

bike share business plan

Sacramento Metropolitan Air Quality Management District

Technical Working Paper #3: Operating Costs, Funding Options, and Business Model



Prepared for:



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*Technical Working Paper #3: Operating
Costs, Funding Options, System
Stakeholders, and Business Model*

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EXECUTIVE SUMMARY

This report presents research and analysis by Economic & Planning Systems, Inc. (EPS) as a sub-consultant to Fehr & Peers for the Sacramento Metropolitan Air Quality Management District (SMAQMD) in evaluating a proposed Sacramento Area Bike Share Program. EPS has explored sources of funding for capital and operating expenses, estimated the costs of operations based on case studies, prepared illustrative cash flows of user revenues compared to operating costs, explored best practices in securing sponsorships for bike share systems, and provided an overview of economic, environmental, and social benefits of bike share programs. EPS's cash flow estimates are based on most-likely ridership projections (Scenario 1) for the proposed Sacramento Area Bike Share Program, as well as low (Scenario 1A) and high (Scenario 1B) ridership estimate scenarios. The proposed bike share system and ridership scenarios are discussed in greater detail in Fehr and Peers' *Working Paper #2: Demand, Density, Transit and Technology Integration, Tourism, and Equity* and throughout this technical working paper.

PROJECT OVERVIEW AND SUMMARY OF FINDINGS

- Numerous business models have been implemented by bike share systems throughout the world. In the United States, the most common is one in which a nonprofit organization operates the bike share system using revenues from user (rider) fees, sponsorships and advertising, governmental grants, and private donations.
- Given the multi-jurisdictional nature of a proposed Sacramento Area Bike Share Program (e.g., Sacramento, CA and Davis, CA), and the organizational capacities and interests of potential lead agencies for a bike share program in the Sacramento Area, the Sacramento Area Bike Share Program may best be operated by the formation of a new nonprofit organization. The new nonprofit organization could be comprised of representatives of the SMAQMD, participating government agencies, and other stakeholders or could be a separate entity that coordinates with the SMAQMD, participating government agencies, and other stakeholders.
- Based on capital costs observed in other American bike share systems, EPS projects that the Sacramento Area Bike Share Program will cost roughly \$2.8 to \$4.0 million in initial investment, assuming 616 bikes in 88 stations as envisioned by Fehr & Peers. These cost figures include bikes, docking stations, software acquisition, and start-up costs.



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- Based on operating costs observed in other American bike share systems, EPS projects that the Sacramento Area Bike Share Program will cost roughly \$1.5 million per year to operate, including costs incurred by the owners and operators of the system which may be some combination of the Air Quality Management District, other participating government agencies, a nonprofit, and an operating company such as Alta, B-cycle or Bixi.
- Based on user fees achieved in other American bike share systems, EPS projects that the Sacramento Area Bike Share Program will generate roughly \$794,000 per year from riders under the ridership model prepared by Fehr & Peers. This figure represents 54 percent of the expected annual operating costs, within range but slightly higher than the average proportion that has been achieved by bike share systems in Denver, Boulder, Minneapolis, and Arlington, Virginia (Capital Bikeshare).
- The projected annual operating deficit is estimated to be roughly \$684,000 per year, and would require some combination of sponsorships or advertising revenue, governmental grants, and private donations to close the funding gap.
- Other systems have pursued sponsorship funding in a variety of ways, ranging from in-kind advertising “swaps” to advertising on bikes and equipment to full-scaled naming rights for the entire bike share program. Systems similar in scale to that proposed for the Sacramento Area have had success with attracting sponsors in initial years of operation, but securing long-term commitments may prove challenging. SMAQMD and other potential program sponsors should explore numerous sponsorship opportunities, including reaching out to the region’s major employers and major healthcare providers.

CASE STUDIES ON BIKE SHARE SYSTEM ECONOMICS

This section of the report presents findings derived from several American bike share systems, with a focus on four case studies on individual systems including: Capital Bikeshare in Washington, DC; Nice Ride in Minneapolis and Saint Paul, MN; Denver B-Cycle in Denver, CO; and Boulder B-Cycle in Boulder Colorado. The case studies attempt to highlight each system's capital and operating costs, operating revenues, funding sources, and sponsorship programs. This information is later incorporated into EPS's projections of the Sacramento Area Bike Share Program's cash flow and funding needs, as well as recommended approaches to securing sponsorships to support operations. Note that many bike share systems do not publish specific financial information regarding their costs and revenues; as such, EPS has relied on a combination of some published materials and interviews with system representatives to gain some of the following information.

More than 450 bike share programs have been implemented worldwide and a variety of business models have been employed. The business model conveys who owns the bike share system and how a bike share entity generates revenue to cover operating expenditures. The business model is distinct from the operating system, which conveys how a bike share system will operate in order to provide bike share services. Operating systems such as Alta Bike Share, Inc., and B-cycle provide an operating framework, which includes data collection, maintenance, bike relocation, etc., and can be adopted and used regardless of the business model. Depending on the contract with the operating system, the owner of the program may or may not be affiliated with the operating system.

Key findings from these case studies and related research include the following:

- **The most popular business model in the United States is the nonprofit model.** The nonprofit model is operated by a nonprofit organization that is created specifically to run the bike share program or by an existing nonprofit that absorbs management of the program into its existing mission. The nonprofit model may rely on grant money or private donations to fund start-up costs. Operating costs typically come from membership and user fees, as well as continued support from sponsoring foundations, local businesses, and private donations. In some cases, contributions from the jurisdictions in which the program is being operated have also been required. It does not appear there are any bike share models where the revenue from membership and usage fees entirely covers the operating costs, but there are several programs for which the operating gap is fully filled or even exceeded by revenues from sponsors.

- **Other bike share business models also have been implemented and offer unique advantages and disadvantages.** Some programs are operated as joint ventures between public agencies and advertising firms, others are operated by local or regional transportation agencies, and still others are operated by universities or private companies. Publicly-owned systems operated by a bike share contractor such as Alta or B-cycle are increasingly common, especially for larger cities such as Boston, Washington DC, and the proposed systems in Chicago and New York.
- **It does not appear there are any programs operating under any business model that are financially self-sufficient from user fees alone.** By way of example, DecoBike in Miami launched the first truly for-profit bike share venture in 2011 with a business model proposing complete self-sufficiency from user revenue. However, since its launch, DecoBike has asked the City of Miami to allow advertisements on their kiosks to supplement user revenue. The Bike Nation system proposed for Los Angeles, Long Beach, and Anaheim also intends to be financially self-sufficient, using advertising revenues to defray capital and operating expenses.
- **Most bike share systems in the United States rely upon funding derived from sponsorships and advertising.** The Mineta Transportation Institute reported in Public Bikesharing Operations in North America that 89 percent of operators (17 out of the 19 public bike share programs interviewed in the United States.) utilized sponsorships as a prominent revenue source.¹ Not only do most operations rely upon sponsorship revenue, it often represents a large proportion of total operating revenue. For example, in Boulder B-cycle's first year of operation (2011), sponsorships comprised 64 percent of total operating revenue. Similarly, Denver B-cycle's sponsorships made up 49 percent of total operating revenue in 2011 and Nice Ride's sponsorship made up 46 percent of total operating revenue in the first half of 2012.²
- **The most common sponsorship model involves the receipt of financial support in exchange for the sponsors' logo on bike share equipment (stations and bikes).** Specific locations on the bikes and stations are best suited for advertisements and operators usually provide guides for how best to utilize the surface area of equipment.³ Prices, contract lengths and other parameters regarding equipment sponsorship vary depending on the program. In addition to standard fees for advertising

¹ Mineta Transportation Institute published the study in June 2012.

² Nice Ride operating figures only available through July of 2012.

³ For example, B-cycle provides recommendations and diagrams showing where logos/ads can be placed on bikes and stations.



space, bike shares utilize an array of strategies that may involve membership discounts or the selection of station locations.

The selected case studies below summarize the systems' capital and operating model, initial strategies for recruiting sponsors, creative agreements that current programs have implemented to increase revenue and ridership, and effective public relations and marketing strategies involving sponsorship and partnership, as well as highlighting difficulties recently-launched programs have faced regarding sponsorship.

BOULDER'S B-CYCLE PROGRAM⁴

CAPITAL AND OPERATING MODEL

Boulder's B-cycle was launched on May 20, 2011, and currently maintains 110 bikes throughout 15 stations. The majority of Boulder B-cycle's docking stations are located around the heavily trafficked, commercial district surrounding Pearl Street, which is northwest of the University of Colorado at Boulder campus. The Boulder program is operated by a nonprofit organization with a combination of paid and volunteer staff.

In 2011, Boulder's B-cycle had 1,170 annual members and had sold more than 6,000 24-hour access passes. The League of American Bicyclists ranks Boulder as "platinum" on their Bicycle Friendly Community Ranking, which is the highest ranking in the country, because of their 300+ miles of bike lanes, routes, designated shoulders and paths, as well as topography. The City of Davis also received "platinum" rankings, while Sacramento received a "silver" ranking.

In its inaugural year, Capital expenditures (initial fleet of bikes, stations) totaled approximately \$525,000 and were funded primarily by grants (\$446,250), including \$250,000 through an Energy Efficiency and Conservation Block Grant (EECBG), funds from the City of Boulder, and gifts from individuals (amounting to approximately \$100,000) and local businesses and residents (\$78,750). These capital expenditures equated to \$4,773 per bike and \$35,000 per station.

⁴ Information received from Bob Koenig of Boulder B-cycle as well as online research by EPS.



In the first year of operations, operational expenditures on stations, bikes, and B-cards were funded through sponsorships (64 percent), as well as membership and usage fees (36 percent).⁵ This self-sufficiency was anticipated as part of the initial business plan. As noted below, the second year of operations (2012) has seen lower sponsorship revenues, and Boulder B-cycle is pursuing local government funding to fill operating deficits for the next few years.

SPONSORSHIP PROGRAM

Before capital purchases were made, staff and members of the board tapped into individual and corporate connections for initial donation and sponsorship support. These connections were seen as the “low hanging fruit.” According to Boulder bike share representatives, raising initial funds was much easier than expected in the first year of operation (2011).

In addition, one sponsor approached Boulder B-cycle to commission an art project involving fenders for 50 bicycles at \$1,000 per bike (\$50,000 contribution). The project commissioned local artists to design pieces that could be transposed onto the fenders of bicycles that would remain for one year. The original works were also auctioned off with proceeds going to Boulder B-cycle.

After the initial fund-raising phase, a part-time staff member devoted to finding individual grants applied to organizations ranging from Patagonia to the Gates Foundation, with significant success. Despite fund raising success in 2011, the second year of Boulder’s operation resulted in a loss of three station sponsors (\$10,000 each) and several corporate and foundation grants, as well as a significant reduction in donations. Boulder B-cycle has been forced to ask the City of Boulder for funding over the next two to three years, despite initial expectations that the program would be relatively self-sufficient.

Lacking a title sponsor has made revenue consistency a difficult challenge. Although Boulder has targeted healthcare providers in an attempt to secure a title sponsor, they have so far been unsuccessful.

