

## 6.0 COST AND FUNDING ANALYSIS

Implementation of the proposed system will require funding from local, state, and federal sources and coordination with other agencies, not to mention local residents and business owners. To facilitate funding efforts, this section presents conceptual construction cost estimates for the proposed system along with a brief description of past expenditures for bikeway and pedestrian facilities.

### 6.1 Cost Estimates

Table 12 contains a unit cost summary for bikeway facilities. These cost estimates are based on actual costs experienced in various California communities, however, they should be used only to develop conceptual construction cost estimates. More detailed estimates should be developed after preliminary engineering.

Facility	Estimated Cost Per	
	Mile	Kilometer
Class III Bike Route		
• signing only	\$500	\$300
• signing, minor surface repair	\$1,000	\$600
Class II Bike Lane		
• signing and striping only	\$3,000	\$2,000
• signing, striping, minor road widening	\$20,000	\$13,000
• signing, striping, major road widening <sup>1</sup>	\$50,000	\$30,000
Class I Bike Path		
• rehabilitate or upgrade existing path	\$50,000	\$30,000
• construct asphalt path on existing level embankment, or right of way, includes signing, striping	\$150,000	\$90,000
• construct asphalt path on graded right of way, requires drainage and new sub-base	\$230,000	\$140,000
• construct asphalt path within ungraded corridor, some retaining walls required	\$350,000	\$215,000
Notes: <sup>1</sup> Contribution for roadway improvement projects (approx. 20%) of total cost.		

Using the cost information in Table 12, conceptual construction costs were developed for the proposed system. These costs are shown in Table 13 on the following pages. Accompanying the construction cost estimates are operating and maintenance cost estimates for Class I bike paths. Maintenance of on-street facilities is assumed to be included in the cost of street maintenance.

Table 13

## CONCEPTUAL CONSTRUCTION COST SUMMARY - PROPOSED SYSTEM

Name	Jurisdiction	Net Route Length	Net Lane Length	Net Path Length	Total Length Rte+Lane+Path	Capital Cost			Total Cost	Annual O & M
						Routes	Lanes	Paths		
Gray Ave	Yuba City		1.6		1.6	\$0	\$32,000	\$0	\$32,000	\$0
Jamie Dr	Yuba City		0.4		0.4	\$0	\$8,000	\$0	\$8,000	\$0
Jones Rd	Yuba City		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
Lincoln Rd	Yuba City		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Live Oak Blvd	Yuba City	0.1			0.1	\$100	\$0	\$0	\$100	\$0
Lynn Wy	Yuba City	0.6			0.6	\$600	\$0	\$0	\$600	\$0
Main St	Yuba City		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Market St	Yuba City		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Northgate Dr	Yuba City		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
Percy Ave	Yuba City		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Plumas St	Yuba City		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
Queens Ave	Yuba City		1.0		1.0	\$0	\$20,000	\$0	\$20,000	\$0
Railroad Ave	Yuba City		1.0		1.0	\$0	\$20,000	\$0	\$20,000	\$0
Richland Rd	Yuba City		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Shanghai Bend Rd	Yuba City		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
Shasta St	Yuba City		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
South Barrett Rd	Yuba City		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Teegarden Ave	Yuba City	0.3	0.1		0.4	\$300	\$2,000	\$0	\$2,300	\$0
Teesdale Rd	Yuba City		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
Twin Cities Bridge	Yuba City			0.1	0.1	\$0	\$0	n/a	\$0	\$850
Walton Ave	Yuba City		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
Wilbur Ave	Yuba City		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Winship Rd	Yuba City		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
<b>SUBTOTAL</b>		<b>1.5</b>	<b>17.5</b>	<b>2.2</b>	<b>21.2</b>	<b>\$1,500</b>	<b>\$350,000</b>	<b>\$0</b>	<b>\$351,500</b>	<b>\$18,700</b>
11th Ave	Yuba County		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
7th Ave	Yuba County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Alberta Ave	Yuba County		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
Arboga Rd	Yuba County	2.2	3.1		5.3	\$2,200	\$62,000	\$0	\$64,200	\$0
Broadway Rd	Yuba County	1.0			1.0	\$1,000	\$0	\$0	\$1,000	\$0
Chestnut Rd	Yuba County		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
Dunning Ave	Yuba County		0.4		0.4	\$0	\$8,000	\$0	\$8,000	\$0
Erle Rd	Yuba County	3.9			3.9	\$3,900	\$0	\$0	\$3,900	\$0
Feather River Blvd	Yuba County	11.2	1.4		12.6	\$11,200	\$28,000	\$0	\$39,200	\$0
Fruitland Rd	Yuba County	1.7		0.6	2.3	\$1,700	\$0	n/a	\$1,700	\$5,100
Garden Ave	Yuba County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Griffith Rd	Yuba County	1.7			1.7	\$1,700	\$0	\$0	\$1,700	\$0
Hammonton Smartville Rd	Yuba County	14.6	1.8		16.4	\$14,600	\$36,000	\$0	\$50,600	\$0
Jack Slough Rd	Yuba County		3.7		3.7	\$0	\$74,000	\$0	\$74,000	\$0
Jasper Ln	Yuba County	3.5			3.5	\$3,500	\$0	\$0	\$3,500	\$0
Linda Rd	Yuba County		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Lindhurst Ave	Yuba County		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Loma Rica Rd	Yuba County	8.2	0.9		9.1	\$8,200	\$18,000	\$0	\$26,200	\$0
Main St (Wheatland)	Yuba County		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
Marysville Rd	Yuba County	3.2		0.7	3.9	\$3,200	\$0	n/a	\$3,200	\$5,950
Mattews Rd	Yuba County	3.6			3.6	\$3,600	\$0	\$0	\$3,600	\$0
McGowan Pkwy	Yuba County		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
North Beale Rd	Yuba County	0.6	4.8		5.4	\$600	\$96,000	\$0	\$96,600	\$0
Olivehurst Rd	Yuba County		0.4		0.4	\$0	\$8,000	\$0	\$8,000	\$0
Ostrom Rd	Yuba County	3.4			3.4	\$3,400	\$0	\$0	\$3,400	\$0
Pasado Rd	Yuba County		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Powerline Rd	Yuba County		1.9		1.9	\$0	\$38,000	\$0	\$38,000	\$0
Ramirez Rd	Yuba County	4.3			4.3	\$4,300	\$0	\$0	\$4,300	\$0
Rice's Crossing	Yuba County		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
Road 218	Yuba County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Simpson Ln	Yuba County		1.8		1.8	\$0	\$36,000	\$0	\$36,000	\$0
Smartville Rd	Yuba County	6.6			6.6	\$6,600	\$0	\$0	\$6,600	\$0
Spenceville Rd	Yuba County	8.2			8.2	\$8,200	\$0	\$0	\$8,200	\$0
Spring Valley Rd	Yuba County	6.2			6.2	\$6,200	\$0	\$0	\$6,200	\$0
State Route 20	Yuba County	8.0	10.2		18.2	\$8,000	\$204,000	\$0	\$212,000	\$0
State Route 70	Yuba County	0.8			0.8	\$800	\$0	\$0	\$800	\$0
Virginia Rd	Yuba County	2.4			2.4	\$2,400	\$0	\$0	\$2,400	\$0
Wheatland-Rio Oso Rd	Yuba County	1.4			1.4	\$1,400	\$0	\$0	\$1,400	\$0
Woodruff Ln	Yuba County		2.4		2.4	\$0	\$48,000	\$0	\$48,000	\$0
<b>SUBTOTAL</b>		<b>96.7</b>	<b>40.4</b>	<b>1.3</b>	<b>138.4</b>	<b>\$96,700</b>	<b>\$808,000</b>	<b>\$0</b>	<b>\$904,700</b>	<b>\$11,050</b>
<b>SYSTEM TOTAL</b>		<b>278.4</b>	<b>99.2</b>	<b>16.9</b>	<b>394.5</b>	<b>\$278,350</b>	<b>\$1,984,000</b>	<b>\$280,000</b>	<b>\$2,542,350</b>	<b>\$143,650</b>

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Name	Jurisdiction	Net Route Length	Net Lane Length	Net Path Length	Total Length Rte+Lane+Path	Capital Cost			Total Cost	Annual O & M
						Routes	Lanes	Paths		
Apricot St	Live Oak		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
Archer Ave	Live Oak		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Larkin Rd	Live Oak		1.0		1.0	\$0	\$20,000	\$0	\$20,000	\$0
P St	Live Oak		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Pennington Rd	Live Oak		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
<b>SUBTOTAL</b>		<b>0.0</b>	<b>2.7</b>	<b>0.0</b>	<b>2.7</b>	<b>\$0</b>	<b>\$54,000</b>	<b>\$0</b>	<b>\$54,000</b>	<b>\$0</b>
12th St	Marysville		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
14th St	Marysville	0.5	0.4		0.9	\$500	\$8,000	\$0	\$8,500	\$0
17th St	Marysville	0.1			0.1	\$100	\$0	\$0	\$100	\$0
1st St	Marysville		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
22nd St	Marysville		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
26th St	Marysville		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
3rd St	Marysville	0.2			0.2	\$200	\$0	\$0	\$200	\$0
4th St	Marysville	0.2			0.2	\$200	\$0	\$0	\$200	\$0
5th St	Marysville	0.1			0.1	\$100	\$0	\$0	\$100	\$0
6th St	Marysville	0.1			0.1	\$100	\$0	\$0	\$100	\$0
7th St	Marysville	0.7	0.1		0.8	\$700	\$2,000	\$0	\$2,700	\$0
8th St	Marysville		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Ahern St	Marysville		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
C St	Marysville	0.7			0.7	\$700	\$0	\$0	\$700	\$0
D St	Marysville	1.0			1.0	\$1,000	\$0	\$0	\$1,000	\$0
Del Pero St	Marysville		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
East 10th St	Marysville		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
East 17th St	Marysville		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
East 18th St	Marysville		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
East 19th St	Marysville		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
Ellis Lake	Marysville			0.2	0.2	\$0	\$0	\$40,000	\$40,000	\$1,700
F St	Marysville	0.7	0.1		0.8	\$700	\$2,000	\$0	\$2,700	\$0
Featherside Wy	Marysville	0.1			0.1	\$100	\$0	\$0	\$100	\$0
H St	Marysville	0.2			0.2	\$200	\$0	\$0	\$200	\$0
J St	Marysville	0.6			0.6	\$600	\$0	\$0	\$600	\$0
Johnson Ave	Marysville	0.3			0.3	\$300	\$0	\$0	\$300	\$0
Maple St	Marysville		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Minor's Park	Marysville			0.2	0.2	\$0	\$0	\$40,000	\$40,000	\$1,700
Napolean Square	Marysville			0.1	0.1	\$0	\$0	\$20,000	\$20,000	\$850
Northern City Limits	Marysville			0.9	0.9	\$0	\$0	\$180,000	\$180,000	\$7,650
Olive St	Marysville	0.1			0.1	\$100	\$0	\$0	\$100	\$0
Ramirez St	Marysville	0.8	0.2		1.0	\$800	\$4,000	\$0	\$4,800	\$0
Rideout Wy	Marysville	0.9			0.9	\$900	\$0	\$0	\$900	\$0
River Front Park	Marysville			1.7	1.7	\$0	\$0	n/a	\$0	\$14,450
Sampson St	Marysville		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Simpson Ln	Marysville		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
State Route 20	Marysville		1.2		1.2	\$0	\$24,000	\$0	\$24,000	\$0
State Route 70	Marysville	0.3		0.2	0.5	\$300	\$0	n/a	\$300	\$1,700
To Jack Slough	Marysville			0.3	0.3	\$0	\$0	n/a	\$0	\$2,550
Twin Cities Bridge	Marysville			0.4	0.4	\$0	\$0	n/a	\$0	\$3,400
Union Pacific Railroad R/W	Marysville			0.7	0.7	\$0	\$0	n/a	\$0	\$5,950
Yuba Park	Marysville			0.1	0.1	\$0	\$0	n/a	\$0	\$850
Yuba River Route	Marysville			0.3	0.3	\$0	\$0	n/a	\$0	\$2,550
Yuba St	Marysville	0.4			0.4	\$400	\$0	\$0	\$400	\$0
<b>SUBTOTAL</b>		<b>8.0</b>	<b>8.0</b>	<b>5.1</b>	<b>21.1</b>	<b>\$8,000</b>	<b>\$160,000</b>	<b>\$280,000</b>	<b>\$448,000</b>	<b>\$43,350</b>
Acacia Ave	Sutter County	0.3	1.4		1.7	\$300	\$28,000	\$0	\$28,300	\$0
Almond Orchard Rd	Sutter County	0.7			0.7	\$700	\$0	\$0	\$700	\$0
Archer Ave	Sutter County	0.7			0.7	\$700	\$0	\$0	\$700	\$0
Barry Rd	Sutter County	1.1			1.1	\$1,100	\$0	\$0	\$1,100	\$0
Bear River Dr	Sutter County	1.6			1.6	\$1,600	\$0	\$0	\$1,600	\$0
Berry Rd	Sutter County	0.7			0.7	\$700	\$0	\$0	\$700	\$0
Bogue Rd	Sutter County	1.0	2.8		3.8	\$1,000	\$56,000	\$0	\$57,000	\$0
Bradley Estates Dr	Sutter County		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Bridge St	Sutter County		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
Bridge St (Future)	Sutter County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Butte House Rd	Sutter County	3.9	1.9		5.8	\$3,900	\$38,000	\$0	\$41,900	\$0
Caminto Rd	Sutter County	0.7			0.7	\$700	\$0	\$0	\$700	\$0
Cherry St	Sutter County		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Clark Ave	Sutter County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Clark Rd	Sutter County	1.8			1.8	\$1,800	\$0	\$0	\$1,800	\$0
Coles Rd	Sutter County	1.7			1.7	\$1,650	\$0	\$0	\$1,650	\$0
Colusa Frontage Rd	Sutter County		1.8		1.8	\$0	\$36,000	\$0	\$36,000	\$0
Cranmore Rd	Sutter County	19.5			19.5	\$19,500	\$0	\$0	\$19,500	\$0

