# COUNTY OF YOLO BICYCLE TRANSPORTATION PLAN

**Bicycle Routes and Priorities** 



Prepared by the Yolo County Transportation Advisory Committee

In accordance with the California Streets and Highways Code Section 891.2

**March 2013** 

# YOLO COUNTY TRANSPORTATION ADVISORY COMMITTEE

The Transportation Advisory Committee was created by the Yolo County Board of Supervisors on March 15, 1979, as amended by Ordinance No. 844 dated May 10, 1979, and Ordinance 1180 dated June 15, 1995. The Committee acts in an advisory capacity to the Board of Supervisors on transportation matters, and reviews and makes policy recommendations on the planning, financing, development, and maintenance of routes and facilities for public transportation, bicycling, surface transportation, canals, bridges, and ground access to aviation.

# **MEMBERSHIP**

Supervisorial District #1 Vacant

Supervisorial District #2 Bruce Eldridge

Supervisorial District #3 Vacant

Supervisorial District #4 Steven Zehner

Supervisorial District #5 Hans Strandgaard

At Large, Representing Bicycling Olin Woods

Yolo County Transportation District Vacant

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MAR 18 2013

# RESOLUTION NO. 13-32

CLERK OF THE BOARD

BY Supeta Raminez

DEPUTY

# A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF YOLO UPDATING THE COUNTY OF YOLO BICYCLE TRANSPORTATION PLAN

WHEREAS, in accordance with Title 2, Chapter 2, Article 25 of the Yolo County Code, the County of Yolo Transportation Advisory Committee is charged with the responsibility of reviewing and making policy recommendations to the Board of Supervisors on planning, financing, development, and maintenance of routes and facilities for public transportation, bicycling, surface transportation, canals, bridges, and ground access to aviation; and

WHEREAS, with regard to bicycling, California Streets and Highways Code Section 891.2 provides that the County may prepare a bicycle transportation plan to include at least the following elements:

- (a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.
- (b) A map and description of existing and proposed land use and settlement patterns which shall include at least locations of residential neighborhoods, schools, shopping centers, public buildings and major employment centers.
- (c) A map and description of existing and proposed bikeways.
- (d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.
- (e) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.
- (f) A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.
- (g) a description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists;
- (h) A description of the extent of citizen and community involvement in development of the plan, including but not limited to, letters of support.

- (i) A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans including, but not limited to, programs that provide incentives for bicycle commuting;
- (j) A description of the projects proposed in the plan and a listing of their priorities for implementation.
- (k) A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area; and

WHEREAS, the County must have a current Bicycle Transportation Plan to be eligible to apply for State Bicycle Transportation Account funds for bikeway improvements in the County; and

WHEREAS, the Board of Supervisors, acting on the advice and recommendation of the County Transportation Advisory Committee, has determined that because the existing County of Yolo Bicycle Transportation Plan was adopted in December 2006, it is timely and appropriate to revise and update this Plan to more properly reflect community needs in the year 2013; and

WHEREAS, County staff working under the direction and guidance of the County Transportation Advisory Committee, prepared an initial proposed County of Yolo Bicycle Transportation Plan; and

WHEREAS, the County Transportation Advisory Committee submitted this initial proposed Plan to the public, incorporated cities in the County, bicycle clubs, Caltrans, the Sacramento Area Council of Governments, the Yolo-Solano Air Quality Management District, the Yolo County Transportation District, and the University of California at Davis for review and comment; and

WHEREAS, County staff working under the direction and guidance of the County Transportation Advisory Committee, carefully considered the comments received regarding the initial proposed Plan and made those revisions to the initial proposed Plan that would have the greatest positive and constructive impact on the plan in light of the requirements of Streets and Highways Code Section 891.2 and public health, safety and general welfare concerns; and

WHEREAS, a copy of the final proposed County of Yolo Bicycle Transportation Plan is attached to this Resolution as Exhibit A; and

WHEREAS, the Transportation Advisory Committee by action dated February 16, 2012 found that the final proposed Plan meets the requirements of Streets and Highways Code Section 891.2 as well as the public health, safety and general welfare needs of the Yolo County community and, on that basis, has recommended adoption of the Bicycle Transportation Plan attached hereto as Exhibit A;

NOW, THEREFORE BE IT RESOLVED by the Board of Supervisors of the County of Yolo as follows:

- 1. That the Board finds that the County of Yolo Bicycle Transportation Plan attached hereto as Exhibit A meets the requirements of Streets and Highway Code Section 891.2, meets the public health, safety and general welfare needs of the Yolo County community, and is in the best interests of the Yolo County community; and
- 2. That, on the basis of its findings, the Board hereby adopts the County of Yolo Bicycle Transportation Plan attached hereto as Exhibit A to supersede the Plan adopted in December 2006.
- 3. That the Director of Planning and Public Works be authorized to make such clarifying changes to the plan as may be necessary following the Sacramento Area Council of Government's or Caltrans' final review of the adopted Yolo County Bicycle Transportation Plan.

**PASSED AND ADOPTED** by the Board of Supervisors of the County of Yolo, State of California, at a regular session this 12<sup>th</sup> day of March 2013, by the following vote:

AYES: McGowan, Saylor, Rexroad, Provenza, Chamberlain.

NOES: None.
ABSENT: None.
ABSENTION: None.

Duane Chamberlain, Chairman Yolo County Board of Supervisors

Approved As To Form:
Robyn Truitt Drivon, County Counsel

Philip J. Pogledich, Senior Deputy

# INTRODUCTION

Yolo County has long been a favorite area for bicycling. The flat terrain, mild climate, and relatively short distances between cities are all conducive to this transportation mode. Bicycling occurs locally within the four cities of the County, in the rural land between the cities, and to nearby places in the region such as Sacramento and Lake Berryessa. The University of California at Davis, with its 33,300 students (2012 enrollment) and staff, is a large generator of bicycle traffic.

In 1974, the Yolo County Bicycle Path Advisory Committee first prepared a comprehensive master plan of bikeways for the County. Several of the bikeways proposed in the 1974 plan were developed, and in 1982, recognizing the need to update the plan, the Board of Supervisors charged the Transportation Advisory Committee with the responsibility of preparing a revised plan. With the completion of several of the bikeways recommended in the 1982 report, and following the incorporation of the City of West Sacramento in 1987, the 1982 document was updated in 1993. The 1993 Bikeway Plan was updated in December 1999 to comply with Section 891.2 of the California Streets and Highways Code to enable the County to apply for State Bicycle Transportation Account funds, and was renamed the 'County of Yolo Bicycle Transportation Plan.' The 2002 plan revision was necessary to incorporate the July 2001 Davis-Woodland Bikeway Feasibility Study Report into the County Bicycle Transportation Plan. The 2006 plan update reflected the completion of the bike lanes on County Road 32 and acknowledged the California Cross State Bicycle Route Study. This plan update accounts for the completion of bicycle improvements on County Roads 99, 29, 99D, and 32A, the Alternative Transportation Feasibility Study accepted by the Board of Supervisors in October 2009, and revised policies in the 2030 Countywide General Plan adopted by the Board of Supervisors in November 2009.

The purpose of this plan is to formulate a long-range, comprehensive, and consistent policy guide for achieving a countywide bikeway network, and list current priorities for bicycle facility development. The plan sets forth goals and policies for bicycle facilities in the unincorporated county in response to identified needs. The plan provides a viable system of bike routes that when constructed will encourage and promote more bicycle riding. Because of the uncertainty of funding, this plan does not contain funding or construction schedules. Specific policies and suggested actions are described and routes are prioritized as guides for future action.

This plan has been reviewed for consistency with bicycle planning documents prepared by the Cities of Davis, Woodland, West Sacramento, and Winters; Solano County; and Sacramento City/County. The County's plan has been circulated to cities within the County, the University of California at Davis, and local bicycle clubs for review. The general public has had an opportunity to comment on the plan via posting on the County's "hot topics" website. Following the adoption of this plan by the Yolo County Board of Supervisors, it will be forwarded to the Sacramento Area Council of Governments (SACOG) for review to ensure consistency with the regional Metropolitan Transportation Plan.

The County will periodically review this plan to assess the need for updates and revisions in response to continuing changes in bicycling needs and regulatory requirements.

# **GOAL**

It is the goal of Yolo County to provide for and encourage the development of an integrated system of bikeway facilities. These facilities would provide for safe and convenient travel for bicyclists throughout the County. The County recognizes the benefits of improved air quality, improved energy efficiency, reduced traffic congestion, and improved personal fitness that can be realized by encouraging bicycle travel for transportation and recreation.

# **POLICIES**

To accomplish these goals, the following policies have been developed:

# **PLANNING OF BICYCLE FACILITIES:**

- The safety of bicyclists and the motoring public is of primary importance.
- Commuter bicycling facilities shall be given a higher priority than recreational facilities. Commute trips are any trip with a utilitarian purpose such as bicycle trips to work, school, shopping, appointments, sporting events, recreational events, or entertainment events.
- Class II Bikeways (bike lanes contiguous to roadways) shall be the generally
  preferred facility in areas of developed roadways, primarily to serve
  commuters. Class I Bikeways (bike paths separated from roadways) shall be
  considered to close gaps that exist in the roadway system and to provide
  alternate routes that might be more desirable or safer, to serve both commuter
  and recreational bicyclists.
- Special emphasis shall be given to transportation interfaces so that a bicyclist may employ multiple modes of transportation in reaching a destination.
- County bicycle facilities shall be developed with maximum flexibility and shall be developed in coordination with long-range transportation planning.
- County bicycle facilities planning shall be developed with maximum citizen, community, and local government involvement.
- Personal safety and security issues shall be addressed in the planning of individual bicycle facilities.
- Cost effective measures to provide safe and convenient bicycling shall be emphasized in the bikeway facility planning process. These can include removal of physical barriers and improved maintenance activities, such as pavement sweeping where required.

• The development of bicycle routes on levees or abandoned railroad road rights of way shall be considered as opportunities arise.

# **IMPLEMENTATION:**

- The County shall continue to require that planned residential, commercial and
  industrial developments include bicycle facilities in their projects. Rights of
  way on collector streets and minor streets should be adequate for bikeways.
  Pathways should also be provided for bicycle and pedestrian use through culde-sac and loop streets where such access will encourage bicycle and pedestrian
  travel.
- The needs of bicyclists shall be considered when new roads are constructed or existing roads are upgraded.
- New bridge construction in the County shall accommodate the needs of bicyclists where there is a demand potential.
- Ensure that bikeways are striped and signed in accordance with the standards defined in the California Manual of Uniform Traffic Control Devices and the Caltrans Highway Design Manual. In agricultural areas, bicycle routes shall be designated, striped, and signed in an alternative manner that considers and allows for the movement of slow moving and wide agricultural equipment.
- The County shall encourage the provision of bicycle rest facilities, including, but not limited to, restrooms, drinking water, public telephones, and air for bicycle tires.
- The County shall encourage the provision of bicycle parking facilities, including, but not limited to, bicycle parking with theft prevention devices located at, in, or near civic and public buildings, transit terminals, business districts, shopping centers, schools, parks and playgrounds, and other locations where people congregate.
- Bikeways shall be designed with a structural cross-section appropriate for the
  expansive clay soils that underlie much of the County. Inadequate structural
  sections placed on expansive soils can result in increased maintenance costs and
  can reduce the level of rider safety, factors which shall be considered in the
  design of bikeways.
- When constructing bicycle facilities, trees and other significant vegetation shall be preserved or planted where feasible, considering the effects on construction, maintenance activities, and public safety, to realize the benefit of vegetation's

# shading effect and improved aesthetics.

# <u>MAINTENANCE</u>

 When constructing bicycle facilities, trees and other significant vegetation shall be All bicycle facilities shall be regularly inspected, maintained, and repaired as needed. On road bike lanes typically require less maintenance because of the sweeping action of occasional motor vehicle wheels, as compared to bike paths.

# ESTIMATED NUMBER OF BICYCLE COMMUTERS

Census data can be used to make reasonable estimates of current bicycle commuting patterns. According to the 2010 American Community Survey compiled by the United States Census, approximately 8% of the overall County workforce commuted to work using some means of transportation other than a car, truck, van, a carpool, public transportation or walking. Using 2010 U.S. Census population figures for the unincorporated County shown on Figure 2 (24,391), this data indicates that an estimated 2,024 residents in the unincorporated County commute to work via bicycle.

However, this estimate does not account for commuting on County bicycle facilities by residents living in the incorporated cities outside of the plan area. The four incorporated cities of Davis, Woodland, West Sacramento, and Winters are separated by distances that can be commuted by bicycle. Both Davis and Woodland have bicycle commute levels well above the national average. There are riders from these two cities, as well as West Sacramento and Winters, who use County roads as inter-city routes. Based on traffic counts, visual observations, public meetings, and requests for County road maintenance from bicycle commuters, it is estimated that an average of 75 people per day commute from one of these cities to another on roads in the unincorporated County.

The workforce commuting estimates above do not include the commute modes of students attending schools in the communities of Esparto, Madison, Clarksburg, and Knights Landing. Using the total 2010-11 enrollment of 1838 students at these schools and the 8.3% commute rate, an estimated 152 students in the plan area commute to school by bicycle.

In sum, 2010 bicycle commute trips in the plan area are estimated to total approximately 2,250 trips per day.

The County's continued development of the bikeway system, with particular emphasis on intercity commute routes, is projected to encourage an increase in the percentage of bicycle commuters SACOG population growth forecasts estimate an annual growth rate in the unincorporated County of 1.96% per year over the thirty-year period 2005-2035. The estimated number of bicycle commute trips in the plan area is projected to increase at this same rate to approximately 3,700 per day by the year 2035.

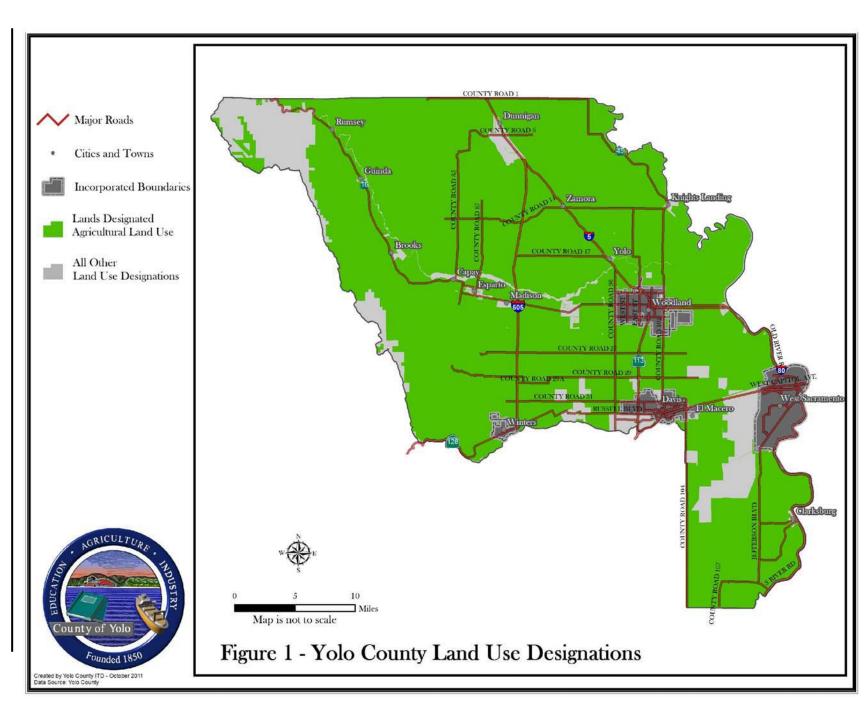
# **LAND USE**

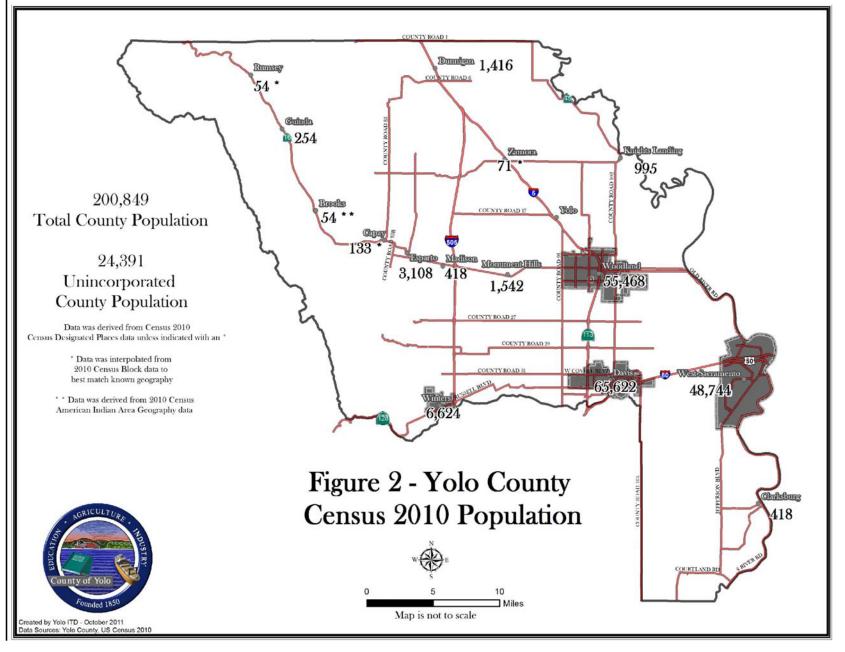
Figures 1 and 2 show the land use and settlement patterns in the County. As shown in Table 1, more than 91% of the County is zoned agricultural and open space. The County has a strong history of limiting residential, commercial, and industrial development to areas within the incorporated cities and areas adjacent to communities in the unincorporated County. As a consequence, there are no major residential centers, schools, shopping centers, public buildings, or employment centers outside these communities.

