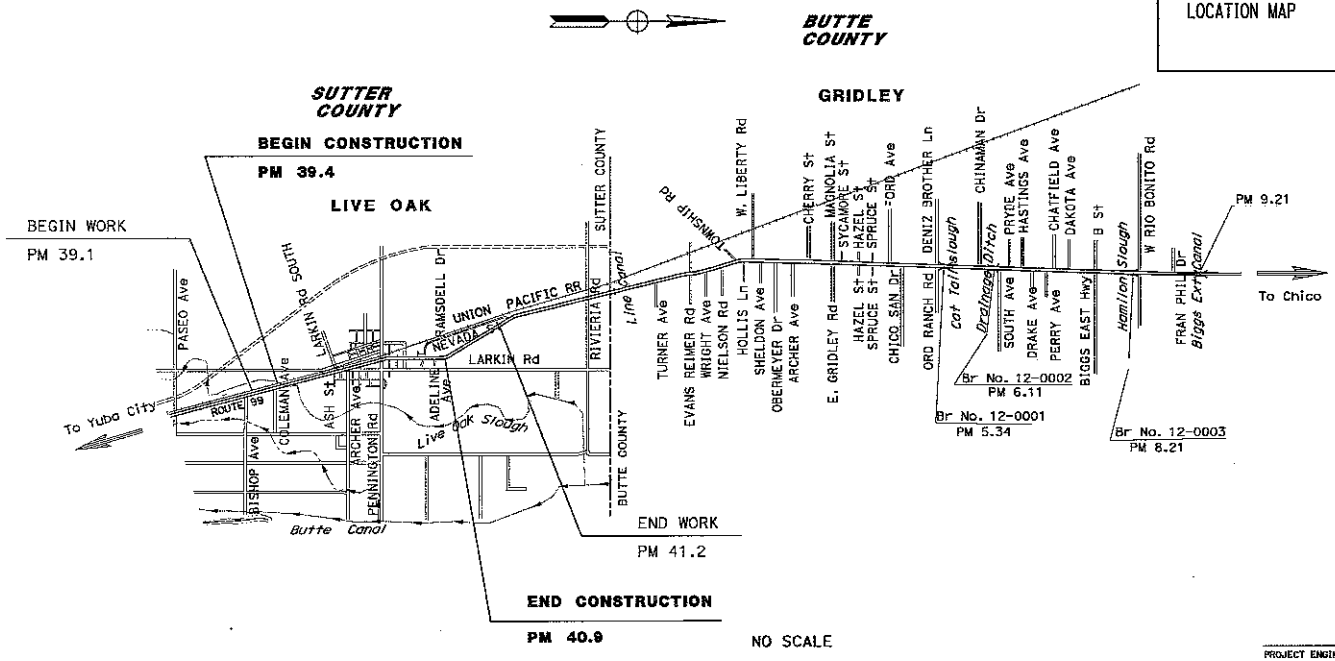
Title Sheet

INDEX OF PLANS

STATE OF CALIFORNIA
# DEPARTMENT OF TRANSPORTATION

## PROJECT PLANS FOR CONSTRUCTION ON
# STATE HIGHWAY
## IN SUTTER COUNTY
## FROM LIVE OAK SLOUGH
## TO PM 40.9

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 03 | Sut | 99 | 39.4/40.9 | | |




PROJECT MANAGER

DESIGN ENGINEER

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

CONTRACT No.

LAST REVISION DATE PLOTTED => 24-JUL-2015 TIME PLOTTED => 11:14

BORDER LAST REVISED 8/1/2008 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s129035 DGN FILE => 31f370db0033.dgn | CU | EA

