



DEPARTMENT OF
TRANSPORTATION

CITY OF SACRAMENTO
CALIFORNIA

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October 23, 2009

Mr. José Luis Cáceres
Associate Planner
Sacramento Area Council of Governments
1415 L Street, Suite 300
Sacramento, CA 95814

**SUBJECT: Bicycle & Pedestrian Funding Program
City of Sacramento Two Rivers Trail Phase II**

Dear Mr. Cáceres:

Please find enclosed the City of Sacramento's application for the Sacramento Area Council of Government's (SACOG) 2010 Bike & Pedestrian Funding Program for the Two Rivers Trail Project Phase II. By the City Manager's designation, I am acknowledging that this application is officially authorized by the City of Sacramento based on the Resolution adopted October 27, 2009.

The Two Rivers Trail Project Phase II is an important link for Sacramento's Central City. With the construction project combined with studies for future extensions, the Two Rivers Trail Project Phase II will become an important link between downtown to Midtown and eventually East Sacramento, California State University at Sacramento and the Point West/Cal Expo areas. We hope that you will find this to be a competitive project and partner with us in providing this vital transportation and recreation trail.

Sincerely,

Jerry Way, Director
Department of Transportation

Enclosure

PROJECT SUMMARY

Project Title	Two Rivers Trail Phase II
SACOG ID number (if available)	Bike/Ped Plan: 09-01-09, (Construction) Bike/Ped Plan: 09-01-10, (Planning Study) Bike/Ped Plan: 07-01-34, (Planning Study) Bike/Ped Plan: 07-07-05, (Planning Study)
PPNOand/or EA number (if applicable)	Not Applicable
Project Scope	The project is for construction of a new Class I bike trail connecting the existing Sacramento Northern Bike Trail to Sutter’s Landing Park. The project includes the design, environmental documentation, right-of-way acquisition and construction. Additionally, future bike trail connections will be studied to evaluate the feasibility of crossing the American River, crossing the Capital City Freeway and extending east along the American River to the California State University at Sacramento area. This project will provide intra-community for bicycling and walking to the regional park. The studies will lead to the development of even greater connectivity within the community. As a safe, comfortable and convenient facility for bicyclists and pedestrians, this project will advance the Blueprint Planning Principles to encourage people to walk and bicycle.
Project Schedule (estimated month & year) 1. Start environmental/preliminary engineering 2. Final ED approved – Start engineering/design 3. Start R/W acquisition & utilities 4. Complete plans, R/W, & permits – Ready to advertise for construction/procurement	1. 1/1/2012 2. 6/1/2012 3. 1/1/2013 4. 1/1/2014 (Dates assume availability of funds no sooner than 2012)
Total Cost Estimate (by phase) 1. Environmental/preliminary engineering 2. Engineering/design 3. R/W acquisition & utilities 4. <u>Construction Procurement</u> TOTAL	1. \$ 720,000 (includes \$500,000 for studies) 2. \$ 234,000 3. \$ 400,000 4. <u>\$1,719,000</u> \$3,073,000
Funding committed from other sources 1. Environmental/preliminary engineering 2. Engineering/design 3. R/W acquisition & utilities 4. <u>Construction Procurement</u> TOTAL	1. \$ 82,584 2. \$ 26,840 3. \$ 45,880 4. <u>\$ 197,169</u> \$ 352,473
Funding requested from this application 1. Environmental/preliminary engineering 2. Engineering/design 3. R/W acquisition & utilities 4. <u>Construction Procurement</u> TOTAL	1. \$ 637,416 2. \$ 207,160 3. \$ 354,120 4. <u>\$1,521,831</u> \$2,720,527

