

bikeshare business plan

Revised October 2013



Prepared for:



Prepared by:

FEHR & PEERS

 **Denver
Bike
Sharing**





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EXECUTIVE SUMMARY

The Sacramento Metropolitan Air Quality Management District (SMAQMD) has partnered with the Sacramento Regional Transit District (RT), Sacramento Area Council of Governments (SACOG), the City of Sacramento, the Capitol Corridor Joint Powers Authority, the City of West Sacramento, the City of Davis, UC Davis, the Yolo County Transportation District (YCTD), and the Yolo-Solano Air Quality Management District to produce a *Bike Share Business Plan* for a bike share system in the Sacramento area. This *Business Plan* summarizes the research and analysis documented in a series of *Technical Working Papers* referenced throughout this document and presents the business case for a bike share system in the Sacramento Area.

Bike share is a nonmotorized transportation service structured to provide users point-to-point transportation for short distance trips (0.5 to 3 miles). It provides users the ability to pick up a bicycle at any self-serve bike share station in the network and return it to any other bike share station (including the origin).¹ The bike share system will serve areas of Sacramento, West Sacramento and Davis with a total of 88 stations, 1,320 docking points, and 616 bike share bicycles.

The proliferation and increasing popularity of bike share systems in the U.S. coupled with the Sacramento area's increasing bike mode share and acclaimed natural and built bicycling environment position bike share well to support the area's transportation, equity, health, safety, and environmental goals.

Fehr & Peers' Bike Share Ridership Forecasting Model projects that the 88-station bike share system is likely



Stockholm City Bikes station in Stockholm, Sweden



Denver B-cycle station in Denver, Colorado

¹ *Bike Sharing in the United States* (FHWA)



to generate approximately 239,000 rides per year in its first year, increasing to approximately 352,000 annual rides in the third year of operation.

The bike share system is estimated to have initial capital costs of \$4.0 million. Annual operations and maintenance costs are estimated at \$1.5 million per year. With membership and usage fees generating \$794,000 per year by the third year of operation, the projected annual additional funding need is approximately \$684,000. Bike share will meet the additional funding need by pursuing a title sponsor, station sponsors, and other sponsorship and advertising opportunities; considering federal and regional grants and local government funding; or contributions from institutional, private, or individual donors.

If funding is awarded by December 2013, the bike share stakeholders will proceed with system planning, coordination, and implementation, and anticipate launching the bike share system by 2015.





VISION AND GOALS

VISION

The vision of bike share is to encourage bicycle use as an appealing, convenient, active, healthy, environmentally friendly, and congestion-reducing transportation option that is accessible to all Sacramento area residents, commuters, students, visitors and tourists alike. The program aims to leverage existing regional transportation investments and provide a network of bike share stations and bikes that increases multi-modal transportation options throughout the Sacramento area.

GOALS

Bike share aims to:

- Increase the number of bicycle and pedestrian trips
- Increase and improve bicycle and pedestrian access and mobility for residents and visitors of all ages and abilities
- Improve bicycle and pedestrian safety
- Improve public health through active transportation
- Increase social equity through improved access to transportation
- Increase access to transit services
- Reduce vehicle trips and miles traveled
- Maximize modal shift from driving to bicycling
- Reduce greenhouse gas (GHG) and criteria pollutant emissions
- Complement the existing bicycle and walkway networks
- Increase education, encouragement and awareness of bicycling as a transportation mode
- Increase collection of bicycle and pedestrian related data
- Increase collaboration among regional stakeholders





BUSINESS DESCRIPTION

BIKE SHARE DEFINED

Bike share is a nonmotorized transportation service structured to provide users point-to-point transportation for short distance trips (0.5 to 3 miles). It provides users the ability to pick up a bicycle at any self-serve bike share station in the network and return it to any other bike share station (including the origin).²

BIKE SHARE IN THE SACRAMENTO AREA

The bike share system will serve areas of Sacramento, West Sacramento and Davis with a total of 88 stations, 1,320 docking points, and 616 bike share bicycles. **Figure 1** shows the 78 planning-level station locations in Sacramento and West Sacramento; **Figure 2** shows the 10 Davis locations.³