According to projections by SACOG, 11,562 additional people will live in the unincorporated County by the year 2035 compared to 2005, a growth rate of 1.96%. Assuming this growth is accommodated according to the County's General Plan, zoning and land use patterns in the County are not expected to change dramatically during this period.

TABLE 1					
2030 YOLO COUNTY GENERAL PLAN LAND USE DESIGNATIONS					
USE	ACRES	% OF TOTAL ACREAGE			
Open Space	51,445	7.9%			
Agriculture	544,909	83.4%			
Parks and Recreation	890	0.1%			
Residential	3,136	0.5%			
Commercial/Industrial	1,305	0.2%			
Public and Quasi-Public	7,334	1.1%			
Specific Plan Areas	3,606	0.6%			
Incorporated Cities	32,325	4.9%			
Rights of Way	8,589	1.3%			
Total	653,539	100.0%			



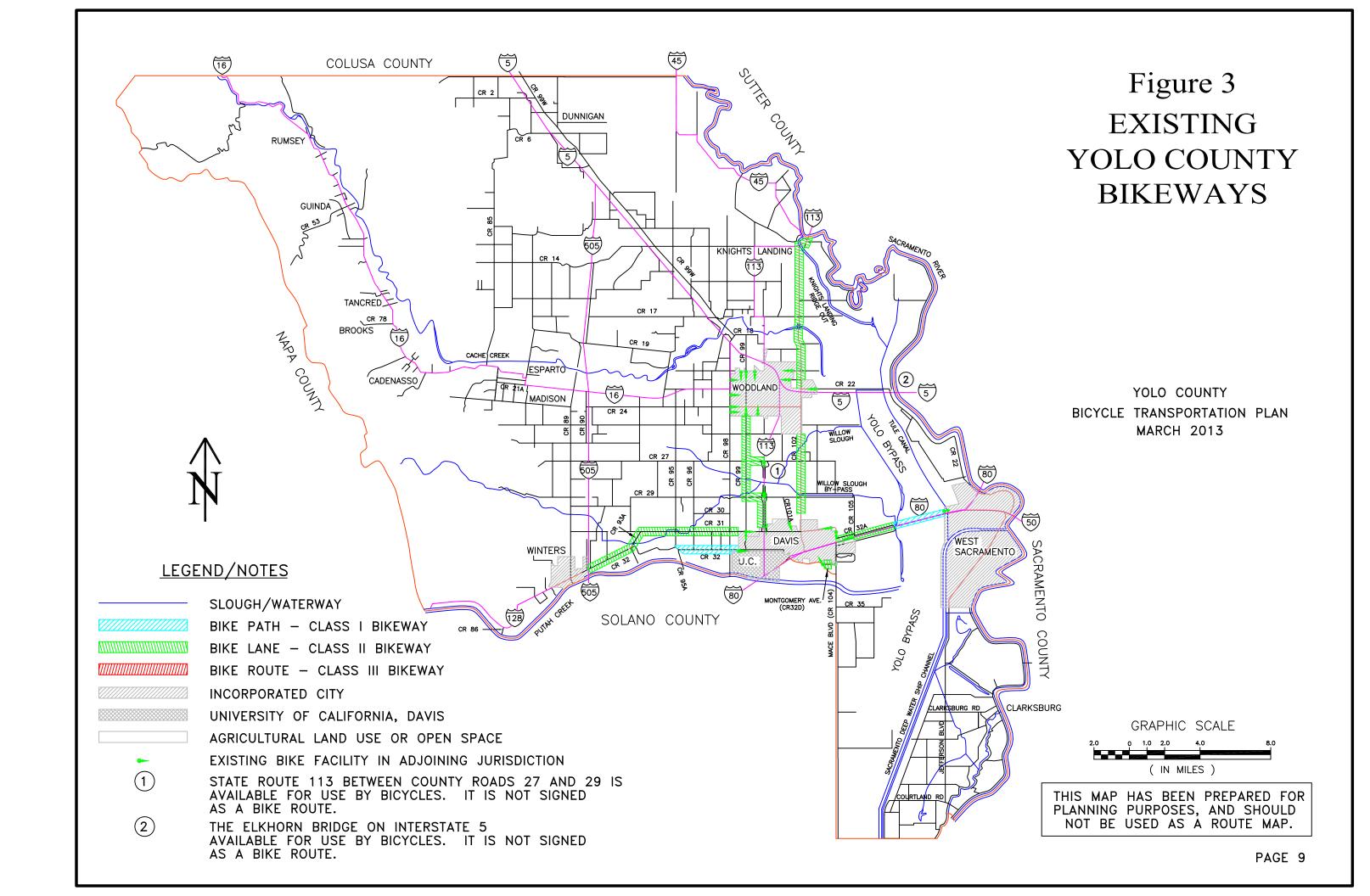




# **EXISTING BIKEWAY SYSTEM**

Figure 3 shows the locations of existing bikeways in the County. There are five bikeways in the unincorporated County. They have been constructed over the past thirty years and are routes constructed to either Class I or Class II width standards. (Refer to Appendix 1 for definition of classes.) The routes are:

- A route from Davis to West Sacramento, consisting of a Class I Caltrans-maintained bike path along the Interstate 80 causeway over the Yolo Bypass, and Class I and II sections of County Road 32A.
- A Class II bike lane along County Road 102 from Knights Landing to the eastern portion of Woodland and on to near Davis.
- A Class II bike lane along County Road 99 from the southern city limits of Woodland south approximately 5.5 miles to County Road 29, then east one mile to County Road 99D, then south on County Road 99D to the City of Davis.
- A Class II bike lane along County Road 31, County Road 93A, and Russell Boulevard between Davis and Winters.
- A Class I bike path along County Road 32 west from Davis to County Road 95A.



# PROPOSED BIKEWAYS & PRIORITIES

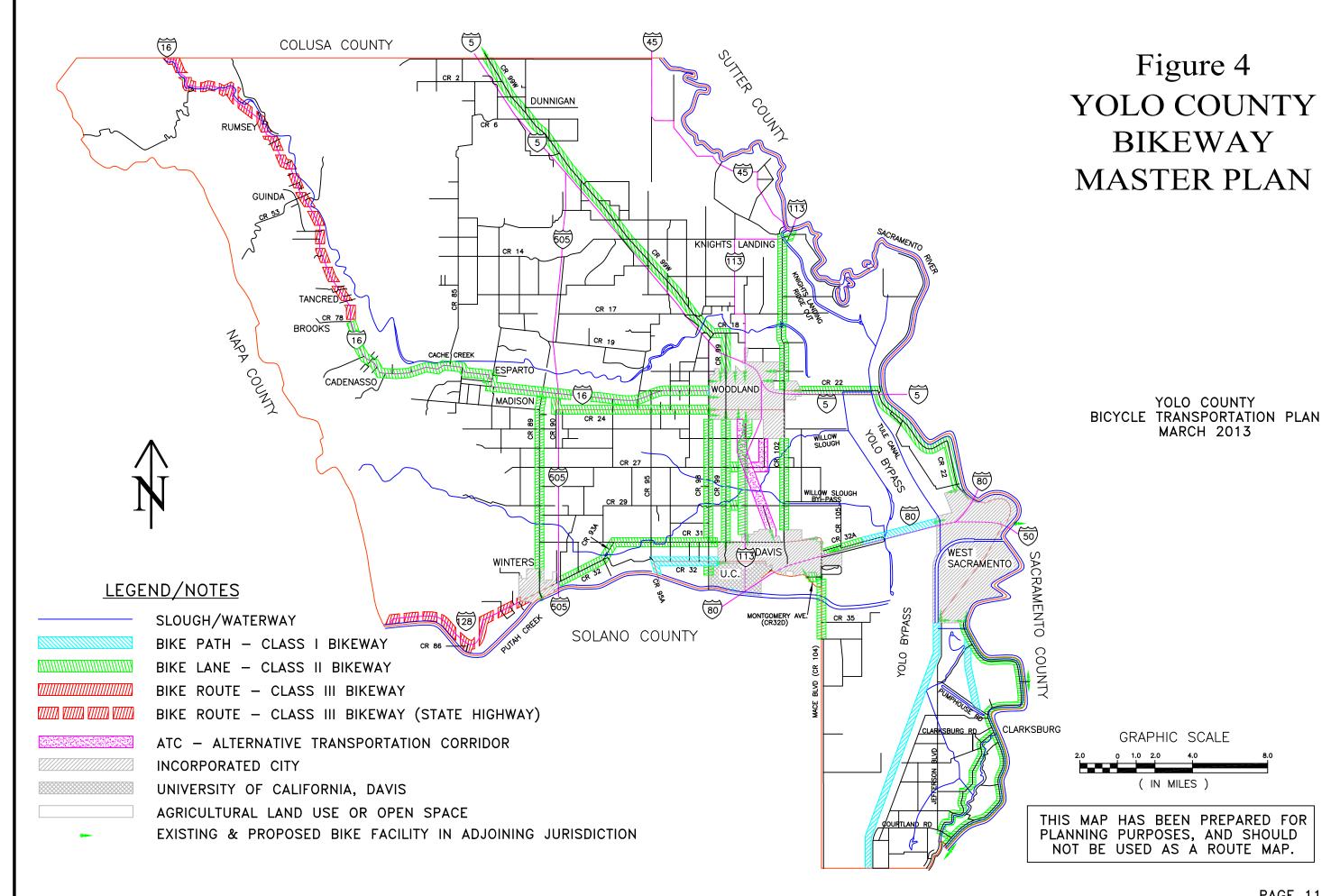
Figure 4 shows the existing and proposed locations of bikeways in the County. The bikeways shown connect the four incorporated cities to each other and to Sacramento. They are located to best meet the commuting needs of employees, business owners, shoppers, and students. These bikeways are generally located along existing roads between cities, and once completed would likely serve commuting bicycling needs for the foreseeable future.

Three additional Class I routes are identified. One is an alignment between Davis and Woodland identified in the 2009 Alternative Transportation Corridor Final Feasibility Study (excerpts attached in Appendix 3). The City of Davis, City of Woodland, and the County funded this study to investigate alignments that could meet the needs of bicycles and neighborhood electric vehicles (NEVs). The Board accepted the study in October 2009, approved the alignment which is shown in Figure 4, but removed NEVs from the project concept, making the project a Class I bicycle path project. This alignment parallels the railroad along much of the route. If the railroad right of way between Davis and Woodland was to become available in the future, the cost effectiveness of this alignment could be improved significantly by reducing the need to acquire agricultural land adjacent to the railroad for the alignment.

An earlier feasibility study to investigate improving bikeway routes between Davis and Woodland was completed in July 2001. The City of Davis, the City of Woodland, the Yolo-Solano Air Quality Management District, and the County jointly funded this study, and the Yolo County Transportation District adopted the recommendations contained in the final report. The Executive Summary is attached as Appendix 4. The most feasible route in the short term involved adding 4 foot shoulders to County Road 99 between County Roads 27 and 29, County Road 29 between County Roads 99 and 99D, and County Road 99D between County Road 29 and the City of Davis. Construction of the final portion of this alignment was completed in the fall of 2009. The second recommended alignment was a more central alignment achieved by connecting a series of lightly traveled dead end frontage roads on the west side of State Route 113 to the improved section of County Road 99D. (See map, Appendix 2, page A2-2) This alignment would contain both Class I and Class II sections.

Other Class I routes include an extension of the Class I facility on Russell Blvd from its current end at County Road 95A south to Solano County. A Class I U.S. Army Corps of Engineers project along the deep water ship channel south of West Sacramento was proposed in 1999. Due to lack of federal, state, and local support the project is currently shelved, however, the alignment is consistent with the Great Delta Trail, a trail concept born out of Senate Bill 1556 (Torlakson) that requires the Delta Protection Commission to facilitate the planning and feasibility process for the establishment of a regional network of interconnecting trails in the Delta. Another Class I route is the Clarksburg Branch Line railroad alignment south of West Sacramento, which the City of West Sacramento has purchased from the Yolo Shortline Railroad as far south as Pumphouse Road north of Clarksburg. The purchase is planned to ultimately result in a continuous ten-mile long city trail.

The California Cross State Bicycle Route Study, prepared by the El Dorado County Transportation



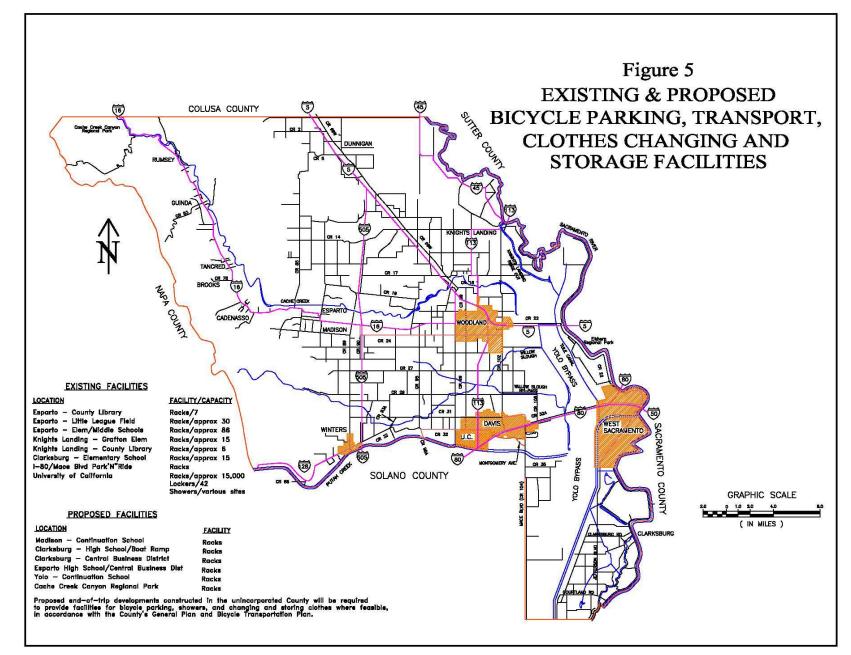
District in June 2004 with grant funding from Caltrans and assistance from various individuals and agencies along the corridor, provides guidance to local agencies for the development of a seamless interregional bicycle facility that extends across California from the San Francisco Bay Area to Lake Tahoe. This route enters Davis from Solano County and continues east to West Sacramento on the Old Lincoln Highway Class I bike path along Interstate 80, the Class II bicycle lanes on County Road 32A east of County Road 105, and the Class 1 bicycle path on the Yolo Causeway. The County of Yolo supports the idea of this "bicycle interstate" and strives to construct continuous bikeway connections between the four incorporated cities in the County to complement the alignment. The ultimate benefit will be a dependable bicycle system for people to utilize for either a commute trip or recreational ride.

Specific yet-to-be completed sections of the Bicycle Transportation Plan are itemized in Appendix 2, and have been prioritized using the policies stated earlier in this document as guidelines. The projects are categorized as high, medium, or low priority. Numerical prioritization was not utilized because of the flexibility afforded by having a group of high and medium priority projects with a range of costs. This will allow the County to submit funding applications for projects that best match available grant and local funds, based on an updated cost-benefit analysis at the time of application. High priority projects are generally bikeway sections needed to complete the linking of the four incorporated cities in the County and connections to Sacramento and that have the potential to provide benefit to the greatest number of cyclists. Medium priority projects are generally less important links between cities, or routes that have the potential of serving fewer cyclists than high priority projects. Low priority projects are long-range projects whose importance as bicycle routes should be considered as roads and bridges on the alignments are improved. Safety, education, and maintenance projects are not listed along with capital improvement projects. Although these are important components of a successful bikeway system, they are difficult to prioritize together.

Planning level cost estimates were prepared for each of the alternative routes based on inspections of field conditions along each of the routes. Right of way conditions were judged based on the existing location of utilities and drainage ditches. Costs for construction are based on recent bid results for work of a similar nature. The cost estimates are useful for comparing relative costs, but detailed cost estimates would be required prior to submitting grant applications, or beginning any of the improvements.

# PROPOSED BICYCLE PARKING AND TRANSPORT FACILITIES

Because of the rural nature of the unincorporated County, there are few end-of-trip commute destinations in the plan area. Currently, the most significant destinations in the unincorporated County are a handful of schools, parks, town halls, libraries, and small shops in the business districts of small unincorporated communities. Figure 5 indicates the location of existing and proposed bicycle parking, transport, and clothes changing and storage facilities in the County. The County has land use planning and development policies that discourage development outside of incorporated cities. There are no developments anticipated within the County's jurisdiction in which public locker, shower, or restroom facilities would be feasible. The County will encourage



major end-of-trip developments that may be proposed in the future to provide these facilities in accordance with the policies of this plan and the County General Plan.

A number of county parks along proposed bike routes have water and/or restroom facilities available for bicyclists, including parks in Esparto, on County Road 22 south of Interstate 5, and on State Route 16 two miles north of Rumsey. The Cache Creek Canyon Regional Park north of Rumsey on State Route 16 provides free camping for bicyclists, to encourage recreational bicycling.