<p>Preferred Funding Type(s)</p> <ul style="list-style-type: none"> • RSTP (federal) • CMAQ² (federal) • STIP TE (enhancements) (federal) • STIP (non-federal) 	<p>CMAQ</p>
<p>Project Title</p>	<p>Two Rivers Trail Phase II</p>
<p>Responsible Project Manager/Contact Name: Position: Address: Phone: E-mail:</p>	<p>Ryan Moore Supervising Engineer 915 I Street Room 2000, Sacramento, CA 95814-2604 (916) 808-5514 (916) 808-8281 fax rtmoore@cityofsacramento.org</p>
<p>Co-sponsor/partner agencies</p>	<p>None, the city is the sole agency for this project</p>
<p>Itemized committed funding and sources:</p>	<p>Local Parks funds, Sac. County Sales Tax (Meas. A) and/or Transp. Development Act</p>
<p>Can you build a usable partial stage of this project? If so, describe scope and cost.</p>	<p>Yes, a minimum usable partial stage of the project would be a bike trail starting at the Sacramento Northern Trail and ending at 28th Street. The cost would be: \$1,645,000 for pre-design, environmental, design, right-of-way acquisition, bidding and construction.</p>
<p>Have you identified any significant and reasonably likely risks to the project? Describe:</p> <ul style="list-style-type: none"> • Risks that would change the scope • Risks that would change schedule • Risks that would change cost 	<p>Yes, an environmental document (CEQA) was prepared for the segment between the Sacramento Northern Trail and 28th Street. Preliminary discussions with the property owners regarding acquisition have also been performed. The most significant risks to the project involve the acquisition of right-of-way from the property owners.</p> <ul style="list-style-type: none"> • Risks that would change the scope would be inability to negotiate right of way under the two Union Pacific Bridges. Without this right of way, the trail would not be possible. • Risks that would change the schedule would be the delays associated with negotiating right of way from unwilling land owners. • Risks that would change the cost would be additional costs associated right-of-way acquisition.

Note:

If STIP or STIP TE funding is being requested, then a Project Study Report (PSR) or PSR equivalent must be completed. Has a PSR or PSR equivalent been completed? If not, when is it expected to be complete?

²If Congestion Mitigation and Air Quality (CMAQ), emission reduction calculation is required. Methodology available online at www.arb.ca.gov/planning/tsaq/eval/eval.htm

MAPS AND EXHIBITS – Project Description

Most of the proposed trail will be built along the edge of the American River. The proposed project is divided into two bike trail segments and three areas to be studied for future bikeway extensions.

The first trail segment starts at the west end at the location where the Sacramento Northern Bike Trail crosses the American River. Going eastward, the trail follows along the American River, leaving the levee to cross under the Union Pacific Railroad Bridge, then resuming along the top of the levee until it meets up with an existing aggregate plant. At this point the trail turns south and meets up with a large paved area that is within Sutter's Landing Park. The trail then turns east to end at 28th Street.



The second trail segment is entirely within Sutter's Landing Park. This trail is a continuation of an existing trail that starts on the east side of 28th Street. The existing trail was built several years ago as part of early conversion from landfill to park. The new trail in this area will follow along the river on an unpaved road at the toe of the levee for approximately 4,000 feet. This trail then crosses under second Union Pacific Railroad Bridge and terminates at the easternmost portion of Sutter's Landing Park often referred to as the "Triangle."



Building the second trail to this "Triangle" presents access to a remote part of the park, thus offering opportunities for future park development. The Sutter's Landing Park Master Plan calls for the "Triangle" to be largely natural area, with the possibility for uses such as disc golf, hiking trails, historical interpretive signage, mountain biking and overlook viewing areas. Similar ideas for cyclo-cross and BMX course are also possible. Unlike the majority of Sutter's Landing Park, the "Triangle" is not former landfill, thus much more available for park development.

Continuation of the bike trail from this location could take several forms as well. The trail could continue along the American River, turn north and cross the American River, turn south and cross over the Capital City Freeway, or all three directions. Each of these extensions have significant issues that will need to be studied, therefore this project proposes to study each one.

MAPS AND EXHIBITS – Project Need

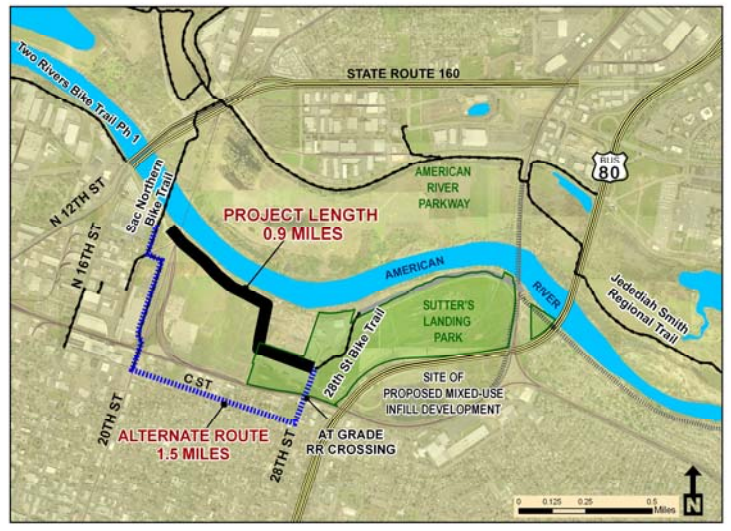
The proposed project is made up of 5 separate segments. Below are illustrations and discussions of the value to each of these segments:

Segment A (construction):

Connecting the Sacramento Northern Bike Trail to Sutter’s Landing Park at 28th Street.