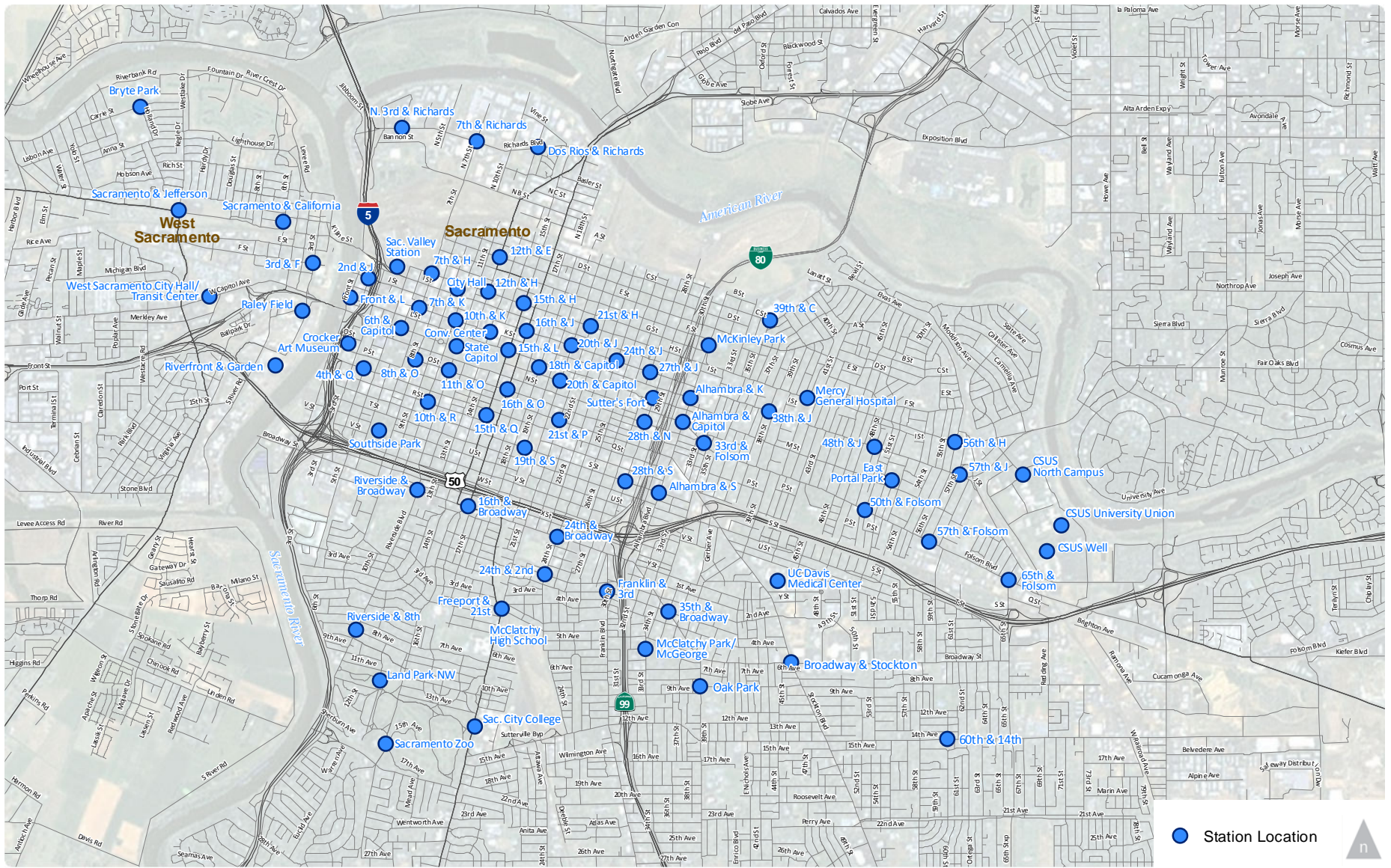
Users will be able to choose from daily, 7-day, 30-day, or annual memberships, and pay a membership fee to gain access to the system's bikes for an unlimited number of trips within the membership period. Each trip will have an initial free period of 30 minutes at no additional charge, after which an additional time-based usage fee will apply. Members will have access to bikes at any of the system's 88 stations, including those in Sacramento, West Sacramento, and Davis.

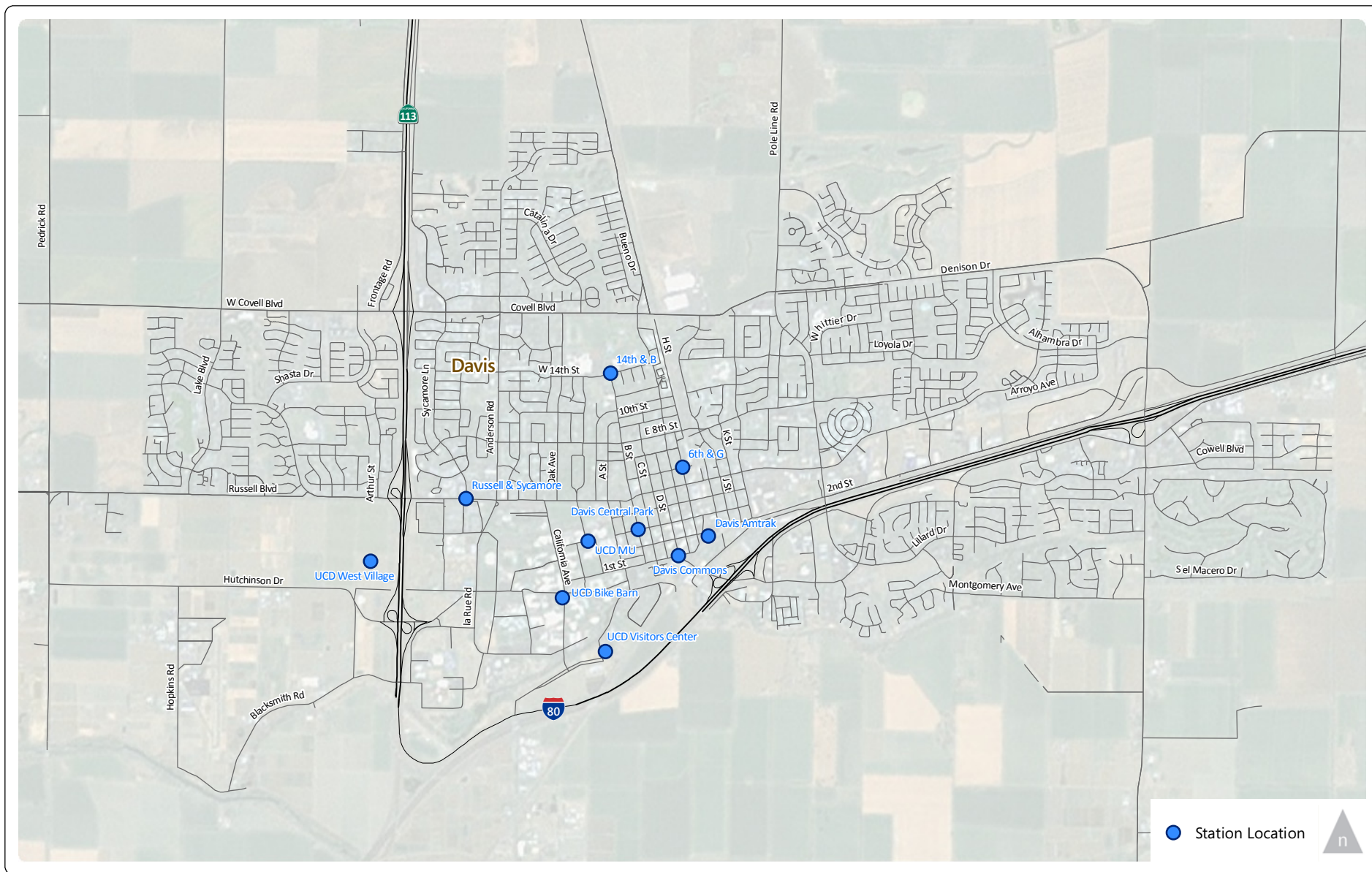
The program will collect revenues from membership and usage fees, and raise additional revenues through grants, sponsorship, advertising, or a combination of these. The program will expend funds to operate, maintain, and promote the system and to expand services to better serve the Sacramento area. Any profits earned by bike share will be reinvested into the system to maximize public benefit.