# Attachment B

Pictures in Live Oak of SR 99

Figure 1

Figure 2

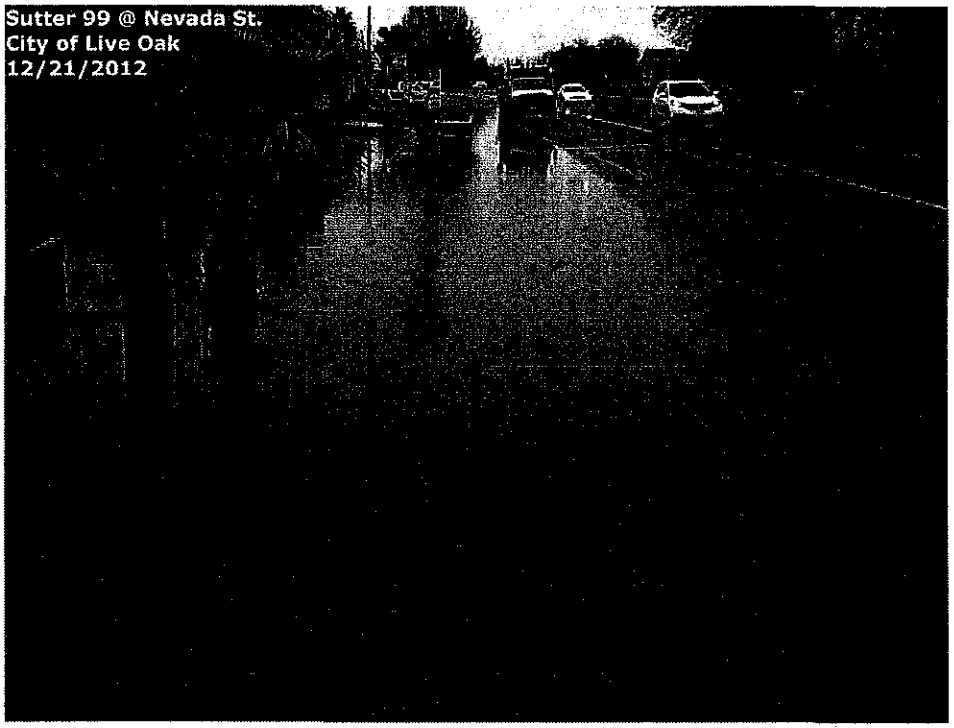



**Figure 3**

**Figure 4**

**Figure 5**

**Figure 6**

**Figure 7**

**Figure 8**

**Figure 9**

**Figure 10**

**Figure 11**

**Figure 12**

# Attachment C

Sustainability Checklist

| | Sustainability Goal | Complete 20 question below: Sections in Green<br>Project Title: | Yes/No | Description |
|---|---|---|---|---|
| | **Quality of Life** | | | |
| | | **QL 1.2 Stimulate Sustainable Growth and Development** | | |
| | | Intent: Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability. | | |
| 1 | Prosperity | Will the project enhance the community's quality of life and economic prosperity? | Yes | The streetscape improvements will create an attractive gateway into Live Oak, as the city wants, and will increase the attractiveness of multi-modal transportation options. This combination of improvements, in conjunction with the city's revitalization efforts, promote local activity and therefore enhance quality of life, job opportunity, and economic prosperity. |
| | | **QL 2.4 Improve Community Mobility and Access** | | |
| | | **Intent:** Locate, design and construct the project in a way that eases traffic congestion, improves mobility and access, does not promote urban sprawl, and otherwise improves community livability. | | |
| 2 | Access | Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage? | Yes | This project will increase connectivity between east and west Live Oak, offering safer, accessible, and attractive crossing locations, provide pedestrian activation signals, and wayfinding for active modes of transportation. |
| 3 | Non-Auto Mode Share | Will the project encourage the use of transit and/or non-motorized transportation? | Yes | Caltrans will provide colored crosswalks at the City's request, this project will install landscaping funded and maintened by the City, and will complete sidewalks alongside the facility, making it more accessible for bike, ped, transit, and ADA users. There are five schools near SR 99 and the facility, with limited safe crossings and uninviting speeds, serves as a barrier to promoting active transportation to get to key destinations like schools. The aesthetic improvements and safe crossings will enhance connectivity and accesibility thereby promoting walkability and bikeability. |
| 4 | Non-Auto Mode Share | Has the project team coordinated the design with other infrastructure assets to improve walkability and livability? | Yes | Rather than solely doing a rehab project to fix the cross slope, Caltrans is partnering with the city to provide landscaping, pedestrian scale lighting, and aesthetic features that are inviting and increase visibility for pedestrians via high visibility crosswalks and complete sidewalks so that their presence is predictable for vehicle drivers. These features have been shown to encourage walkability and in turn contribute to the livability of this corridor by making it accessible. Biking facilities have been provided by the City on an immediately adjacent local street. |
| | | **QL 3.1 Preserve Historic and Cultural Resources** | | |
| | | **Intent:** Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources. | | |

| | Sustainability Goal | Project Title: | Yes/No | Description |
|---|---|---|---|---|
| 5 | Env | Will the project minimize impacts on historic and cultural resources? (Consulted the tribal, historic and cultural resource staff in Environmental (PQS)? | Yes | The City was first settled in 1866 and incorporated in 1947. It was the second city to be established in Sutter County along SR 99. There is a Historic Commercial District near the project and coordination with the Office of Historic Preservation will be done as needed. Live Oak prides itself on that small town feel, affordable housing, and ideal community to raise a young family. Further studies will need to be conducted to address historic and cultural needs. Caltrans will continue to work with the City as this project moves forward. |
| | | **QL 3.3 Enhance Public Space** | | |
| | | **Intent:** Improve existing public space including parks, plazas, recreational facilities, or wildlife refuges to enhance community livability. | | |
| 6 | Livability | Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community, livability, and quality of life? | Yes | During the process of developing the *Collaborative Highway 99 Streetscape Master Plan* the city expressed interest in providing plazas along SR 99 in the downtown area where there are commercial and retail areas. Specific locations will be determined in partnership with the City as this project progresses. |
| **Leadership** | | | | |
| | | **LD 1.3 Foster Collaboration and Teamwork** | | |
| | | **Intent:** Eliminate conflicting design elements, and optimize system by using integrated design and delivery methodologies and collaborative processes. | | |
| 7 | SCMP | Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project? | Yes | The development of the *Collaborative Highway 99 Streetscape Master Plan* explicitly looked at coordination of design standards with Caltrans and the City's general plan. NACTO Designs will be used as appropriate. Caltrans has been open to suggestions by the City to ensure that the City's goals for a livable downtown corridor are being met to the best of our ability, while still ensuring this corridor functions as a regional travel and goods movement route. |
| | | **LD 2.2 Improve Infrastructure Integration** | | |
| | | **Intent:** Design the project to take into account the operational relationships among other elements of community infrastructure which results in an overall improvement in infrastructure efficiency and effectiveness. | | |
| 8 | Livability | Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure? | Yes | Caltrans and the City have worked collaboratively and productively to plan for this corridor. Funding is the critical element but both parties recognize that a partnership would yield greater benefits than individual project implementation. The Live Oak's *Collaborative Highway 99 Streetscape Master Plan,* funded by Caltrans, and the ensuing Caltrans' *Project Study Report/ Project Development Support* document, funded by the City of Live Oak, are great examples of collaboration to ensure the development of this corridor meets the needs for regional and goods movement travel as well as needs for promoting the livable community of Live Oak. |

| | Sustainability Goal | Project Title: | Yes/No | Description |
|---|---|---|---|---|
| 9 | Freight | Will the project address the needs on the priority freight network included in the Freight Mobility Plan? | Yes | SR 99 is identified in the Freight Mobility Plan as one of the busiest goods movement corridors in the state (page 130) because of the connections it provides for the agricultural industries such as food production, food processing and packaging, connection to distribution services and warehouses, etc.. |
| | | | | |