Advantages:

- Completely non-motorized
- Shorter distance to access Sutter’s Landing Park. A reduction of 0.6 miles
- Elimination of two at-grade railroad crossings.



Segment B (construction):

Connecting the existing 28th Street bike trail to Sutter’s Landing Triangle.

Advantages:

- Connects east and west ends of Sutter’s Landing Park
- Improved access to the American River

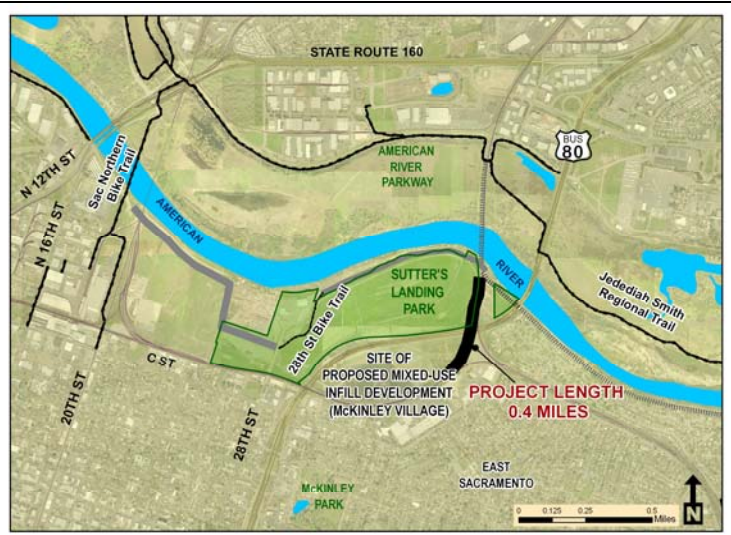


Segment C (study):

Connecting the Sutter’s Landing Triangle south to Lanatt Street.

Advantages:

- Provides access to Sutter’s Landing Park for East Sacramento and Proposed Mixed Use Development Project
- A new overcrossing would eliminate the barrier made by Capitol City Freeway



MAPS AND EXHIBITS – Project Need

Segment D (study):

Connecting the Sutter’s Landing Triangle east to H Street.

Advantages:

- Improves access to the American River and Paradise Beach
- Connects Sutter’s Landing Park to CSUS

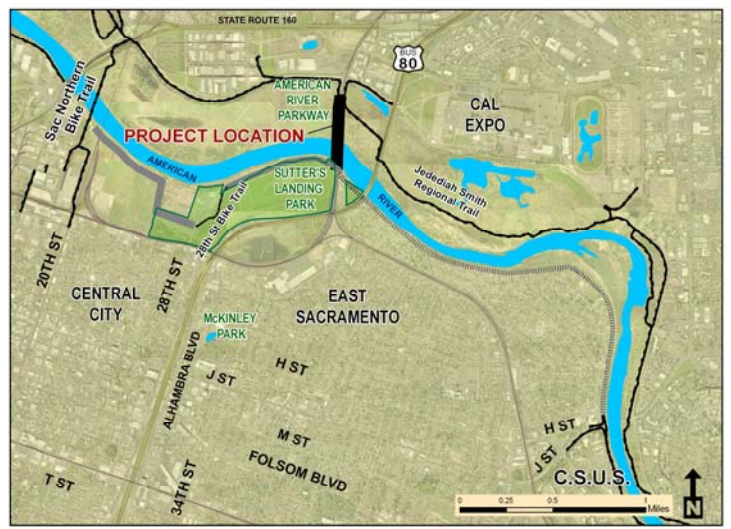


Segment E (study):

Connecting the Sutter’s Landing Triangle north across the American River to the Jedediah Smith Trail.

Advantages:

- Provides direct access to the American River Parkway from Sutter’s Landing Park
- Strategically located midway between Guy West Bridge and Sacramento Northern Bridge



All Segments:

Assuming portions proposed for study were successful, the composite of all segments would provide major east-west and north-south connections.