² *Bike Sharing in the United States* (FHWA)

³ See *Technical Working Paper #2: Demand, Density, Transit and Technology Integration, Tourism, and Equity* for additional information on station location selection considerations.









MEMBERS

Bike share system users, or members, will purchase memberships on a daily, weekly, monthly, or annual basis. Most annual members will either live or work in the bike share system area. Casual members, those members purchasing daily, weekly, or monthly memberships, will mostly be tourists or visitors; infrequent bike share system users who live or work in the area; or new users who want to try the system before deciding on an annual membership. Outreach to traditionally underserved communities will be essential to ensuring that the system serves all members of the Sacramento-area community.

ORGANIZATIONAL STRUCTURE

Depending on the parties interested in leading bike share, one of two models would be appropriate: a non-profit model or a publicly-owned/ privately-operated model.

In the non-profit model, a 501(c)(3) organization owns, manages, and operates the bike share program. Local governments may provide capital or operations funding and can act as a fiscal agent to request federal funds. As a non-profit, the organization is eligible to receive charitable contributions.

In the publicly-owned/ privately-operated model, a jurisdiction, government agency, or consortium of public entities owns the bike share equipment and oversees the program. A private contractor manages the system's day-to-day operations. This model allows for greater local government control in the planning and deployment of the system, while limiting liability through the use of a private contractor.

In either model, a Board of Directors or other oversight body will be formed or designated to govern the bike share program.

See *Technical Working Paper #1: Overview of Infrastructure, Locations, Technology, and Organizational Structures* and *Technical Working Paper #3: Operating Costs, Funding Options, and Business Model* for additional organizational structure considerations.



SUPPORT

Bike share will be supported by a staff including:

- An Executive Director – to take overall strategic and operational responsibility for staff, programs, expansion, and progress toward the vision and goals, reporting to the Board of Directors or other governing body.
- A System Planning and Special Projects Director – to develop criteria for system design, identify bike share station locations, work with partners, manage permitting processes, review legal agreements, manage construction and station installations, and work with vendors to improve the hardware and software components of the system.
- A Sales, Sponsorship, and Marketing Manager – to manage all revenue-generating and membership-promoting programs, including sponsorships, marketing, community outreach, grant-writing, fundraising, social media, and other communications.
- A Shop and Service Manager – to lead the operations technicians in maintaining bikes and stations, rebalancing bikes, and providing customer service.
- Operations technicians – to maintain bikes and stations, rebalance bikes throughout the system, and provide customer service.

In a non-profit model, these staff will likely all be employees of the non-profit. Under the publicly-owned/privately operated model, the Executive Director will be a public sector employee, who serves as the interface with the contractor, while the remaining staff will likely be employees of the contractor. Public sector employees could also take on some planning and marketing roles, depending on the structure of the operations contract.

FINANCIAL SUSTAINABILITY

Financial sustainability is achieved by maximizing revenue as a percentage of costs. Bike share revenues are generated through membership fees, usage fees, advertising and sponsorships, donations, and grants. Bike share costs include capital costs for bikes and stations and operations and maintenance costs for rent, payroll, marketing, software, professional services, etc.

Bike share will maximize revenue by:

- Serving suitable mixed-use areas of high population and employment density
- Locating bike share stations nearby attractive destinations



- Developing a pricing structure that balances revenue generation with attracting and serving members
- Attracting system sponsors who have goals similar to bike share
- Pursuing advertising revenues from panels on bike share stations

Bike share will minimize costs by:

- Serving only areas likely to generate reasonable amounts of ridership, reducing capital costs
- Avoiding outlying stations to reduce redistribution efforts
- Using a consolidated warehouse and office space for maintenance and operations
- Considering equipment maintenance costs as a factor in hardware vendor selection
- Exchanging sponsorship and advertising for in-kind services (e.g., legal and engineering)
- Contracting with a private operator at a fixed per-dock or per-bike rate to limit public-sector operating cost exposure

WHY SACRAMENTO IS READY FOR BIKE SHARE

Bike share systems are spreading to more and more cities throughout the United States, with over 20 U.S. systems now in operation. Ridership also continues to grow among both established and new bike share systems: Capital Bikeshare's ridership has increased from 48,000 monthly rides shortly after opening in fall 2010 to over 250,000 monthly rides as of May 2013.⁴ NYC Bike Share's Citi Bike system has exceeded 1.8 million rides in just over two months of operation, with ridership increasing steadily to over 40,000 per day in August 2013.