| | Sustainability Goal | Project Title: | Yes/No | Description |
|---|---|---|---|---|
| **Resource Allocation** | | | | |
| | | **RA 1.3 Use Recycled Materials** | | |
| | | **Intent:** Minimize transportation costs and impacts and retain regional benefits through specifying local sources. | | |
| 10 | Resource Consumption | Will the project team consider reuse of existing materials or recycled materials or use of materials from within 100 miles of the project site? | Yes | We will examine opportunities for recycling all materials throughout the planning and implementation of the project. In the past we have been known to recycle aluminun, concrete, and iron, just to name a few. |
| | | **RA 2.1 Reduce Energy Consumption** | | |
| | | **Intent:** Conserve energy by reducing overall operation and maintenance energy consumption throughout the project life cycle. | | |
| 11 | Energy | Can the project incorporate reducing eneregy consumption or generating energy supply during the construction phase or after as a purpose for the project? | Yes | LED lighting will be used where practical. |
| | | **RA 3.1 Protect Fresh Water Availability** | | |
| **Natural World** | | | | |
| | | **NW 1.1 Preserve Prime Habitat and Species** | | |
| | | **Intent:** Avoid placing the project – and the site compound/temporary works – on land that has been identified as of high ecological value or as having species of high value. | | |
| 12 | Env | Does the project concept incorporate solutions to preserve, improve or connect important natural resources (habitat, species needs, or fish and wildlife movement corridors)? | Yes | This project requires US Fish and Wildlife Service Section 7 Formal Consultation for potential impacts assocated with the Valley Elderberry Longhorn Beetle, the Giant Garter Snake, and the Hartweg's golden subnburst. We will also look for potential impacts to Swainson's hawk, recurved larkspur, bank swallow, Sanford's arrowhead, veiny monardella, and steelhead fish. |
| | | **NW 1.2 Protect Wetlands and Surface Water** | | |
| | | **Intent:** Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and waterbodies by providing natural buffer zones, vegetation and soil protection zones. | | |
| 13 | Water | Does the project concept address or enhance adjacent wetlands, hydraulic connection and waters functions, values, or existing deficiencies? | Yes | The drainages that traverse the project area are irrigation canals and culverts; there are no structures within the project area and no creeks/streams that traverse SR 99 within the project area. Since it is unlikely that these culverts/irrigation canals can support anadromous fish no critical habitat is expected. |
| | | **NW 1.3 Preserve Prime Farmland** | | |
| | | **Intent:** Identify and protect soils designated as prime farmland, unique farmland, or farmland of statewide importance. | | |
| 14 | Env | Does the project concept improve or enhance the existing farming conditions or associated interface with the transportation facility (water conveyance, quality, habitat preservation, weed management, farming operation, etc.)? | N/A | This project is in an urban area. |
| | | **NW 1.5 Preserve Floodplain Functions** | | |
| | | **Intent:** Preserve floodplain functions by limiting development and development impacts to maintain water management capacities and capabilities. | | |
| 15 | Water | Does the project concept allow for natural floodplain functions restored or rectified related to existing infrastructure impingements? | N/A | This project is in an urban area. |
| | | NW 2.1 Manage Stormwater | | |
| | | Intent: Minimize the impact of infrastructure on stormwater runoff quantity and quality. | | |

| | Sustainability Goal | Project Title: | Yes/No | Description |
|---|---|---|---|---|
| 16 | Water Quality | Can the project be designed to treat more than minimum stormwater treatment requirements, for example post construction or TMDL compliance units? | Yes | Currently there is no storm water management infrastructure in this location. This project will improve drainage and address storm water runoff quantity and quality. Specifically this project will design curb and gutter to allow for proper distribution of runoff. Regular curb-cuts could allow run-off to infiltrate in landscaped areas where possible. |
| | | **NW 3.4-Roadside Vegetation Environment** | | |
| | | **Intent:** Use appropriate non-invasive species and control or eliminate existing invasive species. | | |
| 17 | Env | Does the project concept incorporate improvements to roadside vegetation through restorative actions to native/appropriate vegetation to reduce/eliminate need for future management (maintenance, water use, pesticides, invasive species, etc.)? | Yes | This will be funded and maintaned by the City. The *Collaborative Highway 99 Streetscape Master Plan* identifies adequately sized trees to provide shade and comfortable environment and will be carefully chosen to avoid obscuring views of tenant signs for retail along the highway. |
| **Climate & Risk** | | | | |
| | | **CR1.1 Reduce Greenhouse Gas Emissions** | | |
| | | **Intent:** Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change. | | |
| 18 | GHG | Based on a life-cycle carbon assessment, will the project be designed in a way that substantially reduces carbon emissions? | Yes | A comprehensive life-cycle carbon analysis is not feasible at this time, however, streetscape improvements have been shown to encourage development that promotes walkability. If Live Oak can get more investment from business, the short distance from home to shopping or employment would encourage residents to shop/work locally. The greater number of trips taken locally will result in a direct and significant reduction in VMT considering that the closest shopping is in Yuba City, 10 miles away (20 miles roundtrip). Replacing with one 20 mile trip with a local trip means a reduction in 18 vehicle miles traveled (VMT) minimum per round trip. At this time it is difficult to estimate in numbers but as the City develops it is reasonably expected that more trips will be taken locally, and would therefore increase air quality for residents and reduce transportation system-related air pollution. |
| | | **CR 2.1 Assess Climate Threat** | | |
| | | **Intent:** Develop a comprehensive Climate Vulnerability Assessment and Adaptation Plan. | | |
| 19 | Resiliency | Will the project address potential risks or vulnerability deficiencies identifed in state, regional, local or site specific plans? | Yes | Sutter County has a Climate Action Plan (2010) which provides baseline data for GHG emissions. Sutter County's main contribution to GHGs is carbon dioxide, primarily in the form of vehicle exhaust. This project will make it more attractive and possible to make local trips rather than regional trips. As the City works towards its vision for self-sufficiency more trips will have the opportunity to be made locally. As the gateway to the city, it is critical that SR 99 be attractive and inviting for both business to locate in Live Oak and for residents to have local options for shopping, employment, and recreation. |
| | | **CR 2.5 Manage Heat Island Effects** | | |
| | | Intent: Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates. | | |

| | Sustainability Goal | Project Title: | Yes/No | Description |
|---|---|---|---|---|
| 20 | Green Infrastructure | Will the project be designedto include green infrastructure such as reducing heat island effects by reducing the percentage of low solar reflectance index (SRI) surfaces? | Yes | In coordination with this project, the City will fund and maintain landscaping such as trees alongside SR 99. Trees have been shown to reduce heat island effect and have the added benefit of providing shade during the hot months to make it more inviting for pedestrians, bicyclists, and ADA users. Low SRI surfaces will be taken into consideration although at this time it is difficult to make that determination. |