The following criteria for bicycle parking facilities shall serve as guidelines in implementing the policies in this plan. Bicycle parking facilities shall:

- 1. Consist of racks anchored so that they cannot be easily removed, of solid low-maintenance construction, resistant to corrosion and saws, and that allow the user to lock both the bicycle frame and the wheels.
- 2. Be designed and constructed of materials that do not cause damage to the bicycle. Inverted "U" racks or "lightning bolt" style racks are the preferred designs; however other designs approved for use in local cities are also acceptable.
- 3. Facilitate easy locking without interference from or to adjacent bicycles.
- 4. Be located on a raised island no less than six inches (6") in height, or within an area sufficiently protected from vehicular traffic, and be located in areas protected from the weather.
- 5. Be located no further from the entrance of the building that it serves than the nearest automobile parking stall.
- 6. Bike lockers shall be provided at locations where secure long-term parking may be required.
- 7. Be located in protected, convenient, highly visible, active, well-lighted areas, and not interfere with pedestrian movements.

Yolobus provides bus service from Woodland to the rural community of Knights Landing twice weekly and from Woodland to Esparto and the Cache Creek Casino in Brooks seventeen times per day. All Yolobus buses are equipped with bicycle racks to provide bicyclists with multimodal transportation opportunities. Yolobus also provides frequent service between the incorporated cities and Sacramento and the Sacramento Metropolitan Airport. Because bicycle racks on each bus can carry only three bicycles, there is a level of uncertainty involved for bicyclists utilizing this service, especially on more popular routes. The County will support efforts to improve this service for bicyclists.

Recognizing that most bicycle commute trips begin and end in the surrounding incorporated cities or U.C. Davis, the County will support efforts in these jurisdictions to develop amenities such as bicycle parking, bicycle friendly intermodal connections, lockers, restrooms, and showers.

# **BICYCLE SAFETY AND EDUCATION**

22 accidents involving bicyclists were reported on County roadways and bikeways in the years 2001 to 2009, an average of approximately 2 to 3 incidents per year. There were three bicyclist fatalities resulting from these accidents. The importance of bicycle safety education and enforcement of Vehicle Code regulations is recognized by the County.

- The California Highway Patrol enforces provisions of the Vehicle Code pertaining to bicycle operation.
- The Yolo County Transportation Management Association, of which the County is a member, provides information on bike safety at area transportation fairs and links to resources for bicyclists. http://www.yolotma.org/links/
- The Sacramento Region 511 Travel Center provides resources for bicycling, including smart cycling classes, as well as an interactive bicycle trip planner.
   (http://www.sacregion511.org/bicycling/)
- The County promotes an alternative commute program that rewards employees for using alternative commute modes, including bicycle commuting.
- The Davis Bike Club is active in advocacy and education.
- The League of American Bicyclist's Bike Education website, <a href="http://www.bikeleague.org/programs/education/index.php">http://www.bikeleague.org/programs/education/index.php</a> is available to County residents and promotes bicycle safety and education.

This plan proposes continuing support for these necessary components of the bicycle transportation system.

# PUBLIC INVOLVEMENT IN PLAN DEVELOPMENT

During the development of this plan, extensive efforts were made to obtain ideas and reviews from citizens, local government, and groups with particular interest in bicycling. The plan was developed at Transportation Advisory Committee meetings that were noticed and open to the public. The draft of the plan was posted on the County website and public comments were solicited. Copies of the draft were circulated to the Cities of Winters, Davis, West Sacramento, and Woodland; Yolo Solano Air Quality Management District; the University of California at Davis; and the Davis Bicycle Club.

As stated in the policies presented earlier, County bicycle facilities shall be developed with maximum citizen, community, and local government involvement.

# COORDINATION/CONSISTENCY WITH LOCAL AND REGIONAL PLANS

# **Yolo County General Plan:**

The policies outlined in this plan are consistent with various elements of Yolo County's 2030 Countywide General Plan, adopted on November 10, 2009. Excerpts of those goals, policies, and action items most relevant to bicycle transportation are listed below:

# **Community Character Element**

GOAL CC-1	Preservation of Rural Character. Ensure that the rural character of the County is protected and enhanced, including the unique and distinct character of the unincorporated communities.	
Policy CC-1.8	Screen visually obtrusive activities and facilities such as infrastructure and utility facilities, storage yards, outdoor parking and display areas, along highways, freeways, roads and trails.	
Policy CC-1.11	Require the development of open space corridors, bicycle paths and trails integrating waterways, scenic areas and County parks where appropriate, in collaboration with affected land owners as a part of project approval. The intent is to connect each community and city and other special places and corridors, throughout the County.	
Policy CC-1.14	Designate other scenic roadways or routes where appropriate using the following criteria: the roadway or route traverses a scenic corridor, water feature, open space area or other interesting or unique areas, both urban and rural and may include bikeways, hiking and riding trails and pedestrian ways.	
GOAL CC-2	<u>Community Planning.</u> Protect, enhance and redevelop existing communities.	
Policy CC-2.3	Include open space corridors and trails throughout each community to provide off-street bicycle and pedestrian access, as well as connections to intra-county corridors and trails.	
Policy CC-2.16	<ul> <li>Require the following sustainable design standards as appropriate for projects located within the growth boundaries of the unincorporated communities:</li> <li>A. Imaginative and comprehensive planning that seeks to make best use of existing community features and fully integrate new development.</li> <li>B. Compact and cohesive communities that promote walking, bicycling and public transit.</li> </ul>	

H. Street lighting and trail lighting, as appropriate, at a scale appropriate for pedestrians and bicycles.

. . .

M. Incorporate a grid street network that provides safe and efficient travel for all modes throughout the community with multiple connections to exterior routes.

. . . .

- Z. Provide convenient and secure bicycle parking in downtown
- AA. To the greatest possible extent, avoid cul-de-sacs that create barriers for pedestrian and bicycle access to adjacent areas.

. . .

HH. Provide multiple connections for all modes through the community and with existing and planned development so that individual development projects are integrated with the surrounding communities.

Action CC-A29

Develop and enforce bike parking standards and design criteria for all land uses identified in zoning code, including number of spaces, location and type of facilities. (Policy CC-2.16)

# Circulation Element

**GOAL CI-1** 

Comprehensive and Coordinated Transportation System. Plan, develop and maintain a comprehensive, coordinated transportation system to ensure the opportunity for safe, efficient and convenient movement of persons and goods.

Policy CI-1.3

Reduce the total vehicle miles of travel (VMT) per household by making efficient use of existing transportation facilities and by providing for more direct routes for pedestrians and bicyclists through the implementation of "smart growth" and sustainable planning principles.

Policy CI-1.12

CMP Consistency – 1) Coordinate with YCTD on the update to the Yolo County CMP to ensure consistency with the LOS policies established in the Yolo County Circulation Element; 2) Monitor roadways identified in the Yolo County CMP and prepare a deficiency plan as outlined in the CMP, when the CMP LOS thresholds are exceeded. The deficiency plan shall focus on modifications to the transportation system that reduce vehicle travel by accommodating more travel by walking, bicycling, and transit modes consistent with the Draft General Plan; 3) Coordinate with cities to consider opting out of the CMP pursuant to Section 65088.3 of the Government Code.

#### **GOAL CI-2**

<u>Mode and User Equity</u>. Design and implement a circulation and transportation system that reflects the needs of all transportation types and users.

Policy CI-2.1

When constructing or modifying roadways, plan for use of the roadway space by all users, including automobiles, trucks, alternative energy vehicles, agricultural equipment, transit, bicyclists, and pedestrians, as appropriate to the road classification and surrounding land uses.

Policy CI-2.2

Encourage employers (including the County) to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.

Policy CI-2.3

Ensure that, wherever feasible, public transit and alternative mode choices are a viable and attractive alternative to the use of single occupant motor vehicles.

Policy CI-2.4

The comfort, convenience, and safety of bicyclists and pedestrians are as important as, and should be balanced to the greatest feasible extent with, those same values for drivers.

#### **GOAL CI-3**

<u>Service Thresholds</u>. Balance the preservation of community and rural values with a safe and efficient circulation system.

Policy CI-3.2

Identify specific level of service policies within Specific Plans and Community Area Plans based on the following conditions:

. . .

B. Development shall provide transit, bike and pedestrian facilities and amenities consistent with the applicable Circulation Element policies.

. . .

Policy CI-3.3

CEQA review for subsequent projects will analyze project traffic and circulation impacts using both the Yolo County General Plan policies and Caltrans policies (based on the CSMPs, TCCRs, or other guidelines) as applicable.

A. Consider the following objectives, following consultation with Caltrans, when making decisions to expand or modify the State highway system in Yolo County:

. .

- 6. Provide facilities for all users including pedestrians, bicyclists, carpool users and transit riders.
- B. Consider the following objectives when making decisions to expand the County road system in Yolo County:

• • •

5. Provide facilities for all users including pedestrians, bicyclists, carpool users and transit riders, where appropriate.

# Policy CI-3.6

Incorporate the concept of "complete" streets which requires more complete consideration of all users of the street. Develop roadway cross-sections for community and rural areas, addressing the following factors as applicable: number of travel lanes, lane width, medians, drainage control, shoulder width, parking lanes, bike lanes, fire and emergency response standards, curb and gutter design, landscaped strip and sidewalk width. In general it is intended that roadway cross-sections in the county be as narrow as possible (particularly in community areas) while still meeting recommended safety standards, the requirements of the General Plan, and the needs of users.

# Policy CI-3.11

Require new development to finance and construct all off-site circulation improvements necessary to mitigate a project's transportation impacts (including public transit, pedestrian and bicycle mobility, safety and level of service-related impacts, and impacts to the State Highway System). For mitigation to be considered feasible, it must be consistent with the policies of the General Plan.

# Policy CI-3.12

Collect the fair share cost of all feasible transportation improvements necessary to reduce the severity of cumulative transportation impacts (including public transit, pedestrian and bicycle mobility, safety and level of service-related impacts).

# Policy CI-3.15

Provide for greater street connectivity and efficient movement of all transportation modes by:

- A. Encouraging roundabouts as an alternative intersection control.
- B. Requiring bicycle and pedestrian connections from cul-de-sacs to adjacent streets, trails, or bicycle paths.
- C. Requiring a grid-based system.
- D. Incorporating traffic calming measures where appropriate.

# Policy CI-3.22

Require each Specific Plan area to establish mode split goals for walking, bicycling, and transit trips in development of the required transit plan (per Action CI-A6). Biennial household surveys should be conducted to ensure identified mode split goals are being achieved as the Specific Plan areas build out.

#### **GOAL CI-4**

# **Environmental Impacts. Minimize environmental impacts caused by transportation.**

# Policy CI-4.3

Reduce dependence upon fossil fuels through:

 Reduction of vehicle trips and vehicle miles traveled by requiring compact, infill and mixed use development.

- Use of alternatives to the drive-alone automobile, including walking, bicycling and public transit.
- Use of vehicles powered by renewable/alternative fuel sources.
- Local street designs that encourage pedestrian and bicycle use and discourage high speed traffic. ...
- Policy CI-4.4 Support and encourage low emission or non-polluting forms of transportation.
- GOAL CI-5 System Integration. Promote and ensure the provision of safe, convenient and attractive sidewalks, bikeways and trails where appropriate for local, regional and recreational travel.
- Policy CI-5.1 Work with local and regional agencies to implement a regional bikeway and/or alternative energy vehicle system that connect the cities, larger unincorporated communities and scenic areas. Implement a dedicated multi-purpose bikeway between Woodland and Davis as a part of this effort.
- Policy CI-5.2 Create a complete bikeway and sidewalk system within each community, including the completion of existing systems. Create walkways and bikeways that connect existing paths where feasible, and that connect to grocery stores, parks, and other community features.
- Policy CI-5.4 Establish a looped off-street trail system in each community.
- Policy CI-5.5 Integrate bicycle, pedestrian and transit facilities into new developments.
- Policy CI-5.6 Establish a network of off-street multi-purpose trails countywide and encourage their use for commute, recreational and other trips.
- Policy CI-5.7 Ensure that bikeways are striped and signed in accordance with the standards defined in the Caltrans Highway Design Manual. In agricultural areas, bicycle routes shall be designated, striped, and signed after considering the impact of the designation on the movement of agricultural equipment.
- Policy CI-5.8 Include sidewalks and bikeways on newly constructed or modified bridges and overpasses, where feasible.
- Policy CI-5.9 Strive to incorporate bikeways and sidewalks with modifications or upgrades to existing roadways consistent with the Bicycle Transportation Plan.

Policy CI-5.11 Protect abandoned rail corridors for re-use as trails and other forms of alternative transportation. Policy CI-5.12 Support development of facilities that link bicyclists and pedestrians with other modes of transportation. Policy CI-5.13 Establish pedestrian areas in conjunction with the development, redevelopment and design of mixed-use neighborhoods, schools, parks and community downtowns. Incorporate the following minimum design elements into pedestrian areas: Intersection bulb-outs to reduce walking distances across Pedestrian facilities at all signalized intersection approaches, including mid-street refuges, where appropriate. Vertical curbs, detached sidewalks and tree-lined streets. Adequate lighting for bicycle and pedestrian access. Wide sidewalks in downtown areas that allow for multiple uses, including outdoor dining. Grid-based street pattern. Community entry points (gateways). Bicycle and pedestrian connections from cul-de-sacs to adjacent streets. Policy CI-5.14 Strive to ensure that bikeway and sidewalk networks within communities are at least as efficient (e.g. miles traveled, connectivity, etc.) as the network for motorists. Policy CI-5.15 Develop and design a system of bikeways and sidewalks that promote safe bicycle riding and walking for transportation and recreation, with particular emphasis on establishing a network of safe routes from residential areas to schools. Construct and maintain bikeways and sidewalks in a manner that Policy CI-5.16 minimizes conflicts between bicyclists, pedestrians and motorists. Policy CI-5.17 Consider agricultural equipment when determining the width and signing of on-road bicycle facilities. Policy CI-5.18 Ensure that bike paths, multi-use trails and alternative fuel vehicle routes are designed to minimize impacts to adjoining agricultural lands. Policy CI-5.19 Before abandoning a County right-of-way, ensure easement rights are preserved or obtained to provide for access to public lands, natural features, or to provide connections to other existing or planned trail systems. The easement may be held by the county or other public agency.

#### **GOAL CI-6**

Accessible Transit. Encourage an integrated transit system that connects population centers to destinations and other transit facilities within and external to Yolo County.

Policy CI-6.11

Require new development to include design elements that promote transit use, such as:

. . .

- Linking neighborhoods to bus stops through continuous bikeways and sidewalks.
- Providing direct bicycle and pedestrian access to transit stops, park-and-ride lots, alternative fuel stations, bicycle racks, train access (e.g. Dunnigan, Yolo and Zamora), public docks for water taxis (Clarksburg, Elkhorn and Knights Landing) and airport shuttles (Elkhorn).

# **GOAL CI-10**

<u>Transportation Within the Delta</u>. Within the Delta Primary Zone, ensure the compatibility of circulation decisions and improvements with applicable policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

Policy CI-10.2

Work with West Sacramento to re-use the abandoned railroad that extends from the city limits to Clarksburg for the proposed California Delta Trail System.

Action CI-A3

Update the Bicycle Transportation Plan to include: the California Delta Trail; a dedicated multi-purpose bikeway between Woodland and Davis; and other potential routes along levees, abandoned railroads, waterways, transmission right-of-ways.

Action CI-A4

Pursue funding for construction and maintenance of bikeways and sidewalks, including off-road bikeways where feasible.

Action CI-A6

Develop a transit plan as a part of each Specific Plan. Condition future development to provide right-of-way or public easements for identified transportation and circulation facilities including bikeways, trails and transit facilities. The transit plan shall include future targets for public transportation ridership, levels of service and measurable steps to achieve the targets. Ensure implementation through the specific plan. Within each Specific Plan, establish mode split goals for walking, bicycling, and transit trips in development of the required transit plan. Biennial household surveys should be conducted to ensure identified mode split goals are being achieved as the Specific Plan areas build out.

Action CI-A7

Develop and maintain a priority program to construct bikeways, especially off-road bikeways, in conjunction with roadway projects, consistent with the county's Bicycle Transportation Plan.

Implementation of the program should consider available funding for construction and maintenance.

#### Action CI-A14

Prepare and adopt roadway cross-sections that accommodate all users (e.g. vehicles, trucks, bicycles, pedestrians, alternative fuel vehicles, agricultural equipment, etc.) The standards shall be flexible to allow for different mixes of users depending on the surrounding land use(s). For instance, roadway cross-sections in a farming area would differ from those in either residential neighborhoods or downtown mixed use areas.

#### Action CI-A15

Develop Specific Plan circulation guidelines including requirements for content and minimum standards, including but not limited to roadway cross-sections, intersection improvements, public transportation and bicycle and pedestrian circulation. Incorporate the concept of "complete" streets. Establish Specific Plan requirements for focused sub-area travel demand forecasting models.

#### Action CI-A21

Amend the Facilities and Service Authorization (FSA) fee to include alternative transportation modes, including transit capital improvements, park and ride lots and/or pedestrian and bicycle facilities.

#### **Public Facilities and Services Element**

# GOAL PF-3 Community Parks. Provide access to community and neighborhood parks in all unincorporated communities.

# Policy PF-3.4

Create greenbelts to connect schools, community parks, and residential areas in unincorporated communities wherever possible. Connect community parks to existing trails, walkways, and bikeways where feasible.