Meanwhile, bicycling has increased in Sacramento, West Sacramento, and Davis: from 2000 to 2011, bicycle commuting has increased by over 40 percent across the three cities; in the City of Sacramento, bicycle commuting has increased by over 60 percent over the same period.⁵ Twelve of

Top 25 Neighborhoods by Bikescore

Bike Score measures whether a location is good for biking based on bike infrastructure, hills, destinations, road connectivity, and the number of bike commuters. Top 25 neighborhoods in the Sacramento area include:

1 (tie) – Old North Davis	10 – Midtown/Winn
1 (tie) – Old East Davis	Park (Sacramento)
1 (tie) – Downtown	12 – Marshall School
Davis	13 – Newton Booth
8 – University Avenue	19 – Boulevard Park
14 – Interland/University	20 – New Era Park
Research Park	23 – Alhambra Triangle
	24 – Richmond Grove

⁴ <http://cabidashboard.ddot.dc.gov>

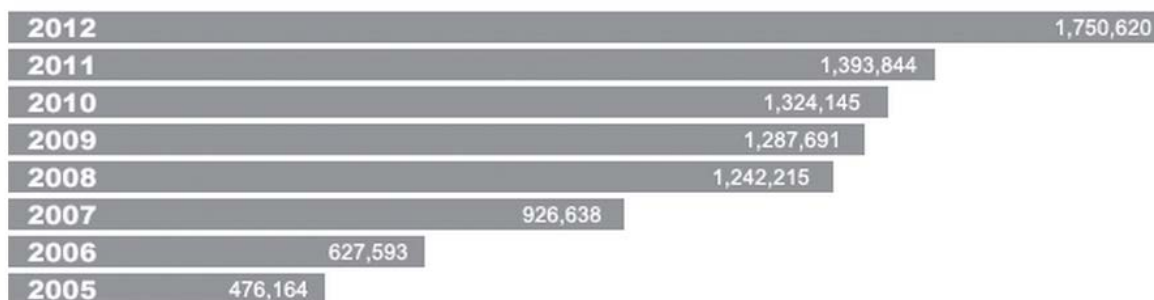
⁵ 2000 Census (Table QT-P23) and 2011 American Community Survey 3-year estimates (Table S0801).





Bike Score's top 25 neighborhoods nationwide are in Sacramento and Davis; three Davis neighborhoods rank in the top five with perfect Bike Scores of 100, while the seven Sacramento neighborhoods exceed 99 on a 100-point scale. Each city has a goal of increasing its bicycle mode share. Bike share is well-positioned to improve accessibility for trips that are too long to walk but too short to take transit.

During "May Is Bike Month" festivities, Sacramento-area residents pledge to ride and challenge their friends to ride more. Since the first event in 2005 when participants rode over 476,000 miles, participation has increased to nearly 9,000 cyclists who rode over 1.7 million miles in May 2012.



May Is Bike Month - miles cycled.

Image: www.mayisbikemonth.com

Sacramento, recipient of the League of American Bicyclists' Silver Award for Bicycle Friendly Communities, benefits from a dense, mixed-use urban core with a regular street grid and good connections to nearby residential neighborhoods. As the state capital, Sacramento attracts large numbers of visitors, and can serve as a visible model for bike share.

Davis is widely held as an exemplary bicycling environment, with excellent infrastructure and a culture that truly celebrates bicycling. Davis is one of four cities in the United States to receive a Platinum Bicycle Friendly Community award from the League of American Bicyclists. UC Davis' large student population can also contribute to a strong member base.

Good regional transit connections, including buses, light rail, and the Davis and Sacramento Amtrak stations, provide opportunities for travelers to leave their cars behind and use a combination of bike share and other transit for in-town travel. Representatives from the three cities, as well as from regional agencies have been involved in the program's planning process to support effective regional coordination.

Finally, the Sacramento area's level terrain and mild climate provide an excellent natural backdrop for year-round bike share operations.



REGIONAL BENEFITS

Bike share can help the Sacramento area achieve a number of access, mobility, safety, health, and environmental goals:

Increase the number of bicycle and pedestrian trips

By providing a new active transportation option, making bikes conveniently accessible and removing some burdens of bicycle ownership, such as initial cost, maintenance, and storage, bike share can help to increase bicycle trips in the Sacramento area. By increasing the number of destinations accessible without motorized transportation, bike share can also encourage complementary pedestrian trips.

In a 2011 survey of Capital Bikeshare users, 80 percent of respondents reported bicycling more often now than they did before joining Capital Bikeshare. Seventy percent of those users said Capital Bikeshare had been important in helping or encouraging them to ride more often.⁶

Increase and improve bicycle and pedestrian access and mobility for residents and visitors of all ages and abilities

The bike share system will make bicycles available at 80 locations in Sacramento, West Sacramento and Davis, increasing access to bicycles for residents and visitors alike. Short-term memberships will make access available to visitors or first-time cyclists without a major financial commitment, while annual memberships will provide year-round access at a low cost.

Bikes with low, step-through frames, easily-adjustable seats, and low gearing will make it easy for riders of all abilities to use bike share.



Bike share members in Denver, Colorado can explore a variety of city destinations, including parks

⁶ Capital Bikeshare. "Capital Bikeshare 2011 Member Survey Report."

<http://capitalbikeshare.com/assets/pdf/Capital%20Bikeshare-SurveyReport-Final.pdf>



Improve bicycle and pedestrian safety

The bike share system will use distinctively-designed bicycles that place riders in a visible, upright position that will help to attract motorist attention, thus improving safety for all cyclists by conditioning motorists to expect bicycles on roadways. Pedestrians entering the street also benefit from heightened motorist awareness.