Table 13

## CONCEPTUAL CONSTRUCTION COST SUMMARY - PROPOSED SYSTEM

Name	Jurisdiction	Net Route Length	Net Lanes Length	Net Path Length	Total Length Rte+Lanes+Path	Capital Cost			Total Cost	Annual O & M
						Routes	Lanes	Paths		
Eager Rd	Sutter County	0.3			0.3	\$300	\$0	\$0	\$300	\$0
East Butte Rd	Sutter County	4.3			4.3	\$4,300	\$0	\$0	\$4,300	\$0
El Margarita Rd	Sutter County		0.4		0.4	\$0	\$8,000	\$0	\$8,000	\$0
Elmer Ave	Sutter County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
Feather River Levee	Sutter County			3.3	3.3	\$0	\$0	n/a	\$0	\$28,050
First St (Wheatland)	Sutter County	0.3			0.3	\$300	\$0	\$0	\$300	\$0
Franklin Rd	Sutter County	0.9	1.3		2.2	\$900	\$26,000	\$0	\$26,900	\$0
Garden Hwy	Sutter County	14.5	0.4		14.9	\$14,500	\$8,000	\$0	\$22,500	\$0
Gary Ave	Sutter County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
George Washington Blvd	Sutter County	2.0	2.0		4.0	\$2,000	\$40,000	\$0	\$42,000	\$0
Harding Rd	Sutter County		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Harter Rd	Sutter County		0.6		0.6	\$0	\$12,000	\$0	\$12,000	\$0
Jones Rd	Sutter County	0.2	0.2		0.4	\$200	\$4,000	\$0	\$4,200	\$0
Kent Rd	Sutter County	1.5			1.5	\$1,500	\$0	\$0	\$1,500	\$0
Kirksville Rd	Sutter County	4.7			4.7	\$4,700	\$0	\$0	\$4,700	\$0
Larkin Rd	Sutter County	5.0			5.0	\$5,000	\$0	\$0	\$5,000	\$0
Lincoln Rd	Sutter County		2.4		2.4	\$0	\$48,000	\$0	\$48,000	\$0
Marcum Rd	Sutter County	1.0			1.0	\$1,000	\$0	\$0	\$1,000	\$0
Mark Hopkins Rd	Sutter County	1.7			1.7	\$1,700	\$0	\$0	\$1,700	\$0
Muir Rd	Sutter County		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
North Butte Rd	Sutter County	5.8			5.8	\$5,800	\$0	\$0	\$5,800	\$0
North Township Rd	Sutter County	4.3			4.3	\$4,300	\$0	\$0	\$4,300	\$0
Oswald Rd	Sutter County	9.8	0.7		10.5	\$9,800	\$14,000	\$0	\$23,800	\$0
Pacific Ave	Sutter County	0.7			0.7	\$700	\$0	\$0	\$700	\$0
Pasco Ave	Sutter County	1.1			1.1	\$1,100	\$0	\$0	\$1,100	\$0
Pass Rd	Sutter County	10.4			10.4	\$10,400	\$0	\$0	\$10,400	\$0
Pease Rd	Sutter County	1.9			1.9	\$1,900	\$0	\$0	\$1,900	\$0
Pennington Rd	Sutter County	5.3			5.3	\$5,300	\$0	\$0	\$5,300	\$0
Pleasant Grove Blvd	Sutter County	16.9			16.9	\$16,900	\$0	\$0	\$16,900	\$0
Progress Rd	Sutter County	1.8			1.8	\$1,800	\$0	\$0	\$1,800	\$0
Queens Ave (Future)	Sutter County		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Railroad Ave	Sutter County	0.5	1.1		1.6	\$500	\$22,000	\$0	\$22,500	\$0
Reclamation Rd	Sutter County	1.5			1.5	\$1,500	\$0	\$0	\$1,500	\$0
Richland Rd	Sutter County		1.0		1.0	\$0	\$20,000	\$0	\$20,000	\$0
Riego Rd	Sutter County	6.7			6.7	\$6,700	\$0	\$0	\$6,700	\$0
Rio Oso Rd	Sutter County	1.4			1.4	\$1,400	\$0	\$0	\$1,400	\$0
Royo Ranchero Dr	Sutter County		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
Sacramento Ave	Sutter County	1.9			1.9	\$1,900	\$0	\$0	\$1,900	\$0
Sacramento Northern R/W	Sutter County			5.0	5.0	\$0	\$0	n/a	\$0	\$42,500
Sacramento Valley Blvd	Sutter County	8.8			8.8	\$8,800	\$0	\$0	\$8,800	\$0
Sanborn Rd	Sutter County		1.5		1.5	\$0	\$30,000	\$0	\$30,000	\$0
Scheiber Rd	Sutter County	3.2			3.2	\$3,200	\$0	\$0	\$3,200	\$0
South Barrett Rd	Sutter County	0.4	0.6		1.0	\$400	\$12,000	\$0	\$12,400	\$0
Stabler Lane	Sutter County		0.5		0.5	\$0	\$10,000	\$0	\$10,000	\$0
State Route 70	Sutter County	1.2			1.2	\$1,200	\$0	\$0	\$1,200	\$0
State Route 99	Sutter County	1.6			1.6	\$1,600	\$0	\$0	\$1,600	\$0
Stewart Rd	Sutter County	0.3			0.3	\$300	\$0	\$0	\$300	\$0
Tharp Rd	Sutter County		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Tierra Buena	Sutter County	1.2	1.3		2.5	\$1,200	\$26,000	\$0	\$27,200	\$0
Township Rd	Sutter County	5.0			5.0	\$5,000	\$0	\$0	\$5,000	\$0
Walton Ave	Sutter County		2.1		2.1	\$0	\$42,000	\$0	\$42,000	\$0
West Butte Rd	Sutter County	8.5			8.5	\$8,500	\$0	\$0	\$8,500	\$0
Wheatland-Rio Oso Rd	Sutter County	1.9			1.9	\$1,900	\$0	\$0	\$1,900	\$0
<b>SUBTOTAL</b>		<b>172.2</b>	<b>29.6</b>	<b>8.3</b>	<b>210.1</b>	<b>\$172,150</b>	<b>\$592,000</b>	<b>\$0</b>	<b>\$764,150</b>	<b>\$70,550</b>
E St	Wheatland		0.2		0.2	\$0	\$4,000	\$0	\$4,000	\$0
Main St	Wheatland		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
<b>SUBTOTAL</b>		<b>0.0</b>	<b>1.0</b>	<b>0.0</b>	<b>1.0</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$0</b>
B St	Yuba City		1.1		1.1	\$0	\$22,000	\$0	\$22,000	\$0
Bradley Estates Dr	Yuba City		0.4		0.4	\$0	\$8,000	\$0	\$8,000	\$0
Bridge St	Yuba City		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Burns Dr	Yuba City	0.5			0.5	\$500	\$0	\$0	\$500	\$0
Clark Ave	Yuba City		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Craddock St	Yuba City		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Del Norte St	Yuba City		0.1		0.1	\$0	\$2,000	\$0	\$2,000	\$0
Feather River Levee	Yuba City			2.1	2.1	\$0	\$0	n/a	\$0	\$17,850
Forbes Ave	Yuba City		0.7		0.7	\$0	\$14,000	\$0	\$14,000	\$0
Forbes Extension (Future)	Yuba City		0.8		0.8	\$0	\$16,000	\$0	\$16,000	\$0
Franklin Ave	Yuba City		0.3		0.3	\$0	\$6,000	\$0	\$6,000	\$0
Garden Hwy	Yuba City		2.0		2.0	\$0	\$40,000	\$0	\$40,000	\$0

Table 13 shows a total cost for constructing the proposed system of \$2.5 million. It should be noted that this total does not include about \$3.1 million in costs for Class I bike paths that, according to local officials, are already funded by Proposition 116. Unfunded Class I bike paths are only proposed in Marysville for an estimated cost of \$280,000. Therefore, on-street facilities, particularly Class II bike lanes, represent the largest share of the total cost at almost \$2.3 million.

Potential federal, state and local funding sources that could be used for constructing these bikeway facilities are described in section 6.2.

## 6.2 Potential Funding Sources

Development of the proposed system will depend on a variety of potential funding sources including local, state and federal funding. In many cases, portions of the system will be completed as part of future development and road widening and construction projects. For those portions that will rely on other funding mechanisms, the following discussion provides descriptions of the more effective potential funding sources.

### Federal Sources

Federal funding through the ISTEA (Intermodal Surface Transportation Efficiency Act) program will provide the bulk of non-local funding. ISTEA contains two major programs, STP (Surface Transportation Program) and CMAQ (Congestion Mitigation and Air Quality Improvement) along with other programs such as the National Recreational Trails Fund, Section 402 (Safety) funds, Scenic Byways funds, and Federal Lands Highway funds.

ISTEA funding is administered through the state and regional governments, in this case the Sacramento Area Council of Governments (SACOG). Most, but not all, of the funding programs are transportation versus recreation oriented, with an emphasis on (a) reducing auto trips and (b) providing an intermodal connection. Funding criteria includes completion and adoption of a bicycle master plan (such as the YSBMP), quantification of the costs and benefits of the system (including reduced vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of local resources. In most cases, ISTEA provides matching grants of 80 to 90 percent.

Other federal funding sources include the following:

- Land and Water Conservation Fund Program (administered locally by the California Department of Parks and Recreation, Local Assistance Section);
- Recreation and Public Purposes Act (Bureau of Land Management); and
- Schools and Roads Grants to States (United State Forest Service).

For more detailed information regarding federal funding sources, local jurisdictions should contact the Sacramento Area Council of Governments (SACOG).

## **State Sources**

The following state sources provide funding that is applicable to bikeway facilities.

### Bicycle Lane Account

The State Bicycle Lane Account (BLA) is an annual program that is available for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects which benefit bicycling for commuting purposes. This program, however, is extremely small providing approximately \$360,000 annually statewide.

### TDA Article III (SB 821)

Transportation Development Act (TDA) Article III funds are state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state sales tax and are distributed through the Congestion Management Agency to local jurisdictions based generally on population.

### AB 2766

AB 2766 motor vehicle registration surcharge fees are available for bicycle and pedestrian projects that can improve air quality. Over the past year (November 1994 to November 1995), the Feather River Air Quality Management District (FRAQMD) has allocated \$570,920 for bikeway related projects in Yuba and Sutter Counties.