#### **GOAL PF-6**

Schools. Collaborate with educational groups to develop school facilities and programs that serve the evolving needs of current and future residents.

# Policy PF-6.5

Support infrastructure and programs that encourage children to safely walk or ride a bicycle to school.

# **GOAL PF-7**

Library Services. Provide library services to meet the changing informational and social needs of each community.

# Policy PF-7.2

Locate library facilities in areas easily accessible by motorized vehicles, bicycles and other non-motorized vehicles, pedestrians, and public transportation, such as downtown shopping areas or neighborhood business districts.

Action PF-A34 Coordinate with school districts to ensure that school sites have safe

access and trails that encourage walking or bicycling to schools. Develop a Safe Routes to School program in each community.

Action PF-A73 Investigate joint use of utility easements/corridors to connect open

space, link trails, supplement wildlife corridors, and link habitat

areas.

# Conservation and Open Space Element

GOAL CO-1	Natural Open Space. Provide a diverse, connected and accessible
	network of open space, to enhance natural resources and their
	annronriate use.

Policy CO-1.2 Develop a connected system of recreational trails to link communities and parks throughout the county.

Policy CO-1.11 Coordinate the development of recreation areas and public open space with regional trail planning.

# GOAL CO-6 Air Quality. Improve air quality to reduce the health impacts caused by harmful emissions.

Policy CO-6.3 Encourage employers to increase telecommuting, telepresence, provide bicycle facilities, and enhance access to public transit for employees.

employees

Action CO-A6 Connect the future Bay Delta Trail system, the future trail system in the lower Yolo Bypass, and the future Cache Creek Parkway system, and link those trails to the American River Bikeway system in Sacramento County.

Action CO-A7 Prioritize the construction of multi-use trails that provide links between already established trails and bicycle routes.

Action CO-A16 Enhance parking and access at existing resource parks, including the Putah Creek fishing access, Cache Creek Canyon Regional Park, and the Camp Haswell/Otis Ranch property. Encourage the use of alternative transportation by providing bike racks, bus stops, and other appropriate facilities.

Action CO-A122 Require that new development incorporate alternative modes of transportation, including transit, bicycling and walking, in order to reduce vehicle emissions.

# **Health and Safety Element**

Policy HS-8.8 Design communities to promote an active healthy lifestyle, personal

fitness, and access to healthy foods.

Action HS-A81 Accommodate pedestrian, bicycle, and transit needs in public rights-

of-way and streetscape design.

Action HS-A82 Adopt infrastructure standards for residential neighborhoods and

downtown commercial areas that are designed to decrease traffic

speeds and increase pedestrian and bicycle safety.

# **Other Bikeway Plans:**

The bicycle transportation plans of the 4 cities in the County, Solano County, and Sacramento City/County have been reviewed during preparation of this plan, to insure consistency with local and regional bicycle transportation planning documents.

In 2011 Sacramento Area Council of Governments (SACOG) updated its Regional Bicycle, Pedestrian, and Trails Master Plan for the six-county Sacramento region. The Regional Bicycle, Pedestrian, and Trails Master Plan is intended to guide the long-term decisions for SACOG's Bicycle and Pedestrian Funding Program. The current Metropolitan Transportation Plan (MTP) for 2035 projects that this program will receive \$1.4 billion exclusively for bike/pedestrian projects over the life of the MTP. The emphases of the SACOG bicycle and pedestrian funding program are to provide facilities for walking and biking in the cities and towns of the region and provide connections between cities and towns. In order to compete for SACOG Bicycle and Pedestrian funds, projects must be included in the SACOG plan.

# **Air Quality Attainment Plan:**

This plan is consistent with Volume IV, "Mobile Source Control Program" of this February 1992 Plan prepared by the Yolo-Solano Air Quality Management District, updated in May 2010, which states:

#### INDIRECT SOURCE CONTROL MEASURES

#### **Bicycle Facilities**

This program will supply policies that will support a comprehensive network of bicycle facilities and amenities that interface bicycling, transit, and pedestrian modes. This program is intended to facilitate and improve the safety and attractiveness of bicycling as an alternative mode of transportation. It will encourage the development of a comprehensive bikeway network that connects residential areas with commercial, major employment destinations, and transit stations.

# Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan:

Implementation of this plan will help in the realization of emission benefits attributed to Transportation Control Measures as described in this regional plan developed in 2008 by the regional air quality management districts including the Yolo-Solano Air Quality Management

District.

# PAST AND FUTURE FINANCIAL INFORMATION

Construction expenditures on projects prioritized in the past County plans that have been completed to date are as follows:

County Road 102 bridge over Willow Slough-widen bridge, install bike lanes (Priority 2):

Completed: 1997

Construction cost: \$1,330,432

Federal: 73%, State 2%, County: 25%

County Road 32 between County Road 90A and 91A-widen roadway, add bike lanes (Priority 3):

Completed: 1993

Construction cost: \$789,219

Federal: 85%, State: 0%, County 15%

County Road 32 widening between fifteen hundred feet east of County Road 91A and County Road 93A to include six foot bike lanes:

Completed: 2003

Construction cost: \$1,773,395

Federal: 86.53%, State: 8.7%, Yolo-Solano Air Quality Management District 2.8%

(\$50,000 Clean Air Fund grant), County 2%

Reconstruct Connector to I-80 Path at County Road 32A:

Completed: 1994

Construction Cost: \$25,138

Federal 0%, State Bikeway Account 90%, County: 10%

Overlay 3.6 miles of Class I Bikeway along County Road 32 (Russell) (no priority):

Completed: 1994

Construction Cost: \$118,455

State Petroleum Violation Escrow Account: 85%, County 15%

Add 4 foot shoulders to County Road 27 concurrent with road reconstruction project

Completed: 2000

Construction Cost: \$85,000

State Transportation Improvements Plan funds, 100%

Bicycle Lanes on County Road 32A between Davis and County Road 105

Completed: 2008

Construction Cost: \$887,143

Federal: \$705,082; State STIP funds: \$141,000

Bicycle lanes on County Roads 99/29/99D

Completed: 2009

Construction Cost: \$2.540 million

Federal: \$368,568; State STIP funds: \$1.4 million; state Bicycle Transportation Account funds: \$762,998. (Yolo-Solano Air Quality Management District Clean

Air Fund grants totaling \$90,836 for other phases of project)

Rehabilitation of Bicycle Lanes on County Road 99 between Woodland and County Road 25A

Completed: 2011

Construction Cost: \$650,000

State Bicycle Transportation Account funds: 90%

As in the past, it is anticipated that most future projects will be completed as part of the upgrade of County roads and bridges, and not funded independently as bikeway projects. The estimated cost for each bikeway project is included in the project's description.

The County will pursue State Bicycle Transportation Account Funds, federal CMAQ funds, Clean Air funds available through the Yolo-Solano Air Quality Management District, SACOG Bicycle and Pedestrian Funding program, as well as other funding sources that may become available to fund the improvements in the plan.

Not shown on the project listing, but essential for the bikeway system proposed in this plan, is the continued maintenance and repair of existing bikeway facilities, and promotion of bicycle safety and education.

# APPENDICES

- 1. Bicycle Route Classification Definitions
- 2. Project Descriptions
- 3. Excerpts from September 29, 2009 Alternative Transportation Corridor Final Feasibility Study Report
- 4. Executive Summary from July 2001 "Davis Woodland Bikeway Feasibility Study Report
- 5. Response to public comments received on Bicycle Transportation Plan draft

# **APPENDIX 1**

THERE ARE THREE TYPES OF BIKEWAYS MENTIONED IN THIS PLAN.

A <u>BIKE PATH</u> is a trail separated from roads or streets. Bicycles can go either way on a bike path, but motor vehicles are excluded. The minimum paved width of travel for a two-way bike path is 8 feet, 10 feet preferred. A bike path is called a **CLASS I BIKEWAY**.

A <u>BIKE LANE</u> is the paved edge of a wide street or road, delineated by white stripes. Bike lanes come in pairs, one on each side of the road. Bicyclists go one way on a bike lane, the same direction as motor traffic. Bike lanes can also be used by turning motor vehicles and agricultural implements. The minimum width of a bike lane is 4 feet, except where adjacent to on-street parking. A bike lane is a **CLASS II BIKEWAY**.

A <u>BIKE ROUTE</u> is a road or street without bike lanes or bike path, but designated by signs to provide continuity to the bikeway system. Bicyclists share the bike route with motorists, and there are not necessarily any physical improvements specifically for bicyclists. A bike route is a **CLASS III BIKEWAY**.

The term <u>BICYCLE FACILITIES</u> usually means bike paths, bike lanes, or bike routes, but it can also refer to bicycle storage lockers, bike racks, bike racks on buses, or any other physical thing that facilitates bicycle travel.

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# APPENDIX 2 PROJECT DESCRIPTIONS

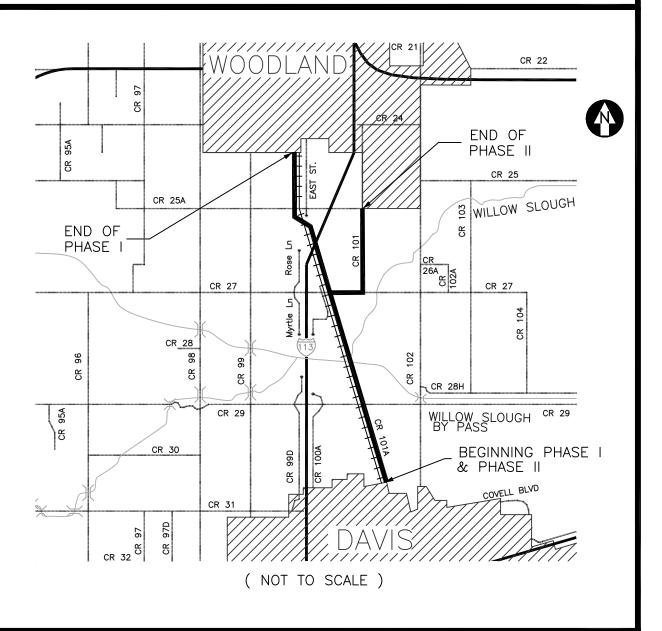
The following descriptions show projects categorized as high, medium, or low priority. The order of projects within each category is not indicative of priority. Numerical prioritization was not utilized because of the flexibility afforded by having a group of high and medium priority projects with a range of costs. This will allow the County to consider projects in the future based on cost-benefit analyses considering transportation needs countywide, available funding, and eligibility requirements of specific grant fund sources that may become available.

Project	Class	Priority	Page
Alternative Transportation Corridor (Davis to Woodland)	I	High	A2-1
Davis-Woodland Bikeway (Davis to Woodland)	I/II	High	A2-2
County Road 21A, Esparto	II	High	A2-3
County Road 98, Hutchison Drive to Russell Blvd	II	High	A2-4
County Road 99, County Road 29 to Davis City limits	II	High	A2-5
County Road 102, Davis City limits to 3000' north	II	Medium	A2-6
Russell Boulevard Class 1 Pavement Rehabilitation	I	Medium	A2-7
South River Road Route, south of West Sacramento	II	Medium	A2-8
Facility Improvements	n/a	Medium	A2-9
County Road 98, Woodland to Russell Boulevard	II	Medium	A2-10
County Road 95A, Russell to Solano County	I	Medium	A2-11
County Road 95A, Russell to Solano County	II	Medium	A2-12
County Road 22, Woodland to West Sacramento	I/II	Medium	A2-13
County Road 104, Davis to Grasslands Park	II	Medium	A2-14
State Route 113, open to bicycles from CR 27 to Woodland	II	Medium	A2-15
County Road 24, Woodland to County Road 90	II	Low	A2-16
County Road 89, Winters to Madison	II	Low	A2-17
County Road 99/18	II	Low	A2-18
County Road 99W, County Road 18 to County line	II	Low	A2-19
Delta Ecosystem Trail / Great Delta Trail	I	Low	A2-20
State Routes 128/16	III	Low	A2-21
Clarksburg Branch Line Rail Trail, West Sacramento to	I	Low	A2-22
Pumphouse Road			
Interstate 80 Class I Bicycle Path Improvements, CR105 to	I	Low	A2-23
West Sacramento			
Chiles Road Class II Bicycle Lanes	II	Low	A2-24

ALTERNATIVE TRANSPORTATION CORRIDOR PRIORITY: HIGH

FROM: DAVIS CLASS: I

TO: WOODLAND EST. COST: \$ 9.64 MILLION

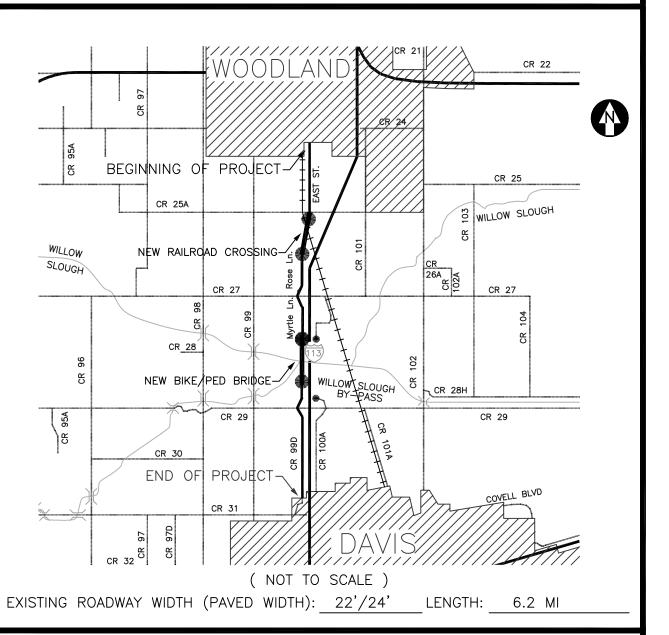


DESCRIPTION OF WORK: PROVIDE AN OFF-ROAD BICYCLE ROUTE CONNECTING EXISTING BIKE ROUTES IN THE CITIES OF DAVIS AND WOODLAND, AS DETAILED IN FEASIBILITY STUDY ACCEPTED BY BOARD OF SUPERVISORS IN OCTOBER 2009. THE PROJECT WILL BE PHASED. BOTH PHASES BEGIN NEAR J STREET AND COVELL BLVD IN DAVIS AND FOLLOW THE RAILROAD TRACKS NORTH. PHASE I ENDS AT CR 24A AND 6TH STREET IN WOODLAND. PHASE II DIVERGES FROM THE RAILROAD TRACKS NEAR CR 27, HEADING EAST TO CR 101, AND NORTH TO THE SPRING LAKE DEVELOPMENT.

ROAD NAME: DAVIS—WOODLAND BIKEWAY PRIORITY: HIGH

FROM: WOODLAND CLASS: I / II

TO DAVIS EST. COST: \$ 5.5 MILLION



DESCRIPTION OF WORK: CONNECT LOW VOLUME FRONTAGE ROADS ON THE WEST SIDE OF STATE ROUTE 113 WITH A BRIDGE OVER WILLOW SLOUGH, AND RAILROAD CROSSING/BYPASS.

THE CONNECTION BETWEEN DAVIS & WOODLAND IS 'OPTION 5' RECOMMENDED IN THE JULY 2001 "DAVIS-WOODLAND BIKEWAY FEASIBILITY STUDY" REPORT.

THIS PROJECT WILL BE CONSTRUCTED IN PHASES, DEPENDING ON FUNDING AVAILABILITY.

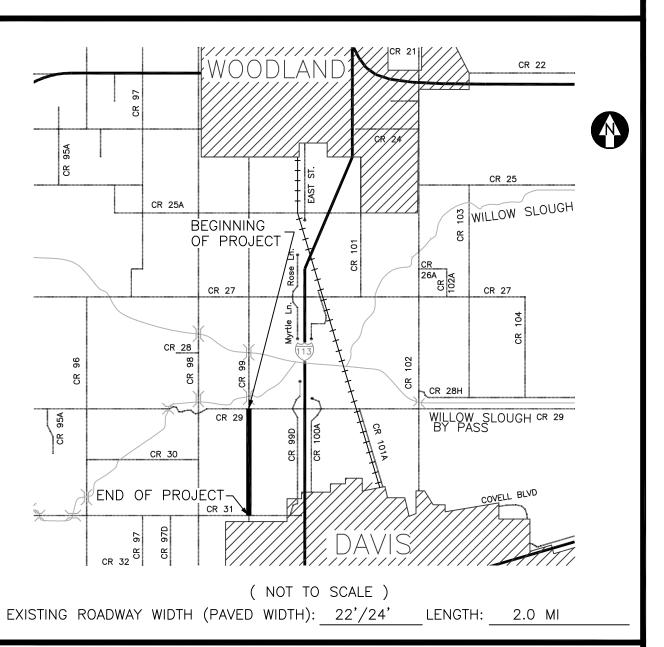
ROAD NO. OR NAME: \_\_\_\_\_ CR 21A PRIORITY: \_\_\_\_ HIGH FROM: FREMONT STREET CLASS: II TO: MIDDLE SCHOOL EST. COST: \$ 300,000  $\bigcirc$ CR 19A  $\infty$ 89 ...... CR 20X CR 20A -END OF PROJECT CR 21A 98 86B 86A 8<u>7</u>B CR 23A CR BEGINNING OF CR PROJECT CR 25 ( NOT TO SCALE ) EXISTING ROADWAY WIDTH (PAVED WIDTH): \_\_\_\_\_22' LENGTH: \_\_\_\_\_.25 MI DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 6' BIKE LANES.