# Attachment D

Support Letter from the City of Live Oak

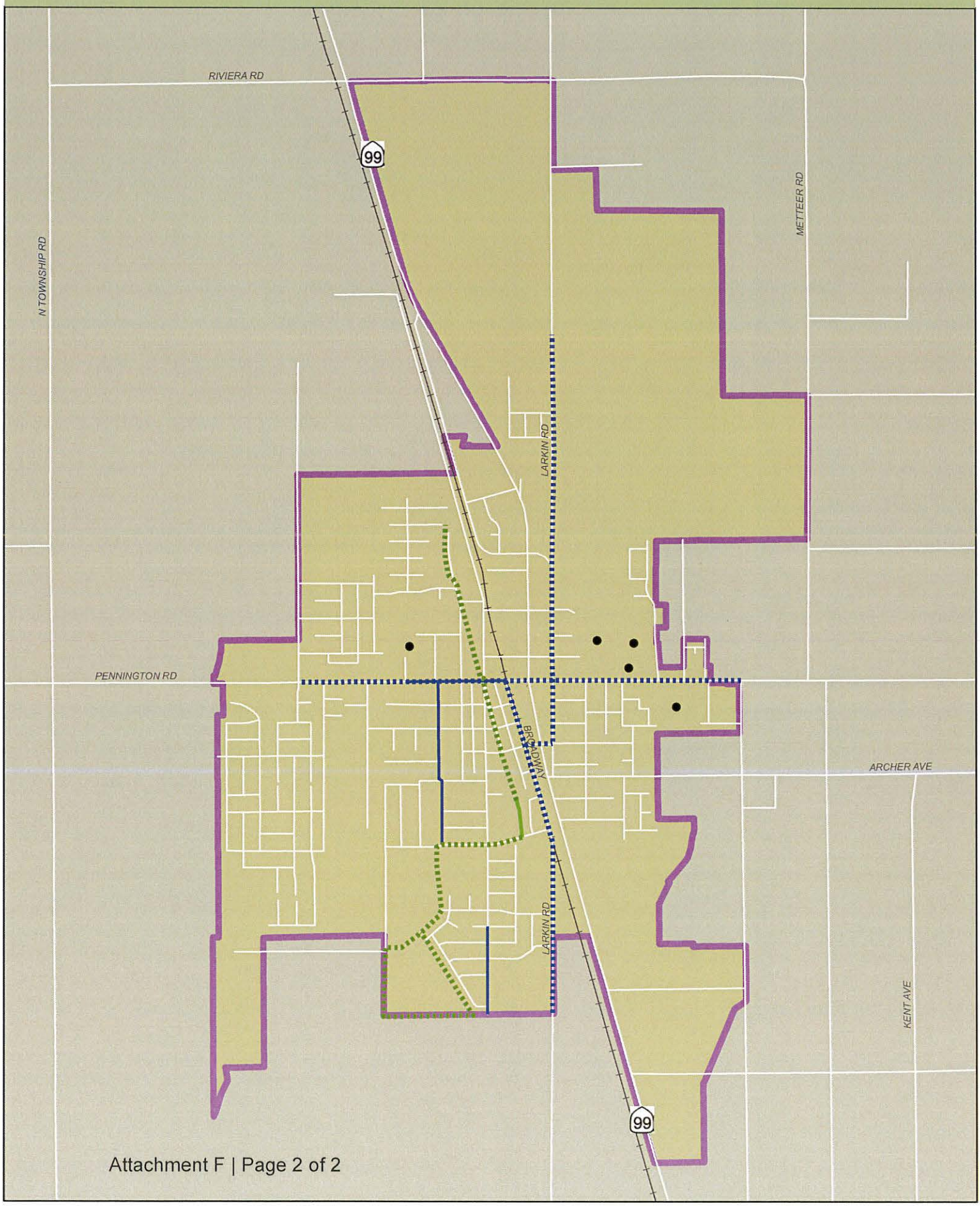
# Attachment F

SACOG's *Regional Bicycle, Pedestrian and Trails Master Plan*
Live Oak's Planned and Existing Bicycle Facilities

## Appendix B -- Regional Project List and Maps of Bicycle Network

| ID | COUNTY | JURISDICTION | PROJECT TYPE | PROJECT LOCATION | SEGMENT / DESCRIPTION | DISTANCE | EXISTING PLAN | EST. COST | Ranking? (Higher/Medium /Lower Priority) |
|---|---|---|---|---|---|---|---|---|---|
| **CITY OF LIVE OAK** | | | | | | | | | |
| 40039 | Sutter | City of Live Oak | Multi-use Path (Class I) | Soccer Park Community Trail | SouthWest side of High Priorityway 99 on Apricot St. and continue south on the Drainage Canal to link up with the 26 acre Live Oak Soccer Park/Detention Basin Community Trail | ximately 3/4 of a mile | | $1,250,000 | Higher Priority |
| 40000 | Sutter | City of Live Oak | Multi-use Path (Class I) | Pennington Road | Within City limits, East/West of High Priorityway 99-bike lane project. | Approximately 2 miles | County of Sutter and City of Live Oak Bicycle Transportation Plan (2008) | TBD | Medium Priority |
| 40001 | Sutter | City of Live Oak | Bike Lanes (Class II) | Broadway/ Larkin Road | Along Broadway and Larkin Road, west of High Priorityway 99 from Pennington Road south to the City Limits-bike lanes | Approximately 1 mile | County of Sutter and City of Live Oak Bicycle Transportation Plan (2008) | TBD | Medium Priority |
| 40002 | Sutter | City of Live Oak | Bike Lanes (Class II) | Larkin Road | East of 99 from Elm Street north to the Clity Limits and Elm Street from High Priorityway 99 to Larkin Road to the City limits-bike lanes | Approximately 1/2 mile | County of Sutter and City of Live Oak Bicycle Transportation Plan (2008) | TBD | Medium Priority |
| 40003 | Sutter | City of Live Oak | Combined Projects | City of Live Oak | SouthWest side of High Priorityway 99 on Apricot St. and continue north along the abandoned railroad corridor to Epperson Way. Segment 2 | Approximately 1 mile | County of Sutter and City of Live Oak Bicycle Transportation Plan (2008) | $2,215,713 | Higher Priority |