Boulder B-cycle Direct Sponsorship Opportunities:

- Baskets: \$1,000 per bike per year
- Badges: \$2,000 per 10 bikes per year

⁵ Information compiled from several sources, including personal interview with Bob Koenig of Boulder B-cycle, August 2012; US Department of Energy; and the 2011 Boulder B-cycle Annual Report.



- Station: \$10,000 per station per year

Other Sponsorship/Partnership Opportunities:

- Station Host: In exchange for financial support, Boulder B-cycle will place a station outside a select business or neighborhood, and provide reduced membership costs and other incentives. Companies such as Google and research campuses such as the University Corporation for Atmospheric Research (UCAR) have elected this option thus far. In addition, Whole Foods is being actively pursued.
- Corporate Membership: Discounted bulk memberships in exchange for hosting a membership drive at participating businesses.
- Corporate Contribution: Donation, gift-in-kind, event support or any other partnership opportunities envisioned.

WASHINGTON DC'S CAPITAL BIKESHARE⁶

CAPITAL AND OPERATING MODEL

Until the recent launching of New York City's program, Capital Bikeshare was the largest bike share program in the United States. With more than 1,670 bikes dispersed across 175 stations, Capital Bikeshare also is arguably the most successful. When the program launched in 2010, stations were initially located primarily throughout the District of Columbia (DC)'s Northwest quadrant. Capital Bikeshare has since expanded into Arlington, Virginia, as well as in the Northeast, Southeast, and Southwest quadrants of DC. Capital Bikeshare is operated by Alta Bicycle Share year-round, and has exceeded 200,000 members.⁷

Capital Bikeshare is operated on the publicly owned/private operated model, in which a city will contract with a private operator such as Alta Bike Share or B-cycle to provide management of ongoing operations. Public entities are usually charged with funding the initial capital investment (stations and bikes) and administering the program before contracting with a private operator. Public entities have used a variety of fund-raising techniques for capital costs, including taxation, advertising, sponsorships, and Federal and

⁶ Information received from online research conducted by EPS, Capital Bikeshare website (capitalbikeshare.com).

⁷ Ibid.



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state grants. While the number of active programs using this model is limited at the time of this report, New York City and Chicago are both set to launch programs using this business model in 2013.⁸

A large part of Capital Bikeshare's success has stemmed from investment in bike infrastructure, such as bike lanes, in conjunction with station construction. In addition, Washington, DC, enjoys enormous numbers of tourists each year, many of whom come to sightsee on the National Mall and nearby Tidal Basin. Because parking has long been in short supply in the area, Capital Bikeshare has been able to educate visitors of the convenience of the system and therefore has seen membership from non-residents grow dramatically.

Capital Bikeshare's initial capital costs were largely covered by Federal grants such as one from the U.S. Department of Transportation's Federal Highway Administration under their Congestion Mitigation and Air Quality (CMAQ) fund. To start the Arlington program, funding was received from the Virginia Department of Rail and Public Transportation, Arlington County transportation funding, and sponsorships by the Crystal City Business Improvement District (BID) and the Potomac Yard Transportation Management Association. In 2013, Capital Bikeshare has plans to expand the Arlington portion of the system by 42 stations for a cost of \$32,993 per station.

Because of Capital Bikeshare's multi-jurisdictional service area, sponsorship of all kinds is handled by three different government-sponsored transportation organizations (goDCgo in Washington, DC, Arlington Transportation Partners in Arlington, Virginia, and Local Motion in Alexandria, Virginia). The Arlington portion was reviewed in a Fiscal Year (FY) 2012 Summary Report by Arlington County's Department of Environmental Services, and was shown to have incurred \$643,000 in operating costs for 286 bikes at 41 stations, or the equivalent of \$2,248 per bike or \$15,683 per station. User fees comprised the great majority of operating revenues for the Arlington portion, at 59 percent of total operating expenses. Sponsorships yielded only \$32,000 in Arlington in FY12, or 5 percent of total system costs. This figure is very low compared to other bike share systems, because Arlington County prohibits advertising in public spaces, thus limiting the appeal to potential sponsors. The remaining 36 percent of operating costs are funded through the Arlington County government. Note that these figures reflect Arlington County's portion of the system; equivalent information for other portions of the system was not readily available at the time of this publication.

⁸ Citi Bike in New York City launched May 27, 2013 and Chicago's program is slated to roll out beginning in the fall of 2013.



SPONSORSHIP PROGRAM

For the Capital Bikeshare system overall, sponsorship is broken into three “partnership” categories:

- **Corporate Partnership:** Becoming a corporate partner provides subsidized employee memberships and/or the “purchasing of a station,” which may involve exclusive advertising on a specific station location. Corporate sponsorships are broken into levels of contribution that dictate sponsorship and membership agreements.
- **Hotel Partnership:** Hotel partnerships involve the purchasing of 24-hour memberships in bulk quantities at a discounted price. Capital Bikeshare (CaBi) provides helmets, brochures and bike maps with hotel partnership purchases.
- **Community Partnership:** In exchange for publicity in CaBi’s monthly newsletter and on their website, local businesses provide discounts to CaBi members (e.g., 25 percent off food purchase) as well as contribute to CaBi.

Other Sponsorship Opportunities:

- CaBi also enjoys direct sponsorship from community or business organizations such as Business Improvement Districts (BIDs) and community groups that advocate transit options.

DENVER’S B-CYCLE PROGRAM⁹

CAPITAL AND OPERATING MODEL

Denver’s B-cycle is operated by Denver Bike Sharing, a nonprofit founded to promote health, quality of life, and preservation of the environment. The program was launched on April 22, 2010. The initial seed money for the project came from the host committee of the Democratic National Convention, which donated \$1 million from a budget surplus to create a large-scale bike share company. In 2012, Denver Bike Sharing made plans to spend an additional \$1.1 million on 27 new stations with 270 bikes, equating to \$40,740 per station or \$4,074 per bike.

⁹ Information received from James Waddell, Sponsorship & Development Director for Denver Bike Sharing, as well as online research by EPS.



In 2011, Denver Bike Sharing sold 2,675 annual memberships and 42,320 short-term memberships (e.g., 24-hour, 7-day, or 30-day passes). The League of American Bicyclists ranks Denver as “silver” on their Bicycle Friendly Community Ranking primarily because of Denver’s limited biking infrastructure.

According to the Denver Bike Sharing 2011 Annual Report, Denver B-cycle operated 520 bikes at 52 stations over 217 days in 2011. The B-cycle system incurred \$1.034 million in operating costs (excluding depreciation), equating to \$19,885 per station or \$1,989 per bike. The annualized equivalent figures would be \$26,447 per station or \$2,645 per bike.

In 2011, the program received roughly \$608,000 from sponsorships by over 30 different organizations, representing 49 percent of the total operating resources for the program. This figures slightly exceeded the amount gained through memberships (29 percent) and user charges (17 percent) combined, with small additional amounts attributed to in-kind gifts and donor contributions. Sponsorship dollars are only used for operations as capital costs are covered entirely by a combination of Federal and State grants, including an Energy Efficiency and Conservation Block Grant (EECBG), Transportation Community Preservation Program (TCPP) grant revenue, as well as funds from Colorado’s Vehicle Registration Tax and FASTER Program.¹⁰

SPONSORSHIP PROGRAM

Sponsorships are generally identified through staff and board connections as well as through targeting green-minded businesses (usually by attending green conferences, business association meetings, etc.). Denver’s largest sponsor is healthcare provider Kaiser Permanente, which serves as the “title sponsor” for the program (e.g., “Denver B-cycle presented by Kaiser Permanente”).

There have not been any reported issues with sponsorship exclusivity, as multiple sponsors are invited to participate. However, certain sponsorship categories have been excluded from B-cycle, such as medical marijuana, due to the calculated potential conflict with Kaiser’s messaging regarding public health.

¹⁰ “Denver Launches First Large-scale Citywide Bicycle Sharing Program in the U.S.,” Denver B-cycle Web site (denver.bcycle.com), April 22, 2010.



Denver B-cycle Direct Sponsorship Opportunities:¹¹

- Title Sponsorship: Denver B-cycle enjoys title sponsorship from Kaiser Permanente. In exchange for title sponsorship, the Kaiser logo is presented on all stations (though this is not exclusive as other sponsors can have logos on stations) but zero bikes in the system.
- Baskets: \$1,500 per bike per year
- Station: \$30,000 per station per year; \$20,000 per station per year (for 3 years)

Other Sponsorship/Partnership Opportunities:

- Station Host: In exchange for financial support, Denver B-cycle will place a station outside a select business or neighborhood, and provide reduced membership and other incentives. Three stations are currently being hosted by local businesses.
- Advertising Partnerships: Denver B-cycle partners with the local transportation authority, the Colorado Rockies, and a local billboard company, among others, trading advertising space on bikes and stations in exchange for advertising space in buses, trains, stadiums, etc.
- In-Kind Advertising Partnerships: In exchange for advertising space on bikes and stations, B cycle receives in-kind gifts from companies such as Clif Bar, local breweries and even law services from local law firms. In-kind partnership advertising takes up approximately 30 percent of potential bike advertising space.
- Event Participation: Denver B-cycle participates in a number of events ranging from the Orange Ride to marathons to various festivals.¹² In exchange for publicity, B-cycle provides bikes, volunteers and staff for a wide range of Denver events.¹³

¹¹ However, it should be noted that all sponsorship agreements fluctuate based upon quantity and timeline of purchases.

¹² The Orange Ride involves the Mayor of Denver leading a bicycle ride to Mile High Stadium for a Broncos game. Carrying the game ball, the Mayor rides a B-cycle onto the field to present the ball to the referees.

¹³ Nonprofit bike share programs are constantly challenged by the number of events in which they are asked to participate. Event marketing success is difficult to quantify and requires a large amount of staff or volunteer support.



- Wells Fargo Wednesdays: Every Wednesday for a certain amount of time, B-cycle partnered with Wells Fargo Bank, providing free rides at select stations with Wells Fargo advertising. In exchange, Wells Fargo contributed funds in excess of the determined lost revenue attributable to free rentals.

MINNEAPOLIS' "NICE RIDE" PROGRAM

CAPITAL AND OPERATING MODEL

Nice Ride Minnesota was launched on August 3, 2010, as a nonprofit operation, and now consists of 146 stations and more than 1,300 bicycles. The program stretches across Minneapolis and St. Paul and is operated and overseen by Nice Ride Minnesota. The League of American Bicyclists ranks Minneapolis/St. Paul "gold" on their Bicycle Friendly Community Ranking, primarily because of the impressive investment Minneapolis and St. Paul have made in bike lanes since the inception of the program.¹⁴ The program has attracted more than 4,000 annual members and more than 35,000 casual members.