### AB 434

AB 434 funds are available for clean air transportation projects, including bicycle projects, in California.

### Environmental Enhancement and Mitigation Program (EEM)

Bicycle projects can qualify for EEM funds if they meet the program's requirements. Any non-profit organization can sponsor projects, which are submitted to the State Resources Agency for evaluation in June/July of each year.

### Flexible Congestion Relief Program (FCR)

Bicycle projects are eligible to compete for FCR funds. Projects must provide congestion relief and they must be included in an approved Regional Transportation Improvement Program. Local agencies must submit projects for FCR funding to SACOG.

### Petroleum Violation Escrow Account (PVEA)

PVEA projects must save energy and provide restitution to the public. The annual program funding level varies and allocations to local agencies are made through special legislation. Following legislation appropriating funds, the California Energy Commission and the U.S.

Department of Energy review the funding applications to confirm energy savings and public restitution calculations. Last year, the City of Vallejo used PVEA funds for placing bike racks on local buses.

### **Local Sources**

A variety of local sources are available for funding bikeway and pedestrian improvements, however, their use is often dependent on political support.

### New Construction

Future road widening and construction projects are one means of providing bike lanes. To ensure that roadway construction projects provide bike lanes where needed, it is important that the review process includes input pertaining to consistency with the proposed system. Future development in Yuba and Sutter Counties will contribute to the implementation of new bikeway facilities only if projects are conditioned.

### Impact Fees

Another potential local source of funding is developer impact fees, which are typically tied to trip generation rates and traffic impacts produced by the proposed development. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements which will encourage residents to bicycle rather than drive.

### Assessment Districts

Different types of assessment districts can be used to fund the construction and maintenance of bikeway facilities. Examples include Mello-Roos Community Facility Districts, Infrastructure Financing Districts (SB 308), Open Space Districts, or Lighting and Landscape Districts. These types of districts have specific requirements relating to their establishment and use of funds.

### Other Sources

Local sales taxes and permits may be implemented. Creation of these potential sources would require a local election and substantial local support.

Other "opportunities" for implementation will appear over time which may be used to construct the system. For example, a utility or communication firm may wish to purchase an easement along the Southern Pacific right of way which could be granted contingent on constructing a maintenance road, which in turn would serve as the basis for the bikeway.

### 6.3 Cost and Funding Summary

Past expenditures on bikeway facilities in Yuba and Sutter Counties are difficult to obtain because many bikeway improvements are included as part of other projects such as roadway widenings. Nevertheless, the following expenditures were reported:

- Yuba City - About \$3,000 in annual expenditures on bikeway facilities over the past five years plus about \$4,800 in staff time for the design of a new levee Class I bike path.
- Yuba County - About \$1,242,000 over the past five years for seven individual projects.

The large amount of funds expended in Yuba County was largely due to the availability of Proposition 116 funds. Other jurisdictions in the study will also be expending their Proposition 116 allocations in the near future, which may artificially raise their annual expenditures when compared to previous years.

Future expenditures for bikeway facilities is even more difficult to estimate given the large number of variables and jurisdictions. It is useful, however, to determine the total annual expenditure that would be required over 20 years to complete implementation of the proposed system. Dividing the \$2.5 million equally over 20 years equates to \$125,000 annually in constant 1995 dollars.

In order to obtain this level of investment in the bikeway system, the following options should be considered by local jurisdictions for fulfilling the funding commitment necessary to complete the proposed system:

- Prepare joint applications with other local and regional agencies for competitive funding programs at the state and federal levels;
- Use existing funding sources as matching funds for state and federal funding, especially through the Intermodal Surface Transportation Efficiency Act (ISTEA);
- Include bikeway and trail projects in local impact fee program; and
- Include proposed bikeways and trails as part of roadway projects involving widening, overlays, or other improvements.

Local jurisdictions should also take advantage of private contributions, if appropriate, in developing the proposed system. This could include a variety of resources such as volunteer labor during construction, which is becoming popular for recreational improvements, or monetary donations towards specific improvements.



## 7.0 IMPLEMENTATION

This section addresses a number of issues related to implementation of the proposed system. It includes a discussion of phasing and priorities for implementing specific routes and also contains discussions about design standards, bikeway system operations, marketing a bikeway system, and the environmental review process that should be followed during implementation.

### 7.1 Phasing

The specific implementation of any given route, with all other things considered equal, should be based on the following criteria:

- 1) An opportunity, such as a road widening or repaving, makes implementation favorable;
- 2) An eminent loss of an opportunity, such as the sale of a railroad right-of-way, makes implementation necessary;
- 3) Resolution of a major obstacle, such as access to flood channel right-of-way, makes implementation necessary; and
- 4) The segment is not disconnected or otherwise poorly accessible from the rest of the system.

It is important to realize that in many situations the most needed bikeway improvement may not be implemented first. In these cases, external factors such as new road construction create opportunities to provide new bikeway facilities without consideration for need. Therefore, the proposed system does not include a definitive ranking of the specific routes but it does include the following list of high priority routes.

#### Priority Routes

Priority routes were selected by the TAC after being provided information about each route related to usage, type of route, connectivity, and potential improvements to safety. The TAC has selected the following routes as initially having the highest priority for implementation.

- Class I bike paths proposed for Proposition 116 funding, which include the Feather River levee paths, the 5th Street bike path crossing, and the bike path to Sutter.
- Class II bike lanes on North Beale Road from Hammonton-Smartville Road to Yuba College and Beale Air Force Base.
- Class II bike lanes on Arboga Road from McGowan Parkway to Feather River Blvd. and on Feather River Blvd. between Arboga Road and North Beale Road.
- Class II bike lanes on B Street from Clark Avenue to Garden Highway.

- Class II bike lanes on Forbes Avenue from Gray Avenue to Plumas Street and on Teegarden Avenue between Plumas Street and Shasta Street. Class III bike routes on Teegarden Avenue from Shasta Street to Sutter Street.
- Class II bike lanes on Plumas Street from Queens Avenue to Del Norte Avenue, Del Norte Avenue from Plumas Street to Shasta Street, and Shasta Street to Franklin Road.
- Class II bike lanes on Pennington Road from Live Oak City Limits to Larkin Road.
- Class II bike lanes on Walton Avenue from Butte House Road to Franklin Road.
- Class II bike lanes on Simpson Lane from Ramirez Street to Hammonton-Smartville Road and on Hammonton-Smartville Road to North Beale Road.
- Class II bike lanes on Acacia Avenue from the proposed Class I bike path paralleling and north of State Route 20 to Butte House Road.
- Class II bike lanes and Class III bike routes between Live Oak and Yuba City via Larkin Road, Eager Road, and Tierra Buena Road.
- Class III bike routes between Wheatland and Yuba College via Jasper Lane, Ostrom Road, Virginia Road, Erle Road, and Griffith Road.

Appendix A contains project description sheets for the on-street routes listed above, which delineate the route's location, length, classification, and cost. These sheets are useful when applying for competitive funding because they contain a substantial amount of relevant information in a one page summary. Project description sheets are not provided for the off-street (Class I) routes because these facilities are already funded.

## 7.2 Design Standards

National design standards for bikeways are provided in AASHTO (American Association of Highway and Transportation Officials) and are very similar to those shown in the Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design. Many states, including California, have built upon these standards and developed quite extensive criteria. The Chapter 1000 of the Caltrans Highway Design Manual gives extensive detail on a wide variety of bikeway types. It is important to note that Caltrans standards provide a good framework for future implementation, but may not always be feasible in older parts of a city. The Caltrans standards for bikeway facilities are shown in Figure 11.

Bikeway design and planning standards are continually changing and expanding. For example, there is pressure from the bicycling public to allow bike lanes that are narrower than Caltrans Standards to be installed on existing streets. This would allow marginal corridors or narrow streets to accommodate bike lanes. However, local jurisdictions must be protected from liability concerns so most agencies adopt general Caltrans guidelines as a minimum.

### 7.3 Bikeway System Operations

This section addresses several operational aspects of the proposed bikeway system including liability, monitoring, maintenance, and security.

#### Liability

Liability concerns related to implementation of the Yuba-Sutter Bikeway Master Plan include the exposure of the local jurisdictions to potential lawsuits and concerns by private landowners who grant easements or whose property is located adjacent to a Class I bikeway. Class II and III bikeways generally fall into the same liability pattern as roadways and sidewalks, meaning that cities and counties typically become liable only if the facility is improperly designed, constructed, or maintained. A recent study (Liability Aspects of Bikeway Designation, Bicycle Federation of America, April, 1986) concludes:

*"(...) designation of bikeways will not affect the government entity's potential liability because the liability already exists with respect to bicyclists on the highways. Careful attention by the (government) agency to comply with applicable laws, guidelines, and recommended procedures relating to design, construction, operations, and maintenance of bikeways will greatly curtail the risk of liability."*

Liability concerns for Class I bikeways are much more extensive. First, the local jurisdictions that adopt and implement portions of the proposed system must address potential hazards associated with the bikeway system, including bicycle accidents, theft, vandalism, and other problems. Liability becomes much more acute when Class I bikeways are located along waterways and along the backyard fences of residential neighborhoods. In effect, these types of bikeways become facilities unto themselves and the issue of creating an "attractive nuisance" must be addressed. Aside from proper design and operation of Class I bikeways, a good method of addressing safety concerns is for the local jurisdictions to immunize owners from financial responsibility through State Civil Code Section 8-46.

Second, local jurisdictions must address the liability concerns of adjacent landowners. These people might find that their private backyard has become a "front door" with people running, walking, playing, and riding just past their back fence. Cities and counties have a liability concern in protecting these people and maintaining their privacy, while the owner has a liability concern in eliminating any hazards on their property that might become an attractive nuisance.

Third, in seeking easements for the construction of a Class I Bikeway, local jurisdictions must provide the owner with liability coverage that meets both the owner's and the city's or county's requirements.

Legally, Class I bikeways or any bikeway facility that is physically separated from a roadway still fall under the definition of a "highway" since bicycles are legally defined as vehicles. This is an important point because it means that bikeways are covered by many of the same basic immunities as other highways.

A summary of key liability issues related to implementation of proposed system is presented below:

- Design Liability - Meet recommended guidelines in route planning and design criteria for the proposed system. These include the Manual on Uniform Traffic Control Devices (MUTCD) and AASHTO "Guide for Development of New Bicycle Facilities."
- Operational Liability - Existing unsafe bikeways and hazardous conditions that develop over time (such as increases in traffic) represent a liability concern. A regular maintenance and monitoring program will help reduce this liability.
- Accident Reduction - The single greatest protection for local jurisdictions is to demonstrate how the bikeway system has reduced bicycle-related accidents. This can be achieved by compiling annual accident statistics.
- Monitoring Program - Local jurisdictions should adopt a formal program for monitoring the safety of the bikeway system, such as early identification of hazards and responses to actual accidents. Written records of these efforts should be maintained.
- Safety Claims - Local jurisdictions should make no verbal or written claims as to the "safety" of the bikeway system or any of its routes.

### **Monitoring**

A monitoring program should be put in place by local jurisdictions that assigns responsibility to an appropriate bicycle coordinator. The bicycle coordinator should hold regular meetings with the law enforcement agencies, public works departments, and planning departments to coordinate all monitoring activities. Monitoring activities of the bicycle coordinator are listed below.

- Plan Review - All development and infrastructure improvement plans should be routed through the bicycle coordinator to ensure that bikeway segments are implemented, developer impact fees are identified (if applicable), and design standards are met.
- Accident Monitoring - Bicycle-related accident data should be collected annually from the Police Department and tabulated to show patterns by location and type of accident.
- Public Involvement - The bicycle coordinator should continue to provide interested agencies, groups, or individuals with materials, information, and other support as the system is implemented. Bicycle promotional and educational events should be planned and managed by the coordinator.

- Bikeway Maintenance - The coordinator should be responsible for the annual bikeway maintenance and operations budget in coordination with the Public Works Department. The coordinator should keep track of long term bike path maintenance, schedule repairs, and respond to calls from the public or staff regarding maintenance needs.
- Funding Monitoring - The coordinator should work closely with various funding agencies such as SACOG and Caltrans to (a) keep abreast of funding opportunities and (b) follow-up on applications to ensure maximum success.
- Operations Monitoring - The coordinator should be responsible for working with local law enforcement agencies to provide needed enforcement along bike paths. Also, problems regarding security, privacy, vandalism, and crime along bike paths should be addressed by the coordinator.