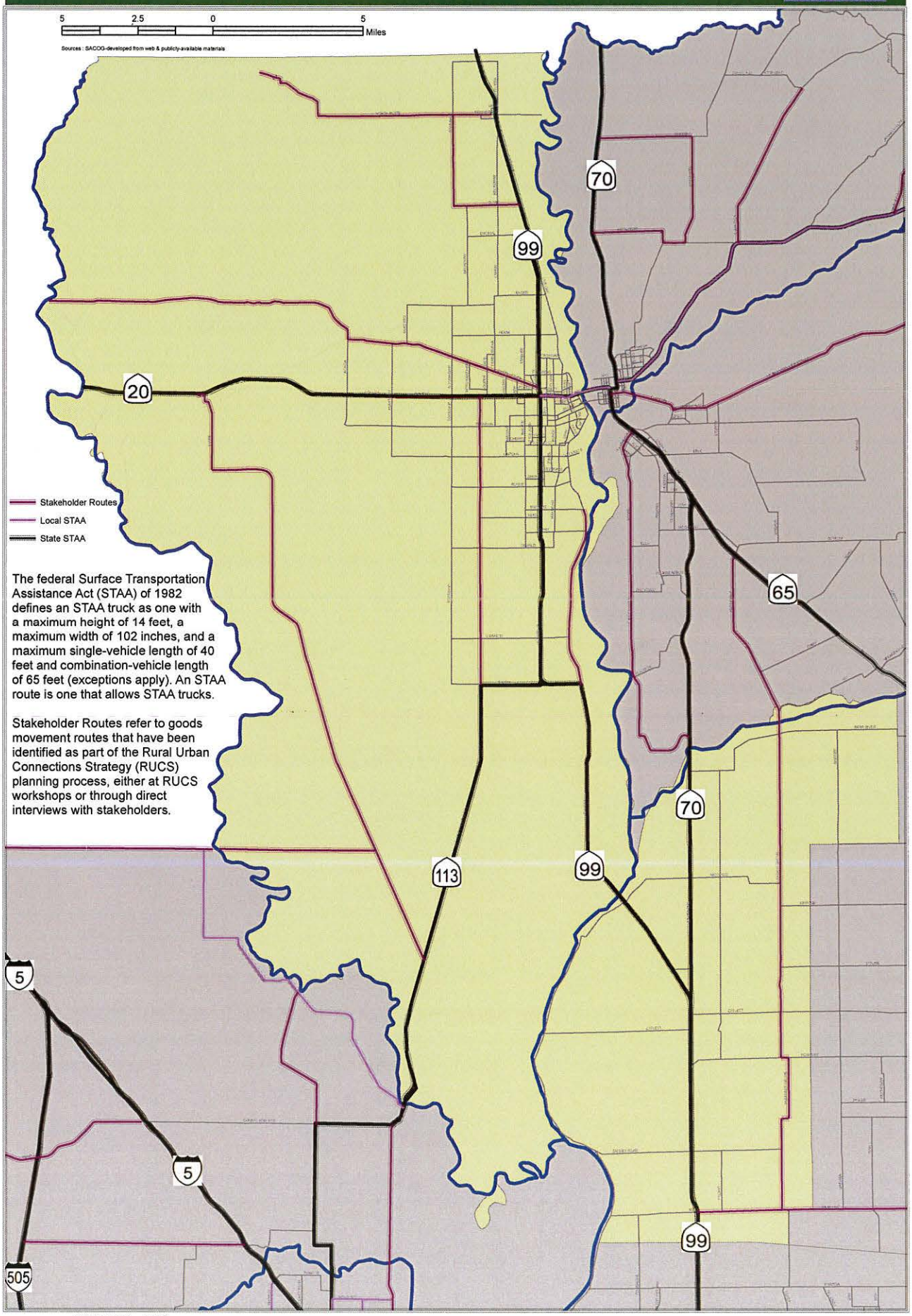
# Live Oak


Schools
Cities
Existing Multi-Use Path (Class I)
Existing Bike Lane (Class II)
Existing Bike Route (Class III)
Proposed Multi-Use Path
Proposed Bike Lane
Proposed Bike Route
RIVIERA RD
99
N TOWNSHIP RD
METTEER RD
LARKIN RD
PENNINGTON RD
BROADWAY
ARCHER AVE
LARKIN RD
KENT AVE
99