According to Nice Ride's 2011 and mid-year 2012 Financial Reports, the system has received \$6.5 million in capital funding for the initial phase and its continuing expansion to 146 stations with 1,328 bikes. These figures equate to \$44,496 per station or \$4,892 per bike for capital costs. While the largest single source of capital funds has been the Federal Highway Administration's Nonmotorized Transportation Pilot Program (\$2.8 million), the sponsorship of Blue Cross Blue Shield ranked second at \$2.3 million. A variety of smaller public and private sources comprise the remainder of the capital funding, including funds from the Minneapolis Convention Center (\$250,000), and the Central Corridor Funders Collaborative (\$250,000 for stations near light rail stations) and smaller amounts from area colleges.

Nice Ride operates on an April-to-November schedule representing eight months of the calendar year. In its 2012 operating season, Nice Ride expected operating costs \$1,050,000 for a system of 1,260 bikes, equating to \$1,250 per bike or \$10,788 per station per year. These per-unit cost figures are well below what other systems report, which the Executive Director of Nice Ride attributes to lower salaries and rents and a significant donation of professional services.¹⁵

¹⁴ Report to the U.S. Congress on the Outcomes of the Nonmotorized Transportation Pilot Program SAFETEA - LU Section 1807, Federal Highway Administration, April 2012.

¹⁵ EPS communication with Nice Ride Minnesota's Executive Director, Bill Dossett, on October 25, 2012.



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On an ongoing basis, Nice Ride has no public funding for operations, relying instead on memberships and user fees and station sponsorships. In 2011 (the only full year for which data is publicly available), Nice Ride generated 54 percent of its operating costs through members' fees and 36 percent through sponsorships, with the remaining 9 percent covered with small grants and miscellaneous funds. Through its first 2.5 years of operations, sponsorship revenues summed to roughly \$875,000, enough to cover 49 percent of the system's operating costs. Subscriptions and fees have actually exceeded this amount, and have generated \$1.15 million, covering 64 percent of operating costs. As such, Nice Ride generated an operating surplus in its first 2.5 years of operations.

SPONSORSHIP PROGRAM

Nice Ride Minnesota has a title sponsor (BlueCross BlueShield) in addition to a number of other corporate, governmental, and institutional contributors including Target Corporation, the Saint Paul Foundation, McNally College of Music and the University of St. Thomas.

Potential benefits of sponsorship include advertisements on bikes, kiosks, the Nice Ride website as well as the placement of logos on maps and other printed materials. In 2011 and 2012, there were 29 different sponsors of station, including national brands like Target Corporation and Aveda (cosmetics) to local law firms, health food stores and restaurants, area colleges and a local bike shop.



BUSINESS MODEL RECOMMENDATION

Given the multi-jurisdictional nature of a proposed Sacramento Area Bike Share Program (e.g., Sacramento, CA and Davis, CA), and the organizational capacities and interests of potential lead agencies for a bike share program in the Sacramento Area, the Sacramento Area Bike Share Program may best be operated by a newly-formed nonprofit organization. The new nonprofit organization could be comprised of representatives of the SMAQMD, participating government agencies, and other stakeholders or could be a separate entity that coordinates with the SMAQMD, participating government agencies, and other stakeholders.

In addition to being the most prevalent model in the United States, the nonprofit business model confers the *potential* advantages of offering meaningful participation to representatives of various groups (as opposed to a single City or agency), limiting the liability of the organization, being competitive for philanthropic funding, and streamlining the procurement and employment processes. EPS and Fehr & Peers encourage SMAQMD and interested parties to explore these potential benefits with legal experts.

CASH FLOW ESTIMATES

This chapter presents estimates of one-time capital and ongoing operational expenses and potential revenues to fund a bike share program in the cities of Sacramento and Davis, CA. The cash flow model is based on monthly ridership projections prepared by Fehr & Peers, and includes a most-likely scenario (**Scenario 1: 3-Year Most-Likely**) and sensitivity scenarios in which demand is both lower (**Scenario 1A: 3-Year Low**) and higher (**Scenario 1B: 3-Year High**) than estimated in Scenario 1.¹⁶

The cash flow model is based on a proposed system of 88 stations, with 1,320 docks and 7 bicycles per station (a total of 616 bicycles). A network of this scope is estimated to generate approximately 29,350 bike share trips each month under Scenario 1 (3-Year Most-Likely). Such usage levels would mean that each bike is ridden on average 1.6 times per day, which is comparable to the Denver B-cycle system and on the higher end of most bike share programs currently in operation in the United States. For context, the highly utilized Washington DC system, Capital Bikeshare, generates annual ridership of nearly three trips per bike per day while most other programs in the United States generate less than one ride per bike per day. Though every system is different and ridership depends on myriad factors ranging from population density to tourism activity to weather conditions, EPS believes these Fehr & Peers estimates reasonably represent potential usage in the envisioned service area.

The cash flow model also incorporates a number of assumptions based on case study research of other bike share programs currently in operation as described in detail in this chapter and summarized in **Table 1**. It is anticipated that this preliminary cash flow model will be used as a basis for further evaluation as SMAQMD continues to explore the feasibility of a bike share program in the capital region.

BIKE SHARE PROGRAM EXPENDITURES

The following section describes initial capital and ongoing operations and maintenance expenditures estimated for a potential bike share program in the capital region. The expenditures described in this chapter remain constant for Scenario 1 and the sensitivity scenarios.

¹⁶ 3-Year Most Likely, Low, and High scenarios reflect annual ridership projections in the 3rd year of operations.

Table 1 - Summary of Key Financial Information for Selected Bike Share Programs [1]

Item		Capital Bikeshare (Arlington Only) FY 2011-12	Boulder B-cycle CY 2011	Denver B-cycle CY 2012	Nice Ride Minnesota CY 2011	Average (Rounded)
Capital Costs	Per Bike	N/A	\$4,773	\$4,074	\$4,892	\$4,600
	Per Station	\$32,993	\$35,000	\$40,740	\$44,496	\$38,300
Annual Operating Costs [2]	Per Bike	\$2,248	NA	\$3,715	\$1,250	\$2,400
	Per Station	\$15,683	NA	\$37,153	\$10,788	\$21,200
	% from Riders	59%	36%	44%	54%	48%
	% of Sponsors	5%	64%	37%	36%	36%

"sum"

Source: Bike share program operators and websites; EPS.

[1] Based on the most current data available.

[2] Annual operating costs represents all operating expenditures, including all general and administrative costs but excluding any capital expenditures. Denver and Minnesota do not operate year-round, so operating costs have been extrapolated to create "annualized" cost estimates.

INITIAL CAPITAL EXPENDITURES

As shown in the case studies provided above, programs such as Boulder and Denver B-cycle and Minnesota's Nice Ride, which utilize stations of similar size (number of bike docks) to those assumed for the Sacramento Area Bike Share Program, showed capital costs of between \$35,000 and \$45,000 per station.¹⁷ The most conservative per-station cost of \$45,000 would result in a total cost of \$4.0 million for the 88-station system envisioned by Fehr & Peers. As an alternative, more optimistic estimate, the case studies yielded an average capital cost of \$4,580 per bike, which would result in a cost of only \$2.8 million for the 616-bike system outlined by Fehr & Peers. Without knowing the type of bike, station, user interface, and other aspects of the bike share system, EPS believes it is appropriate to assume the more conservative figure as an initial expectation.

ONGOING OPERATING AND MAINTENANCE (O&M) EXPENDITURES

The bike share program will require ongoing operational expenses including equipment maintenance and replacement (because of loss, vandalism, theft, or unusual damage); bicycle rebalancing; program administration (e.g., membership maintenance, program promotion); marketing; security and access management; and liability insurance.

In this preliminary cash flow model, the annual operating costs are assumed to be \$2,400 per bicycle annually (\$200 per bicycle per month) or \$1.5 million annually, in aggregate, assuming all the operating efficiencies of a full program. These ongoing operating costs per bicycle are equal to the average of annualized figures for the Nice Ride Minnesota, Denver B-cycle, and Capital Bikeshare (Arlington County) bike share programs, which provide the most comprehensive detail of operating expenses reviewed by EPS (see case studies in **Table 1**). The annual operating cost includes a contingency amount for replacement of bikes resulting from theft, vandalism, and normal wear-and-tear. The \$2,400 per year estimate includes the following annual expenditures for the owners and/or operators of the systems (which may include SMAQMD, a nonprofit, and/or the bike share company such as B-cycle or Alta, depending on the business model):

¹⁷ Capital costs for Denver B-cycle cited in Denver Bike Sharing Annual Report 2011. Nice Ride's capital cost information can be found on their website, niceride.org, in a published response to questions from the community about the program. Station sizes range from 9-23 docks according to Toole Design Group.



Operational Costs

- Program Administration Salaries and Benefits
- Insurance
- Internet and Phone Service
- Office Lease and Furniture
- Postage and Printing for New Subscriber Packages and Annual Mailing
- On-Going Promotions Annual Budget
- Software License and Back-End Operation
- Customer Service Help Desk
- Credit Card Processing Fees
- Wireless Communication between Locking Stations
- Hosting Services
- System Operating Cards
- Misc. Supplies and Expenses

Maintenance Costs

- Full-Time Bike Mechanics
- Electronics Technician(s)
- Contractor Overhead, if applicable
- Bicycle Parts
- Locking Station Batteries
- Other Locking Station Parts
- Communications (Cellular)
- Vehicle Maintenance

Replacement Because of Theft and Major Vandalism (Requiring Replacement)

- Bicycle Theft and Major Vandalism Replacements
- Locking Station Replacements

BIKE SHARE MEMBERSHIP REVENUES

The following section describes potential revenues generated under Scenario 1 (3-Year Most-Likely) of 29,350 trips per month and two sensitivity scenarios in which demand is both lower (Scenario 1A) and higher (Scenario 1B) than estimated in the Base Scenario. To bracket potential revenues generated by



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program users, Scenario 1A assumes 15,200 trips per month (48 percent fewer trips than Scenario 1), while Scenario 1B assumes 56,640 trips per month (93 percent more trips relative to Scenario 1). The monthly ridership projections for Scenario 1 and the sensitivity scenarios were estimated by Fehr & Peers, and provided to EPS for this analysis.

Bike share program users pay for a daily pass, or can subscribe for a longer term (e.g., per month, per semester, per year). As shown in **Table 2**, other select bike share programs in the United States charge \$5 to \$8 for a one-day pass, \$30 to \$75 for an annual membership, and about \$3 for use above and beyond the first half-hour of use. To calculate estimated revenue from extended use fees, EPS obtained trip time data provided by Capital Bikeshare. From this data, EPS projects the percentage of rides (both by daily and annual members) that can be expected to incur extended user fees beyond the initial membership fee.¹⁸

¹⁸ Capital Bikeshare, though far larger than the proposed Sacramento Area Bike Share Program, provides a close comparison to the Sacramento Area because of its large number of government employees.