The experience of the Capital Bikeshare system indicates that bike share users have fewer crashes—nearly half as many in the first season of operation—than the general population. None of the Capital Bikeshare crashes resulted in serious injuries, whereas some other bike trips resulted in serious injuries or fatalities.⁷

Improve public health through active transportation

Increased bicycling can have numerous health benefits related to the reduced harmful effects of air pollution associated with motorized transportation and the increased beneficial effects of exercise and safety. In addition to improved safety (above) and reduced pollutants (below), Denver Bike Share estimates that in 2011, its users rode over 430,000 miles, burned nearly 13 million calories, and lost over 3,700 pounds.⁸ Capital Bikeshare users reported an increase in time spent performing moderate to strenuous physical activities as well as specific health improvements, including reduced stress, improved stamina, increased energy, increased aerobic capacity, and weight loss.⁹

Increase social equity through improved access to transportation

Bike share can provide populations that have historically constituted a small share of cyclists with convenient, affordable bicycle access and encouragement to bicycle. The new transportation option can make existing trips more convenient and provide new access to destinations like affordable shopping and employment opportunities.

⁷ <http://www.streetsblog.org/2011/06/16/from-london-to-d-c-bike-sharing-is-safer-than-riding-your-own-bike/>

⁸ Denver Bike Sharing. "2011 Annual Report." http://www.denverbikesharing.org/files/DBS_2011_Annual_Report.pdf

⁹ Alberts, A., J. Palumbo, and E. Pierce. "Vehicle 4 Change: Health Implications of the Capital Bikeshare Program." December 2012. http://capitalbikeshare.com/assets/pdf/v4c_capstone_report_final.pdf



Increase access to transit services

Bike share will provide:

- Convenient connections when a transfer would be required for a short second leg of a transit trip.
- Extended range for transit riders to access destinations beyond a comfortable walking distance from transit ("first-mile/ last-mile").
- Relief for limited bike capacity on board transit vehicles.
- A complement to transit for trips that are too long to walk but short enough that waiting for transit is undesirable.



Commuters on Regional Transit, Capitol Corridor, YoloBus and other transit services can benefit from bike share in the region

In a user survey of three North American bike share systems, over 97 percent agreed that they think of the bike share system as an enhancement to the public transportation system; 41 percent agreed that they had made trips with a combination of public transit and bike share that they had previously made by automobile.¹⁰

Reduce vehicle trips and miles traveled; maximize modal shift from driving to bicycling; and reduce greenhouse gas (GHG) and criteria pollutant emissions

Although the Sacramento area already has an increasing share of workers commuting by bicycle, bike share will support and enhance the trend. Surveys of Denver B-cycle members indicate that between 36 and 43 percent of all Denver B-cycle trips replaced car trips, reducing vehicle trips and vehicle miles traveled.

Denver Bike Share estimates that in 2011, its users saved over 37,000 gallons of gasoline and avoided over 730,000 pounds of carbon emissions and over 22,000 pounds of toxic air pollutants.¹¹ The bike share system in the Sacramento area is estimated to reduce carbon dioxide emissions by 373 tons per year.¹²

¹⁰ Shaheen, Susan A., Ph.D., Martin, Elliot W., Ph.D., Cohen, Adam P., Finson, Rachel S. Public Bikeshaaring Operations in North America, Mineta Transportation Institute, pp.72-74, June 2012.

¹¹ Denver Bike Sharing. "2011 Annual Report." http://www.denverbikesharing.org/files/DBS_2011_Annual_Report.pdf





Complement the existing bicycle and walkway networks

The addition of a bike share system both leverages and reinforces other investments in bicycle and walkway networks. Bicycle facilities increase the attractiveness of the bike share system, while increased numbers of bike share riders contribute to the safety of other cyclists using the facilities. Additionally, a bike share system is a cost-effective mechanism for increasing levels of bicycling compared to bike path or bike lane projects in constrained environments that can often cost upwards of one million dollars per mile.

Increase education, encouragement and awareness of bicycling as a transportation mode

Signs on bike share stations and bicycles, an informative website, and e-mails and social media communications to bike share members provide opportunities to educate members on safe bicycling practices. Feedback to users on their number of trips taken, miles biked, calories burned, and emissions, fuel, or parking costs saved provides positive reinforcement; enabling users to share this information with friends via social media can further encourage bike share use and increase bicycling awareness. The highly-visible bike share stations and the bikes themselves also promote awareness of bicycling as a transportation mode.

Increase collection of bicycle and pedestrian related data

The limited availability of data regarding existing bicycling is a challenge for planning effective bikeway projects that will increase bicycle mode share. The bike share system software collects time-stamped origin and destination data for each bike share trip that can be invaluable in understanding the demand for travel by bicycle in the Sacramento area. Analysis of these data can be used to inform the location of new bicycle facilities. Contact information collected during membership registration also provides a ready sample for more detailed surveys on active transportation.

Increase collaboration among regional stakeholders

Involvement of three jurisdictions and several regional agencies in the planning and operation of bike share can foster collaborative stakeholder relationships. Signage on bike share bikes and stations could be exchanged with outreach efforts of other organizations to cross-promote transit or public health initiatives. Bike share is a highly visible rallying point for agencies and organizations with health, environmental, and transportation goals.

¹² SMAQMD Application for SACOG Bicycle and Pedestrian Funding Program, August 2013.



MARKET STRATEGY

MARKET DEFINITION

Bike share in the Sacramento area will serve two main market groups: visitors and local users. The local user group can be further divided into four categories: early adopters, early/late majority, occasional users, and under-served communities.

- **Visitors** – want to experience Sacramento from the unique perspective of a bike saddle, and typically have a higher willingness to pay usage fees. They are likely to choose a short-term membership option.
- **Early adopters** – are anxiously awaiting the arrival of bike share and will likely join before the system launches or shortly after. They will likely choose annual memberships, and might even help to promote the system by word-of-mouth.
- **Early/late majority** – become interested in bike share once they hear about it, but likely want to see the system in action or try it out first-hand before committing to an annual membership.
- **Occasional users** – are only in the service area occasionally, or do not envision using bike share on a regular basis.
- **Under-served communities** – strategies will be implemented to ensure that under-served communities are able to overcome financial or information barriers to access bike share.