# Attachment G

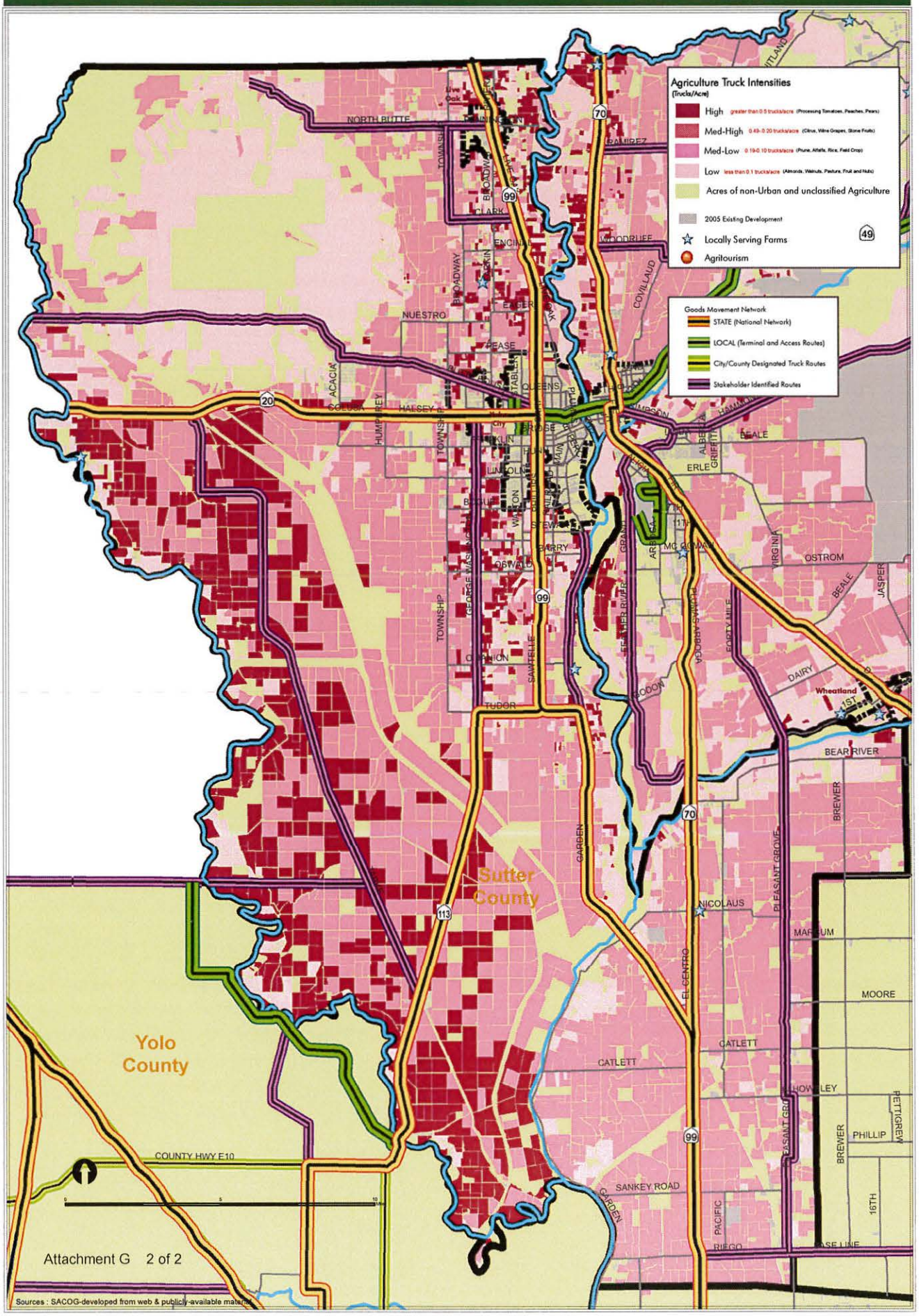
SACOG's *Rural Urban Connections Strategy*
Live Oak: SR 99 and Pennington Road's Good Movement Significance

# Regional Goods Movement Routes - Sutter County



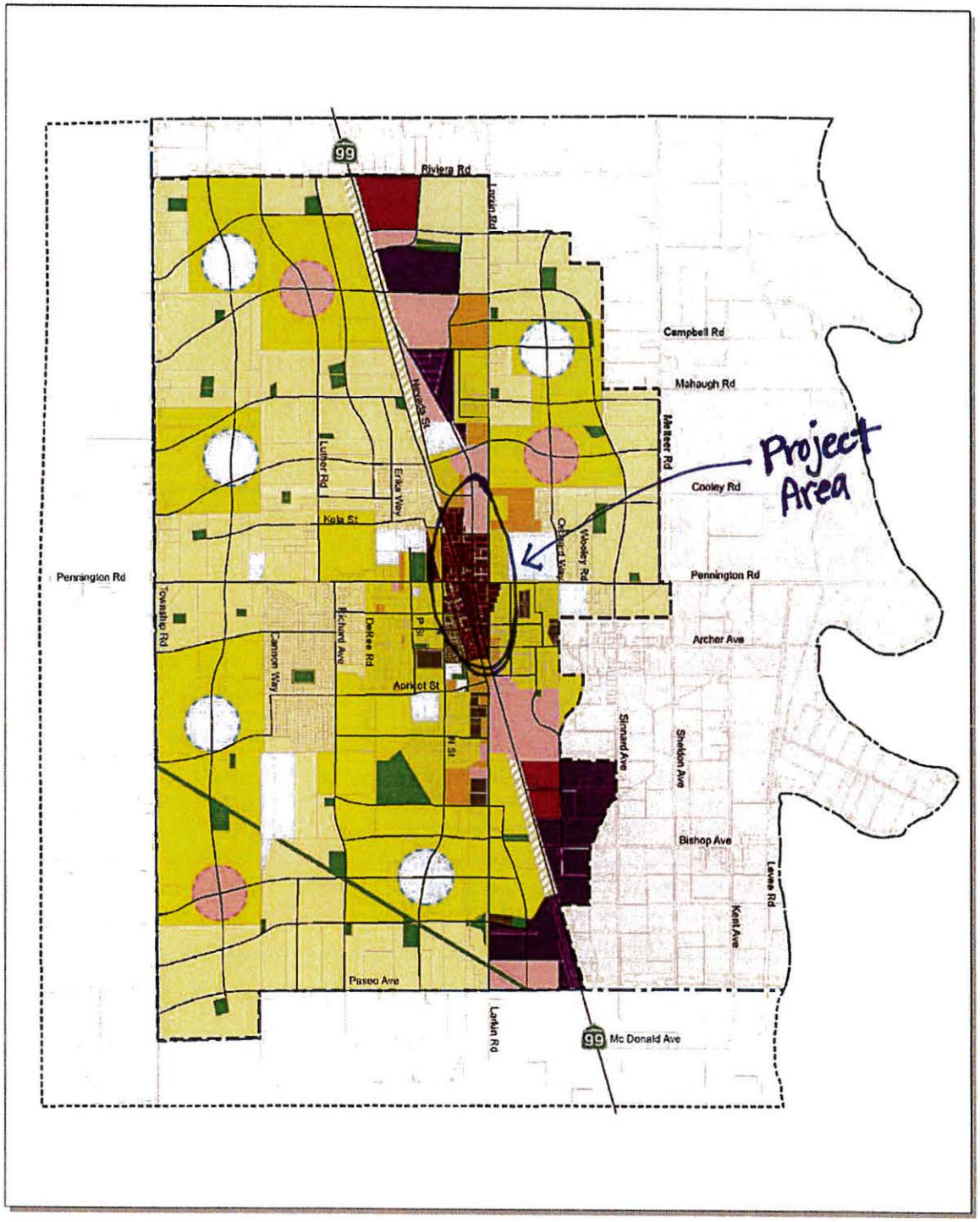
# Regional Goods Movement Network & Truck Intensity - Sutter