Table 2 - Bike Share Program Membership Fees

Program	City	State	Membership Options [1]				Extended Usage Fee [1]
			Daily	Weekly	Monthly	Annual	
Boulder B-cycle	Boulder	CO	\$7	\$20	-	\$65	First hour is free; \$4.50 every 30 min. thereafter
Broward B-cycle	Broward (County)	FL	\$5	\$25	-	\$45	Free first 30 min; \$1 31-60mm; \$2 61-90mm; \$4 every 30 min. thereafter
Bike Chattanooga	Chattanooga	TN	\$6	-	-	\$75	1st hour is free; \$5 every 30 min thereafter
Capital Bikeshare	Washington	DC	\$7	\$15 [2]	\$25	\$75	No fee first 30 min; \$1 30-60min; \$4 every 30 min thereafter
Denver B-cycle	Denver	CO	\$8	\$20	\$30	\$65	No fee first 30 min; \$2 30-60min; \$4 61-90mm; \$8 every 30 min thereafter
Des Moines B-cycle	Des Moines	IA	\$6	-	\$30	\$50	1st hour is free; \$2.50 each additional 30 min
Nice Ride Minnesota	Minneapolis/St. Paul	MN	\$6	-	\$30	\$65	First 30 min. free; \$1.50 30-60 min; \$4.50 60-90 min; \$6 every 30 min thereafter
Omaha B-cycle	Omaha	NE	\$6	-	\$30	\$55	First hour free; \$4 each additional hour
Spartanburg B-cycle	Spartanburg	SC	\$5	-	\$15	\$30	First hour is free; \$1 each additional 30 min.
Average			\$6	\$22	\$27	\$58	

"fees"

Source: Bike share program operators and websites; EPS.

[1] Membership and extended usage fees current as of May 2013.

[2] 3-day pass.

In this analysis, EPS has assumed the following pricing scenario, which is based on current pricing for selected comparable bike share programs (Boulder B-cycle, Denver Bike Share, Capital Bikeshare, and Nice Ride Minnesota):¹⁹

- Daily membership: \$7²⁰
- Annual membership: \$65²¹
- Extended usage fee: For trips 31-60 minutes in duration (the first half-hour is included in membership costs), \$2 for daily users and \$1 for annual members. Then, \$6 for trips lasting 61-90 minutes, and \$8 for each subsequent half-hour.^{22 23} Refer to **Table 3** for an illustration of the extended usage fee by user and by time interval, based on Washington DC's Capital Bikeshare program which yielded an average of \$0.62 user fees per trip.

Fehr & Peers has estimated the number of rides that would be generated each month by a system of 88 stations with 616 bikes in and around Sacramento and the surrounding region. Most bike share programs identify all riders as "members," even if they only purchase a one-day pass.

On **Table 4**, EPS converts those rides into the number of "members" using the Sacramento Area Bike Share Program each year by calculating and applying a weighted average number of rides per member per year from the most current information available from comparable American bike share programs. As

¹⁹ For the purpose of this study, EPS chose not to calculate weekly or monthly membership options because of the relative insignificance of those pricing brackets to the overall revenue of a bike share program. For example, DC Capital Bikeshare's monthly members represent approximately 1% of the total membership.

²⁰ \$7 is the average daily membership for the Boulder, Denver, Minnesota and Washington, DC programs.

²¹ The annual membership rate for Boulder, Denver and Minnesota is currently \$65. Capital Bikeshare is currently \$75 for annual membership.

²² Many bike share programs allow users to take a bike for up to one-half hour at no additional charge beyond the cost of their daily, monthly, or annual pass. To discourage users from keeping the bikes all day rather than leaving them in circulation for other users, most programs charge a small fee after the bike has been out for a certain length of time.

²³ Because of data limitations, all trips lasting longer than 5 hours are grouped into a single time interval. . As a conservative estimate, EPS assumes all trips longer than 5 hours will be incur a \$46 charge. In actuality, each additional 30 minute interval beyond 5 hours and 30 minutes would incur an additional \$8 charge.

Table 3 - Extended Use Cost per Trip Estimate

Item	Percent of Trips by Time Interval [1]	Estimated Cost per Time Interval [2]	Average Extended Usage Cost per Trip [3]
Usage Time			
0-30 Minutes	91.8%	\$0.00	\$0.00
30-60 Minutes (Annual Members) [4]	1.3%	\$1.00	\$0.01
30-60 Minutes	3.1%	\$2.00	\$0.06
60-90 Minutes	1.6%	\$6.00	\$0.10
90-120 Minutes	1.0%	\$14.00	\$0.14
120-180 Minutes	0.7%	\$22.00	\$0.16
180-240 Minutes	0.2%	\$30.00	\$0.07
240-300 Minutes	0.1%	\$38.00	\$0.03
300+ Minutes	0.1%	\$46.00	\$0.05
Total	100.0%	NA	\$0.62

"ext_use"

Source: Capital Bikeshare; EPS.

- [1] Percentages based on system data available from Capital Bikeshare's website (capitalbikeshare.com). These percentages represent the allocation of total trips (by all membership types) by time interval between April 2012 and April 2013. Although the majority of trips are within the first 30 minute time interval, roughly 9 percent of all trips accrue additional usage fees. In comparison, Nice Ride Minnesota members incur charges on 11 percent of all trips (2011 data) and Boulder B-cycle members incur charges on 17 percent of all trips (2011 data). This analysis uses Capital Bikeshare figures as a more conservative estimate of potential extended usage charges.
- [2] For the purpose of this analysis, EPS assumes that membership fees will cover the initial 30 minutes of usage and an additional charge will be incurred for every subsequent 30-minute interval.
- [3] Calculated as a weighted average of all extended usage fees by time interval. It is assumed that the majority of trips extending beyond the first 30 minutes will be incurred by daily members, with a negligible number of trips extending beyond the first 30 minutes incurred by annual members.
- [4] The extended usage fee varies for annual and daily members. A majority of the trips in the proposed bike share program are assumed to be taken by annual members and of these trips, nearly 99% are assumed to be within the no-cost first 30 minute interval. The remaining trips by annual users are assumed to be within the 30-60 minute interval.
- [5] Because of data limitations, all trips lasting longer than 5 hours (300 minutes) are grouped into a single time interval. As a conservative estimate, EPS assumes all trips longer than 5 hours will be incur a \$46 charge. In actuality, each additional 30 minute interval would incur an additional \$8 charge.

Table 4 - Estimated Membership of Proposed Bike Share Program

Program	City, State	Total Members in Sample [1]	Trips in Sample [1]	Months in Sample [1]	Trips/Member/Month	Projected Trips/Member/Year
Formula		<i>a</i>	<i>b</i>	<i>c</i>	$d = (b / a) / c$	$e = d * 12$
Case Studies [2]						
Capital Bikeshare	Washington DC/Arlington, VA	124,844	1,171,562	12	0.78	9.4
Nice Ride	Minneapolis, MN/St. Paul, MN	39,000	230,000	9	0.66	7.9
Denver B-cycle	Denver, CO	43,259	202,731	9	0.52	6.2
Boulder B-cycle	Boulder, CO	7,371	18,500	9	0.28	3.3
San Antonio B-cycle	San Antonio, TX	3,800	23,272	6	1.02	12.2
The Hubway	Boston, MA	33,600	60,000	4	0.45	5.4
Spartanburg B-cycle	Spartanburg, SC	550	1,500	5	0.55	6.5
Weighted Average All Case Studies					0.72	8.6
Weighted Average Selected Case Studies [3]					0.73	8.7
<hr/>						
Proposed Bicycle Sharing Program [4]	Sacramento Area, CA					
Scenario 1: 3-Year Most-Likely		40,483	29,350	1	0.73	8.7
Scenario 1A: 3-Year Low		20,966	15,200	1	0.73	8.7
Scenario 1B: 3-Year High		78,124	56,640	1	0.73	8.7

"membership"

Source: Fehr & Peers; Toole Design Group; EPS.

[1] Membership figures for case studies are based on research by the Toole Design Group, published in *Bike Sharing in the United States: State of the Practice and Guide to Implementation*. Research was conducted by Toole Design Group in March 2012.

[2] Case study trip and membership data is based on findings in *Bike Sharing in the United States: State of the Practice and Guide to Implementation* (Toole Design Group, 2012).

[3] Selected Case Studies include Capital Bikeshare (DC/Arlington), Nice Ride (MN), Denver B-cycle (CO) and Boulder B-cycle (CO).

[4] For the proposed bicycle sharing program, trips per month (monthly ridership projections) were estimated by Fehr & Peers.

shown, the average is 8.7 rides per member per year, which would translate to roughly 40,500 members per year riding the bike share in the Sacramento Area Bike Share Program under Scenario 1.

The Federal Highway Administration's study by Toole Design Group differentiates "annual members" (those purchasing a year-long membership) from "casual members" (everyone else).²⁴ As shown in **Table 5**, most American bike share systems have many more casual members than annual members. EPS has calculated the average proportions for comparable bike share programs and applied those averages to our projections for the Sacramento Area Bike Share Program system. As shown, the case studies' weighted average suggests that 88 percent of all riders would be casual members while 12 percent would be annual members. These proportions would yield roughly 35,400 "casual" members and about 5,000 "annual" members in the Sacramento Area Bike Share Program under Scenario 1.

NET CASH FLOW

SCENARIO 1 (3-YEAR MOST-LIKELY)

As shown in **Table 6**, based on the pricing structure described above, Scenario 1 generates approximately \$794,000 annually in membership and user fee revenue, or about 54 percent of estimated annual O&M expenditures of \$1.5 million, leaving approximately \$684,000 annually required from other funding sources, such as sponsorships, advertising, gifts in kind (private or corporate donations), grant funding or other sources. This estimated percentage of revenues from member fees is similar to that seen with some of the most successful bike share programs in the country. For example, Denver B-cycle stated in its 2011 Annual Report that user fees produce 46 percent of their total revenue, and, in their 2011 Annual Report, Boulder B-cycle cited that 36 percent of total operating costs were covered by user fees. Arlington County's portion of the Washington DC bike share program generated fully 59 percent of its operating costs through user fees, buoyed perhaps by the extensive tourism market and associated high revenues per trip from daily users.

²⁴ "Bike Sharing in the United States: State of the Practice and Guide to Implementation," Prepared by Toole Design Group and the Pedestrian and Bicycle Information Center for USDOT Federal Highway Administration, September 2012 (<http://www.bicyclinginfo.org/promote/bikeshareintheus.pdf>)

Table 5 - Daily and Annual Membership Estimates

Program	City, State	Bicycle Sharing Program Membership			Percentage of Total Membership	
		Casual	Annual		Casual	Annual
		Total [1]	Members [2]	Members		
Case Studies [3]						
Capital Bikeshare	Washington DC/Arlington, VA	124,844	105,644	19,200	85%	15%
Nice Ride	Minneapolis, MN/St. Paul, MN	39,000	35,000	4,000	90%	10%
Denver B-cycle	Denver, CO	43,259	40,600	2,659	94%	6%
Boulder B-cycle	Boulder, CO	7,371	6,200	1,171	84%	16%
San Antonio B-cycle	San Antonio, TX	3,800	2,800	1,000	74%	26%
The Hubway	Boston, MA	33,600	30,000	3,600	89%	11%
Spartanburg B-cycle	Spartanburg, SC	550	450	100	82%	18%
Des Moines B-cycle	Des Moines, IA	2,300	2,251	30	98%	1%
Weighted Average					88%	12%
Proposed Bicycle Sharing Program [4]	Sacramento Area, CA					
Scenario 1: 3-Year Most-Likely		40,483	35,435	5,048	88%	12%
Scenario 1A: 3-Year Low		20,966	18,351	2,614	88%	12%
Scenario 1B: 3-Year High		78,124	68,383	9,741	88%	12%

"breakdown"

Source: Toole Design Group; EPS.