ROAD NO. OR NAME: \_\_\_\_\_ CR 98 \_\_\_\_ PRIORITY: \_\_\_\_ HIGH FROM: HUTCHISON DRIVE CLASS: II TO: RUSSELL BLVD. EST. COST: \$ 425,000 32 FIND OF PROJECT BEGINNING OF PROJECT ( NOT TO SCALE ) EXISTING ROADWAY WIDTH (PAVED WIDTH): \_\_\_\_\_ 24' \_\_\_ LENGTH: \_\_\_\_\_ .5 MI DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' BIKE LANES. NORTHBOUND BIKE LANE ALREADY IMPROVED 400' SOUTH OF CR32.

 ROAD NO. OR NAME:
 CR 99
 PRIORITY:
 HIGH

 FROM:
 CR 29
 CLASS:
 II

 TO
 CR 31
 EST. COST:
 \$ 1.6 Million

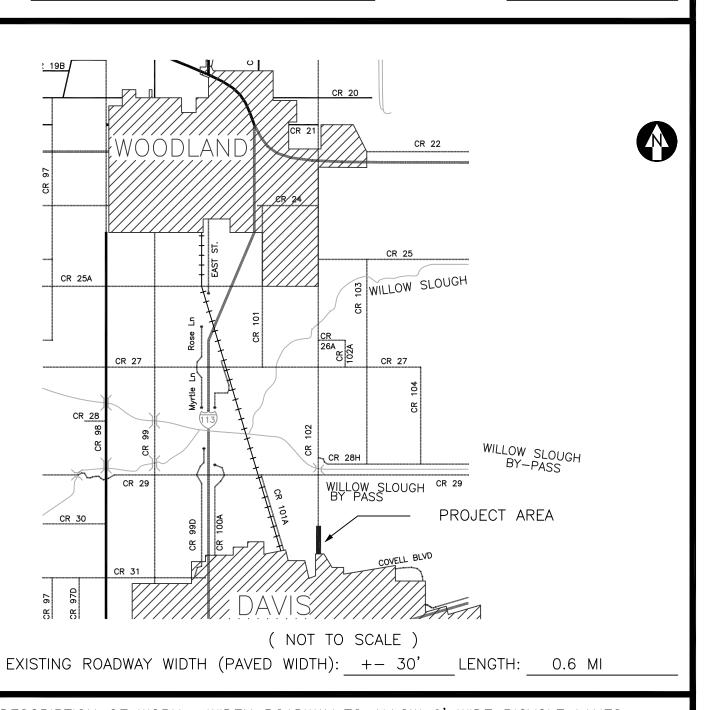


DESCRIPTION OF WORK: WIDEN ROADWAY AND INSTALL 4' PAVED BIKE LANES. PROJECT WILL REQUIRE RIGHT OF WAY ACQUISITION.

 ROAD NO. OR NAME:
 CR 102
 PRIORITY:
 MEDIUM

 FROM:
 DAVIS CITY LIMITS
 CLASS:
 II

 TO
 APPROXIMATELY 3000 FEET NORTH
 EST. COST:
 \$800,000



DESCRIPTION OF WORK: WIDEN ROADWAY TO ALLOW 6' WIDE BICYCLE LANES. PROJECT REQUIRES ADDITIONAL RIGHT OF WAY.

ROAD NO. OR NAME: RUSSELL BLVD ROUTE PRIORITY: MEDIUM FROM: DAVIS CITY LIMITS CLASS: I \_\_\_\_ \$ TBD TO: COUNTY ROAD 95A EST. COST: 95 8 CR 30 8 RUSSELL BLVD BEGINNING OF **PROJECT** -END OF PROJECT

## SOLANO COUNTY

( NOT TO SCALE )

EXISTING BIKE PATH WIDTH (PAVED WIDTH): 8' LENGTH: 7 MI

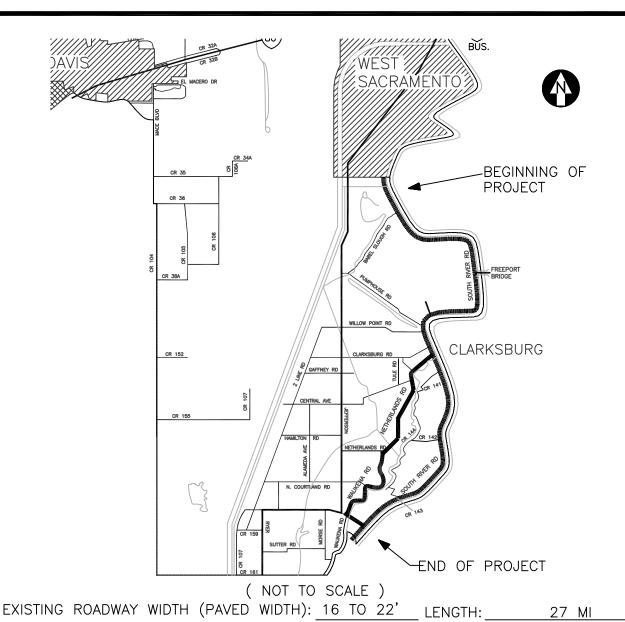
DESCRIPTION OF WORK: REHABILITATION OF DISTRESSED PAVEMENT TO

MAINTAIN CLASS I BIKE LANE RIDEABILITY.

ROAD NO. OR NAME: SOUTH RIVER RD ROUTE PRIORITY: MEDIUM

FROM: WEST SACRAMENTO CLASS: II

TO: COUNTY LINE EST. COST: \$81 MILLION



DECODIDATION OF WORK

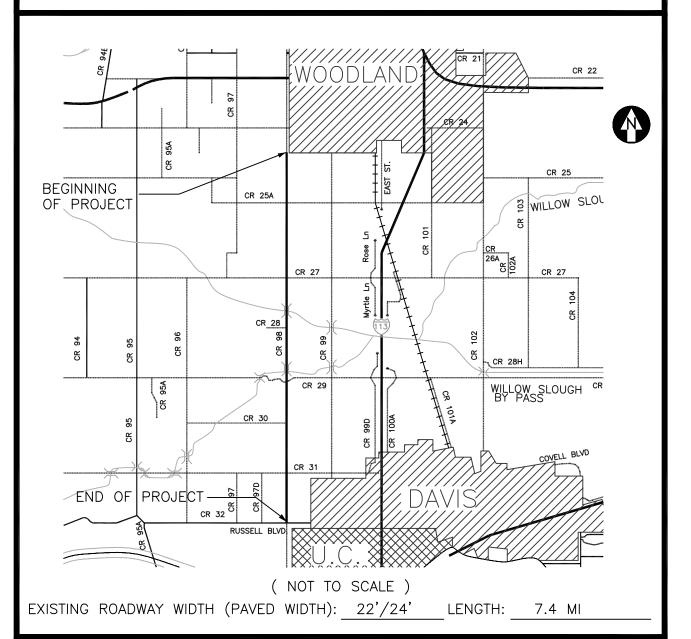
DESCRIPTION OF WORK: DESIGN AND CONSTRUCT 4' CLASS II BIKE LANES ALONG ROUTES SHOWN. WORK ON LEVEES WILL REQUIRE SIGNIFICANT ENVIRONMENTAL WORK, AND COOPERATION OF AGENCIES AND RECLAMATION DISTRICTS THAT MAINTAIN THE LEVEES. SIGNIFICANT RIGHT OF WAY ACQUISITION IS ALSO REQUIRED, WHICH IS LIKELY TO GENERATE OPPOSITION FROM AFFECTED LANDOWNERS. THE PROJECT WOULD BE CONSTRUCTED IN PHASES.

	PRIORITY: MEDIUM  CLASS: N/A			
TO:N/A	EST. COST: \$ VARIES			
UPGRADE INTERMODAL TRANSFER FACILITIES				
IMPROVE BICYCLE USERS' ABILITY TO TRANSFER TO OTHER TRANSPORTATION MODES, BY SUPPORTING PROJECTS SUCH AS:				
<ol> <li>BICYCLE STORAGE LOCKERS AND E TRIP GENERATORS.</li> </ol>				
2. BICYCLE STORAGE LOCKERS AND RACKS AT TRANSIT STOPS.				
3. BICYCLE RACKS ON BUSES.				
4. BICYCLES STORAGE ON TRAINS.				
SINCE MOST INTERMODAL TRANSFER POINTS ARE LOCATED OUTSIDE THE UNINCORPORATED COUNTY, THE INSTALLATION OF THESE FACILITIES WILL REQUIRE THAT THE COUNTY COORDINATE WITH THE FOUR CITIES, THE UNIVERSITY OF CALIFORNIA AT DAVIS, YOLO COUNTY TRANSPORTATION DISTRICT, CALTRANS, EMPLOYERS, AND OTHER LARGE TRIP GENERATORS. THE PLANNING DEPARTMENT CAN ASSIST BY REQUIRING THE FURNISHING OF BICYCLE FACILITIES AS A CONDITION OF DEVELOPMENT OF LARGE TRAFFIC GENERATORS, AND FUTURE TRANSIT STOPS/TERMINALS IN THE UNINCORPORATED COMMUNITIES.				
PAVEMENT MAINTENANCE ON BIKE ROUTES				
THE COUNTY'S ABILITY TO MAINTAIN PAVEMENT ON EXISTING BICYCLE ROUTES IS DEPENDENT ON LIMITED ROAD MAINTENANCE FUNDING FROM STATE AND FEDERAL SOURCES THAT MUST BE PRIORITIZED FOR ROAD AND BRIDGE MAINTENANCE NEEDS COUNTYWIDE. COUNTY STAFF WILL SEEK ADDITIONAL FUNDING FOR BICYCLE PATH MAINTENANCE AS FUNDING OPPORTUNITIES ARISE.				
EXISTING ROADWAY WIDTH (PAVED WIDTH):	N/A LENGTH: N/A			
DESCRIPTION OF WORK: SEE ABOVE				

ROAD NO. OR NAME: CR 98 PRIORITY: MEDIUM

FROM: WOODLAND CITY LIMITS CLASS: II

TO RUSSELL BLVD. EST. COST: \$19,721,000

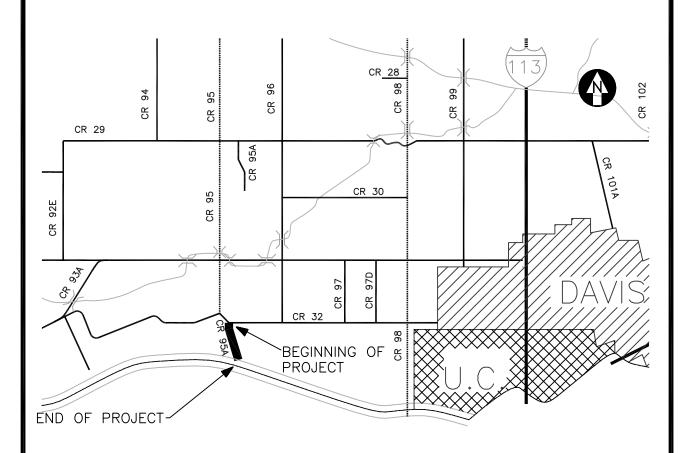


DESCRIPTION OF WORK: WIDEN ROADWAY AND INSTALL PAVED BIKE LANES. THIS PROJECT WILL BE CONSTRUCTED IN PHASES, DEPENDING ON FUNDING AVAILABILITY.

 ROAD NO. OR NAME:
 CR 95A
 PRIORITY:
 MEDIUM

 FROM:
 CR 32 (RUSSELL BLVD)
 CLASS:
 I

 TO:
 COUNTY LINE
 EST. COST:
 \$850,000



## SOLANO COUNTY

( NOT TO SCALE )

EXISTING ROADWAY WIDTH (PAVED WIDTH): \_\_\_\_\_ 22' \_\_\_ LENGTH: \_\_\_\_\_ .8 MI

DESCRIPTION OF WORK:

DESIGN AND CONSTRUCT CLASS 1 BIKEWAY ON UNIVERSITY LAND TO EXTEND THE CLASS I BIKEWAY ON RUSSELL BLVD SOUTH TO THE COUNTY LINE.

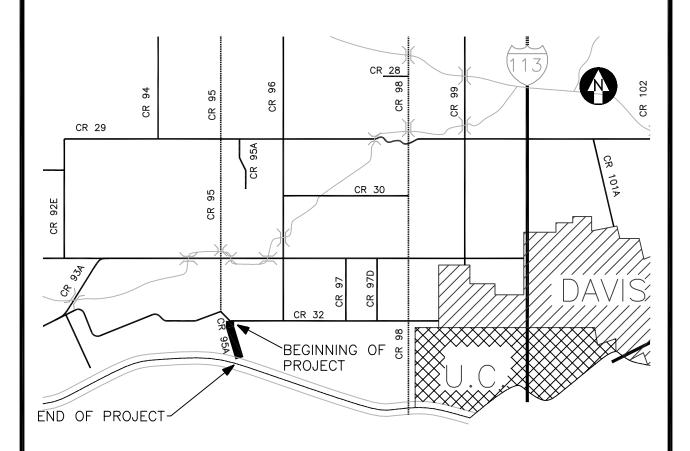
THE COST ESTIMATE DOES NOT INCLUDE A BRIDGE OVER BUILDING OF BICHT OF WAY COSTS

PUTAH CREEK, OR RIGHT OF WAY COSTS.

WILL REQUIRE ENVIRONMENTAL STUDY AND MITIGATION,

AND COORDINATION WITH UCD & FISH & GAME.

ROAD NO. OR NAME: CR 95A PRIORITY: MEDIUM FROM: CR 32 (RUSSELL BLVD) CLASS: II TO: \_\_\_\_\_ COUNTY LINE EST. COST: \$640,000



## SOLANO COUNTY

( NOT TO SCALE )

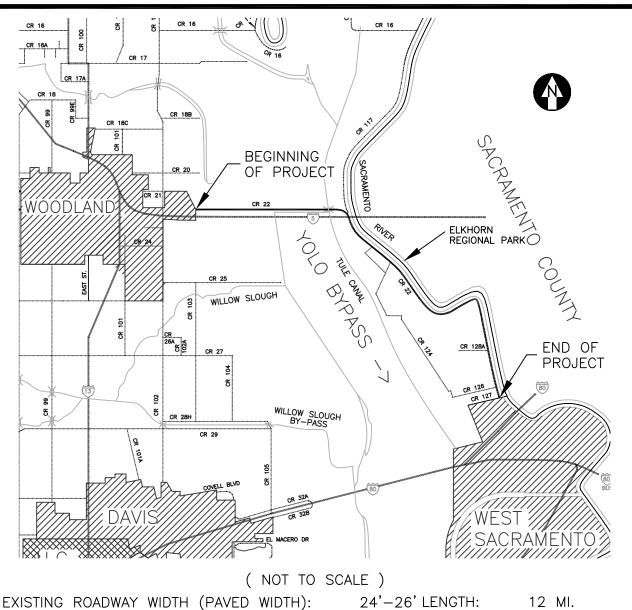
EXISTING ROADWAY WIDTH (PAVED WIDTH): \_\_\_\_\_ 22' \_\_\_ LENGTH: \_\_\_\_\_ .8 MI

DESCRIPTION OF WORK: CONSTRUCT 4' CLASS 2 BIKE LANES ALONG COUNTY ROAD 95A FROM RUSSELL BLVD TO THE COUNTY LINE. THE COST ESTIMATE DOES NOT INCLUDE IMPROVEMENTS TO THE EXISTING BRIDGE OVER PUTAH CREEK.

ROAD NO. OR NAME: CR 22 PRIORITY: MEDIUM

FROM: WOODLAND CITY LIMITS CLASS: I/II

TO: WEST SACRAMENTO CITY LIMITS EST. COST: \$30 million/\$24 million



EXISTING ROADWAT WIDTH (PAVED WIDTH): \_\_\_\_\_ 24 - 20 LENGTH. \_\_\_\_\_ 12 N

DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' BIKE LANES (\$30 MILLION), OR WIDEN CR 22 BETWEEN WOODLAND
AND LEVEE AND CONSTRUCT BIKE LANE ALONG RIVER SIDE OF LEVEE (\$24 MILLION). EITHER
ROUTE WOULD REQUIRE EXTENSIVE COOPERATION WITH STATE AND FEDERAL AGENCIES, AND
ACQUISITION OF RIGHTS TO USE PRIVATE PROPERTY.

REFER TO JANUARY 2006 PARKS MASTER PLAN POLICIES AND ACTIONS PS/ELK A-6, FOR POSSIBLE CLASS I TRAIL WITHIN ELKHORN REGIONAL PARK.

IF YOLO SHORTLINE WERE TO ABANDON RAILROAD RIGHT OF WAY, PURCHASE OF RAILROAD RIGHT OF WAY SHOULD BE INVESTIGATED AS AN ALTERNATIVE TO THIS ALIGNMENT.