SACRAMENTO REGION
RURAL - URBAN CONNECTIONS STRATEGY



# Attachment H

The City of Live Oak's *General Plan 2030*
Land Use Designations




**LEGEND**

**Boundaries**
- Study Area
- Planning Area
- Sphere of Influence
- Parcels
- Roads

**Land Use Designations**
- Low-Density Residential
- Smaller-Lot Residential
- Medium-Density Residential
- Higher-Density Residential
- Commercial Mixed Use
- Downtown Mixed Use
- Community Commercial
- Park
- Civic
- Employment
- Urban Reserve
- Buffer
- Neighborhood Center
- Civic Center

0 2250 FEET

N

Source: Sutter County Assessor's Office, Live Oak GIS. Adapted by EDAW 2009

Imagine the future
City of Live Oak
General Plan

**Figure LU-5**
**Land Use Diagram**

# Attachment I

Caltrans Headquarters Criteria

# Asset Management Nomination Evaluation

Introduction

The asset management pilot program projects will be evaluated based on weighted scoring from each of the five Strategic Plan Goal areas. Teams have been established to develop criteria for the evaluation of the project nominations. These teams are currently at various levels of refinement of their respective criteria. The information presented in this document represents the current ideas of each team. Although it is unlikely that gross departures from the general themes presented will occur, each team has the prerogative to react to the projects nominated in setting/revising their evaluation criteria. Therefore, the following information is presented in the interest of transparency but could be subject to change.

Safety and Health (Contact Person - Steve Guenther)

*Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities.*

1. **Minimize injuries and fatalities of workers** – Quantitative data within the projects limits such as Average Annual Daily Traffic (AADT), urban or rural location, and worker average exposure will be used to assess the risk of workers. The Roadside Safety Program criteria will be used to give consideration to other aspects the project contributes to worker safety.

Roadside Safety Program Elements

1. Relocating and clustering existing facilities to safe work locations,
2. Minor pavement for areas beyond the gore, slopes adjacent to bridge structures, low visibility areas, road edge, and narrow areas,
3. Vegetation control treatment under existing guardrail,
4. Inert materials to slopes and low visibility areas,
5. Access gates, staircases, trails for light duty vehicles, and maintenance vehicle pullouts
6. Safety rails on retaining walls
7. Shielding of equipment that cannot be relocated
8. Removal of duplicative signage
9. Signage, lighting and additional pavement at chain control

10. *(SRRA Water Quality Compliance for sewage and drinking water systems - 2015 REVISION NOT YET MADE TO MANUAL )*

2. **Minimize injuries and fatalities of automobile users** - Quantitative data within the projects limits such as roadway classification, AADT, urban or rural location, traffic speeds, and accident "hot spots" will be used to assess the risk of users. The project will then be assessed using the following:

   Criteria (in priority order)*

   1. Run Off Road Program
   2. Shoulder/Centerline Rumble strips
   3. Left-turn channelization
   4. Crosswalk Safety Enhancements
   5. School Zone Signals
   6. New/Upgraded Bridge Rails or Guardrail
   7. New/Upgrade Crash Cushions
   8. Upgrade guardrail transitions and end treatments
   9. Rock fall Mitigation
   10. Glare Screen
   11. Overcrossing Pedestrian Fencing
   12. Other considerations

3. **Minimize injuries and fatalities of vulnerable users by increasing Active Transportation connectivity** - Quantitative data within the projects limits such as bike crash data, pedestrian accident data, exposure times, and existing shoulder widths will be used to assess the risk of bike and pedestrian users. The project will then be assessed using Complete Streets Prioritization Criteria for SHOPP to assess other ways the project increases Active Transportation connectivity.
4. **Maximize active transportation access on facilities to encourage use -** Quantitative data within the projects limits such as existing bike lanes, shoulder widths, and pedestrian crossings will be used to assess the existing access for active transportation. The project will then be assessed for its contribution to active transportation attributes.
5. **Minimize system-related pollution for criteria pollutant emissions** - Quantitative data within the projects limits for existing criteria pollutants emissions to assess the need for criteria pollutant reduction. The project will be assessed to look at the attributes that

contribute to emission reduction such as improving traffic flow, improve vehicle performance (e.g. IRI reduction), and reducing traffic disruption.