Advantages:

- Completes the trail system of the American River Parkway within the City Limits
- Creates connections between Central Sacramento and Cal Expo & Arden Fair Mall area
- Connects Midtown and CSUS
- Brings people to the river



COST ESTIMATE

Funding Categories	Task	Cost Estimate
Environmental	Environmental Studies	\$220,000
Engineering	Engineering & Design	\$234,000
Right-of-Way*	Right-of-Way Acquisition	\$400,000
	Utility relocation & lighting	0
Construction*	Environmental mitigation	\$25,000
	Grading	\$437,500
	Foundation & Pavement	\$1,015,625
	Bridges &/or tunnels	0
	Drainage, curb/gutter, street furniture, planting & irrigation	\$50,000
	Signage, signals, & striping	\$32,375
	Bicycle storage/parking	0
	Buildings/structures	0
	Non-capital staff activities (Construction Management)	\$159,000
	Non-capital materials (maps, brochures, manuals, printing, etc)	
Misc.*	Other project components (Studies for future extensions)	\$500,000

* If project applicant is Caltrans, please provide cost estimate for the following additional two components:

- Right-Of-Way Support: _____
- Construction Support: _____

OVERALL PROJECT FUNDING

Federal Fiscal Year (FFY) – for funds is the year in which funds will be obligated by the sponsor (e.g, FFY 2010 is October 1, 2009-September 30, 2010)

Fund Type – source of funds (be as specific as possible: i.e. county general funds, local developer funds, mitigation fees, etc.)

Phase - environmental/engineering/design, right-of-way, construction (ROW support is part of ROW and CON support is part of CON)

Source of matching funds and amount (match must be non-federal, and at least 11.47% of total project cost – not 11.47% of federal funds)

FFY	Fund Type	ENV/ENG	ROW	CON	Total
12	Local Funds	\$109,424			\$109,424
12	CMAQ	\$844,576			\$844,576
13	Local Funds		\$45,880		\$45,880
13	CMAQ		\$354,120		\$354,120
14	Local Funds			\$197,170	\$197,170
14	CMAQ			\$1,521,831	\$1,521,831
Totals		954,000	400,000	1,719,000	3,073,000

CAPITAL OR NON-CAPITAL PROGRAM GOALS:

How many of the goals the project/program addresses and how well?

The proposed project will provide a needed connection for Central City area. By connecting with the existing trails in the area, it creates increased shorter, more efficient bicycling and walking trips. It supports the Capital Program Goals in the following ways:

1. Intracommunity connectivity will be enhanced because users of the existing American River Parkway and Sacramento Northern will have access to Sutter's Landing Park. The future extensions to the trail proposed to be studied would offer even greater intracommunity connectivity by connecting the Central City, East Sacramento, Cal Expo/Arden Fair and CSUS.
2. Intercommunity connectivity will be enhanced when the future extensions to the trail proposed to be studied are implemented. The proposed crossings of the American River and the Capital City Freeway will lead to better access between the Arden Arcade areas in the unincorporated County and the Central Sacramento areas. The extensions of the trail further east to CSUS will lead to better access between the College Greens areas and the Central Sacramento areas.
3. The proposed construction project will close a gap on the existing proposed bikeway master plan by connecting the 28th Street trail to the Sacramento Northern Trail to the west and to the Sutter's Landing "Triangle" to the east. The future extensions to the trail proposed to be studied will close the gap between existing bike trails to the north and east.
4. The proposed construction project will provide access under two railroads. The future extensions to the trail proposed to be studied would provide access across a significant barrier created by the American River and the Capital City Freeway.
5. Travel times with the proposed construction project will be reduced, because the travel distances will be reduced by 0.6 miles, and access will be provided to a portion of the park that is currently not accessible by bicycle. The future extensions to the trail proposed to be studied will significantly reduce travel times for north-south travel in the area.
6. Safety and security will be enhanced because the trips will be completely on Class I bike trails. Users will only be required to interact with motor vehicles when crossing 28th Street. Adding more trails to this portion of the American River Parkway will also



contribute to more users and more “eyes-on” the parkway, which has been lacking in this portion of the parkway.

7. The bicycling and walking experience will be aesthetic, pleasant and comfortable because it will connect two park settings: Sutter’s Landing and the American River Parkway. The proposed construction project will offer spectacular views of the American River not seen from the existing Jedediah Smith Memorial Trail.