[1] Total members, as shown in Table 4.

[2] Casual membership is defined as any membership option other than annual (e.g., daily, weekly, monthly, etc.). Based on case study research, multiple-day, weekly, and monthly memberships represent an insignificant percentage of total membership revenue for U.S. bike share programs. As such, this analysis groups all non-annual memberships into one category.

[3] EPS uses the listed case studies in order to verify that the percentage of annual membership of total membership is a reasonable assumption. As shown, the ratio is within the range exhibited by the case studies.

[4] Assumed membership breakdown based upon case studies of currently operating U.S. bike share programs.

Table 6 - Illustrative Cash Flow Model

Item	Initial Capital Costs (Year 1)	Annual Operations & Maintenance [1]		
		Scenario 1: 3-Year Most-Likely	Scenario 1A: 3-Year Low	Scenario 1B: 3-Year High
Number of Bikes [2]		616	616	616
Number of Stations		88	88	88
Trips/Month [3]		29,350 Trips/Month	15,200 Trips/Month	56,640 Trips/Month
Members/Year [4]		40,483 Members/Year	20,966 Members/Year	78,124 Members/Year
Annual Expenditures				
Capital Costs [5]				
Number of Bikes [2]	616		-	-
Number of Stations	88	-	-	-
Capital Costs per Station	\$45,000	-	-	-
Total Capital Costs	\$3,960,000	-	-	-
Operating & Maint. (O&M) Costs				
Annual O&M Cost per Bike [6]	-	\$2,400	\$2,300	\$2,500
Total O&M Costs	-	\$1,478,400	\$1,416,800	\$1,540,000
Annual Revenues				
Membership/User Fees				
Daily Subscriptions				
Daily Subscribers/Year [7]	-	35,435	18,351	68,383
Price/Day	-	\$7	\$7	\$7
Annual Total	-	\$248,046	\$128,460	\$478,683
Annual Subscriptions				
Annual Subscribers/Year [7]	-	5,048	2,614	9,741
Price/Year	-	\$65	\$65	\$65
Annual Total	-	\$328,091	\$169,914	\$633,154
Extended Usage Fees				
Avg Fee per Trip [8]	-	\$0.62	\$0.62	\$0.62
Annual Trips [9]	-	352,200	182,400	679,680
Annual Total	-	\$218,237	\$113,022	\$421,157
Total Membership/User Fees	-	\$794,375	\$411,397	\$1,532,994
Other Sources [10]				
Advertising/Sponsorships	TBD	TBD	TBD	TBD
Gifts in Kind	TBD	TBD	TBD	TBD
Grants	TBD	TBD	TBD	TBD
Total Other Sources	\$3,960,000	TBD	TBD	TBD
Total Revenues	\$3,960,000	\$794,375	\$411,397	\$1,532,994
Net Cash Flow	\$0	(\$684,025)	(\$1,005,403)	(\$7,006)
Revenue as % of O&M Costs		54%	29%	100%

"cash_flow2"

Source: Fehr & Peers; Toole Design Group; EPS.

- [1] Assumes the operating efficiencies of a full program.
- [2] Based on an assumption of 7 bicycles per station.
- [3] Ridership projections estimated by Fehr & Peers. Sensitivity scenarios bracket potential revenues by assuming 12,360 fewer trips (Scenario 1A) and 23,870 additional trips (Scenario 1B) relative to Scenario 1.
- [4] The estimated number of members per year relative to monthly ridership projections is calculated in Table 4.
- [5] Assumes zero site acquisition costs. The \$45,000 per station estimate for start-up costs includes the following capital costs: bicycles; locking stations; membership cards (RFID cards that subscribers would "swipe" at a station to check out a bike); software; user-interface technology; maintenance equipment; storage racks; and traffic barriers. The estimate also includes the following non-capital costs: development of system map and map racks; marketing, legal, and accounting services.
- [6] Cost estimate based on case study research presented in Table 1 (average operating cost per bike, including a cost contingency factor for operating a bike share program in California in current dollars) and an average monthly operating cost of \$200 per bike cited in Toole Design Group's Bike Sharing in the United States: State of the Practice and Guide to Implementation report published in September 2012. Assumes \$100/month less for lower-utilization Scenario 1A and \$100/month for higher-utilization Scenario 1B to account for differences in wear-and-tear on bikes.
- [7] Assumes daily subscriptions are 88% and annual subscriptions are 12% of total membership. Refer to Table 5 for more information
- [8] Extended usage fee per trip based on a pricing model described .
- [9] The extended usage fee was applied to the monthly ridership projections (trips) multiplied by 12.
- [10] Based on case study research, all bike share programs require supplemental funding from other sources of revenue. Specific amounts from other sources cannot be determined at this time but they will likely comprise some combination of the revenues listed. Other sources of revenue may also be available.

As a sensitivity test, EPS has also compared the Sacramento Area Bike Share Program's estimated membership revenues to the per-bike financial performance of other bike share programs. **Table 7** yields membership and user fee revenues of \$1,290 per bike per year for the proposed Sacramento Area Bike Share. By comparison, Denver generated the equivalent of \$1,615 per bike per 12 months (\$643,000 / 530 bikes for 9 months of operations), the Capital Bikeshare (Arlington only) system generated \$1,325 per bike per year (\$379,000 / 286 bikes), and Nice Ride Minnesota generated the equivalent of \$930 per bike per 12 months (\$780,000 / 1,260 bikes for 8 months of operations). Based on a comparison of selected American bike share programs, the revenue generation assumption and results of \$1,290 per bike for the proposed Sacramento Area Bike Share Program appear to be reasonable.

In sum, EPS estimates that the Sacramento Area Bike Share Program will cost about \$1.5 million per year to operate, and will generate roughly \$794,000 per year from actual riders under Scenario 1 ridership estimates prepared by Fehr & Peers. This level of performance would leave roughly \$684,000 of operating costs to be subsidized by other funding sources, which may be comprised of sponsorships, philanthropic grants, or local public-sector funding matches.

SENSITIVITY SCENARIOS: SCENARIO 1A AND 1B²⁵

To bracket potential revenues generated by program users, Scenario 1A assumes 15,200 trips per month (14,150 fewer trips than Scenario 1), while Scenario 1B assumes 56,640 trips per month (27,290 additional trips relative to Scenario 1). As shown in **Table 6**, the sensitivity scenarios generate a range of \$411,000 (Scenario 1A) to about \$1.5 million (Scenario 1B) in annual membership and user fee revenue, or about 29 percent to nearly 100 percent of annual operating expenditures, which are assumed to vary marginally based on greater or lesser wear-and-tear on the bikes. Under Scenario 1A, an additional \$1.0 million in annual revenues from other sources would be required; Scenario 1B would only require an additional \$7,000 in annual revenues from other sources.

²⁵ The sensitivity test conducted for Scenario 1 based on other systems' annual rider revenues per bike was not conducted for Scenarios 1A and 1B, as these are intended to reflect "worst case" and "best case" scenarios, respectively, and applying a fixed revenue per bike would yield the same result in all scenarios.

Table 7 - Comparison of Revenue per Bike: Proposed Program and Selected Existing Bike Share Programs

Item	Proposed Sacramento Area Bike Share Program (3-Year Most-Likely)	Selected Existing Programs [1]		
		Denver B-cycle (2012)	Capital Bikeshare (Arlington Only) (FY 2012)	Nice Ride Minnesota (2012)
Source	Table 6	[2]	[3]	[4]
Total System Bicycles	616	530	286	1,260
Annualized Membership/Usage Fee Revenue				
Membership Fee Revenue	\$576,137	\$428,998	-	\$600,668
Extended Usage Fees	\$218,237	\$213,506	-	\$179,420
Total Annualized Membership/Usage Fee Revenue	\$794,375	\$642,504	\$379,000	\$780,088
Membership/Usage Revenue per Bicycle (Rounded)	\$1,290	\$1,615	\$1,325	\$930

"comp"

Source: Various sources (see footnotes below); EPS.

[1] Selected, existing programs were chosen based on publicly-availability of data and represents the best available data at the time of the analysis

[2] 2012 Denver Financial Statement of Activities, Denver Bike Sharing. Adjusted to reflect annualized amount (program is in operation for 9 months).

[3] Arlington County FY 2012 Summary Report on Capital Bikeshare:

bikearlington.com/tasks/sites/bike/assets/File/Arlington_Bikeshare_FY12_Sum_Report.pdf;

Capital Bikeshare dashboard: cabidashboard.ddot.dc.gov/CaBiDashboard/#Home

[4] Figures through July 2012 in Nice Ride 2012 Annual Report are extrapolated to create annual equivalents.

POTENTIAL OPERATING FUNDING APPROACHES AND SOURCES

As illustrated by the case studies, there are myriad resources available for bike share systems' capital costs, ranging from Federal and state grant monies to sponsorships by area business, institutions and foundations. **Table A-1** in **Appendix A** presents information on potential capital funding sources from federal and state programs.

Of greater concern is the potential need for operating subsidies, for which far fewer existing funding programs are applicable. Most of the bike share systems presented in the case studies rely primarily upon fees from riders and sponsorships for their ongoing operating costs. In this chapter, EPS explores the sponsorship opportunities for the Sacramento Area Bike Share Program, and identifies some other potential public revenue sources to fill budget gaps as may occur. Many bike share sponsors are not looking for the highest return on advertising dollars but instead tend to have more altruistic objectives.

SPONSORSHIP BEST PRACTICES

The most common sponsorship model involves the receipt of financial support in exchange for the sponsors' logo on bikeshare equipment (stations and bikes) and publicity materials (website, newsletter, advertisements, etc.). Prices, contract lengths and other parameters regarding equipment sponsorship vary depending on the program. In addition to standard fees for advertising space, bike shares utilize an array of strategies that may involve membership discounts or the selection of station locations.

TITLE SPONSORS

Many of the larger bike share systems have secured "title sponsors" who receive frequent and conspicuous recognition for their contributions to the system. For New York City's upcoming program, CitiBank is the title sponsor, and the system will be called "CitiBike." Boston's system is referred to as the New Balance Hubway, in recognition of that athletic apparel manufacturer's title sponsorship support. Minnesota's Nice Ride and Denver B-cycle system are both title sponsored by health care systems (Blue Cross Blue Shield and Kaiser Permanente, respectively). Logos for these groups typically are prominent on the systems' bike and station equipment, websites, and marketing materials, although some variation

does exist. For example, Kaiser Permanente logos are present on Denver bike share stations, but not on the bikes themselves.