PRICING

Bike share in the Sacramento area anticipates offering the following membership types and pricing structure:

- Annual Membership: \$65
- 30-day: \$30
- 7-day: \$20
- 24-hour: \$7



With any membership, the first 30 minutes of each trip are free. The following usage fees apply to trips lasting:

- 30-60 Minutes (Annual Members): \$1
- 30-60 Minutes (Other Members): \$2
- 60-90 Minutes: \$6
- Each additional 30 minutes, or portion thereof: +\$8

For example, a trip lasting 98 minutes would cost \$14. The pricing structure ramps up significantly after the first hour to encourage regular turnover and active use of the bike share bikes.

PROMOTION PLAN

The bike share operator will target promotions to the market groups described above. Additional information on system marketing and outreach is provided in *Technical Working Paper #6: Operations and Maintenance Best Practices*.

Visitors

By locating stations near popular visitor portals and destinations, the bike share system will be well positioned to attract visitor attention and increase awareness. These locations include:

- Davis Amtrak
- UC Davis (four stations)
- California State University, Sacramento (three stations)
- Sacramento Valley Station
- Old Sacramento (two stations)
- Crocker Art Museum
- State Capitol
- Sutter's Fort
- Sacramento Zoo

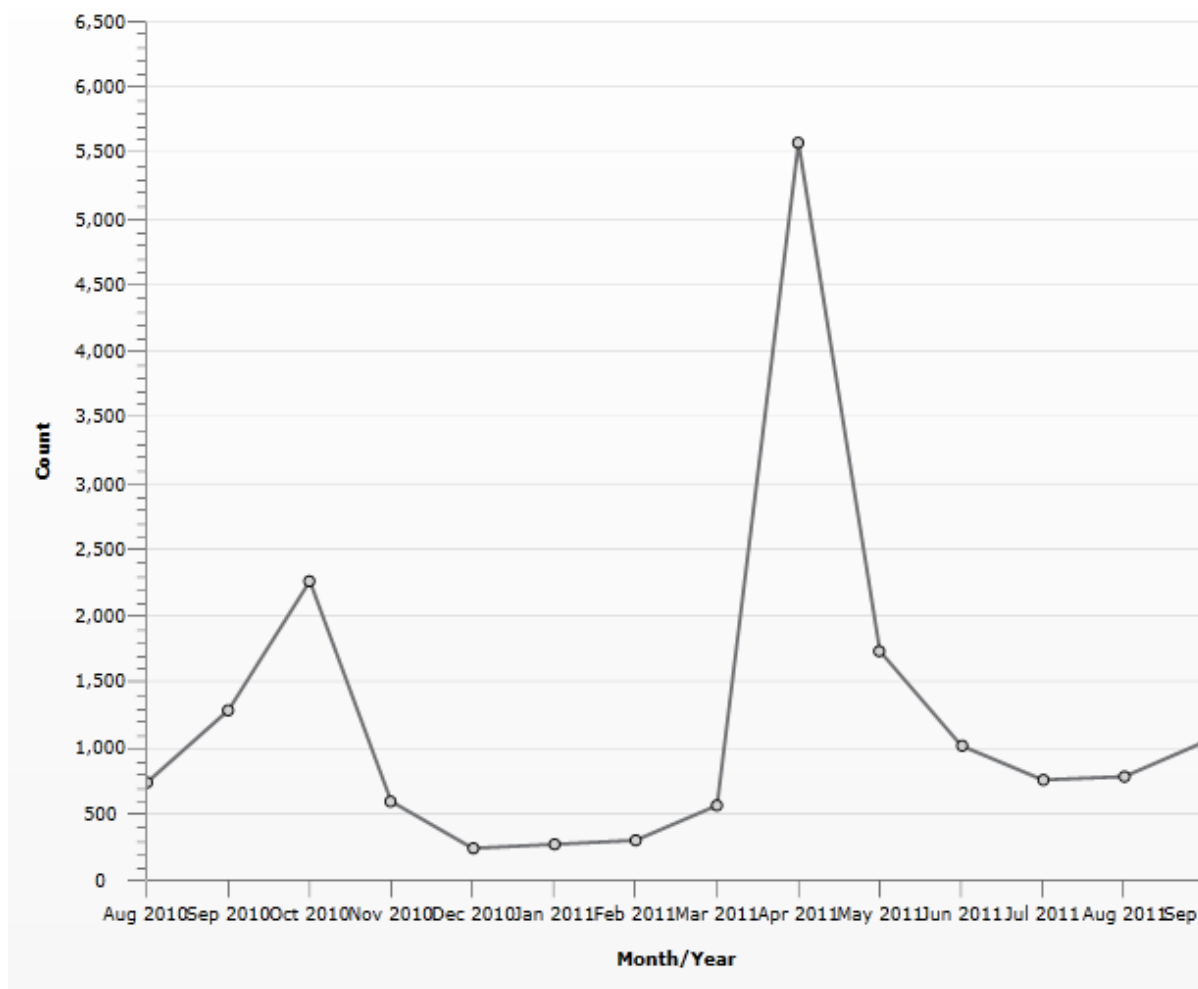


Midtown and Downtown Sacramento and Downtown Davis have several mixed-use development areas that will be popular for bike share

The bike share operator will also work with the Visitors' and Convention Bureau and area hotels, restaurants, and attractions to provide information that further increases the visibility of bike share to visitors.

Early Adopters, Early/Late Majority, and Occasional Users

Early adopters, the early/late majority and occasional users are all good candidates for full-price, annual memberships. Although Capital Bikeshare users experience a cold, damp winter and early spring that Sacramento-area users will not, the pattern of Capital Bikeshare's first year annual membership sales is instructive for bike share in the Sacramento area.