### **Maintenance**

Only maintenance costs for Class I bike paths or multi-use trails will require additional resources since bike lanes and routes are included as part of regular roadway maintenance. Class I bike path maintenance includes cleaning, resurfacing and restriping the asphalt path, repairs to bridges and other structures, cleaning drainage system, trash removal, and landscaping. While this maintenance effort may not be major, it does have the potential to accumulate substantial expenses. For example, bikeways along waterways may experience damage from flooding and the use of bulldozers to clear waterways, requiring extensive rebuilding. Local agencies should ensure that funding is available on annual basis for the maintenance of the new Class I bike paths proposed within their jurisdiction.

### **Security**

Security on the proposed Class I system should be provided by local law enforcement agencies. Existing vehicle statutes relating to bicycle operation will be enforced on Class II and III bikeways through the normal operation of law enforcement agencies. No additional manpower or equipment is anticipated for Class II and III segments.

Class I bike paths require special enforcement because in many cases they are not visible or accessible from streets, and they often directly abut private residences. One key aspect of enforcement is the hours of operation for Class I bikeways. For example, bike path undercrossings require special attention because they can be perceived as unsafe areas by some bicyclists, particularly after dark. It is recommended that any undercrossing over 40 feet in length be lighted, that all approaches to the undercrossing provide the bicyclist with a clear view through the undercrossing, and that undercrossings be designed to eliminate blind spots or areas where people may sit off the bike path.

## **7.4 Marketing Strategy**

This section addresses actions that local jurisdictions can take to increase awareness and use of the existing bikeway system. Increased commuter bicycling is often one of the goals of local Trip Reduction Ordinances (TRO) and Transportation Demand Management (TDM) strategies. In Yuba and Sutter Counties, the Yuba-Sutter Transportation Management Association (YSTMA) already promotes commuter bicycling through a variety of activities and programs such as the Bicycle Discount Program where local bike shops offer discounts on bicycles or parts and accessories to YSTMA members. Some other common marketing techniques are described below.

### **Bikeway Identity**

A logo for the proposed bikeway system can be developed and placed relatively inexpensively on existing segments to raise the visibility of the effort. This identity would be used on all bikeway signs, brochures, maps, and other materials. The logo will help define the bikeway routes as a cohesive system rather than a series of disconnected routes. The design may be accomplished through a contest involving local schools and bicycle clubs, with a prize awarded to the winner. Directional, informational, and warning signs should conform to Caltrans Chapter 1000 and the Manual of Uniform Traffic Control Devices unless superseded by local guidelines.

### **Maps and Brochures**

Maps of the existing bikeway system should be produced by local jurisdictions, possibly aided by revenue from advertising by bike shops and other retailers. The map should be small (8 1/2" x 11"), inexpensive to reproduce and update, and include safety and other information (such as numbers to call with maintenance problems). The maps should be distributed to all local bike shops, libraries, schools, and major employers.

Brochures on bikeway improvements and requirements are also effective education and marketing strategies. The City of Portland produces brochures on bicycle parking requirements for local employers and bicyclists alike. Other specialty brochures might cover steps neighborhoods and elementary schools can take to improve bicycling conditions, or types of incentive programs employers can offer to encourage employees to bicycle.

### **Community Adoption**

Maintenance and promotion of trail and bicycle routes can be achieved by having neighborhoods, employers, or other groups "adopt" a route similar to the successful program for Interstate Highways.

### **Bike Fairs and Races**

Events to promote bicycling (including fairs and races) should be organized to inform people of the benefits of bicycling and to familiarize them with the various bikeway facilities in their areas.

## 7.5 Environmental Review Process

As part of this bikeway master plan, several types of bikeway facilities have been recommended which may require an environmental assessment prior to implementation. The environmental assessment process consists of conducting an Initial Study on individual projects prepared by the responsible local department (typically planning departments), identifying impacts of significance, and submitting the results as part of an application package for funding. If the project is funded and the Initial Study concluded there were no significant impacts (or they could be eliminated by changes to the project), there would be no further environmental work needed and a negative declaration filed. Conversely, if findings of significant impacts were discovered, the lead agency would have to initiate a formal Environmental Impact Report (EIR).

For the purposes of environmental review related to this document, Appendix B contains an evaluation of potential environmental impacts following the format prescribed by the California Environmental Quality Act (CEQA) Initial Study Checklist. The general findings of this evaluation are that the proposed project will not have any significant impacts that would directly or indirectly degrade the quality of life in Yuba or Sutter Counties. Further, additional environmental analysis will be completed for individual projects when they are proposed for construction.

The proposed project will have beneficial impacts for local jurisdictions by providing improved mobility in the community through a long-term plan that meets the existing and future needs for bikeway facilities. Specific economic and environmental benefits include reducing traffic and the need for parking facilities, improving air quality, and extending the functional life of local roadways.

**APPENDIX A**

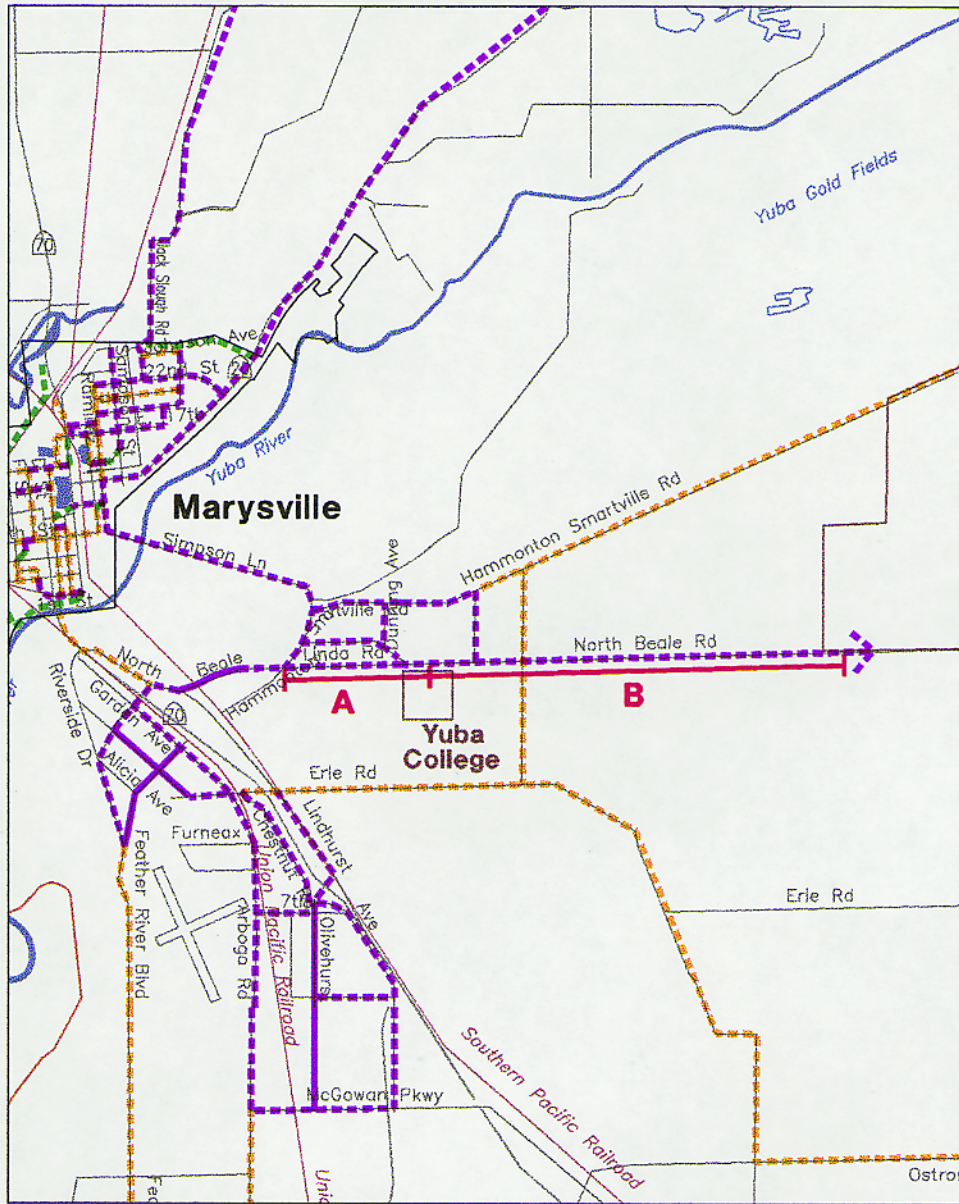
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Project Description Sheets

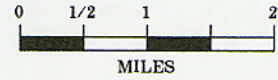
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# YUBA-SUTTER BIKEWAY MASTER PLAN



Scale 1" = 8,000'



## LEGEND

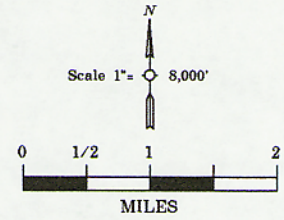
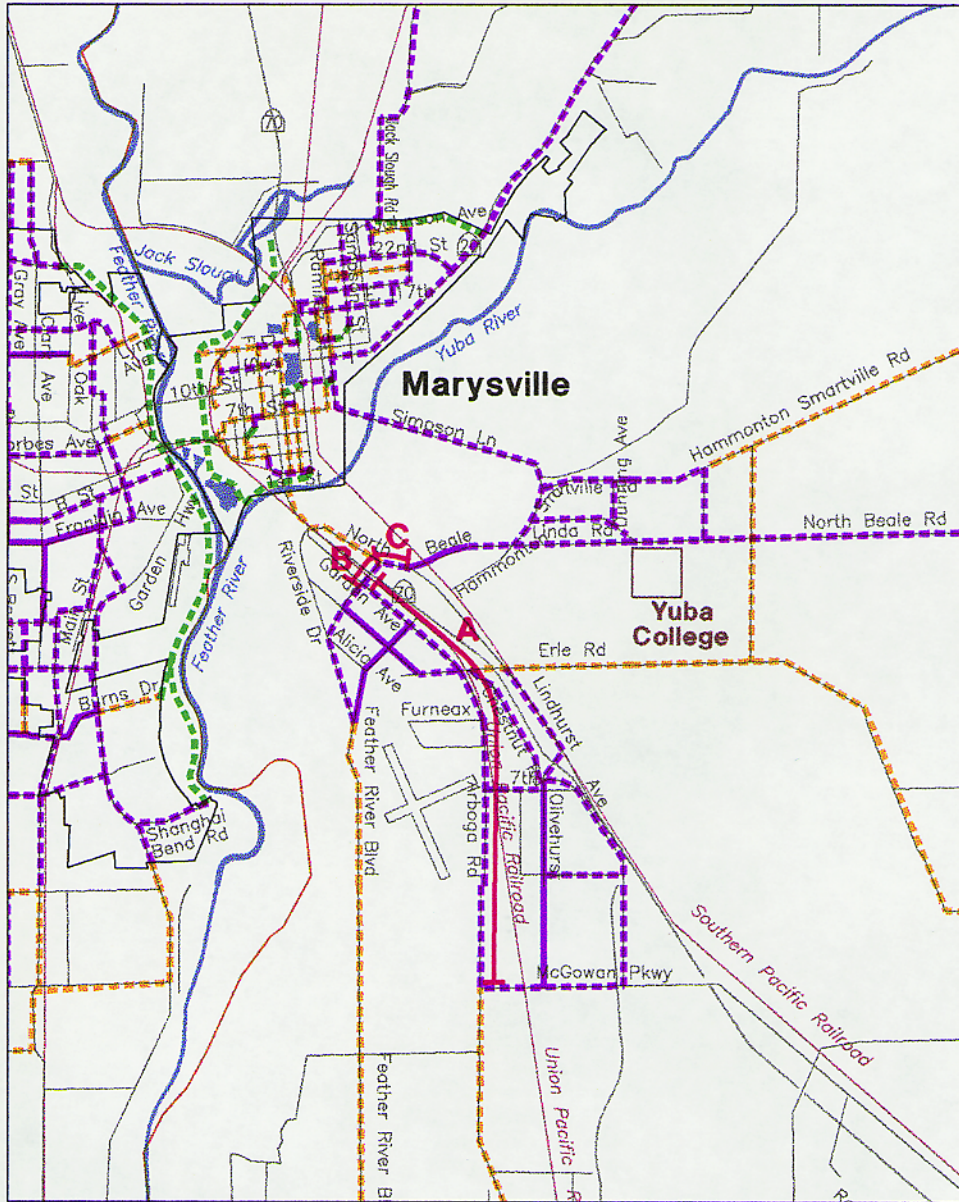
- |                      |                      |
|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	1.2	\$24,000	Class II bike lanes would extend along North Beale Road just west of Hammonton-Smartville Road east to Yuba College. This segment would serve employees and students of Yuba College.
<b>B</b>	II	3.3	\$66,000	The next segment of this project would include extending Class II bike lanes to Beale Air Force Base from Yuba College.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