This proposed project is both a capital and non-capital project. It should be noted that support for the Non-Capital Project and Program Bike and Pedestrian Program Goals are stated in the items listed 1 through 7 above.

PROJECT BENEFIT ESTIMATE

Quantifiable Benefits Methodology

Estimate of Existing Usage $x = 0$

Annual Average Daily Traffic (ADT) for the nearest travel way = 36,000 (SR 160)

Estimate of Increase in Usage $y = 162,000$ bicyclists per year (based on number of trips induced) $(36,000)(1.8\%)(250)$

Length of Project (miles) $a =$ length of travel reduced = 2.02 miles

Quantifiable Benefits $= (x (a/10 \text{ mph}) (\$5/\text{hr})) + (y (a/10 \text{ mph}) (\$10/\text{hr}))$

$= \$$ benefits

$= 0 + (162,000(2.02/10 \text{ mph}) (\$10/\text{hr}))$

$= \$327,240$ annually

Qualitative Benefits Methodology

In one or two paragraphs, are there benefits to the project that are not measured by the dollar figure above?

This proposed project will encourage bicycling and walking. The existing conditions are not suitable for most bicyclists. Combined with the long distances currently involved, this problem is even more pronounced for walking trips. With the new trails there will be better connectivity to access the park. When considering the future connections that are being studied, even more travel would be expected as people would use this trail to go to major destinations such as California State University at Sacramento, or Arden Fair Mall.

Beyond the community needs, this project will also have regional significance. These connections would provide for major north-south and east-west travel in the urban core area.

EMISSIONS CALCULATIONS FOR CMAQ FUNDING

The project is located within the City of Sacramento which is a Capital City with a population of 467,343. The Two Rivers Trail Phase II project will connect the Sacramento Northern Trail to Sutter's Landing Park and studies will examine the feasibility of further extensions to the south over the Capital City Freeway, east along the American River to CSUS and north over the American River to the American River Parkway. The constructed portion is 2.02 miles.

Inputs to Calculate Cost-Effectiveness:

Funding Dollars (Funding):	\$3,073,000
Effectiveness Period (Life):	20 years
Days (D):	200 (default)
Average Length (L) of bicycle trips:	2.02 miles
Annual Average Daily Traffic (ADT):	30,000 (default)
Adjustment (A) on ADT for auto trips replaced by bike trips:	0.019
Credit (C) for Activity Centers near the project:	0.005

Emission Factors

(From Table 3, Average Auto Emission Factors, December 2008, CARB for a 20 year life):

	<u>Auto Trip End Factor</u>	<u>Auto VMT Factor</u>
ROG Factor	0.523 grams/trip	0.192 grams/mile
NOx Factor	0.282 grams/trip	0.206 grams/mile
PM10 Factor	0.009 grams/trip	0.221 grams/mile

Calculations:

$$\text{Annual Auto Trip Reduced} = (D) * (ADT) * (A + C)$$

$$= (200) * (30,000) * (0.019 + .0005)$$

$$= \mathbf{144,000}$$

$$\text{Annual Auto VMT Reduced} = (\text{Auto Trips Reduced}) * (L)$$

$$= (144,000) * (2.02)$$

$$= \mathbf{290,880}$$

Annual Emission Reductions (ROG, NOx and PM10) in lbs. per year:

$$= [(Annual\ Auto\ Trips\ Reduced) * (Auto\ Trips\ End\ Factor) + Annual\ Auto\ VMT\ Reduced] * (Auto\ VMT\ Factor) / 454$$

$$ROG: [(144,000) * 0.523] + (290,880 * 0.192) / 454 = \mathbf{288.90\ lbs.\ per\ year}$$

$$NOx: [(144,000) * 0.282] + (290,880 * 0.206) / 454 = \mathbf{221.43\ lbs.\ per\ year}$$

$$PM10: [(144,000 * 0.009) + (290,880 * 0.221)] / 454 = \mathbf{144.45\ lbs.\ per\ year}$$

Cost-Effectiveness of Funding Dollars: (CRF * Funding) / (ROG + NOx + PM10)

Capital Recovery Factor (CRF): $\frac{(1+i)^n(i)}{(1+i)^n-1}$
 where: i = discount rate (Assume 3 percent)
 n = project life, 20 years

$$= CRF = \frac{(1+0.03)^{20}(0.03)}{(1+0.03)^{20}-1} = \mathbf{0.067}$$

$$Cost\ Effectiveness\ of\ Funding\ Dollars = (0.067 * 3,073,000) / (1,440)$$

$$= \mathbf{\$143.44\ per\ lb.}$$

FOR CMAQ PROJECTS ONLY:

Annual Emission Reductions (ROG, NOx and PM10) in kg/day:

$$\frac{Lbs.\ reduced\ per\ year}{2.2\ lbs./kg * 365\ days/year} = \frac{288.90}{2.2 * 365} = \mathbf{0.360\ kg/day\ ROG}$$

$$\frac{Lbs.\ reduced\ per\ year}{2.2\ lbs./kg * 365\ days/year} = \frac{221.43}{2.2 * 365} = \mathbf{0.276\ kg/day\ NOx}$$

$$\frac{Lbs.\ reduced\ per\ year}{2.2\ lbs./kg * 365\ days/year} = \frac{144.45}{2.2 * 365} = \mathbf{0.180\ kg/day\ PM10}$$

ENVIRONMENTAL JUSTICE

What kind of outreach of the community and to other stakeholders do you plan to undertake?

In 2005, the City Department of Parks and Recreation prepared an Environmental Impact Report EIR for the Two Rivers Trail, which was then defined as two trail segments between Interstate 5 and Sutter's Landing Park. The process of preparing the EIR included a public hearing on the project. Additional public outreach is planned for the additional necessary environmental documentation, updating of the Sutter's Landing Park master plan, and the preparation of the studies for future extensions. It is expected that the majority of the effort for the studies will involve public outreach.

Will low-income or minority members of the community be given an opportunity to fully participate in this outreach?

All of the outreach conducted to date and planned for the future has been and will continue to be free and made available to all income levels in the community. In addition, the City operates a special "interpreter-program" intended to allow members of minority and disabled communities to have opportunity to comment to the City.

Benefits and burdens of this project for low income and minority members of the community:

This project is not expected to have any significant burdens on low income or minority members of this community. The proposed project will be a new trail construction for bicyclists and pedestrians of this and surrounding communities. Thus, this project will benefit people who cannot (or cannot afford to) drive an automobile. The project will be built in a manner that complements the community without displacing any low income or minority members.

SUPPLEMENTAL INFORMATION

How does this project support the Blueprint Planning Principles?

The proposed project is supportive of the first and the seventh Blueprint Planning Principles: It will encourage people to walk or bicycle instead of driving an automobile. It also provides places for everyone to enjoy the scenic outdoors with family outings and activities.

How cost effective is this project?

- Total project cost: \$3,073,000
- Quantifiable project benefits: \$327,240 per year (using SACOG methodology)
Approximately 9.5 year payback period
- Qualitative benefits: increase in safety, time savings, improved air quality, more bicycle and pedestrians instead of motorists.

How committed is the City of Sacramento to building this project?

Construction of this project is a high priority. The combination of the different segments within this proposed project are some of the highest ranked off-street bikeway and bike/pedestrian bridge projects in the City's Transportation Programming Guide. The City has already constructed Two Rivers Trail Phase I, which included CEQA environmental clearance for segment A of the proposed project.

Why should this project be funded?

The proposed project supports the goals of the Metropolitan Transportation Plan and those of the Bike and Pedestrian Program. It also complies with the applicable Blueprint Planning Principles. Furthermore, the proposed project is consistent with planning documents for the City of Sacramento, including the General Plan, the 2010 City/County Bikeway Master Plan and the Pedestrian Master Plan

The Two Rivers Trail Phase II should be funded because the area is ready for it:

- The barriers to bicycling and walking imposed by the American River, the Capital City Freeway and the railroads are formidable; this proposed project is a reasonable solution. Existing bicycle routes are significantly out of direction and do not provide any access at all to some locations. Combined with the long distances currently involved, this problem is even more pronounced for walking trips. With this proposed project and the implementation of the future extensions being studied there will be multiple reductions in travel distance among nearby destinations.
- As the areas in the central part of Sacramento increases its density, the demand for a safe bike and pedestrian facilities will grow. There is considerable interest from the community for better access to the American River Parkway and to nearby destinations separated by major barriers. This project will provide the much needed bicycle commuter link throughout this portion of the City..
- Beyond the community needs, this project will also have regional significance. As the Two Rivers Trail is developed, it will become part of the larger network of bike trails within the American River Parkway.