First year sales of Capital Bikeshare annual memberships, by month.

Image: <http://cabidashboard.ddot.dc.gov>





Initially, Capital Bikeshare members joined at a relatively high rate, with many members joining in August 2010 and September 2010 before the system opened. Annual membership sales peaked in October 2010, before declining again during the colder late-fall and winter months. Coinciding with the onset of the warmer, spring riding season, Capital Bikeshare offered half-price annual memberships through Living Social, an online social discount site, in April 2011 and sold over 5,500 annual memberships that month. This experience suggests three additional strategies for attracting annual members:

Pre-Launch Publicity

By issuing informative press releases, showcasing the system at community events, and building a social media following of interested users prior to system launch, the bike share operator will increase interest in and awareness of the system. Local and online media will also cover the arrival of the bike share in the Sacramento area and a high-visibility opening ceremony will further raise awareness. This will create the “buzz” necessary to attract early adopters, who will purchase annual memberships before, or shortly after system launch. Early majority users will also purchase annual memberships after the system is in place, influenced by visible bikes and stations, media coverage, or word-of-mouth from early adopters.

Social Discount Site Offer

Once most early adopters and early-majority users have purchased their memberships, a discounted membership, offered through a social discount site, could attract late-majority users and continue the momentum necessary to build a large, active member base. The decision to offer a discount and the timing of the discount will depend on the pattern of annual membership sales, but should be timed so as not to reduce the revenue that would be received from early-majority members and not so close to the one-year renewal mark as to cannibalize committed annual members who would pay full price for a renewal.

Try-Before-You-Buy Upgrade

An ongoing offer to upgrade short-term memberships to annual memberships could encourage prospective members to try bike share and ultimately commit to an annual membership. The offer would allow users to apply the price of one 24-hour, 7-day or 30-day membership toward the purchase of an annual membership upon the expiration of the short-term membership. Early/late-majority users who are interested in bike share but not ready to commit to an annual membership could try the system without a large financial commitment, and will be encouraged to join as annual members by the reduced marginal



price of the annual membership. Occasional users could also be encouraged to join the system as annual members.

Under-Served Communities

Attracting members from communities traditionally under-served by bike share, such as low-income, non-white, or non-English speaking groups, will require special programs and concerted outreach efforts. Strategies for empowering traditionally under-served communities to access bike share are discussed throughout the working papers that support this business plan:

- *Working Paper 1: Overview of Infrastructure, Locations, Technology, and Organizational Structures* notes the prevalence of reduced membership fees for students, seniors, and military members.
- *Working Paper 2: Demand, Density, Transit and Technology Integration, Tourism, and Equity* emphasizes the limitations of the forecasting model underlying the demand analysis and calls for stations to be located to improve social equity and access by a diverse range of users. The “Equity Analysis” section also acknowledges the difficulty among existing bike share systems in attracting low income individuals and people of color and discusses strategies for improving financial, physical, and information access to bike share for these groups.
- *Working Paper 4: Analysis of Prospective Sites and System Delivery in Sacramento Area* notes the importance of factors other than ridership, including social equity, access to transit, and public health in evaluating station performance for relocation or expansion.
- The “Public Outreach” section of *Working Paper 6: Operations and Maintenance Best Practices* describes the New York Department of Transportation’s exemplary public outreach process to engage a broad cross-section of the community. The “System Marketing and Sustainability Planning” section notes the in-person outreach by Denver Bike Share’s staff to engage residents of Denver Housing Authority buildings. The working paper also includes a section on “Serving Customers without a Credit Card.”
- *Working Paper 7: On-Going Evaluation Methods* includes a discussion of the importance of tracking the efforts toward and outcomes of engaging minority and low-income communities.

The bike share system will take the following actions to support equitable access to bike share:

- Partner with community financial organizations to offer credit and debit accounts to unbanked individuals who would not otherwise have access to bike share and include subsidized



memberships as part of the program. The system will not require a credit card hold to check out a bike share bike.

- Partner with the Sacramento Housing and Redevelopment Authority or community organizations to provide subsidized bike share memberships not tied to a credit or debit card.
- Site stations not only according to anticipated ridership levels, but also to serve communities disproportionately underrepresented in bicycling, including low-income communities and communities of color. These stations will be well-connected to the overall network of stations to provide access to an attractive variety of bike share trip origins and destinations.
- Support awareness and education about bike share in communities traditionally under-served by bike share with targeted outreach through affordable housing authorities, churches and community-based organizations.
- Regularly evaluate how well bike share serves traditionally underserved communities through membership and station ridership data as well as through member and casual user surveys.

RIDERSHIP POTENTIAL

Fehr & Peers applied its Bike Share Ridership Forecasting Model to each of the 88 stations proposed for bike share in the Sacramento area. The model relies on the relationship between density, demographic and built environment variables and the observed ridership levels at bike share stations in three other U.S. bike share systems. The model projects that the 88-station bike share system will generate approximately 239,000 rides per year in its first year, increasing to approximately 352,000 annual rides in the third year of operation.





FINANCES

Economic and Planning Systems, Inc. (EPS) has prepared financial estimates for the 88-station, 1,320-dock, 616-bike bike share system. The cash flow estimates are based on the 3-year most-likely, low, and high ridership estimates presented above. See *Technical Working Paper #3: Operating Costs, Funding Options, and Business Model* for additional financial estimate detail.

CAPITAL COSTS

Stations of a similar size to the 15-dock stations proposed for the Sacramento area cost between about \$35,000 and \$45,000 per station. These cost figures include bikes, docking stations, software acquisition, and start-up costs. The most conservative per-station cost of \$45,000 would result in a total cost of \$4.0 million for the 88-station system. As an alternative, more optimistic estimate, case study systems had 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. 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.