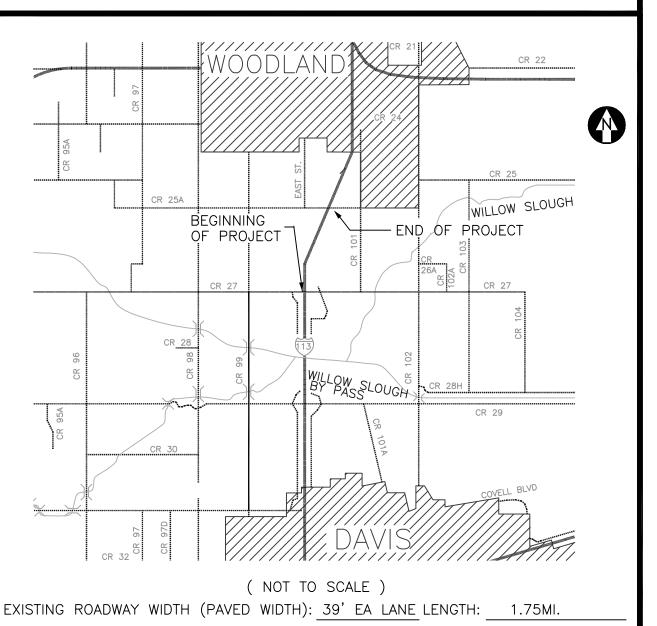
SUPPORT EFFORTS TO ALLOW BICYCLE ACCESS TO INTERSTATE-5 BETWEEN COUNTY ROAD 102 AND COUNTY ROAD 22 DURING PERIODS WHEN THE YOLO BYPASS IS FLOODED AND COUNTY ROAD 22 IS CLOSED.

ROAD NO. OR NAME: CR 104 PRIORITY: MEDIUM FROM: DAVIS CITY LIMITS CLASS: II \_\_\_\_\_\$3.0 million TO: GRASSLANDS COUNTY PARK EST. COST: CR 28H CR 29 COVELL BLVD EL MACERO DR BEGINNING OF PROJECT PUTAH CREEK COUNTY TREMONT ROAD CR 35 (SOLANO COUNTY) CR 36 END OF PROJECT -(GRASSLANDS COUNTY PARK) ( NOT TO SCALE ) EXISTING ROADWAY WIDTH (PAVED WIDTH): \_\_\_\_ 22' \_\_\_ LENGTH: \_\_\_\_ 3 MI DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' CLASS II BIKE LANES. BRIDGE OVER PUTAH CREEK HAS NO SHOULDERS. ESTIMATED COST DOES NOT INCLUDE FULL BRIDGE REPLACEMENT COST.

ROAD NO. OR NAME: STATE ROUTE 113 PRIORITY: MEDIUM

FROM: CR 27 CLASS: II

TO: CR 25A EST. COST: NO CAPITAL COST

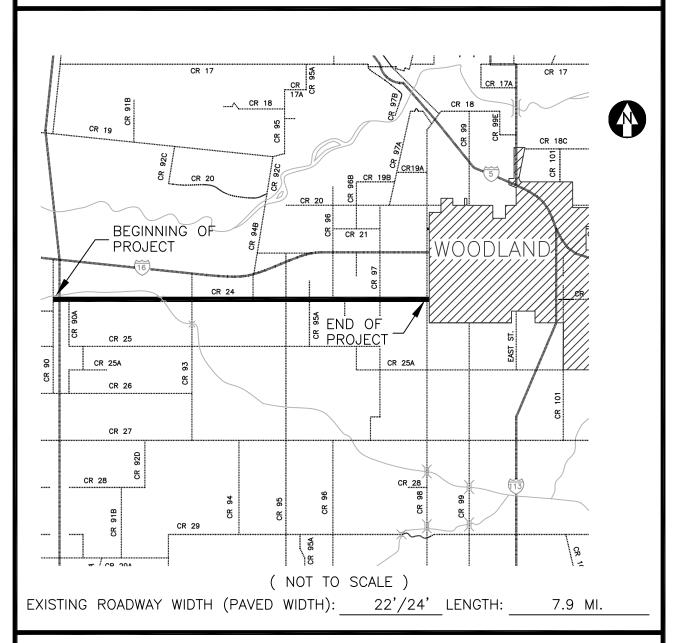


DESCRIPTION OF WORK: SUPPORT EFFORTS TO OPEN THIS SECTION OF STATE ROUTE 113 TO BICYCLES. THIS SECTION IS NORTH OF THE SECTION OF SR113 NOW OPEN TO BICYCLES BETWEEN COUNTY ROADS 27 AND 29. ACCESS TO THIS PORTION OF FREEWAY IS ENVISIONED AS AN INTERIM MEASURE TO PROVIDE A CENTRAL DAVIS/WOODLAND ROUTE FOR THE SERIOUS COMMUTER BETWEEN THE COUNTY ROAD 99 AND 102 CORRIDORS, UNTIL A BETTER ALTERNATIVE CAN BE CONSTRUCTED.

 ROAD NO. OR NAME:
 CR 24
 PRIORITY:
 LOW

 FROM:
 CR 90
 CLASS:
 II

 TO:
 CR 98
 EST. COST:
 \$8 million

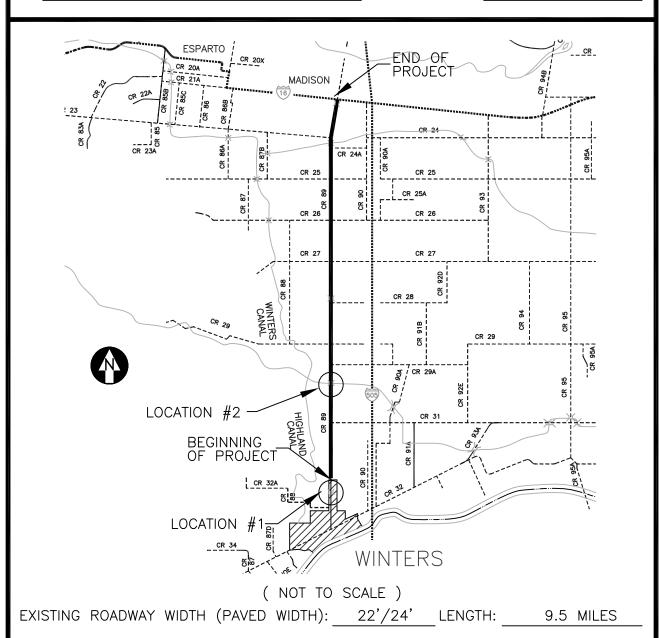


DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' BIKE LANES. THE PROJECT COULD BE PHASED.

 ROAD NO. OR NAME:
 CR 89
 PRIORITY:
 LOW

 FROM:
 SH 16
 CLASS:
 II

 TO:
 WINTERS CITY LIMITS
 EST. COST:
 \$ 9.5 million



DESCRIPTION OF WORK: ADD 4' BIKE LANES TO COUNTY ROAD 89.

THE BRIDGE AT LOCATION 1 IS WITHIN THE CITY OF WINTERS. THE BRIDGES AT LOCATIONS 1 AND 2

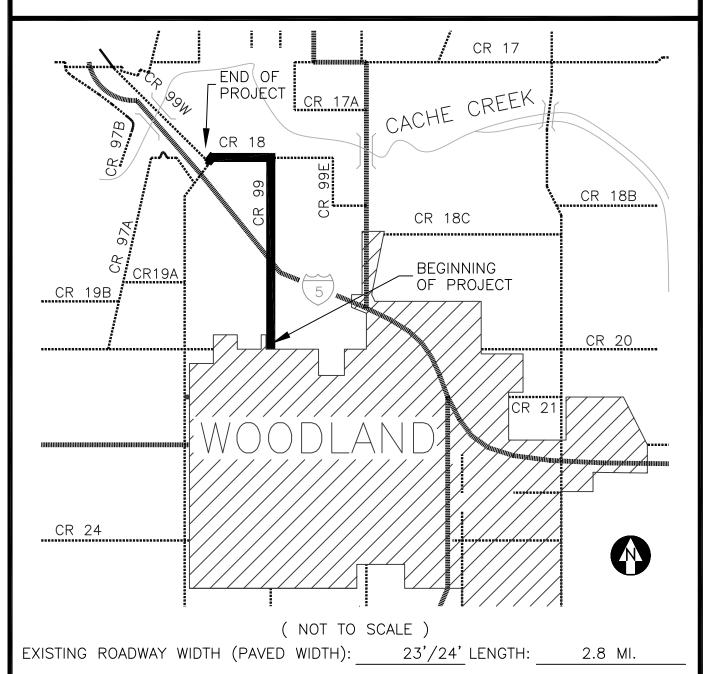
NEED TO BE WIDENED TO ACCOMMODATE 4'

BIKE LANES.

 ROAD NO. OR NAME:
 CR 99/CR18
 PRIORITY:
 LOW

 FROM:
 I-5
 CLASS:
 II

 TO:
 CR 99W
 EST. COST:
 \$ 1.7 million

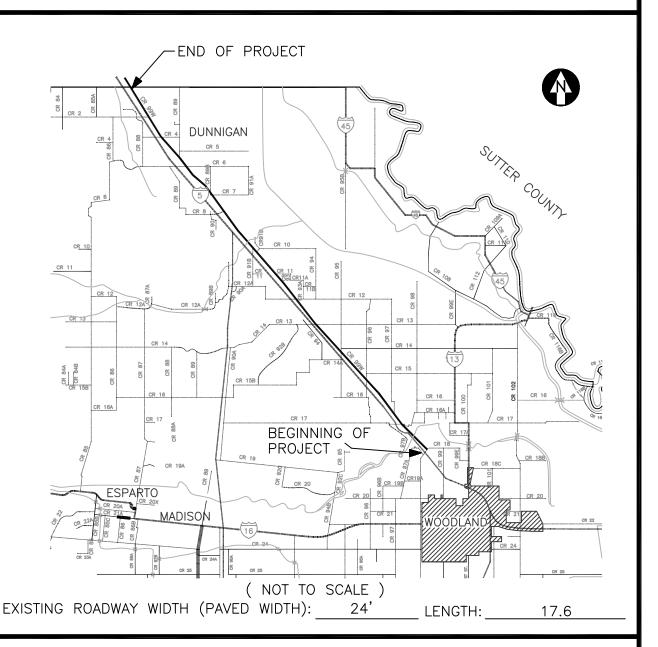


DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' BIKE LANES.

 ROAD NO. OR NAME:
 CR 99W
 PRIORITY:
 LOW

 FROM:
 CR 18
 CLASS:
 II

 TO:
 COLUSA COUNTY
 EST. COST:
 \$ 17.5 million



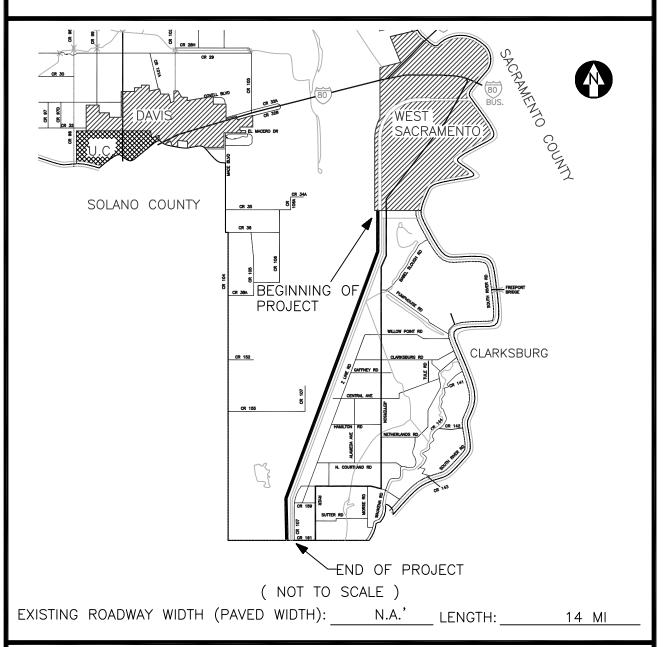
DESCRIPTION OF WORK: WIDEN ROAD TO INCLUDE 4' BIKE LANES.

NOTES: THIS PROJECT WOULD BE CONSTRUCTED IN STAGES, WITH TIMING

ROAD NO. OR NAME: DELTA ECOSYSTEM TRAIL PRIORITY: LOW

FROM: WEST SACRAMENTO CLASS: I

TO: COUNTY LINE EST. COST: \$7 MILLION



DESCRIPTION OF WORK:

DESIGN AND CONSTRUCT CLASS 1 BIKEWAY ALONG ONE OR BOTH LEVEES OF THE DEEP WATER SHIP CHANNEL. THIS U.S. ARMY CORPS PROJECT HAS BEEN PUT ON HOLD DUE TO LACK OF FEDERAL, STATE, & LOCAL

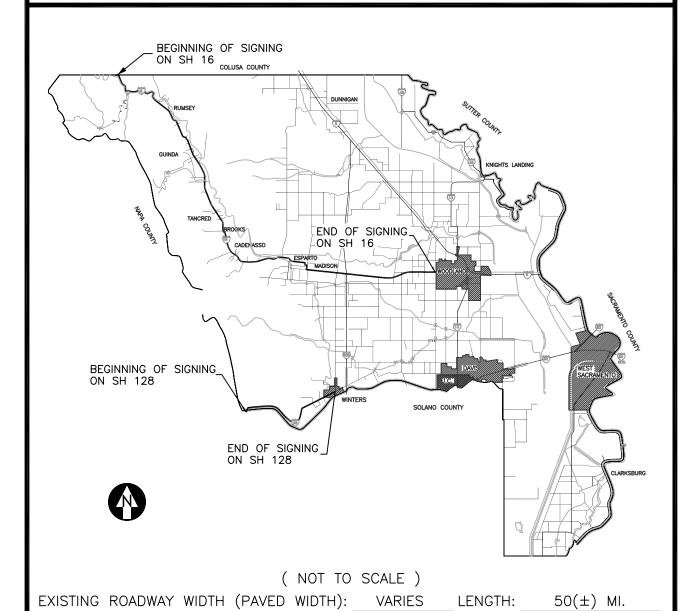
SUPPORT.

CONCEPTUALLY, TRAIL WOULD EXTEND SOUTH INTO SOLANO COUNTY, AS PART OF THE GREAT DELTA TRAIL.

 ROAD NO. OR NAME:
 SR 128, SR 16
 PRIORITY:
 LOW

 FROM:
 CLASS:
 II/III

 TO:
 EST. COST:
 TBD



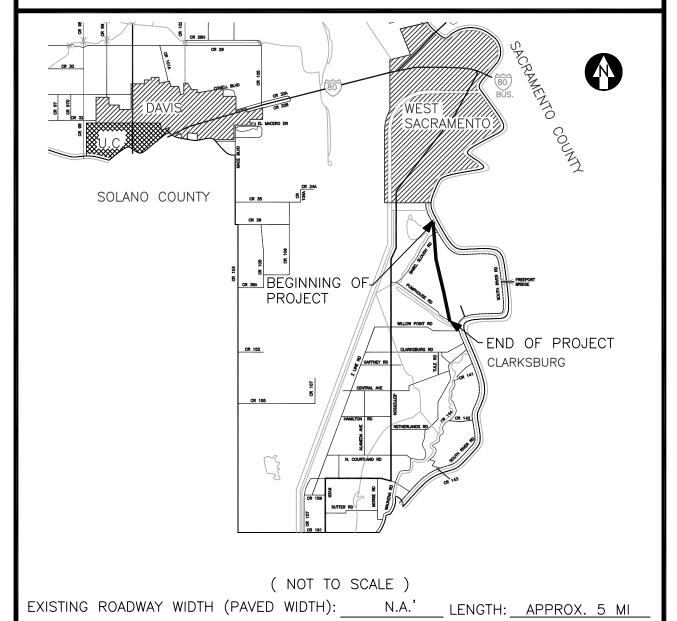
DESCRIPTION OF WORK: INSTALL CLASS II OR III BIKE ROUTE SIGNS.

NOTES: THE CALTRANS CRITERIA FOR SIGNING THESE ROUTES

INCLUDES A DETERMINATION THAT THE ROUTE WOULD PROVIDE CONTINUITY TO OTHER BICYCLE FACILITIES, OR WOULD DESIGNATE A PREFERRED

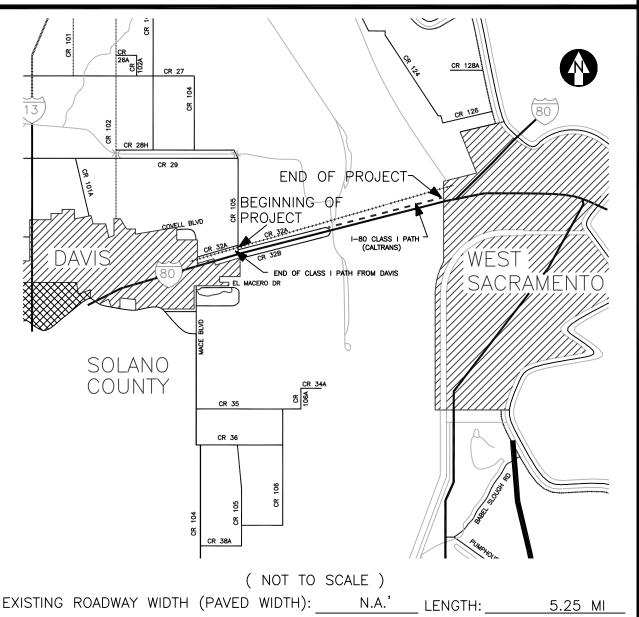
ROUTE THROUGH A HIGH DEMAND CORRIDOR.