Healthcare providers have proven to be very strong supporters of other bike share programs throughout the country, including Nice Ride Minnesota, Broward B-cycle in Florida, Bike Chattanooga in Tennessee, and Omaha B-cycle in Nebraska. Not only have healthcare providers been willing to support capital costs, but they have committed to support ongoing operational budgets and system expansion. Healthcare providers that operate in California such as Kaiser Permanente and BlueCross BlueShield have already contributed to both the capital and operational costs of bike share programs in cities such as Denver, Omaha, and Minneapolis and may be willing to contribute to a Sacramento Area Bike Share Program. Major healthcare providers operating in the region that may be interested in entering into a title sponsorship contract, include: Sutter Health; Kaiser Permanente; Blue Shield of California; Adventist Health; Western Health Advantage; Health Net of California; and UnitedHealthcare.

Further, opportunities for title sponsorship may be strongest for the Sacramento region's major private (non-healthcare) employers, including: grocery stores and other retailers (Raley's, Nugget Market, Inc., Sleep Train Mattress Center); general contractors and construction companies (Teichert, S.D. Deacon Corp., Roebblen Contracting Inc., Panattoni Construction, Inc.); and food processing companies (Blue Diamond Growers).²⁶

Based on the types of businesses that have provided title sponsorships for other bike share programs across the nation, sponsorship opportunities may be realized in a variety of other businesses that derive value from advertising or affiliation with a bike share program in the Sacramento region, including:²⁷

- Local financial institutions (River City Bank; American River Bank; Five Star Bank);
- Local commercial and residential real estate developers, in particular infill real estate developers and the parties involved with development of a new Sacramento Kings arena;

²⁶ Major employers obtained from the Sacramento Business Journal's 2012 Book of Lists, top private companies in the Sacramento region.

²⁷ The listing of additional organizations that may be interested in title sponsorship opportunities with the potential Sacramento Area Bike Share Program is not intended to be a definitive or comprehensive listing but rather illustrative of the range of organizations that are similar to those that have invested in other existing bike share programs.



- Local community and tourism-oriented public and private organizations (Sacramento Midtown Business Association; Sacramento Area Commerce and Trade Organization; Sacramento Metro Chamber; Housing Authority of Sacramento County; Sacramento River Cats);
- Hospitality-related businesses, such as hotels and restaurants (Hyatt; Sheraton);
- Public and private environmental organizations (California Environmental Protection Agency; SMAQMD; AECOM; ICF Jones & Stokes);
- Regional public transportation providers (Regional Transit; Yolo County Transportation District; Capitol Corridor); and
- Local educational institutions (Sacramento State; UC Davis; Sacramento City College).

STATION SPONSORS

Denver and Boulder's B-cycle systems invite organizations to become a Station Host: in exchange for financial support, B-cycle will place a station outside a select business or neighborhood, provide reduced membership and other incentives. Companies such as Google and research campuses such as the University Corporation for Atmospheric Research (UCAR) have elected this option thus far in Boulder, and Whole Foods is being actively pursued. Though prices are negotiable, Boulder aims for \$10,000 per station per year for these sponsorships, while Denver hopes for \$30,000 per station per year, or \$20,000 per year with a three-year commitment.

Nice Ride Minnesota has a similar station sponsorship opportunity. In 2011 and 2012, there are 29 different sponsors of stations, including national brands like Target Corporation and Aveda (cosmetics) to local law firms, health food stores and restaurants, area colleges and a local bike shop.

OTHER SPONSORSHIPS

A number of smaller advertising opportunities exist in many bike share systems. **Figure 1** illustrates the locations promoted by B-cycle as being appropriate for sponsorship logos and advertisements, and range from small strips on the handlebars to larger poster panels at stations. Specific pricing examples for logo placement include the following:

- Baskets: \$1,000 per bike per year in Boulder, \$1,500 in Denver



- Badges (stickers): \$2,000 per 10 bikes per year in Boulder

In addition to these advertising opportunities on the bike share equipment, sponsorships and partnerships may include the following:

- Advertising Partnerships: Denver B-cycle partners with the local transportation authority, the Colorado Rockies, a local billboard company, among others, trading advertising space on bikes and stations in exchange for advertising space in buses, trains, stadiums, etc.
- In-Kind Advertising Partnerships: In exchange for advertising space on bikes and stations, Denver B-cycle receives in-kind gifts from companies such as Clif Bar, local breweries and even law services from local law firms. In-kind partnership advertising takes up approximately 30 percent of potential bike advertising space.
- Hotel Partnership: Hotel partnerships involve the purchasing of 24-hour memberships in bulk quantities at a discounted price. Capital Bikeshare provides helmets, brochures and bike maps with hotel partnership purchases.
- Community Partnership: In exchange for publicity in Capital Bikeshare's monthly newsletter and on their website, local businesses provide discounts to members (e.g., 25 percent off falafel) as well as contribute to Capital Bikeshare. Capital Bikeshare also enjoys direct sponsorship from community or business organizations such as Business Improvement Districts (BIDs) and community groups that advocate transit options.
- Event Participation: Denver B-cycle participates in a number of events ranging from the Orange Ride to marathons to various festivals.²⁸ In exchange for publicity, B-cycle provides bikes, volunteers and staff for a wide range of Denver events.²⁹

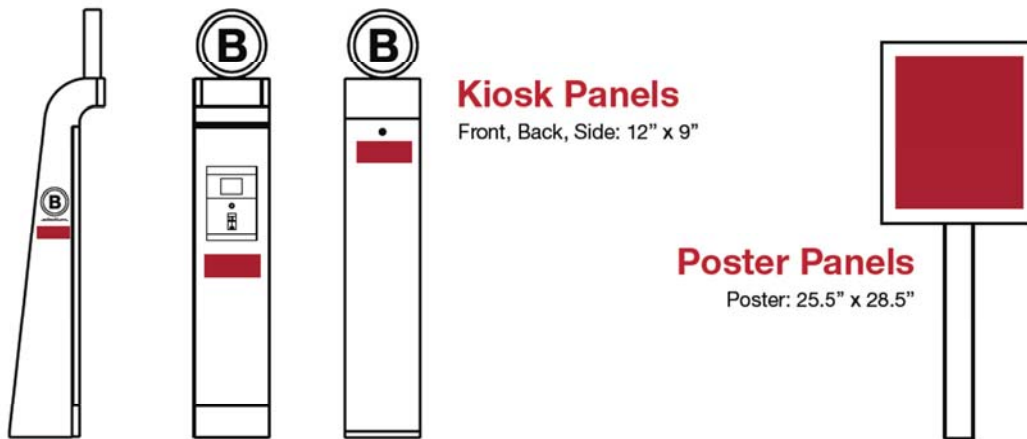
²⁸ The Orange Ride involves the Mayor of Denver leading a bicycle ride to Mile High Stadium for a Broncos game. Carrying the game ball, the Mayor rides a B-cycle onto the field to present the ball to the referees.

²⁹ Nonprofit bike share programs are constantly challenged by the number of events in which they are asked to participate. Event marketing success is difficult to quantify and requires a large amount of staff or volunteer support.



Figure 1.

Sponsorship and Advertising Opportunities



BIKE PANELS

- ① Baskets (2)
- ② Wheel Guard (2)*
- ③ Handlebars (top)
- ④ Handlebars (face)
- ⑤ Throat
- ⑥ Shroud (triangle)

* reserved for Title Sponsor



KIOSK PANELS (4)

Front, Back & Side (2) locations

POSTER PANELS (2)

Map: sponsor logo placement

Poster: reserved for Title Sponsor





Similar to other bike share programs, the proposed Sacramento Area Bike Share Program could offer station sponsorship and advertising opportunities on stations, bikes, and in other mediums and locations within the Sacramento Area (e.g., local periodicals, buses) to generate supplemental revenue to fund annual operating expenditures. Based on information obtained from DecoBike LLC, a company recently selected to implement and operate San Diego's bike share program, the Sacramento Area Bike Share Program could potentially generate up to \$470,000 in poster advertising revenue at each station.³⁰ Actual annual advertising revenue could vary based on differing assumptions used in this analysis.

OTHER POTENTIAL OPERATING REVENUE SOURCES

In addition to user fees and sponsorship opportunities as described above, the Sacramento Area Bike Share Program may be able to utilize one or more of the following revenue sources to support ongoing operations.

CMAQ GRANTS

The Federal Transit Administration offers Congestion Mitigation and Air Quality (CMAQ) grants that have typically been used as capital funding for bike share systems. However, Boston's New Balance Hubway system has indicated an expectation that a portion of its CMAQ grant will be used to fund operations costs in initial years, according to research conducted in Arlington County's *Capital Bikeshare Transit Development Plan* (2012).

LOCAL GOVERNMENT FUNDING

Local governments may have funds available through their General Fund or dedicated fund sources to support the operation of programs of special merit. For instance, Boston's Hubway has received a \$450,000 grant from the Boston Public Health Commission. The Arlington Virginia portion of the Capital Bikeshare program receives 36 percent of its operations funding from the Arlington County government, including \$200,000 annually from local vehicle decal (vehicle registration) fees.

³⁰ This preliminary advertising revenue estimate is based on the following assumptions derived through conversations with DecoBike LLC in July 2013: \$700 per poster advertisement per 4-week period (13 4-week periods annually); one poster advertisement per station; 80 stations; and a 65 percent annual occupancy rate.

Other systems have been established with the expectation that parking revenues would supplement the bike share operations. Montreal's *BIXI* system was originally developed by the city's parking authority. It is operated by PBSC Solutions, and currently consists of 5,120 bikes, 411 stations and has approximately 40,000 members. Despite rapid expansion in membership, *BIXI* revenue in 2011 was far below projections, forcing PBSC to ask for additional loans from the City.³¹

The City of Barcelona's bike share system, *Bicing*, is managed and maintained by Clear Channel and Barcelona's city council. The 400-station, 6,000-bicycle system is primarily funded through parking revenue obtained by the "green area" car parking system introduced in 2005. The system designated certain areas of the City for resident parking only, where residents have the option to pay an annual fee to keep a designated parking space. Revenue from the "green area" provided funding for the initial capital expenses for *Bicing*, and continues to pay for ongoing operational costs along with sponsorship, membership and user fees.

EDUCATIONAL INSTITUTIONS

As mentioned previously, local educational institutions in the Sacramento region, including Sacramento State, Sacramento City College, UC Davis and local junior college campuses, may be willing to participate in the Sacramento Area Bike Share Program as partners or sponsors by ensuring a minimum number of subscriptions, facilitating sign ups, by providing space(s) for a bike-lock station, and/or by providing an annual Program subsidy. In exchange, the educational institutions would benefit through healthier students, community service publicity, and reduced demand for on-site parking.

PRIVATE REAL ESTATE DEVELOPERS

Private real estate developers may be willing to participate in a bike share program by providing bike share facilities and/or equipment in exchange for parking reductions, which can improve the financial feasibility of their developments. In addition, developers are seeking ways to promote themselves as environmentally friendly and "green". Though exchanges for reduced parking may not as attractive an offer in Sacramento and Davis, partnering with a bike share program would certainly give positive publicity and may help with other certifications, such as LEED, which can improve the marketability of new development. In certain cases, pledges of financial support for operations may be preferable to these capital contributions.