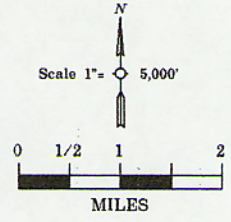
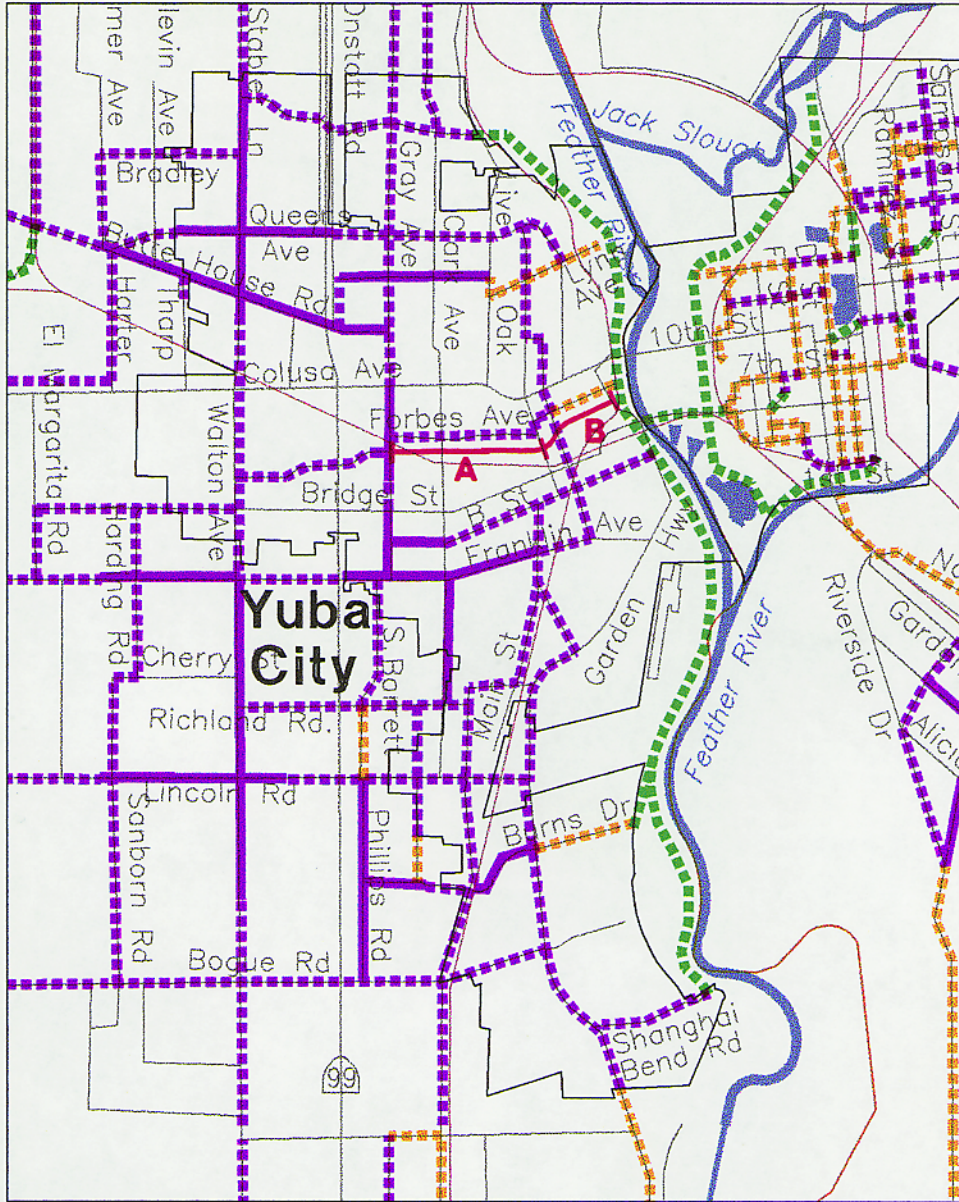
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| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| PROJECT LIMITS       |                      |

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SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	3.1	\$62,000	Class II bike lanes would extend along Arboga Road from McGowan Parkway to Feather River Boulevard. This connection is an important component of the proposed system, providing Class II bike lanes from the Olivehurst area to Yuba College and Beale Air Force Base.
<b>B</b>	II	0.3	\$6,000	Class II bike lanes would extend along Feather River Boulevard between Arboga Road and North Beale Road to provide access across State Route 70.
<b>C</b>	II	0.3	\$6,000	To complete the continuous Class II bike lanes between the Olivehurst area and Yuba College/Beale Air Force Base, Class II bike lanes would be installed on a short section of North Beale Road between Feather River Boulevard and Lindhurst Avenue.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

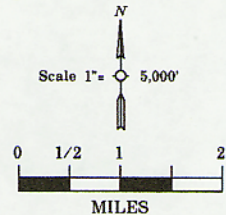
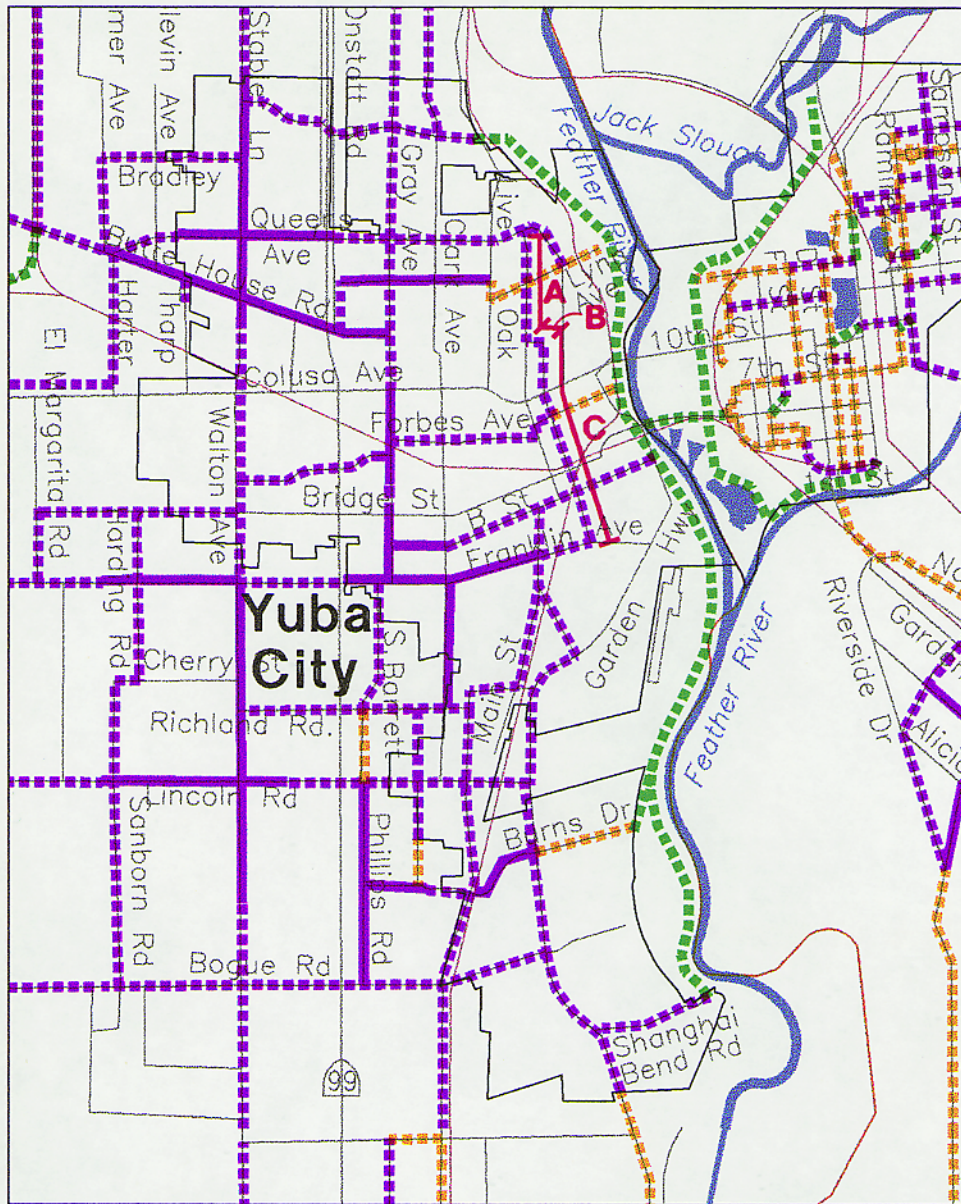
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| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| PROJECT LIMITS       |                      |

## NOTE

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SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	0.8	\$16,000	Class II bike lanes would extend along Forbes Avenue from Gray Avenue to Plumas Street. Sam Brannan Park (pool), which is located directly across Gray Avenue from Forbes Avenue, would be served by this facility.
<b>B</b>	II/III	0.1/0.3	\$2000/\$300	At Plumas Street, Class II bike lanes would begin on Teegarden Avenue extending a short distance to Shasta Avenue. Class III bike routes would then extend along Teegarden Avenue providing access to the proposed Class I bike path along the Feather River levee.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

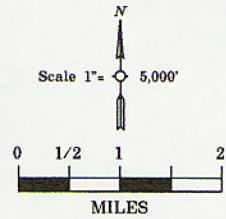
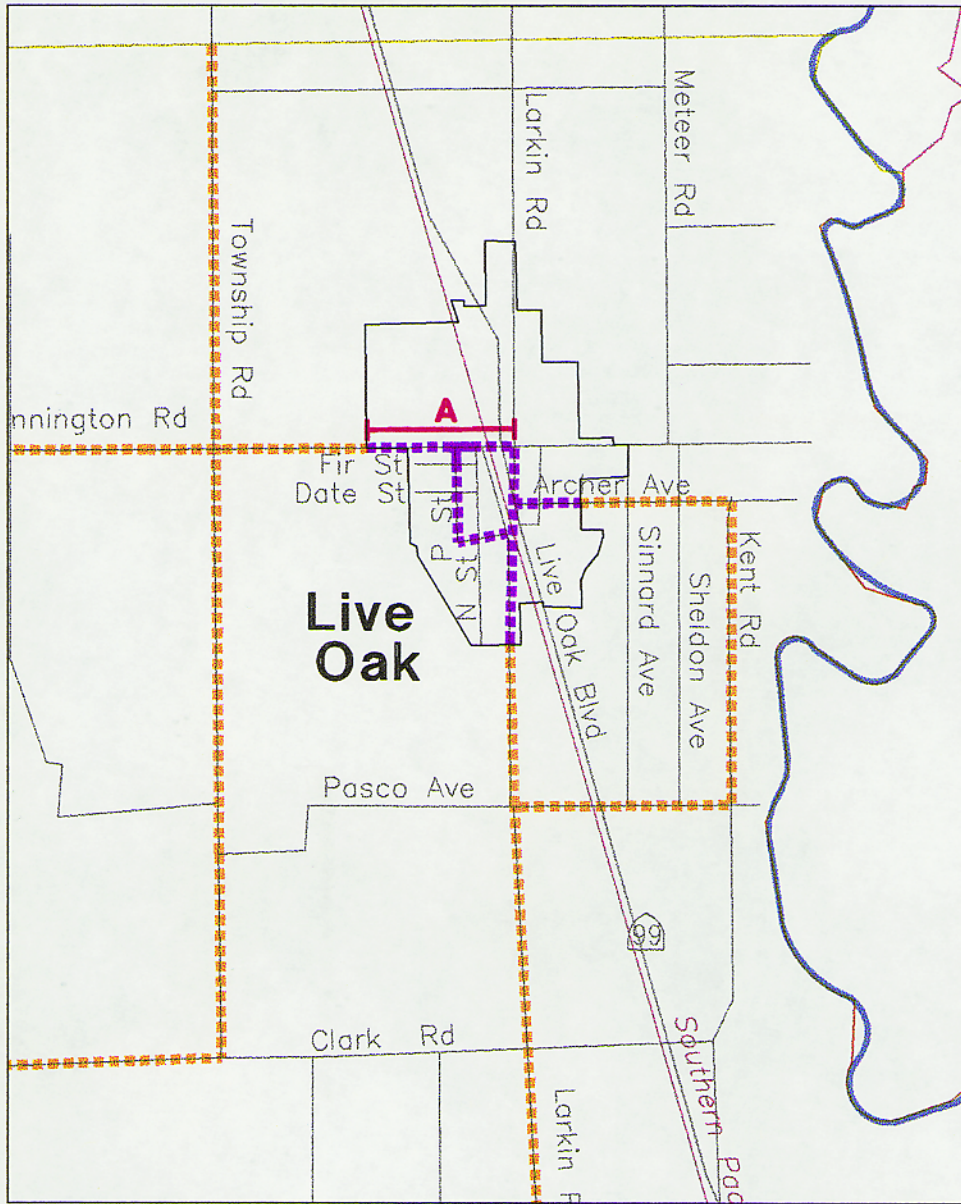
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| <b>EXISTING</b>      | <b>PROPOSED</b> |
| CLASS I BIKE PATH    |                 |
| CLASS II BIKE LANE   |                 |
| CLASS III BIKE ROUTE |                 |
| <b>A</b>             | PROJECT LIMITS  |