Stewardship and Efficiency (Contact Person - Mike Johnson)

The stewardship goal is all about preserving the existing transportation system. Project nominations should include all of the following that are applicable:

1. Quantify the pre and post condition of all assets that will have condition improvement through the project. See the district 2 project example.
2. Quantify any new physical assets that will be added to the system through the project. Stick with the higher value items such a pavement area, bridge deck area, culverts, ITS elements etc.
3. For projects that protect or preserve our existing assets, describe the nature of the preservation work (examples: pavement crack sealing, bridge painting, culvert lining, etc.) and quantify the area or limits of the proposed work. Include an estimate of the expected life extension of the component or asset resulting from the proposed work.
4. If any portion of the proposed project relies on State only funding (no Federal funds) please clearly identify it in the nomination. Generally this would be the case for facility projects with a few exceptions.

System Performance (Contact Person - Thomas Schriber)

1. Fix it First – This refers to the concept of replacing elements that are non-functional or obsolete prior to placing new elements that expand the system.
2. High Delay Reduction – The primary goal of the mobility program is decreasing delay.
3. Travel Time Reliability – The primary goal of system reliability is to have reliable travel time.
4. Trucks - Goods movement is a major element of mobility.
   - Fix it First = % of project related to fix it first
   - High Delay Reduction = Daily Reduction of Delay
   - Travel Time Reliability = Reliability Index
   - Trucks = % of trucks

Reliability calculation:

1. Travel Time Reliability is measured in terms of the Buffer Time Index, which was developed by the FHWA Pooled Fund Study for Measuring Mobility in Urban Transportation. The Buffer Time Index is the extra time travelers need to add to

their trip to ensure they arrive on time. The Buffer Time is expressed as a percentage. A buffer index of 40 percent means for a 20 minute travel time an extra 8 minutes would need to be added (20 min x 40 percent = 8 minutes) to arrive at their destination on time. The buffer time index is computed in PeMS as (95th percentile Travel Time – Median percentile Travel Time)/Median percentile Travel Time.

- The Buffer Time Index is obtained from PeMS on predefined corridors in the PeMS corridor module.
- PeMS reports break up the Buffer Time Index into 60 five minute time periods for the A.M peak period (5:00-10:00 AM) and 60 five minute time periods for the PM peak period (3:00-8:00 PM) for non-holiday weekdays averaged for a three month period.
- The 60 five minute periods are sorted into three different categories. Reliable (BTI less than 20%), Moderately Reliable (BTI 20-40%), and Unreliable (BTI over 40%).
- If a corridor had 60 time periods with a BTI less than 20% that corridor would be 100% reliable. If that corridor had 40 time periods with a BTI less than 20%, 6 time periods between 20-40% and 14 time periods with a BTI over 40% that corridor would be 66.7% reliable, 10.0% moderately reliable and 23.3 unreliable.
- This is done for each corridor by direction for both the AM and PM peak periods.

Delay calculation:

- The Priority Index Number (PIN) used for prioritizing Operational Improvements has a delay index component. Here is a link to the guidelines for calculating PINs:
- http://traffic.onramp.dot.ca.gov/mobility

Corridor type. The hierarchy is as follows:

2. High Priority Corridors – These corridors are identified by the Office of Strategic Development and are the top corridors for mobility funding.
3. Congested Corridors – The congested urban corridors are the primary focus of mobility funding. Congested corridors that are not identified as high priority corridors would fall into this second tier.
4. Inter Corridors – The Department has already identified certain inter-regional routes as focus routes with higher priority for funding. This category would include those routes plus all segments of interstate facilities that don't fall into the top two tiers.
5. Economically Significant Corridors – This captures goods movement corridors and corridors with high tourism value as well as evacuation routes that don't fall into the top three tiers.
6. Other – This category includes any route that does not fall into the first four categories.

Sustainability (Contact Person - Melissa Thompson or spreadsheet contacts)

The Sustainability team has developed a new shorter version checklist of 20 questions that will help define the sustainability benefits of a project nomination. Please refer to the attached spreadsheet. Contact names and numbers are also listed in the spreadsheet if you have any sustainability questions.

Organizational Excellence (Michelle Tucker or Eric Shrader)

**1 Positive Work Environment** – Promote a positive work environment and implement a management system to maximize accomplishments, encourage innovation and creativity, and ensure staff performance is aligned with Department and State goals.

5.1.6 (proposed) Project contains innovative elements or components (either new or developed by Caltrans employees).

5.1.7 (proposed) Project has been previously assessed to have a high level of "worthiness" as a top priority item in other regional, master, system plans, etc. or the project is innovative or represents a fix to a long-standing or strongly-desired need. *Cross-cuts with Goal 2 –Stewardship & Efficiency, Money Counts. Effectively manage California's transportation-related assets.*

5.1.8 (proposed) Project contains amenities that generate employee satisfaction and make Caltrans a "workplace of choice"(e.g., lockers, showers, bike storage facilities, e-charging stations for vehicles, multimodal access to community). *Cross-cuts with Goal 1—Safety and Health, Promote community health through active transportation.*

**2 Customer Service** – Continuously increase customer satisfaction. (No criteria identified at this time.)

**3 Lean 6-Sigma** – Employ Lean 6-Sigma to reduce waste in Department operations and decision processes and to ensure resources are used effectively. (No criteria identified at this time.)

**4 Communication** – Improve internal and external communication to better demonstrate professionalism and service levels to the public and other stakeholders…

5.4.5 (proposed) Projects has an early and formal communication plan to improve stakeholder/community awareness (e.g., the W/X Project on US-50).

**5 Risk and Ethics** – Cultivate an environment that encourages proper identification, management, and communication of risk across all levels of the organization and makes intelligent decisions based on that analysis.

5.5.5 (proposed) The project is being used as part of a response strategy to a published item on the Caltrans Enterprise Risk Register or a District risk register.

(proposed) The project demonstrates early commitment to risk management through identification, analysis, and planning at the PID phase as recommended in PD-09.

**6 Collaborative Partnerships** – Improve collaborative partnerships with agencies, industries, municipalities and tribal governments and advance national engagement with the transportation research and policy committees.

5.6.4 (proposed) Number of PDTs (project development teams) that are comprised of collaborative partnerships, i.e., external stakeholders. *Cross-cuts with Goal 4 – System Performance. Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.*