³¹ CBCNews article published September 21, 2012 describing financial difficulties facing PBSC.

PRIVATE FOUNDATIONS AND INDIVIDUAL CONTRIBUTIONS

Regionally-based private foundations have shown a willingness to invest in bike share programs. These include endowed, nonprofit institutions that allocate mission-based funds for issues such as public health, social justice, equity, or transportation (e.g., Mary Black Foundation). Foundations set up by private businesses (e.g., JM Smith Foundation, Principal Foundation) have given funds to support their local communities.

ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACTS OF BIKE SHARE PROGRAMS

In this initial evaluation of a bike share program, EPS has prepared a high-level qualitative assessment of the program's potential economic, environmental, and social impacts to the local economy. As a later phase of evaluation, it may be worthwhile to conduct a full-scale quantitative analysis focused on the economic output of a bike share program (i.e., jobs created, estimated economic activity generated in the local economy). This chapter summarizes existing literature regarding the most frequently cited economic, environmental, and social impacts of bike share programs.

ECONOMIC IMPACTS

While the *health* benefits of increased bicycle usage through a bike share program have been widely studied, the study of the *economic* impacts of a bike share program is still in its nascent stage. That is, there is not a wealth of literature quantifying specific impacts to the local economy from which to draw conclusions for a bike share program in the Sacramento Area. There are only a few studies that have begun to quantify bike share program impacts as well as numerous sources that depict the economic impacts of bike share programs based primarily on anecdotal evidence. Key findings regarding the most frequently cited economic impacts are presented below.

- **A recent study estimates cyclists spend nearly \$40 per person per season (30-week period) in additional retail purchases at businesses in close proximity to bike share stations.** A recent study conducted by the University of Minnesota's Humphrey School of Public Affairs and published in the University's July 2012 edition of Catalyst, appears to be one of the first studies to quantify additional economic activity resulting from a bike share program. The study, which analyzed economic activity associated with the Nice Ride Minnesota program in the Twin Cities, estimates that cyclists spend an

additional \$150,000 in aggregate per season (30-week period) at restaurants and other businesses located in close proximity to Nice Ride stations. This additional economic activity translates into about \$37 per person per season, or \$1.25 per person per week.³² The study concludes that these findings could potentially influence the way bike-share agencies structure their sponsorships and business partnerships.³³

- **Bike share programs spur economic development by increasing access and exposure to local businesses and employment opportunities.** A 2013 member survey conducted by LDA Consultants on Washington DC's Capital Bikeshare program reported that more than eight in ten respondents were either much more or somewhat more likely to patronize an establishment that is accessible by Capital Bikeshare.³⁴ Small businesses in Minneapolis's downtown retail area actively support the local bike share program "because it's an economic development tool [and] it gets people to come out to lunch from office towers a mile away."³⁵ Bicycling increases exposure to storefronts and retail businesses. A study in Toronto, Ontario found that people who biked or walked to a main commercial area of the city spent more money in the area per month than people who drove there to shop.³⁶
- **Bike-share programs create a range of job opportunities.** Bike-share programs require staff to maintain the bicycles, redistribute them when necessary and administer and oversee the systems' central computer network. From the beginning, smaller implementations of bike share programs can contribute 10-20 full- and part-time jobs to the local economy, while larger implementations can contribute 30-50 full- and part-time jobs.³⁷ Job types are varied as the program requires everything from mechanics and warehouse staff, to call center technicians, service staff, sector managers and supervisors who interact with the public.³⁸
- **Bike share programs reduce automobile usage and overall personal transportation costs.** In Capital Bikeshare's 2013 Member Survey, approximately one-quarter of users reported a reduction in their number of miles driven after joining bike share and users saved an average of about \$800 per

³² Schooner, Jessica E. "Sharing to Grow: Economic Activity Associated with Nice Ride Bike Share Stations." May 24, 2012. Presented at the 23rd Annual Transportation Research Conference.

³³ "Nice Ride spurs spending near stations." July 2012 Center for Transportation Studies Catalyst publication.

³⁴ Capital Bikeshare 2013 Member Survey Report, LDA Consulting, May 22, 2013.

³⁵ Fried, Ben. "Sponsors Sold on Health, Economic Benefits of Minneapolis Bike-Share." Streetsblog.org website. February 8, 2010.

³⁶ "The Benefits of Capital Bikeshare for Developers, Property Owners, and Employers." Metropolitan Washington Council of Governments. May 27, 2011.

³⁷ DeMaio, Paul and Russell Meddin. "Bike Sharing Creates Job[s]." The Bike-Sharing Blog website. August 24, 2012.

³⁸ Velib' Website, "Velib Press Kit," Velib' website.

year on their transportation costs including car payments, insurance, oil, gas, maintenance and parking.³⁹ For the Nice Ride Minnesota program, 20 percent of users indicated replacing car travel with the Nice Ride bike share program.⁴⁰ Savings from transportation can then be spent elsewhere, often in other areas within the local economy.⁴¹

- **Bike share programs may generate about 50 to 75 percent more direct, indirect and induced jobs per dollar than typical road projects.** As explained in Smart Growth America's Transportation Funding and Job Creation, released in 2011, per dollar spending on public transportation projects (including bike share programs and bike infrastructure investments), created 75 percent more jobs per dollar than road projects. Further, a 2010 case study conducted by the Political Economy Research Institute (PERI) at the University of Massachusetts, Amherst on Baltimore, Maryland found that bike infrastructure projects create about 50–60 percent more jobs than road construction or repair projects per \$1 million.⁴²
- **Bicycle paths have been linked with increasing the value of adjacent property.** While there is no known research regarding the influence of bike share programs in particular on adjacent property values, there is research on the positive impacts of bike paths and adjacent property values. In 2002, the National Association of Realtors and the National Association of Home Builders surveyed 2,000 homebuyers and found that a path for biking, walking or jogging was "the second most important neighborhood amenity" for them, behind highway access. In 2006, the University of Delaware conducted a literature review and studied the impact of bike paths within the State of Delaware on residential property values. The majority of studies examined indicated that the presence of a bike path/trail either increases property values and ease of sale slightly or has no effect, provided the bike path/trail is well-maintained, well-used, and well-integrated into the surrounding neighborhood. The model developed to study the impact of bike paths in Delaware on proximate property values show that a bicycle path would be expected to slightly increase property values by about \$8,800 (in 2006 dollars).⁴³ Increased property values, in turn, result in increased municipal tax revenues for local taxing entities.

³⁹ Capital Bikeshare 2013 Member Survey Report, LDA Consulting, May 22, 2013.

⁴⁰ Nice Ride Minnesota Member Survey November 2010.

⁴¹ "Economic Recovery: Promoting Growth: The Benefits of Public Transportation." American Public Transportation Association. 2011.

⁴² "Recent Lessons from the Stimulus: Transportation Funding and Job Creation." Smart Growth America. February 2011.

⁴³ Racca, David P. and Amardeep Dhanju. "Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas." University of Delaware, College of Human Services, Education, and Public Policy. November 2006.

- **Bike share program usage may lead to improved health, which may reduce health care costs and improve job performance.** Bike-share programs tend to introduce new people to bicycling and make bicycling a part of peoples' lives in new ways. Thus, bike-share programs offer significant options for improvements in personal health and quality of life. Improved health outcomes can also come with cost savings for city and state health care providers. According to a study by the California Department of Health Services, a 5% improvement in the rates of physical inactivity and healthy weight over five years could save California more than \$6 billion, while a 10 percent improvement could save nearly \$13 billion.⁴⁴ That is, a significant cost savings could be realized in conjunction with increased physical activity. In addition, Dutch studies have found correlations between the level of activity and worker productivity. Workers who met recommended levels of vigorous physical activity (at least 20 minutes each time, three times a week) had four fewer sick days per year, on average, than their counterparts who did not.⁴⁵

ENVIRONMENTAL IMPACTS

The principal environmental benefits of bike share programs has been a reduction in vehicle miles traveled and associated reductions in carbon dioxide emissions and dependence on fossil fuels. By way of example, in 2011, both Madison and Boulder B-cycle program users took approximately 18,500 trips on shared bicycles and are estimated to have spared the air about 47,000 kilograms (nearly 104,000 pounds) of carbon dioxide emissions. In addition, with nearly 203,000 trips in 2011, Denver B-cycle program users are estimated to have reduced carbon dioxide emissions by about 280,000 kilograms.⁴⁶

The carbon dioxide emission reductions were reported through the annual reports of each bike share program, and emission-reduction estimates vary because of differing assumptions about user behavior, trip distribution, and trip substitution. A bike share program in the Sacramento Area would have similar reductions in vehicle miles traveled and emissions; actual reductions will be based on a multitude of variables specific to the Sacramento Area and program user behaviors.

⁴⁴ Chenoweth, David. "The Economic Costs of Physical Inactivity, Obesity and Overweight in California Adults: Health Care, Worker's Compensation, And Lost Productivity." California Department of Health Services. April 2005.

⁴⁵ Proper, K., et al. "Dose-response relation between physical activity and sick leave." British Journal of Sports Medicine, 2006. 40(2): p. 173-8.

⁴⁶ "Public Bikesharing in North America: Early Operator and User Understanding." Mineta Transportation Institute, Report 11-26, June 2012.

SOCIAL IMPACTS

Bike sharing programs serve as an extension of the public transit system. Based on a Mineta Transportation Institute survey distributed online to users of four North American bike share programs between November 2011 and January 2012, the bike share system has enabled some users to use public transit more frequently, while for others, the bike share system has eliminated some public transit usage for short trips because users are able to get to their destinations more quickly and for less money via shared bicycle versus bus or rail. In all cities, bike sharing programs have facilitated connections to other modes of public transit and lowered vehicle ownership rates. Interestingly, bike share programs have served as a substitute for walking in the three largest cities surveyed.^{47 48}

Capital Bikeshare's 2013 member survey report indicates that many users' top purpose for using bike share is to perform personal (non-work) trips. Seventy percent of respondents reported that they occasionally use bikeshare for social/entertainment and errands/personal appointments because it is a fast, easy, and cost-effective way to reach their destination.⁴⁹ Further, three-quarters of Capital Bikeshare survey respondents indicated they use public bikeshare because they enjoy biking and it offers travel flexibility adding to their quality of life.

It is important to note that the socioeconomic characteristics of survey respondents – and users of public bike share systems in general – tend to be predominantly young (under age 35), male, Caucasian, and be highly-educated (hold at least a 4-year college degree).⁵⁰ The socioeconomic characteristics of bike share program users tend to differ substantially from the characteristics of the adult population in the region. There is some evidence that user characteristics have shifted to become at least less dominantly male and less white.⁵¹ It will be important for the program in the Sacramento Area to focus on how to expand access to a diversity of users.

⁴⁷ Ibid.

⁴⁸ Four North American cities surveyed are: Montreal (Bixi); Twin Cities (Nice Ride Minnesota); Toronto (Bixi); and Washington D.C. (Capital Bikeshare).

⁴⁹ Capital Bikeshare 2013 Member Survey Report, LDA Consulting, May 22, 2013.