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SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	0.7	\$14,000	Class II bike lanes would extend along Plumas Street from Queens Avenue to Del Norte Avenue.
<b>B</b>	II	0.1	\$2,000	Class II bike lanes would extend on Del Norte Avenue for the short section between Plumas Street and Shasta Street.
<b>C</b>	II	1.0	\$20,000	At Shasta Street, north-south Class II bike lanes would extend to Franklin Avenue via Shasta Street, Craddock Street and Wilbur Avenue. This continuous north-south route would serve a variety of land uses and trip purposes.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

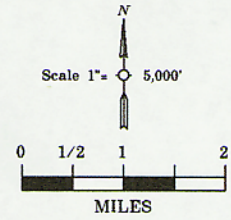
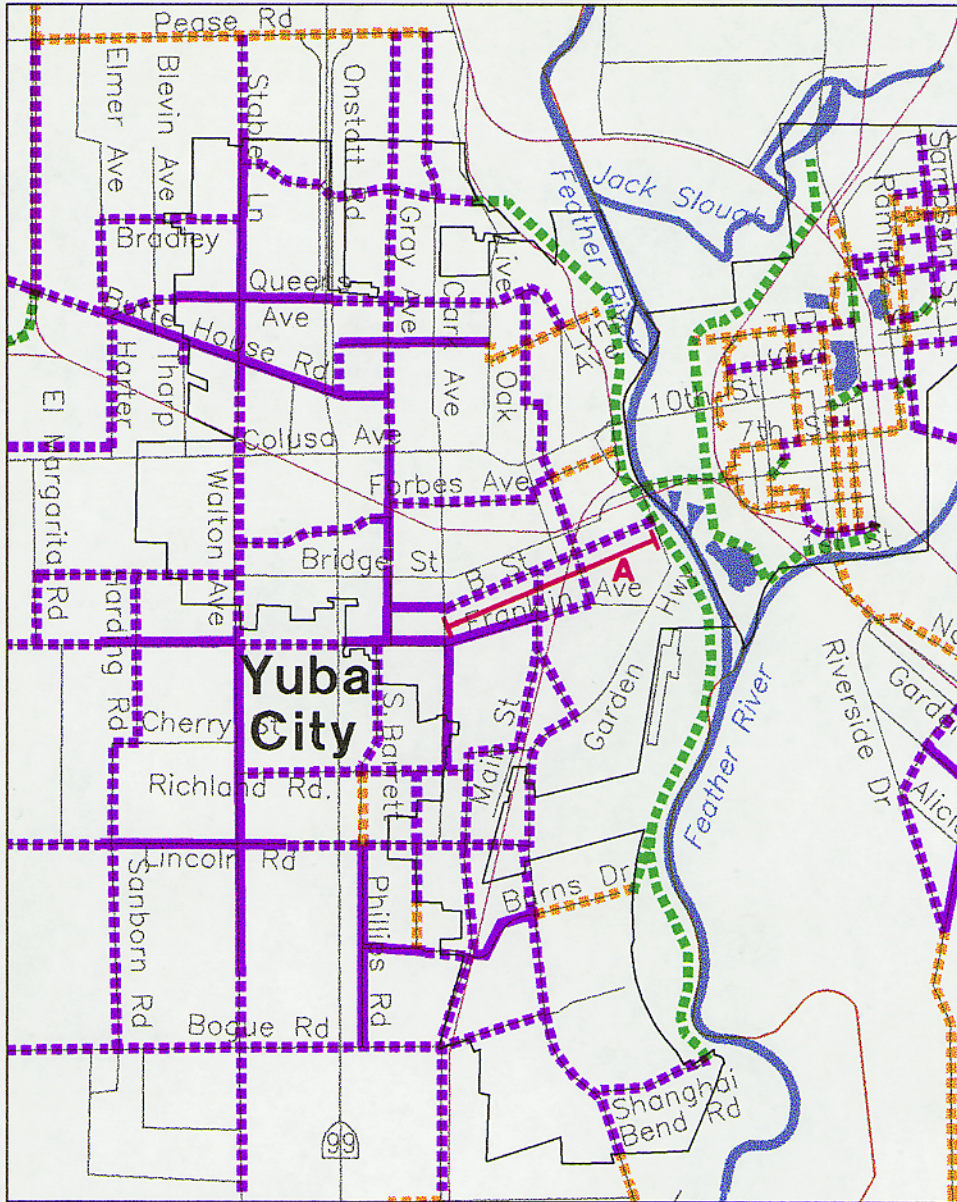
- |                      |                      |
|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
A	II	0.7	\$14,000	Class II bike lanes would extend along Pennington Road from Larkin Road to the western city limit. This route would provide access between residential and commercial areas.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

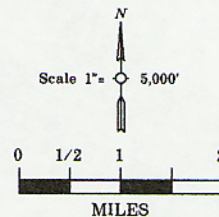
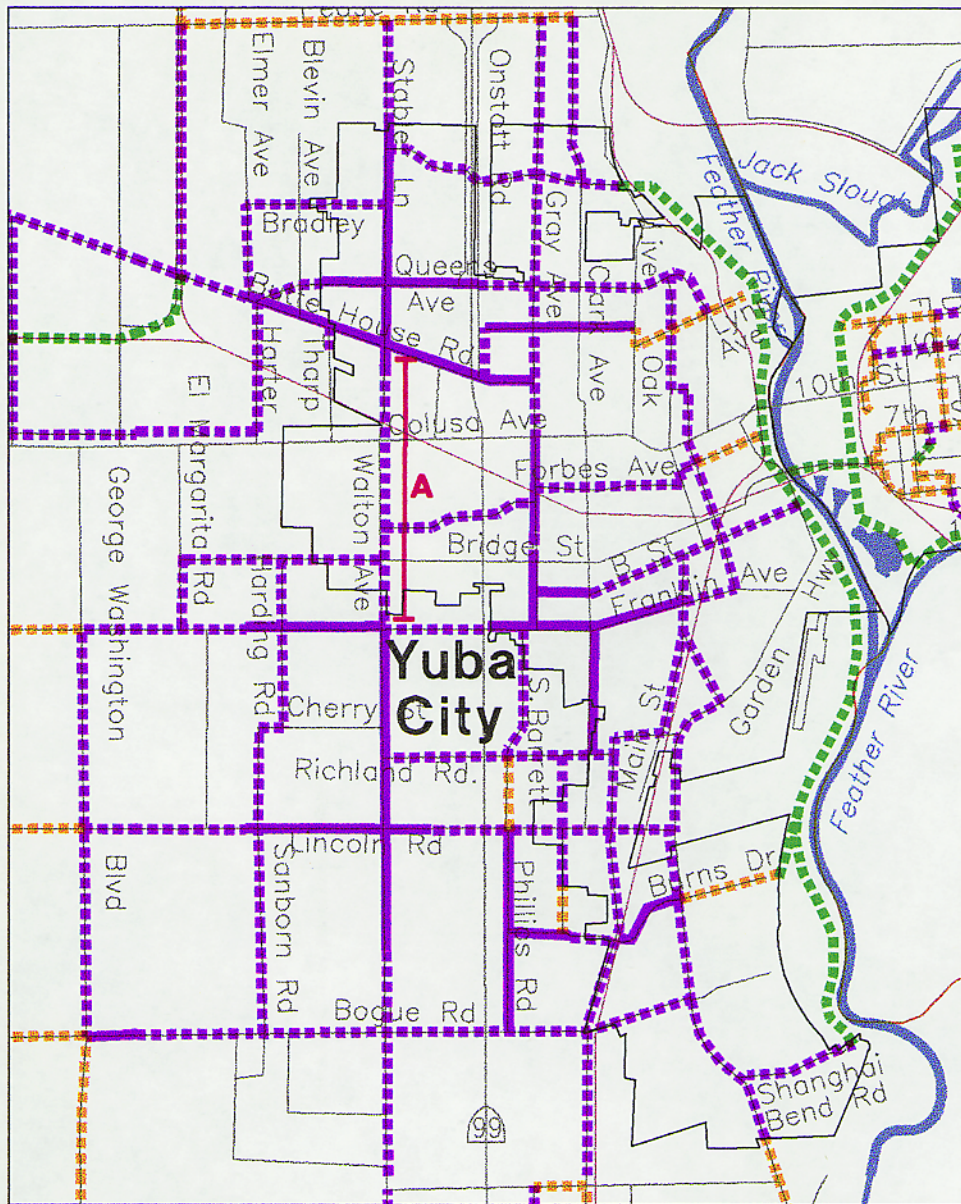
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|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
A	II	1.1	\$22,000	Class II bike lanes would extend along B Street from Clark Avenue to Garden Highway and provide access to the proposed Class I bike path on the Feather River levee.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