OPERATIONS AND MAINTENANCE COSTS

Based on operating costs observed in other bike share systems in the U.S., EPS projects that the bike share system will cost roughly \$1.5 million per year. This estimate includes costs incurred by the owners and operators of the system for operations, maintenance, and equipment replacement due to theft and major vandalism.

MEMBERSHIP AND USAGE REVENUES

Based on user fees achieved in other bike share systems in the U.S., EPS projects that bike share in the Sacramento area will generate roughly \$794,000 per year in membership and usage fees. 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).





NET CASH FLOW

The projected annual additional funding need is estimated to be roughly \$684,000 per year.

ADDITIONAL FUNDING

Additional funding will be needed in addition to membership and usage fees. Bike share in the Sacramento area will pursue a title sponsor, station sponsors, and other sponsorship and advertising opportunities. Federal and regional grants, local government funding, or contributions from institutional, private, or individual donors could also complement membership and usage fees to meet operating costs. See *Technical Working Paper #3: Operating Costs, Funding Options, and Business Model* for additional discussion of funding options.





DEVELOPMENT PLAN

DEVELOPMENT ORGANIZATION/PERSONNEL

As the lead applicant for Sacramento Area Council of Governments (SACOG) funding on behalf of eligible local jurisdictions and agencies, SMAQMD will lead the effort to establish a non-profit or public/private organization for bike share in the Sacramento area. SMAQMD will then transition responsibility for launching and operating the bike share system to the Board of Directors or other governance body once it is established.

SCHEDULE TO LAUNCH

If SACOG funding is awarded by December 2013, bike share in the Sacramento area will proceed with the following actions, and anticipates launching the bike share system by 2015.

- **Form a Sacramento Area Bike Share Organization** – as either a new non-profit organization or a public entity. Establish a Board of Directors to govern the program.
- **Secure Additional Revenue Sources** – including sponsorships, advertisers, grants, and donations.
- **Develop a Streamlined Permitting Process** – in collaboration with the cities of Sacramento, West Sacramento, and Davis.
- **Refine Specific Sites for Bike Share Stations** – based on the recommendations in *Technical Working Paper #4: Analysis of Prospective Sites and Delivery in Sacramento Area*. Final station locations will benefit from the involvement of the hardware vendor and contracted operator.
- **Conduct Environmental Review** – As temporary uses of land that do not require significant excavation or hard wiring, bike share stations could qualify for a categorical exemption from detailed California Environmental Quality Act (CEQA) review.
- **Issue Request for Proposal (RFP) for Bike Share Equipment** – Appendix A to *Technical Working Paper #6: Operations and Maintenance Best Practices* provides example equipment elements and requirements for the RFP for bike share equipment. The RFP could also include bike share operations and maintenance services if a publicly-owned/ privately-operated model is chosen.
- **Conduct Pre-Launch Outreach and Marketing** – Engage community stakeholders, build awareness, pre-sell memberships, and prepare for launch event.
- **Install Bike Share Stations and Bikes** – Work with vendor from pilot test to full installation.



ADDRESSING RISKS

The stakeholder agencies considered several risks to the development of the program and identified strategies for addressing them.

Ability to Secure Non-User Based Revenue Streams

An estimated 46 percent of operating revenue will need to come from sources other than membership and usage fees. The bike share operator will pursue a variety of sponsorship, advertising, federal and regional grants, local government funding, or contributions from institutional, private, or individual donors, as appropriate, to complement membership and usage fees and meet operating costs. For example, Denver Bike Sharing raised over \$600,000 in sponsorships in 2011.¹³

Ability to Permit Bike Share Stations

The Sacramento Metropolitan Air Quality Management District has involved regional stakeholders throughout the planning process and will work with local jurisdictions to develop a streamlined permitting process for bike share stations in Sacramento, West Sacramento and Davis.

Ability to Respond to Potential Community Opposition

In implementing Capital Bikeshare, there was little opposition from residents and business owners near Capital Bikeshare stations. Bike infrastructure projects can increase adjacent land values, and bike share can increase exposure to local businesses and employment opportunities.¹⁴

Ability of Hardware Vendor to Provide Equipment on Time

The proliferation of bike share systems has strained the ability of hardware vendors to quickly deliver and install bike share systems. The contract for bike share equipment procurement will include a schedule of milestones, deliverables, evaluation criteria, and financial penalties that will apply if the vendor does not meet the milestones, to provide incentives to deliver within the project schedule.

¹³ Denver Bike Sharing. "2011 Annual Report." http://www.denverbikesharing.org/files/DBS_2011_Annual_Report.pdf

¹⁴ See *Technical Working Paper #3: Operating Costs, Funding Options, and Business Model* for additional information.





Presence of Sufficient Demand for Bike Share Services

The analysis of ridership, costs, and revenues indicates that bike share in the Sacramento area will attract use sufficient to cover 54 percent of expected annual operating costs, comparable to but slightly higher than the average proportion that has been achieved by bike share systems in Denver, Boulder, Minneapolis, and Arlington, Virginia (Capital Bikeshare).

Ability to Address Ongoing Safety, Theft, Damage, and Liability Concerns

Safety, theft, damage, and liability concerns have largely not materialized in U.S. bike share systems. The experience of the Capital Bikeshare system indicates that bike share users have fewer crashes than the general population. In their first season of operation, Capital Bikeshare, Nice Ride, and Denver B-cycle collectively lost only four bikes due to theft or irreparable damage.

Users accept liability waivers and read safety warnings when registering for the system. Regular system maintenance and the introduction of safe bicycling education programs contribute to a system's overall safety record. Insurance is also available to mitigate risk.