NAME: <u>CLARKSBURG BRANCH LINE RAIL TRAIL</u> PRIORITY: LOW FROM: WEST SACRAMENTO CLASS: I TO: PUMPHOUSE ROAD EST. COST: TBD



DESCRIPTION OF WORK: DESIGN AND CONSTRUCT CLASS 1 BIKEWAY FROM WEST SACRAMENTO SOUTH AS FAR AS PUMPHOUSE ROAD ON OLD YOLO SHORTLINE RAILROAD RIGHT OF WAY NOW OWNED BY THE CITY OF WEST SACRAMENTO.

NAME: INTERSTATE 80 CLASS I BICYCLE PATH IMPROVEMENTS PRIORITY: LOW
FROM: COUNTY ROAD 105 CLASS: I/II
TO: WEST SACRAMENTO EST. COST: NO COST ESTIMATE



DESCRIPTION OF WORK: IN CONNECTION WITH ADDITION OF PROPOSED CARPOOL LANES TO 1-80 (SEE SACOG MTP 2035 PROJECT LIST, COMPLETION 2035), CONSIDER RELOCATION OF CALTRANS' 1-80 CLASS 1 PATH (APPROXIMATELY 3.25 MILES, CURRENTLY ON THE NORTH SIDE OF 1-80) TO THE SOUTH SIDE, TO TAKE ADVANTAGE

OF PREVAILING WINDS FROM THE SOUTHWEST, TO IMPROVE AIR QUALITY CONDITIONS FOR BICYCLISTS.

IMPROVE CONNECTION FROM CITY OF DAVIS MAINTAINED CLASS I PATH (THAT LIES BETWEEN I-80 & RAILROAD AND ENDS AT CR105 AND CR32A) TO CALTRANS' I-80 CLASS I PATH. (APPROXIMATELY 2 MILES) POSSIBILITIES INCLUDE CLASS I PATH ALONG NORTH SIDE OF RAILROAD TRACKS ON CITY OF DAVIS PROPERTIES, WIDENING EXISTING 4' SHOULDERS ON PORTION OF CR32A, OR ADDING CLASS I PATH ALONG PORTION OF NORTH SIDE OF CR32A. A RIGHT OF WAY CONSTRAINT ALONG CR32A BEGINNING AT CR105 AND EXTENDING APPROXIMATELY 1/2 MILE TO THE EAST PRECLUDES MAKING THIS IMPROVEMENT CONTINUOUS ALONG THE CR32A CORRIDOR.

NAME: CHILES ROAD CLASS II BICYCLE LANES PRIORITY: LOW FROM: DAVIS CITY LIMITS CLASS: \_\_\_\_ TO: I-80 CLASS I BICYCLE PATH EST. COST: \$3.5 million CR 28H CR 29 COVELL BLVD END OF PROJECT CR 32A CR 32B
PACIFIC FLYWAY CENTER **BEGINNING OF** ZEL MACERO DR ( NOT TO SCALE ) EXISTING ROADWAY WIDTH (PAVED WIDTH): 24' LENGTH: 2.26 MI DESCRIPTION OF WORK: CLASS II IMPROVEMENTS ON CHILES ROAD (CR32B) TO IMPROVE CONNECTIVITY BETWEEN SOUTH DAVIS AND I-80 CLASS I BICYCLE PATH. PROJECT REQUIRES ADDITIONAL RIGHT OF WAY AND UTILITY RELOCATION BECAUSE EXISTING 50' ROAD RIGHT OF WAY WIDTH IS INSUFFICIENT. THE PACIFIC FLYWAY CENTER IS ALSO LOCATED ALONG THIS ALIGNMENT.

## **APPENDIX 3**

EXCERPTS FROM SEPTEMBER 29, 2009 ALTERNATIVE TRANSPORTATION CORRIDOR FINAL FEASIBILITY STUDY SECTIONS 1.2 & 1.3 FIGURES 1-1 & 1-2

# Alternative Transportation Corridor FINAL FEASIBILITY STUDY



Prepared for:



Prepared by:



In consultation with: Fehr & Peers ESA Environmental Services TCC Consulting Kevan R. Shafizadeh, PhD, P.E.

September 29, 2009

Bennett Engineering Services 1082 Sunrise Avenue, Suite 100 Roseville, California 95661

T 916.783.4100 F 916.783.4110

www.bennettengineeringservices.com

This Feasibility Study has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

LEO RUBIO, REGISTERED CIVIL ENGINEER

9/29/09 DATE

NO. 56895

### 1.2 Recommendations

Based on the information provided by the three jurisdictions, and feedback from the community and various stakeholders, the recommendations of this ATC Study are as follows:

**The recommended alternative is Alignment 2**, shown in **Figure 1-1**. It would start at E. Covell Blvd. and travel on the east side of the Union Pacific Railroad (UPRR) tracks up to County Road 25A, then turn left and head north on the west side of UPRR tracks to CR 24A where it meets 6<sup>th</sup> Street.

## The alternative Alignment 2 is recommended for the following reasons:

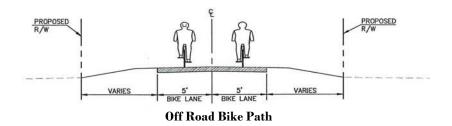
- This option is consistent with the community desires to provide a direct route between the two cities.
- This alignment is consistent with the direction from the collective jurisdiction Boards and Councils and workshop participants for an off-road option.
- This option provides the most direct link to existing and planned activity centers.
- Caltrans has provided positive feedback to construct the alignment within Caltrans right-of-way under the State Route 113 overhead.
- There is land developer interest to work with the jurisdictions to allow approximately 2.7 miles of this alignment within their property boundaries.
- This option provides the safest route between the two cities and minimizes crossing conflicts between modes.

### Other recommendations:

- Consider phasing the alignment with a route to the Spring Lake Community that begins from County Road 27, and routes northeast towards the City of Woodland. This phase could be added as development progresses, and as demand warrants it. The preliminary construction and right-of-way acquisition cost estimate for the bike-only path is \$2,000,000.
- Provide a means to educate the public about the corridor through public forums and/or local media advertising.

#### Bike Path

This study examined the feasibility of a shared-use corridor, which included Neighborhood Electric Vehicles (NEVs). However, on September 25, 2009, the jurisdictions mutually agreed to recommend the bike-only path for further study. The jurisdictions understand that there could be inconsistencies in this report due to the jurisdictions' recent decision. To avoid an extensive rewrite of this study, only this Section 1.2 has been modified to exclude NEVs in the recommendation.



The Preliminary construction and support cost estimate for this option is \$9,500,000, with an estimated annual maintenance cost of \$56,000 – See Appendix E for cost estimate breakdown spreadsheets.

## 1.3 Benefits and Concerns

The following is a list of benefits and concerns with including NEVs along the corridor:

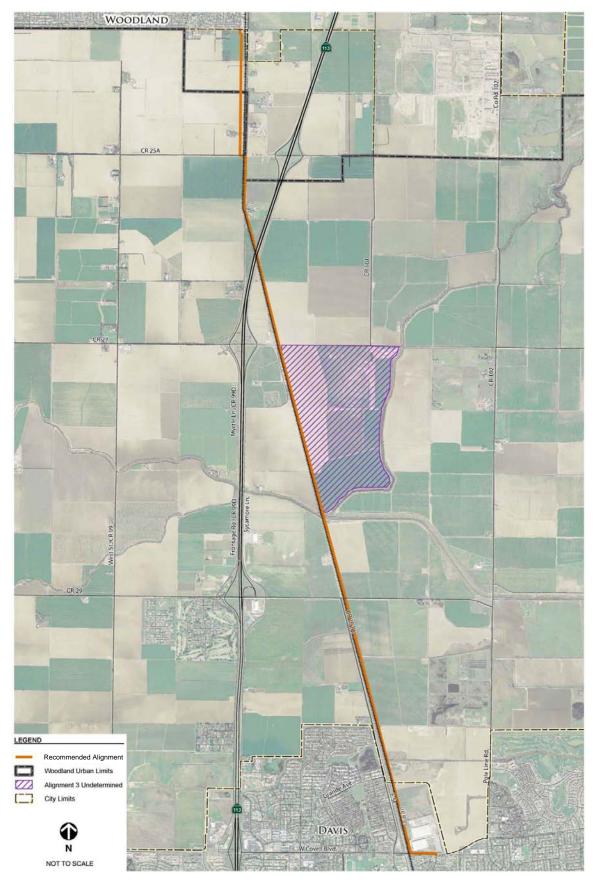
### **Benefits:**

- The combined bike/NEV path would encourage alternative modes of transportation.
- The wider lane width would allow bicyclists to ride side-by-side, or more space to pass other bicyclists and pedestrians.
- The benefits from expanding NEV use include, but are not limited to: energy savings, improved air quality (Eco-friendly alternative mode of transportation reduces Green House Gases and Vehicle Miles Traveled), cost savings, greater mobility for impaired drivers, reduced congestion on freeways.
  - o NEVs are ideally suited for short-local trips, therefore users will do more business/shop locally. NEVs can travel 20-30 miles on a single battery charge. On average, more than 75% of trips are three miles or less.
  - o Used NEVs can be purchased for \$3,000 to \$5,000.
  - o NEVs provide an alternative vehicle for those who age out of driving conventional high speed vehicles.
  - Low speed option prevents higher speed collisions compared to an automobile.
- Innovative aspect of including NEVs will bring positive attention to the ATC, resulting in project recognition to better compete for funding opportunities for projects that promote alternative forms of transportation.

### **Concerns:**

- Increased cost of a wider project area footprint, additional \$3,780,000.
- Only 145 registered electric vehicles.
- There is an unknown demand for NEVs. According to Joshua Cunningham, UC Davis Institute for Transportation Studies, car companies are working on producing City Electric Vehicles in 2010 (Reference Appendix H). These vehicles will travel 55 mph or more and can utilize freeways. Research suggests that these cars may reduce demand for NEVs.
- Although the project should qualify for grants set aside for non-auto modes, there are no known funding sources that are specific to NEVs.
- NEVs, being low speed, need safe roads to operate.
- Concerns about limited speed and range: NEVs are currently a "niche" vehicle, and with low-speeds topping out at 25mph, consumers may be more apt to purchase full-size vehicle platforms that are freeway capable, and capable of traveling more than 20 or 30 miles on a single battery charge.
- Purchase Decisions: There is a concern that NEV price is high (\$7,000 to \$12,000 depending on make and model), consumer needs to "want" electric vehicle benefits.

- Incentives such as corridor access or free parking are "extra benefits" but will not likely drive purchase decision.
- Based on the online survey (reference **Appendix C**), 32% of respondents would not feel comfortable sharing the facility with NEVs.
- The jurisdictions believe it is possible to reduce the speed limit on a county road to accommodate NEVs rather than create a new route. Reducing the speed limit would require state legislation and would perhaps require funding for speed limit enforcement, but no funding for road improvement.



FEHR & PEERS TRANSPORTATION CONSULTANTS

Figure 1-1: Recommended Alignment

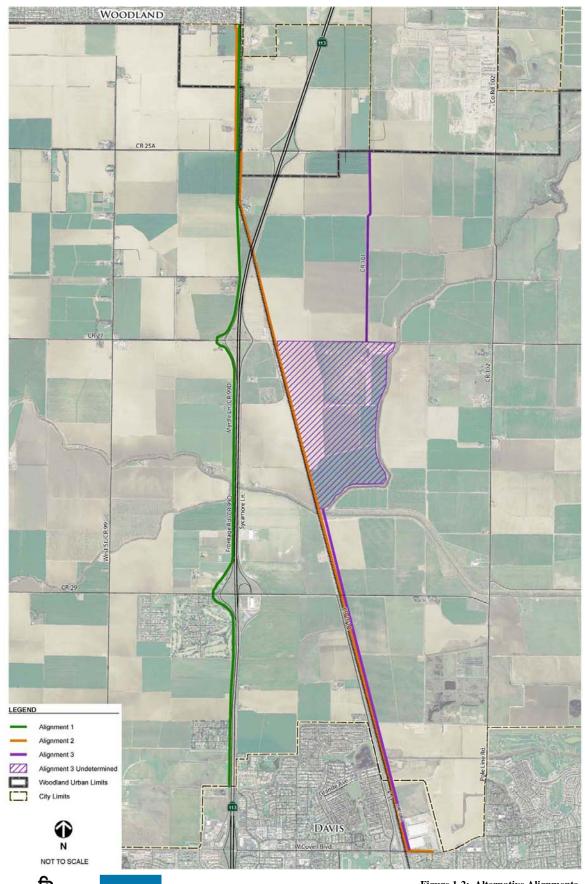


Figure 1-2: Alternative Alignments

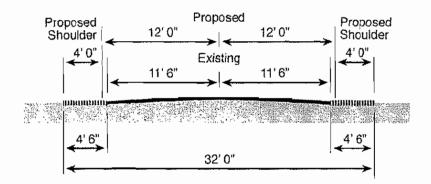
FEHR & PEERS

**BEN**|EN

## **APPENDIX 4**

EXECUTIVE SUMMARY FROM JULY, 2001 DAVIS-WOODLAND BIKEWAY FEASIBILITY STUDY REPORT

## Davis-Woodland Bikeway Feasibility Study



## Prepared for:

Yolo County Planning and Public Works Department Yolo-Solano Air Quality Management District City of Davis City of Woodland

Prepared by:

Alta Transportation Consulting Fehr and Peers Associates, Inc.

**July 2001** 

#### **EXECUTIVE SUMMARY**

The Davis-Woodland Bikeway Feasibility Study is the result of an agreement between Yolo County, the City of Davis, the City of Woodland, and the Yolo-Solano Air Quality Management District to fund the analysis of alternative bicycle routes between Davis and Woodland. A total of six routes were evaluated that included Class I (bike path), Class II (on street bike lanes), and Class III (on street shared facility) components that could serve commute and recreational purposes.

The Study incorporates comments and recommendations from the Yolo County Transportation District Technical Advisory Committee Subcommittee (TAC Subcommittee) for the Bikeway Feasibility Study, and the public, submitted either in direct communication with project staff or submitted during the Public Workshop held for the project on September 14, 1999. The TAC Subcommittee consisted of representatives from each jurisdiction funding the study, and the Davis Bike Club.

The alternatives were then analyzed and prioritized according to a set of ranking criteria developed for the project by the TAC Subcommittee. A new option (Option 1) emerged out of the review and workshop process, while one of the original six options (CR 102) was eliminated because the corridor already has a Class II bicycle route.

Factors in the analysis of the alternatives included right of way costs, construction costs, maintenance costs, accessibility of the route to existing and future activity centers, environmental impacts, agricultural impacts, recreation/aesthetic value, time to implement, and the prospects for increased growth and development in Woodland and Davis. Currently, UC Davis represents the destination for a significant number of Woodland residents – residents who have the potential to bicycle to work, class, or other utility destinations, and who are included in a region that currently commutes by bicycle at rates higher than the national average, although not at the high levels found in the City of Davis. Increased growth adjacent to either Woodland or Davis generates additional demand for improved bicycle facilities between the two cities, a demand that will continue to grow as more developments are built in the future.

In the short term, there is a need to improve bicycling conditions for those residents who commute between Davis and Woodland on County roads. Many of these improvements can be made within the context of general roadway improvements and maintenance, and can significantly improve the safety and attractiveness of the connecting roadway system for those who currently cycle between Davis and Woodland. The most feasible alternative in the short term is a modified Option 1, adding four foot bike lanes to roadways that presently do not have shoulders (see Fig 25): the section of CR 99 between CR 27 and CR 29, and the section of CR 29 between CR 99 and State Route (SR) 113. The estimated cost of this option is approximately \$1.2 million.

In the longer term, to address the expressed desire by many residents for a bicycle route between the two cities with more recreational and aesthetic values, the next most feasible alternative is Option 5. In general, Option 5 connects a series of three dead end frontage roads on the west side of SR 113 to provide a more centralized connection between the two cities (see Fig. 22). The estimated cost of this option is approximately \$2.9 million. The first phase of Option 5 would be the improvements to shoulders on CR 99D to connect Option 1-modified to Davis.

It is also recommended that in the event that the California Northern Railroad/Union Pacific Railroad tracks are abandoned in the future, that the right-of-way be preserved for use as a non-motorized multi-use pathway connecting the cities of Woodland and Davis (see Fig. 2A).