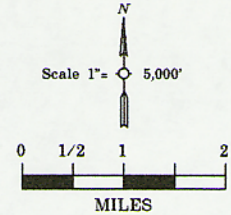
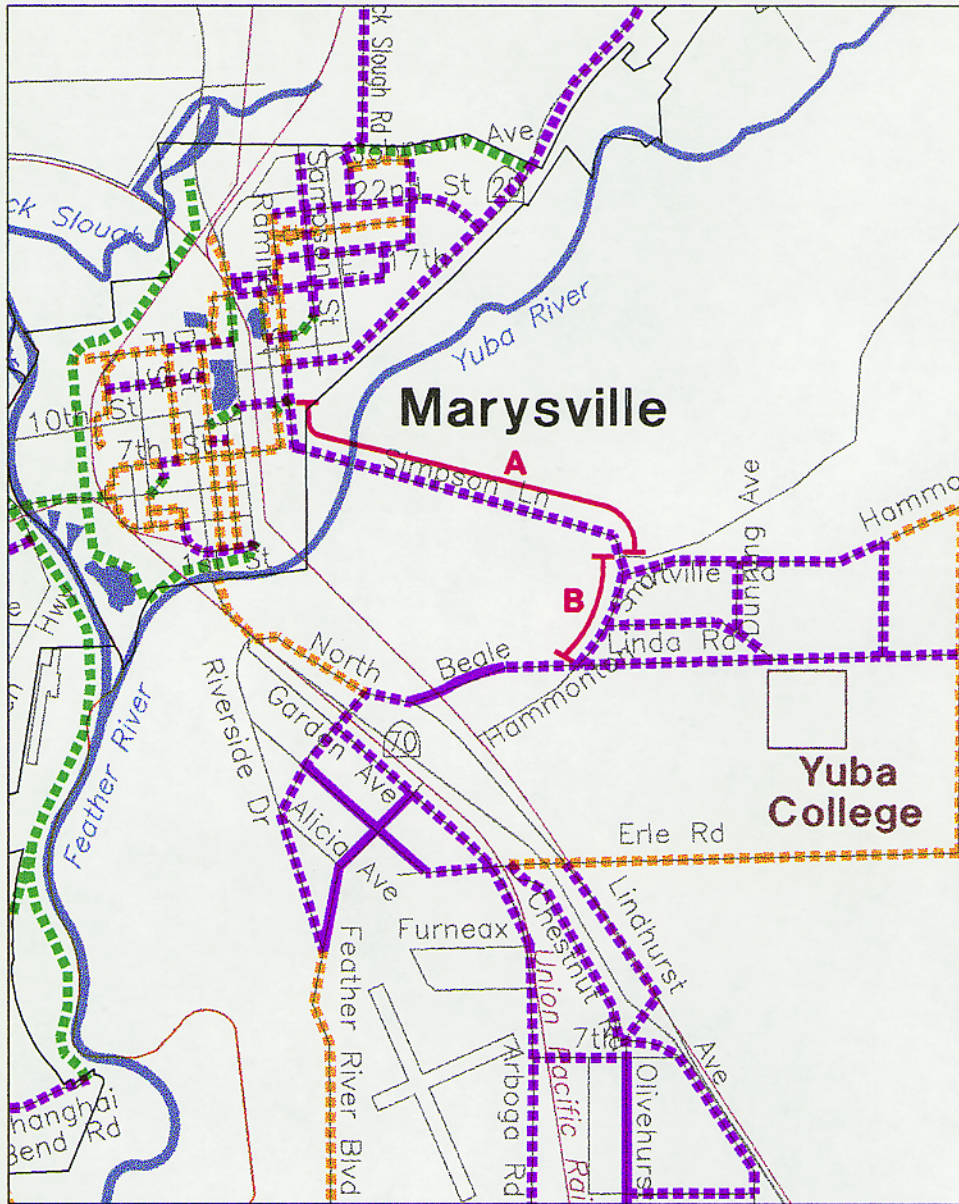
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|----------------------|-----------------|
| <b>EXISTING</b>      | <b>PROPOSED</b> |
| CLASS I BIKE PATH    |                 |
| CLASS II BIKE LANE   |                 |
| CLASS III BIKE ROUTE |                 |
| <b>A</b>             | PROJECT LIMITS  |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
A	II	1.1	\$22,000	Class II bike lanes would extend along Walton Avenue from Butte House Road south to Franklin Avenue. This connection closes an existing gap on Walton Avenue and provides for continuous north-south bike lanes through the western edge of Yuba City.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

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|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

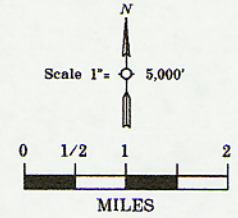
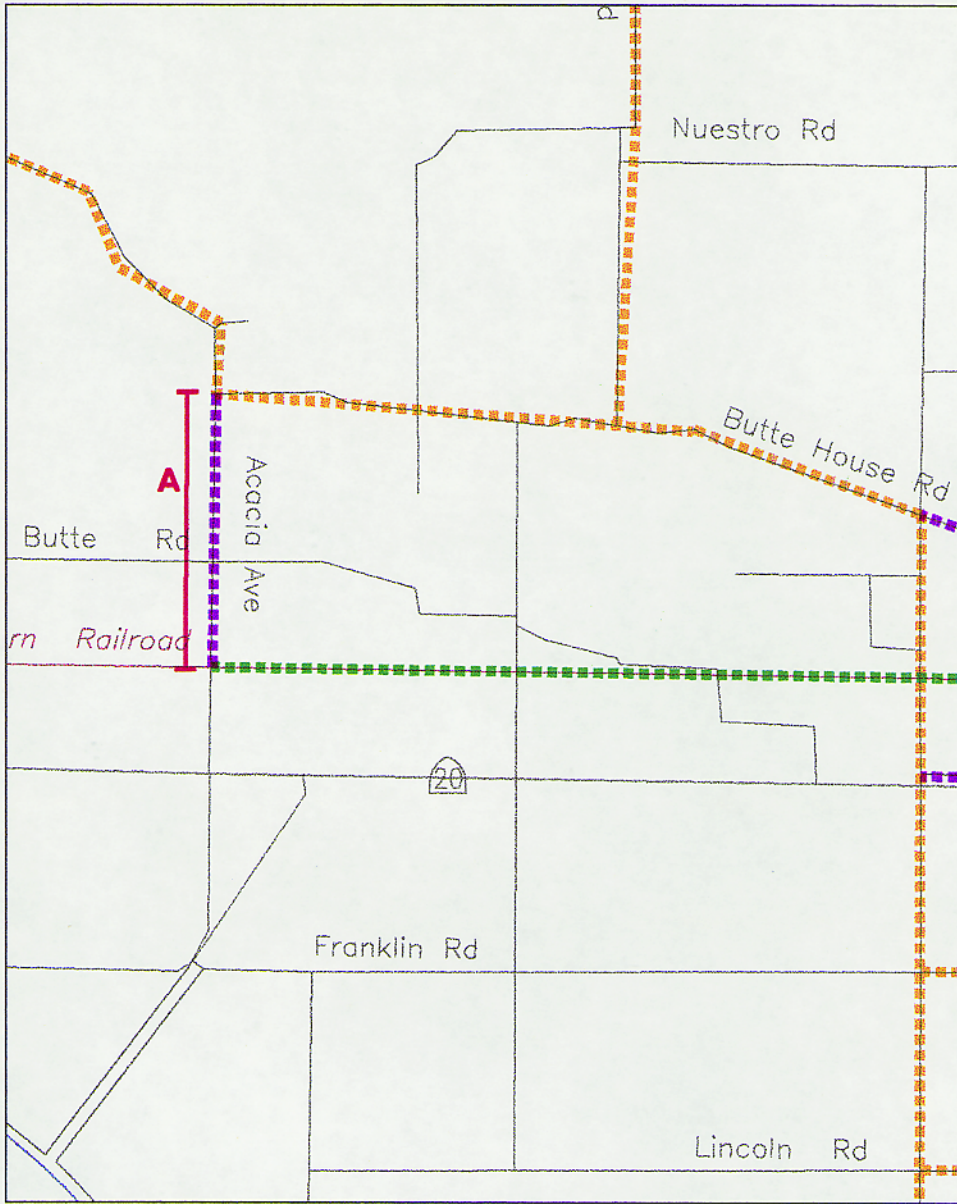
## NOTE

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SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	2.1	\$42,000	Class II bike lanes would extend along Simpson Lane from Ramirez Street in Marysville across the Yuba River to Hammon-Smartville Road.
<b>B</b>	II	0.6	\$12,000	Class II bike lanes would continue on Hammon-Smartville Road from Simpson Lane to North Beale Road. This short connection would provide continuous bike lanes between Marysville, Yuba College and Beale Air Force Base once the North Beale Road Route is constructed.



# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

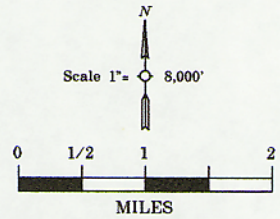
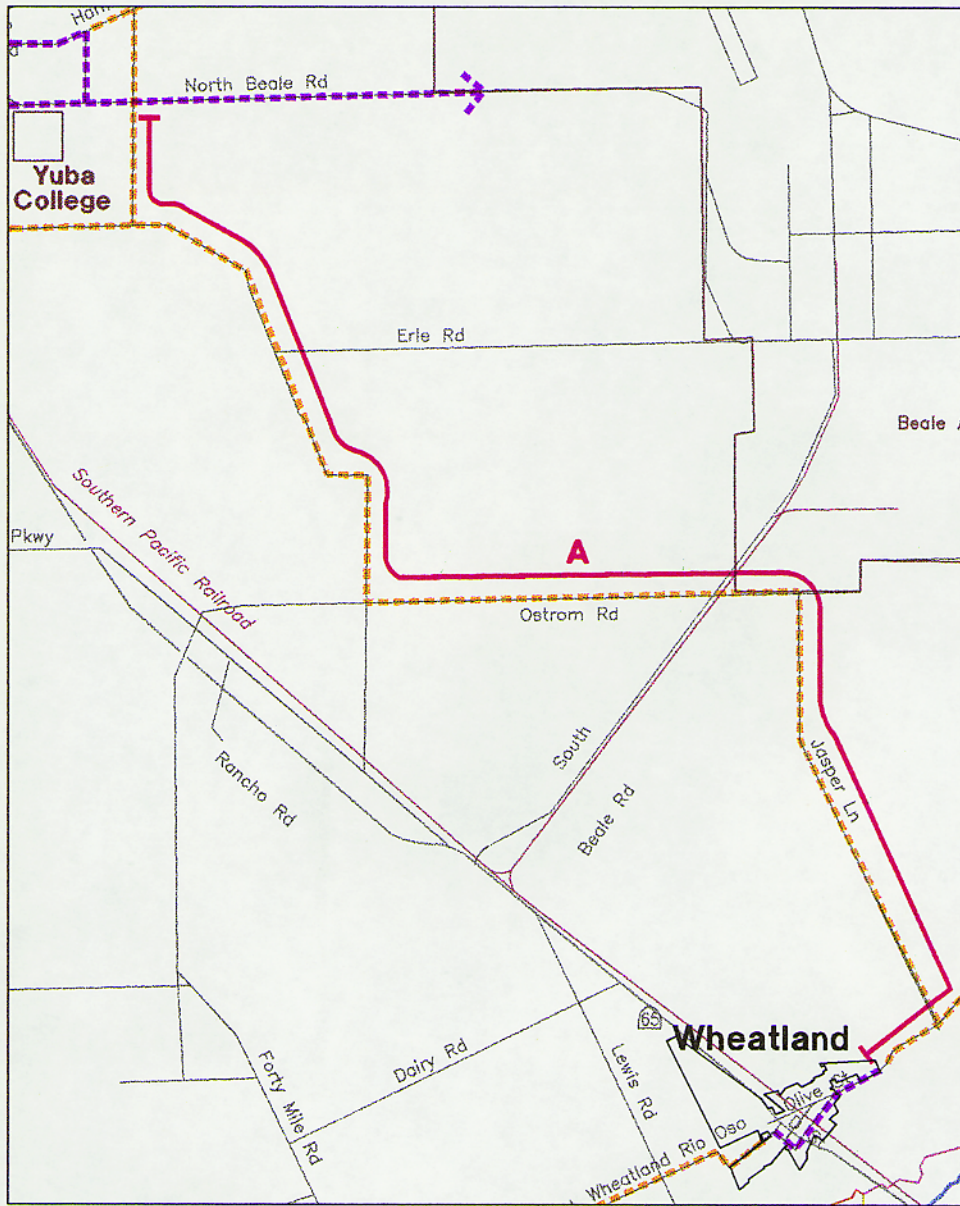
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|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
A	II	1.4	\$28,000	Class II bike lanes would extend along Acacia Avenue from the proposed Class I bike path (parallel to and north of State Route 20) to Butte House Road through Sutter.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