⁵⁰ "Public Bikesharing in North America: Early Operator and User Understanding." Mineta Transportation Institute, Report 11-26, June 2012.

⁵¹ Capital Bikeshare 2013 Member Survey Report, LDA Consulting, May 22, 2013.

**APPENDIX A: POTENTIAL BIKE SHARE PROGRAM
CAPITAL AND OPERATING FUNDING SOURCES**



APPENDIX A: POTENTIAL CAPITAL FUNDING SOURCES

The information below may be of use in consideration of funding both initial capital investments as well as future expansions of the system. The funding sources below are topically relevant but have not necessarily been previously used to fund bike share programs. In this sense, in some instances, they are untested sources and the nexus between the focus of the funding source and the bike share program may need to be articulated and approved before grant approval. These federal and state funding sources also have been summarized in tabular format as shown in **Table A-1**.

FEDERAL SOURCES

- **Moving Ahead for Progress in the 21st Century.** On July 6, 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law. MAP-21 governs the funding of Federal surface transportation programs for fiscal years (FY) 2013 and 2014 and is the first long-term highway authorization enacted since the Safe, Accountable, Flexible, and Effective Transportation Equity Act—Legacy for Users (SAFETEA-LU) was enacted in 2005. Specific Federal funding programs under MAP-21 that could likely fund the capital costs of a bike share program include the programs described below.
 - **Transportation Alternatives Program (TAP).** MAP-21 establishes a new program, Transportation Alternatives (TAP), to provide funding for a variety of alternative transportation projects including bicycle and pedestrian projects that were previously eligible through separately funded programs under SAFETEA-LU. At approximately \$800 million per year, the TAP program represents 2 percent of total MAP-21-authorized funding. Specific TAP programs that may fund the capital costs of a bike share program include: transportation alternatives (formerly called the Transportation Enhancement [TE] program) and the Safe Routes to School program.⁵²

Fifty percent of TAP funds will be distributed to geographical areas based on population. The remaining TAP funds will be eligible to local governments, school districts, tribal governments, and public lands agencies through a competitive grant application process. However, a state DOT can redirect any or all of these remaining TAP funds from local agencies to fund any other

⁵² MAP-21 refers to the overall funding program and the eligible uses under the former TE program by the same name: transportation alternatives.

highway program. Further, in a state of emergency, a state DOT can transfer all TAP funding towards the rebuilding of damaged transportation infrastructure.⁵³

- **Surface Transportation Program (STP).** The Surface Transportation Program (STP) will provide an annual average of \$10 billion in flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Fifty percent of STP funds will be distributed to geographical areas based on population, with the remainder to be used in any area of a particular state.⁵⁴
- **Congestion Mitigation and Air Quality Program (CMAQ).** The Congestion Mitigation and Air Quality Improvement Program (CMAQ) provides funding for projects and programs in air quality nonattainment and maintenance areas for ozone, carbon monoxide (CO), and particulate matter (PM-10, PM-2.5) which reduce transportation related emissions. CMAQ grant funding may be used to fund initial capital and operating expenditures associated with a bike share program.

STATE SOURCES

- **Bicycle Transportation Account.** Grants are available through the State Bicycle Transportation Account (BTA). BTA provides state funds for city and county projects that improve the safety and convenience of bicycle commuters. Eligible projects include new bikeways that serve major transportation corridors, secure bicycle parking, bicycle-carrying facilities on transit vehicles, and installation of traffic control devices, planning, bikeway improvements, maintenance, and hazard eliminations.

Streets and Highways Code (SHC) Section 2106 stipulates the annual BTA funding level in the approved State budget, with awards announced after enactment. Per SHC 891.4(b), funds are allocated to cities and counties on a matching basis that requires the applicant to furnish a minimum of 10 percent of the total project cost. No applicant shall receive more than 25 percent of the total amount transferred to the BTA in a single fiscal year.

⁵³ "Moving Ahead for Progress in the 21st Century Act (MAP-21): A Summary of Highway Provisions." U.S. Department of Transportation, Federal Highway Administration, Office of Policy and Governmental Affairs, July 17, 2012.

⁵⁴ Ibid.

- **Transportation Development Act (TDA).** Article 3 (SB 821) TDA Article 3 funds-also known as the Local Transportation Fund (LTF)-are used by cities for the planning and construction of bicycle and pedestrian facilities. The Transportation Development Act (TDA) provides two major sources of funding for public transportation: the **Local Transportation Fund (LTF)** and the **State Transit Assistance fund (STA)**. These funds can be used for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on population, taxable sales, and transit performance. Transportation Development Act funds are derived from a ¼ cent general sales tax collected by the State. **Local Transportation Funds** can be used for the following purposes: planning, pedestrian and bicycle facilities, rail passenger service, public transit, special group transportation service, local streets and roads, and administration.
- **Regional Surface Transportation Program (RSTP).** The Regional Surface Transportation Program (RSTP) was established by the State of California to utilize Federal Surface Transportation Program funds for a wide variety of transportation projects. The State allows regional transportation agencies to exchange these Federal funds for state funds to maximize the ability of local public works departments to use the funds on a wide variety of projects including street and road maintenance. The exchanged funds are distributed on a fair share and competitive basis. The RSTP can provide funding for capital costs for transit projects and bicycle transportation and pedestrian walkways on any public roads in accordance with Section 217 of Title 23, United States Code (U.S.C.).
- **State Safe Routes to School Program (SR2S).** The State Safe Routes to School program (SR2S) is separate from the Federal Safe Routes to School Program. This program, initiated in 2000, is meant to improve school commute routes by improving safety to bicycle and pedestrian travel through bikeways, sidewalks, intersection improvements, traffic calming, and ongoing programs. Safe Routes to School could be utilized to improve bicycle infrastructure in conjunction with launching a bike share program in the Sacramento area.
- **Environmental Enhancement and Mitigation Program (EEM).** Environmental Enhancement and Mitigation Program (EEM) funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities, including streets, mass transit guideways, park-n-ride facilities, transit stations, tree planting to mitigate the effects of vehicular emissions, off-road trails, and the acquisition or development of roadside recreational facilities. The EEM Program offers a total of \$10 million each year for grants to local, state, and Federal governmental agencies and to nonprofit organizations.

- **Proposition 84 Urban Greening Project Grants (UGP).** California voters passed the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84) on November 7, 2006. Proposition 84 added Division 43, Chapter 9, Section 75065(a) to the Public Resources Code, authorizing the Legislature to appropriate money for urban greening projects that reduce energy consumption, conserve water, improve air and water quality, and provide other community benefits. Bike infrastructure would be eligible for funding in combination with other efforts.
- **Transportation Planning Grant (TPG).** The California Department of Transportation (Caltrans), Division of Transportation Planning's Grant Program awards funding through six grant programs annually. These programs provide monetary assistance for transportation planning projects to improve mobility and lead to the programming or implementation phase for a community or region.

Table A-1 - Potential Federal and State Funding Sources

Item	Acronym	Agency	Program Funds Avail.	Matching Requirement	Eligible Applicants	Eligible Activities		Comments
						Capital	O&M	
Federal Sources								
Transportation Alternatives Program	TAP	DOT	\$809 million (FY 2012-13)	20% local match (subject to a sliding scale)	State and local governments; transportation/transit authorities	X		TA funds will be available for a variety of alternative transportation projects including the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation such as sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure. States are allowed flexibility in transferring a portion, and in some cases, all, of TA funds to other transportation programs.
Surface Transportation Program	STP	DOT	\$10 billion (FY 2012-13)	20% local match (subject to a sliding scale)	State and local governments; transportation/transit authorities	X		STP funds may be used by States and localities for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for nonmotorized transportation, transit capital projects, and public bus
Congestion Mitigation and Air Quality Program	CMAQ	DOT	\$2.2 billion (FY 2012-13)	11.47% local match	Federally-certified jurisdictions	X	X	Funds surface transportation and related projects to help improve air quality and reduce roadway congestion.
State Sources								
Bicycle Transportation Account	BTA	Caltrans	\$7.2 million	NA	Local agencies	X		Provides state funds for city and county projects that improve safety and convenience for bicycle commuters.
Transportation Development Act: Local Transportation Funds	LTF	DOT	NA	NA	Local agencies	X	X	Local Transportation Funds (LTF) are derived from a ¼ cent of the general sales tax collected statewide. The State Board of Equalization, based on sales tax collected in each county, returns the general sales tax revenues to
Transportation Development Act: State Transit Assistance Funds	STA	DOT	NA	NA	Local agencies	X		State Transit Assistance (STA) funds are derived from the statewide sales tax on gasoline and diesel fuel. The State Controllers office allocates the tax revenue, by formula, to planning agencies and other selected agencies.
State Transportation Improvement Program: Interregional Transportation Improvement Program	STIP (ITIP)	Caltrans	\$6.4 million (target for Ventura Co. thru 2016-17)	None	Local agencies	X		The 2012 STIP (developed biennially) covers a five year programming period (2012-17); ITIP represents 25% of total STIP funding.
State Transportation Improvement Program: Regional Transportation Improvement Plan	STIP (RTIP)	Caltrans	\$19.3 million (target for Ventura Co. thru 2016-17)	None	Local agencies	X		The 2012 STIP (developed biennially) covers a five year programming period (2012-17); RTIP represents 75% of total STIP funding.

Table A-1 - Potential Federal and State Funding Sources

Item	Acronym	Agency	Program Funds Avail.	Matching Requirement	Eligible Applicants	Eligible Activities		Comments
						Capital	O&M	
State Sources Continued								
Regional Surface Transportation Program	RSTP	DOT	\$320 million (76% must be spent in 11 urbanized areas of greater than 200,000 residents)	20% local match	Local agencies	X		Funds may be used to cover capital costs for transit projects eligible for assistance under the Federal Transit Act and publicly owned intracity or intercity bus terminals and facilities.
State Safe Routes to School Program	SR2S	Caltrans	\$24.25 million	10% minimum	Cities and Counties	X		Safe Routes to School (SR2S) funds may be used to improve infrastructure (must be located in the vicinity of a school), and support programs that promote walking and bicycling through education/encouragement programs aimed at children, parents, and the community.
Environmental Enhancement and Mitigation Program	EEM	Caltrans	\$10 million	None	Local agencies and Non-profit organizations	X		Projects are generally limited to \$350,000 each. Projects must directly or indirectly relate the environmental impact of the modification of an existing or new Transportation Facility.
Proposition 84 Urban Greening Project Grants	UGP	CA Strategic Growth Council	\$25 million	None	city, county, special district, or nonprofit organization, or joint powers authorities	X		UGP funds may be used in large-scale greening projects. Bike infrastructure would be eligible in combination with other efforts.
Transportation Planning Grant Program	TPG	Caltrans	\$10 million	10% local match	MPOs, regional transportation planning agencies, cities and counties, transit agencies, and Native American tribal governments	X		Funds may be use to improve mobility by innovatively addressing problems or deficiencies in the transportation system.

"fund_summ"

Source: Various funding source online resources; EPS.