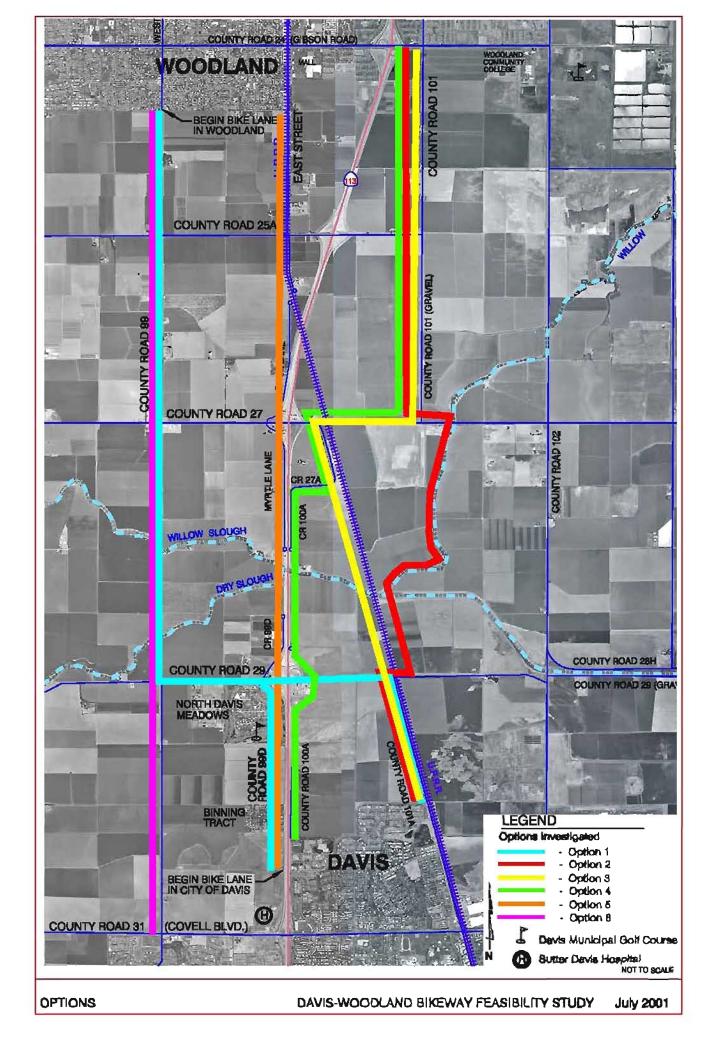
### 1.0 INTRODUCTION

The Davis-Woodland Bikeway Feasibility Study was initiated by the Yolo-Solano Air Quality Management District as part of an effort to investigate the feasibility of various bikeway options connecting Davis and Woodland. In general, the routes investigated include combinations of Class I (off road) bike paths, Class II (on road) bike lanes, and Class III (on road) bike routes. The City of Davis, the City of Woodland, the County of Yolo, and the Yolo-Solano Air Quality Management District have each committed funds to investigate the feasibility of alternative routes.

At present one Class II bikeway along County Road (CR) 102 connects the eastern portions of Woodland and Davis. The Yolo County Bicycle Transportation Plan identifies a second connection of the westerly portions of the two cities along CR 99. Widening and shoulder striping of 4 miles of CR 99 south of CR 27 would complete this connection.

This feasibility study includes the analysis of the original six (6) options included in the Request for Proposal for the study. Out of this feasibility process, Option 6 (CR 102) was deleted, and a new option (Option 1) was added, which is a consolidated alternative incorporating features from several of the six original alternatives.

This report presents a description of needs (Chapter 2) including a discussion of the difference between commuter and precreational needs, and the projected growth in the area. Chapter 3 discusses different types of potential bikeway improvements. Chapter 4 briefly describes the evaluation criteria considered in the ranking of alternatives. Chapter 5 discusses individual sections of the alternative alignments, and the physical conditions along them. Chapter 6 describes each alternative and provides a brief discussion of each evaluation criteria. Chapter 7 summarizes the information presented in the report, and ranks the alternatives based on a weighted ranking developed by the TAC Subcommittee. Appendices include a detailed presentation of cost estimates, a discussion of maintenance issues, and design guidelines.



## **APPENDIX 5**

RESPONSE TO COMMENTS ON DRAFT CIRCULATED FOR PUBLIC COMMENT

## Email comments from Jim Skeen, Davis December 25, 2011

I have attended 2 meeting where the bike plans were discussed and never heard any support for the alternate class 1 bike route between Woodland and Davis. I ride from Davis to Woodland at least once per week on the existing route along rd 99 and see no problem with it. Certainly not one that justifies a \$9M+ expenditure.

The study seems to be driven more by consultants than the experience of actual bicycle riders.

Response: Both alignments between Davis and Woodland have supporters. Both will likely compete for different sources of funds, therefore maintaining both as high priority projects in the plan provides flexibility to respond as future funding opportunities arise.

The most effective way to increase bike trips is to convince parents that their kids can safely go to and from school and not have their bikes stolen or trashed while at school.

Comment noted.

Secure parking for bikes is lacking at nearly every destination.

Comment noted.

## Email comments from Dave Hart, Davis January 8, 2012

Please let me preface my remarks with my credentials. I have ridden the Davis/Sacramento route three or more times a week since the early 1980s. I rode the I-80 freeway deck in the early 1980s before there was an alternative, and unless you think I may be insane, before cell phones, GPS, texting, and the plethora of electronic diversions available to the motoring public. Then, I rode the path down in the bypass, inhaling insects in the summer and crazy motorists who on three separate occasions used it as a bypass around traffic jams on I-80. Truly chaotic pandemonium. I thus appreciate the Class II lane along the CR32A and the Class I lane over the causeway more than many who have never known the difference and most of my comments are directed to this part of the Yolo County bicycle path system.

Allow me to begin with a few "complaints" and I will finish with more positive comments.

I can't imagine what the logic or thinking is for even entertaining the idea of the Interstate 80 Class I Bicycle Path Improvements project of moving the Class I lane across the causeway to the south side of the freeway. It makes no real sense for "taking advantage of prevailing winds" and only a little sense for air quality. Admittedly, it is a "low priority" project, but the benefits are very meager for the cost to complete such a project. Limited funds would be much better spent on many other listed projects. Yes, Delta breezes as a tail wind are nice if you are headed to Sacramento, but a cyclist is better off on the north side of the freeway coming from Sacramento under the same conditions. Is it assumed that cyclists ride only one direction? I suggest you eliminate this project from your plan so we can focus on the more valuable and needed projects in the Delta and along the river.

Sweeping the Interstate 80 Class I Bicycle Path monthly would be a far better use of funds.

Response: The inclusion of this project is intended to be a placeholder for the concept of moving the bike path to the south side of the freeway, in the event that the Caltrans project to add carpool lanes to I-80 results in an opportunity to do so. An air quality study specific to bicycle users would be appropriate at that time, to quantify any possible benefits. The prevailing winds at this location come from the delta to the south, and as such the air quality on the south side of I-80 is slightly better for cyclists, especially during summer riding months when the wind pattern is more consistent. Notes on project plan will be revised to better reflect this.

Why, oh why, can't something be done about the impossibly rough, cracked and beaten up section of the Interstate 80 Class I Bicycle Path on the east end of the causeway? This section needs attention more than any other part of the route between Davis and Sacramento.

Response: This is within the jurisdiction of either West Sacramento or Caltrans. Comment forwarded to both jurisdictions.

The Yolo Bypass Levee Class I Path connecting CR32A and I-80, like the east end, is coming apart and is becoming hazardous for cyclists, particularly at night. It should also get some high priority for being replaced. If autos and trucks are going to drive on it, it should be constructed accordingly.

Response: This concern has been forwarded to Caltrans maintenance.

Maintenance on CR32A is not a huge issue, but there are a few problems that need attention probably every third year to prevent damage to the Class II path. Relying on traffic to sweep the additional shoulder works well on most of the path where there is a straight away run. It has not worked well on the curves, specifically where the route crosses the railroad track as CR105. I recently spent one hour hand sweeping this corner for a run of about 150 feet from the tracks heading east. The pavement slopes toward the road so that sand and gravel, bolts, nails, glass, and other goodies actually collect in the lane itself instead of being brushed off to the shoulder. After sweeping this section of the bike lane, other riders remarked to me that they thought the lane was actually only 12 inches wide instead of 3 feet because of the accumulation of materials. On the westbound side coming up to CR105, a similar problem has developed and vegetation is now threatening to undermine the lane. If the county would simply run a sweeper over the lane once a year, it would probably be sufficient. Even better is to grade the shoulder material down an inch or so below the lane surface so that material can be pushed off the lane by traffic.

### Response: Comment noted and referred to road maintenance.

Another observation, is that the stretch of CR32A just east of the CR105 rail crossing has become so broken up and rough that I notice even autos and trucks sometimes drive with one set of wheels on the bike lane because it's either smoother or quieter or both. It would seem our narrow bike lane now has to provide heavier duty traffic than it was designed to bear.



Representative photo of CR32A east of CR105 submitted by Mr. Hart

Response: Comment noted. The County Board of Supervisors authorized the use of state Proposition 1B funds to reconstruct this short segment of CR32A; reconstruction was completed in the summer of 2012.



Post construction photo

The CR32A rail crossing at CR105 is an absolute joy. Don't know if this is Yolo County funds at work or the railroad's doing, but it makes riding this route much more inviting. Rail crossings like the one across CR105 give a lot of bang for the buck.

Response: Comment noted. The railroad initiated the rail crossing work, and County road maintenance forces completed the asphalt concrete work in the railroad right of way.

Finally, I would like to express my gratitude for the improvements made in Yolo County to this point in time. Many of the proposed, additional projects in the Delta, along the Sacramento River and in other, underserved parts of the county are inspiring and it's a shame that we can't build them all. I don't know what can be realistically done to increase the constituency for adding trails and increasing resources to maintain the system that has already been built. It's a tough time to try to build anything when all around all we hear is cuts, cuts, cuts. But I commend the commission for continuing the process and support your plan. Please feel free to call on me to support your work in whatever way I can.

Response: Comment noted.

## Letter from John Berg, Chair, City of Davis Bicycle Advisory Commission January 10, 2012

On January 9, 2012 the City of Davis Bicycle Advisory Commission (BAC) reviewed the Yolo County Bicycle Transportation Plan and submits the following comments:

1. The BAC requests that the Davis - Woodland Bikeway Project, utilizing frontage roads as described on page A2-2 of the plan, be made the highest priority project in the plan.

Response: Both alignments have supporters. Both will likely compete for different sources of funds, therefore maintaining both as high priority projects in the plan provides flexibility to respond as future funding opportunities arise.

2. Given the dangers caused by excessive speeds that conflict with bicycle riding in the County, the BAC requests that vehicular enforcement be improved on designated bike routes in the County, and that this be made a priority.

Response: Comment noted. The California Highway Patrol provides enforcement on County roadways, however they have limited staff.

3. The BAC urges the County and the Transportation Committee to review and improve the signage of Class I/II bike path routes between Davis and Sacramento.

Response: Comment noted. Signage reviewed and upgraded in summer 2012.

## Letter from Dennis Westcot, Davis January 13, 2012

Dear Sir

I have read the draft COUNTY OF YOLO BICYCLE TRANSPORTION PLAN - Bicycle Routes and Priorities dated December 2011. I offer the following comments:

1. It is an ambitious plan with little hope that it will ever be fully implemented. You should stress making good sound routes that are well built, safe and maintained rather than trying to cover everything with a poor quality bike routes. It is better to have fewer quality bike routes than have a lot of inferior and unsafe routes.

Response: Comment noted. The plan includes a wide variety of projects, even those that might have little hope of being built in the near term, to provide flexibility to respond as future funding opportunities arise and as future land use, flood control, and road projects are planned. As a result of funding constraints, most bicycle improvements in the unincorporated County historically were not originated primarily as bicycle projects, rather their existence in previous bicycle plans allowed the County to secure funding for bicycle improvements that supplemented funding for the larger project.

2. It has been my experience that the bike routes presently in Yolo County are well planned and built but then are poorly maintained. In the report it stresses that routes in the country are often safer as debris is blown off the bike path by the higher speed traffic. This is as far from the truth as it can be. If you can't maintain them, don't build them.

Response: Comment noted. Inadequate maintenance funding is a problem on County roads in general. There are sources of funding from state and federal sources for capital improvements that are generally awarded on a competitive basis (as are all state and federal funds for bicycle improvement projects), but maintenance funding for the entire road system is derived from the state gas tax, is essentially fixed, and is insufficient to address the maintenance backlog on the County's 759 miles of roadway.

3. Bike paths in the country need maintenance at least twice a year; once after the harvest season and once after the rainy season. There should be a plan to sweep them at least twice a year or it is better not to build them. During the harvest season, the harvest trucks throw rocks and mud into the bike lane and during the rainy season, anyone pulling off the solid road surface will leave a huge amount of debris in the bike lane upon returning to the roadway. Maintenance must be part of the bike transportation plan, and at present it is not.

Response: Comment noted. The County currently sweeps 82 bicycle lane-miles on a monthly basis.

Thank you for considering my comments.

## Email comments from John Whitehead, Davis January 16, 2012

Today I read the "County of Yolo Bicycle Transportation Plan" and am very encouraged by the level of detail and the well-thought-out emphasis on roadway improvements that would be useful to many bicyclists.

Here are a few particular comments:

Page 14 says that inverted "U" racks are preferred. Without knowing how the Committee selected this option, I would like to suggest consideration of "Lightning Bolt" racks that have become recognized as the standard for the City of Davis and UC Davis.

### Response: Comment noted. Plan will be modified to include lightening bolt style racks.

Page 23 refers to "3.6 miles of Class I bikeway along County Road 31," as having been completed in 1994. Is this possibly a typographical error (Class II perhaps)? Please include the "cross streets" in this particular description and in all location descriptions.

### Response: This is a typo and will be changed to read "County Road 32 (Russell Blvd)"

In the table at the start of Appendix 2 (no page number), it is encouraging to see that Road 99 from Davis to Road 29 is listed as a High priority for Class II (bike lanes). That piece of road is ridden frequently by members of my family.

### Response: Comment noted.

In Appendix 2 (page A2-23), it is stated that the bike path along the Yolo Causeway might be relocated to the south side to take advantage of prevailing winds. When wind direction is considered, the times of day and times of year for bicycle traffic should also be considered. In particular, the summer evening delta breeze is from the south, but is that a time of high bicycle traffic? Similarly, we have a south wind when it rains, not a time of high bicycle traffic. In my decades of bicycling around the county, the North Wind is more memorable than wind from the south, so it might be that the north wind is more likely to be correlated with times of bicycle traffic, as opposed to the 24-hour-365-day-averaged prevailing wind from the south. A mere 2 days ago (2012Jan14) I bicycled the north side path with my son at mid-day Saturday, and we were glad that the north wind blew the car exhaust away from us.

Response: Refer to previous response to comment on air quality issue.

## Email from Jim Antone, Yolo Solano Air Quality Management District <u>January 19, 2012</u>

Good job on the draft plan. Thanks for the opportunity to review and comment on the Draft Yolo County Bicycle Transportation Plan Update. Below are the Districts comments:

Figure 5 in both the 2006 Bikeway plan and 2011 Draft Plan include a list of proposed bicycle racks and facilities in Madison, Clarksburg, Esparto, Yolo and Cache Creek Canyon Regional Park. It is assumed from the list that these facilities have not yet been completed since originally being proposed in 2006 or earlier. Although the population and land area of the unincorporated communities are small, a combination of short travel distances on flat terrain provide for significant opportunities for local residents to reduce or eliminate the many short motor vehicle trips that occur in these communities with walking or bicycle trips. In addition to emphasizing the intercity routes between the larger incorporated cities, implementing projects within the small unincorporated communities should also be a priority as funding permits.

Response: Comment noted.

One of the most significant traffic generators and destinations in the unincorporated area of the County is the Cache Creek Casino. The casino should be listed as such and as a potential candidate for future bicycle parking and storage facilities to provide employees and patrons with increased bicycle and/or bus/bicycle transportation options.

Response: Comment noted. The casino lies on tribal land, outside of the Bicycle Transportation Plan area.

## Letter from Eric Fredericks, Chief, Caltrans Office of Transportation Planning-South January 20, 2012

Thank you for the opportunity to review and comment on the Draft Yolo County Bicycle Transportation Plan (YCBTP). The draft plan encompasses Yolo County's bicycle routes and priorities. Caltrans commends Yolo County for its commitment to multimodal transportation as exhibited in the draft YCBTP. Our comments are as follows:

The plan consistently refers to bike lane widths as 4 feet. Bike lane widths are 4 feet without gutter and 5 feet with gutter. For more information see Chapter 1000, Bikeway Planning and Design, in the California Department of Transportation Highway Design Manual.

Response: There are essentially no gutters on roads within the County's jurisdiction, so the plan appropriately references four foot widths on project descriptions. The only project with the potential for curbs and gutters is in Esparto, as shown in Appendix A2-3, where 6' bicycle lanes are described.

• In Appendix 2 (Project Descriptions) on page A2-2 1, regarding State Route (SR) 128 and SR 1 6, there must be enough pavement width (1 4 feet recommended minimum) to install Class III Bicycle Routes. If there is not enough pavement width, a "share the road" sign could possibly be installed.

## Response: Comment noted.

In Appendix 2 (Project Descriptions) on page A2- 15, Caltrans prefers that an alternate route to SR 113 be constructed or improved for bicyclists traveling between Davis and Woodland. Our main concern on SR 113 is the safety of bicyclists crossing the on and off ramps at the County Road (CR) 27 interchange. Currently, volumes during peak travel hours indicate up to 160 vehicles per hour. However, in the interim, we will remove the signs prohibiting travel by bicyclists on SR 113 between CR 25A and CR 27. An alternate route should be constructed soon.

### Response: Comment noted.

 As bicycle facility policies are implemented on the State Highway System, Yolo County should be aware that exceptions from the California Department of Transportation Highway Design Manual may require consultation and/or coordination with Caltrans' functional units in the Design Exemption Process.

### Response: Comment noted.

 Regarding construction of projects discussed in the draft YCBTP, all work performed within the State Highway System's right-of-way must be in accordance with Caltrans' standards and requires an Encroachment Permit prior to commencing construction. For more information on encroachment permits, the requirements, and an application form, please visit our webpage at <a href="http://www.dot.ca.gov/hq/traffops/developserv/permits">http://www.dot.ca.gov/hq/traffops/developserv/permits</a>, or you may call the Office of Permits at (530) 741-4403.

Response: Comment noted.