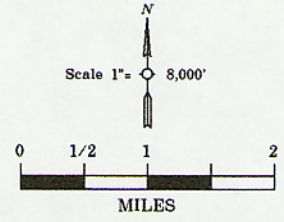
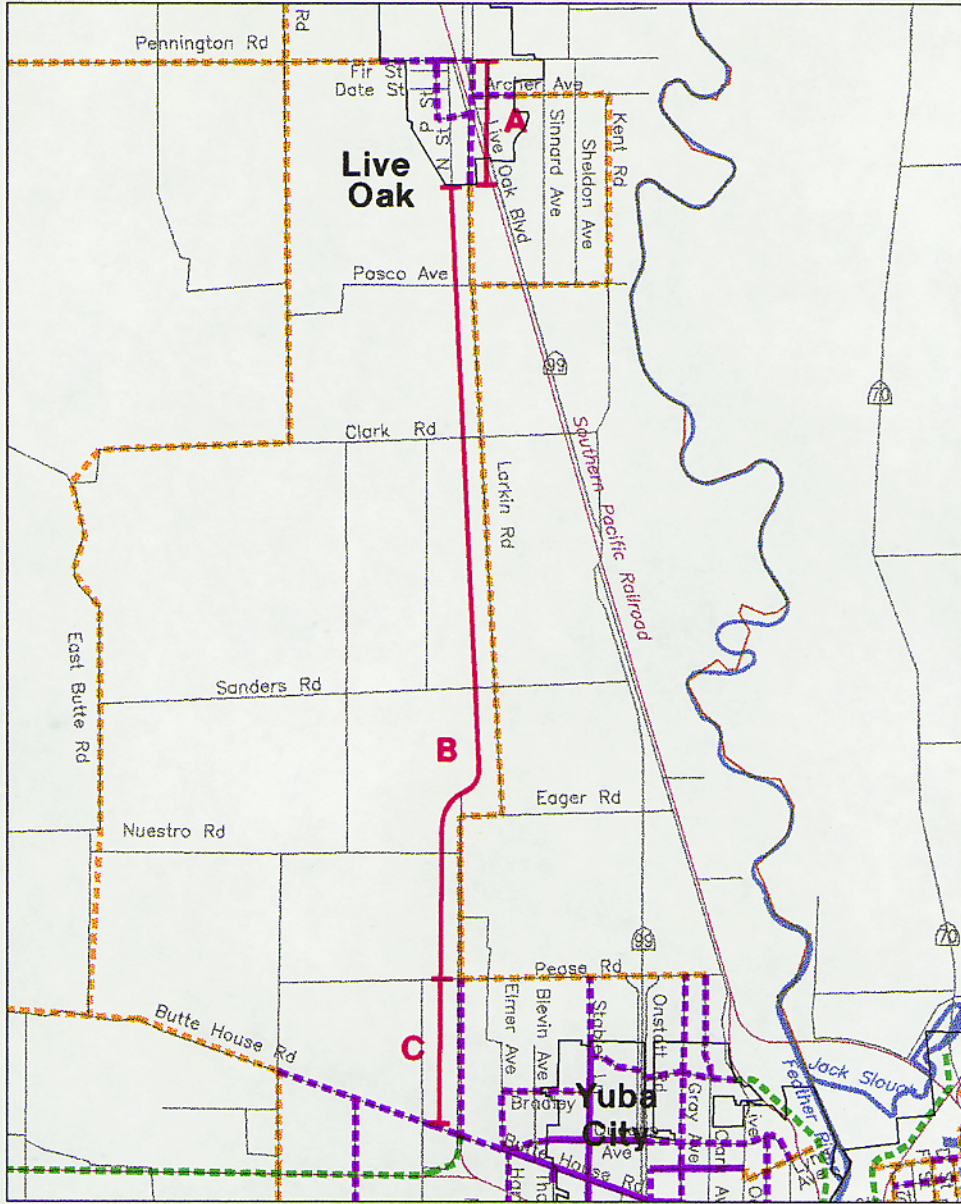
- |                         |                      |
|-------------------------|----------------------|
| <b>EXISTING</b>         | <b>PROPOSED</b>      |
| CLASS I BIKE PATH       | CLASS I BIKE PATH    |
| CLASS II BIKE LANE      | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE    | CLASS III BIKE ROUTE |
| <b>A</b> PROJECT LIMITS |                      |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
A	III	13.4	\$13,400	Class III bike routes would be provided on Wheatland-Smartville Road, Jasper Lane, Ostrom Road, Virginia Road, Erle Road, and Griffith Road between Wheatland and Yuba College.

# YUBA-SUTTER BIKEWAY MASTER PLAN



## LEGEND

- |                      |                      |
|----------------------|----------------------|
| <b>EXISTING</b>      | <b>PROPOSED</b>      |
| CLASS I BIKE PATH    | CLASS I BIKE PATH    |
| CLASS II BIKE LANE   | CLASS II BIKE LANE   |
| CLASS III BIKE ROUTE | CLASS III BIKE ROUTE |
| <b>A</b>             | PROJECT LIMITS       |

## NOTE

The Feather River Air Quality Management District makes no claims as to the safety of any bicycle facilities shown on this map. The purpose of this map is to identify potential bikeway facilities for funding and implementation.

SEGMENT	CLASS	LENGTH (MILES)	ESTIMATED COST	DESCRIPTION
<b>A</b>	II	1.0	\$20,000	Class II bike lanes would extend along Larkin Road in Live Oak from Pennington Road south to the City Limits.
<b>B</b>	III	6.5	\$6,500	At the City Limits, the Class II bike lanes would transition to Class III bike routes on Larkin Road, Eager Road and Tierra Buena Road to Pease Road just north of Yuba City.
<b>C</b>	II	1.3	\$26,000	South of Pease Road, Class II bike lanes are proposed on Tierra Buena Road to Butte House Road.

**APPENDIX B**

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Environmental Consequences

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## **ENVIRONMENTAL CONSEQUENCES**

Potential environmental consequences are described below. They have been generally organized according to specific topics listed in the California Environmental Quality Act (CEQA) environmental checklist. For reference, the term "proposed project" refers to implementation of the proposed system of bikeway and pedestrian facilities contained in Figure 10.

### **Earth**

The proposed project will result in some soil impacts where new bike paths are constructed. Generally, new bike paths will follow existing transportation corridors (highways, railroads) where the soil has already been disrupted by past construction. The proposed project will not result in any unstable earth conditions, changes to geologic structures, change in topography or the exposure of people to geologic hazards since the proposed routes are adjacent to or located on existing roads, utility easements, or railroad right of ways where the site has already been disturbed and any grading will conform to grading ordinances. Mitigations include erosion control measures to minimize loss of soil during and after construction, requirements for soils testing and engineering (where required), and other standard construction procedures.

### **Air**

Construction of bicycle and pedestrian facilities can reduce vehicle traffic thus improving overall air quality. Proposed bikeway and pedestrian facilities contained in this plan are estimated to reduce total vehicle miles traveled (VMT) with a net reduction of 1.70 tons of CO per day, .071 tons of NOx per day, .14 tons of VOC per day, and .005 tons of PM10 per day. This reduction is considered a benefit of plan implementation.

### **Water**

The proposed project may alter the course or flow of flood water or change the amount of surface or ground water since the proposed bikeways and multi-use trails include those along both natural and manmade waterways. Pathway design within the flood plain of any watercourse will consider flood capacity requirements and not result in any negative impact. Pathways located along channelized aqueducts or flood channels will be designed to protect the channel capacity, water quality, and to prevent public intrusion.

### **Biological Inventory**

Bikeways and multi-use trails are proposed along sensitive riparian habitats. These facilities may have biological impacts which could be mitigated to a less than significant level upon implementation of measures such as re-routing trails, reducing trail width, using hand equipment where needed, and installing fencing to prevent trail users from intruding into sensitive areas. Additional environmental review will occur for any future construction which has the potential to impact stream courses or sensitive biological habitat.

## **Noise and Vibration**

The proposed project could expose bicyclists and pedestrians to severe noise levels coming from adjacent traffic. Most of these roadways currently permit bicycle and pedestrian travel and therefore do not represent a new noise hazard. New bike paths that are along or near City and County roadways and State Highways will be set as far away from the traffic lanes as possible to minimize noise impact on path users.

## **Light and Glare**

Some new bike paths may be lighted at night time, although this has not been specifically identified in this plan. Proper design of the bike path and light standards, along with consultation with neighbors and possibly time restrictions on lighting, will mitigate most concerns about lighting and glare.

## **Land Use**

Bikeway facilities are generally constructed as part of new development, flood control projects, or road construction. The proposed plan will not result in substantial modifications to the existing circulation system, instead it relies heavily on the use of existing transportation corridors.

## **Natural Resources**

The proposed plan will not result in a substantial increase in the rate of use or depletion of any nonrenewable resource since the improvements are limited to existing roads, utility, creek, or railroad right of ways.

## **Risk of Upset**

The proposed plan does not involve a risk of explosion or the release of hazardous substances, since the future development of individual facilities would be required to comply with all applicable Fire, Building, and Health and Safety Codes, which would eliminate any potential risk of upset. The proposed facilities will not be impacted by any sites noted as containing hazardous waste as identified on the State of California Hazardous Waste Site List.

## **Population**

Implementation of the proposed plan would not affect the location of the area's future population. Instead, the bikeway plan has been developed to meet the needs of future growth areas in Yuba and Sutter Counties.

## **Housing**

The proposed project will provide amenities to existing and proposed housing development thereby increasing the desirability of the housing stock, which may have an incremental effect on housing prices. Proposed facilities are distributed evenly throughout the study area.

therefore any increase would also be assumed to be evenly distributed. Further, the potential increase in housing prices is considered minimal when compared to other economic factors such as interest rates and housing availability.

## **Traffic and Circulation**

### Effects on existing parking facilities, or demand for new parking.

Some new bike paths may result in localized demand for parking by path users. As new paths are designed, adequate trailhead facilities will be provided including the provision of parking. Parking restrictions in some neighborhoods and along some roadways may be needed to limit overcrowding and safety concerns.

In order to accommodate bike lanes on some streets, it may be necessary to remove on-street parking. Current use of on-street parking is by both residences and business customers. Further analysis of the impact on removal of on-street parking facilities should occur prior to implementation of these facilities.

### Increase traffic hazards to motor vehicles, bicycles, and pedestrians.

New bikeways will attract more users, which will increase the potential for conflicts between motor vehicles and bicyclists. To some extent this is an unavoidable consequence of an increased number of users. By constructing facilities to accepted design standards, conflicts between system users and motorists should be kept within statewide averages.

## **Public Services**

### Police Protection

New bike paths may result in the need for additional law enforcement officers at system build-out. There is no established standard for police protection on bike paths, and therefore this requirement is merely advisory. Equivalent services may be provided by rangers, volunteers, or others as well.

### Maintenance of Public Facilities Including Roads

New bikeways and multi-use trails will require maintenance by public agencies. Most lanes and routes will be maintained as part of regular roadway maintenance services and will represent a minor cost item. Bike paths average about \$8,500/mile annually in maintenance costs. The responsible department or agency would have to program this money as part of regular on-going costs either through the local Public Works or Parks and Recreation Departments.

## **Energy**

The proposed project would not result in a substantial use of fuel or energy or demands upon existing sources of energy. The Plan would have a positive influence on fuel consumption by encouraging alternate forms of transportation.

## **Utilities**

The proposed project will not result in a need for new systems or create substantial demands on existing utilities.

## **Human Health**

Bicyclists are bound by the provisions of the motor vehicle codes, as well as by local traffic ordinances. Although no formalized education-testing procedure exists to ensure the cyclists, young and old, understand the vehicle codes, the local office of the California Highway Patrol conducts awareness programs for the local schools. Ongoing support of this program is desirable to increase cycle safety consciousness and knowledge of the code for future riders of safe operation of bicycles.

Safety aspects of the facilities can also be addressed in the design and layout of the facility such as curvature, surface smoothness, and protection for cyclists veering off the pathways. Most of these concerns are addressed by the application of the Caltrans design standards.

## **Aesthetics**

The proposed project may impact the scenic vistas or public views of residents adjacent to the proposed off-road facilities. However, the proposed facilities would include additional landscaping where needed to provide screening and ensure privacy to the adjacent residents.

## **Recreation**

The proposed project would result in additional recreational facilities for walking and bicycling. This is considered a beneficial impact of the proposed project.

## **Archaeological/Paleontological**

The proposed project will not result in an alteration of any significant archaeological resources, since the improvements would occur within developed corridors where there are no known archaeological sites.

## **Mandatory Findings of Significance**

The proposed project will not have any significant impacts that would directly or indirectly degrade the quality of life in Yuba or Sutter Counties. Further, additional environmental analysis will be completed for individual projects when they are implemented.



The proposed project will have beneficial impacts for local jurisdictions by providing improved mobility in the community through a long-term plan that meets the existing and future needs for bikeway facilities. Specific economic and environmental benefits include reducing traffic and the need for parking facilities, improving air quality, and extending the functional life of local roadways.

## SOURCES

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