

**MOTION BY:
MAYOR ERIC GARCETTI & DIRECTORS ZEV YAROSLAVSKY,
MIKE BONIN, JOHN FASANA & DON KNABE**

Item 58 — Bicycle Share Program Implementation Plan

In October 2013, the MTA Board adopted, as policy, bicycle use as a formal transportation mode.

Staff was asked to: a) conduct an industry review on procuring a regional bike share vendor; b) prepare a business case analysis and recommendations on proceeding with a Request for Proposals to implement a regional bicycle share program; 3) make recommendations on a phased approach for implementing this program.

Bicycle share offers an alternative means of transportation for short trips that might otherwise have been made by vehicles.

A recent study named "The Bike-Sharing Planning Guide" (Institute for Transportation & Development Policy, December 2013) said "bike-share, more than any other form of urban transport, has the ability to improve and transform our cities."

This means a robust and regional bicycle share program needs to be adopted to address first-mile and last-mile transportation challenges.

An MTA bicycle share program will help connect and expand its transportation coverage to multiple jurisdictions along its transit system.

This is why MTA needs to be the lead agency in the county that will manage and procure a robust bicycle share program.

A single-point agency will also ensure inter-operability among the different jurisdictions and can also provide a multi-modal transportation system through the use of the Transit Access Program ("TAP") smart card.

MTA can also simplify the management of the program by having one agency provide proper accountability and proper management.

MTA needs to also provide a fair-share of funding to support the initiation and maintenance and operations (O&M) costs for the program.

WE, THEREFORE, MOVE that the MTA CEO:

- A. Undertake a study of how a Bike Share Program could be implemented throughout the County.
- B. Procure, contract and administer the bicycle share program once the implementation study is completed.
- C. Implement the program in a phased approach and partner with the cities identified in the Phase I of the bicycle share program so MTA funds at least:
 1. Up to 50% of total capital costs per each city
 2. Up to 35% of total O&M costs per each city (on-going)
- D. Identify a financial business plan that includes:
 1. User fees
 2. Advertising fees
 3. Corporate sponsors
 4. A recommendation on a revenue split for all fees/revenues identified above.
- E. Prioritize eligible grants to support the costs of the program including:
 1. State Active Transportation Program ("ATP") funds
 2. State "Cap & Trade" funds
 3. Federal bicycle and active transportation funds
 4. All other eligible funding sources
- F. Develop a robust system-wide branding and educational effort that supports the use of bicycle share as part of the implementation study.
- G. Update on all of the above at the April 2014 Board meeting.

DIRECTOR O'CONNOR'S MOTION REGARDING BIKE SHARE:

1. Is there a firm timeline for Metro's procurement?
2. How will this effort related to the procurement Long Beach is pursuing
3. How will this effort work with Santa Monica's RFP/market test?
4. Will there be coordination with the subregions? What form will that take?
5. Has LA solved its legal outdoor advertising problem?
6. Will there be flexibility for different business case models to operate within the Metro umbrella?
7. Will the Metro's Bikeshare program go beyond the Metro stations? Can the program be expanded to include greater coverage for cities?
6. What does Metro being the lead agency mean? Is this a clearing house for revenue sharing? What other elements are included?
7. What funding is available for phasing the rollout of the program during the first year of implementation on both capital and operating expenditures? How will allocations be made?
8. How will the system enable jurisdictions to make choices about how (what sources) they want to fund the operating gap?

This motion should be fortified with a fact sheet that informs regional cities on the "nuts and bolts" of the business model Metro is pursuing, the timeline for implementation, and subregional coordination.



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58

**EXECUTIVE MANAGEMENT COMMITTEE
JANUARY 16, 2014**

SUBJECT: BIKE SHARE PROGRAM

ACTION: APPROVE DEVELOPMENT OF IMPLEMENTATION PLAN

RECOMMENDATION

Authorize the Chief Executive Officer (CEO) to undertake a study of how a Bike Share Program could be implemented throughout the County, including the following provisions:

- 1) Coordinate with the recommended pilot cities before adopting a plan;
- 2) Funding for the Bike Share Program will be the responsibility of the cities, Metro will only play a coordinating role;
- 3) Complete the study within six months and return to the Board with the recommended approach.

ISSUE

At the October meeting, the Board approved Motion 66 (Attachment A), providing direction to staff to report back to the Board at the January 2014 meeting with a business case analysis, including recommendations on how to proceed to develop a regional bicycle share program.

At the November Executive Management Committee, we provided information on the Industry Review that was held (Attachment B). Since that time, additional work has been done. We are requesting Board approval to develop a Bike Share Implementation Plan in coordination with pilot cities, with an intent to explore cooperative funding by local participants as the principal source of project funding. We feel that the analysis that will be provided by this six month study is necessary before the pilot cities can launch into a regional bike share program.

DISCUSSION

Bike Share is a program designed for point-to-point local trips using a shared use fleet of bicycles strategically located at docking stations throughout a well-defined project area and within easy access to each other.

Bike Share programs around the country and world have proven to be a strong first and last-mile short-trip transportation option. When coordinated with transit, such programs can facilitate reductions in vehicle miles traveled, reduced travel times, improved access, and growth in bicycling as a viable mode of travel.

Funding Sources

In our review of Bike Share programs around the country, we have found that a variety of sources of funding are used by the various cities to support their programs, and in no case are transit agencies paying for these programs. Some programs are supported by sponsorships, some are funded privately, many cities rely on CMAQ funds (Congestion Mitigation and Air Quality Improvement Program), and other local funds are used. If Metro were to fund a countywide Bike Share program, resources needed to build the transit corridors would be diminished.

Area Readiness

With Metro's regional rail network currently expanding, the region is primed for a Bike Share program that will support and enhance first-last mile connections and intra-jurisdictional local trips. According to the 2000 National Household Travel Survey, bicycling in Los Angeles County accounted for 1% of all trips. For comparison purposes, 3% of trips were made on transit. The 2012 Southern California Association of Governments (SCAG) Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS), notes that between 2000 and 2009, bicycling as a means of transportation increased by 75%.

Pointing to the role of bicycling as a first-last mile solution, a recent sampling of Metro's rail system showed approximately 8,560 daily bike boardings on Metro's rail network, a 42% increase from fiscal year 2012. Average daily bicycle boardings per station are included in Attachment C.

Important to a successful Bike Share program is having the bicycle infrastructure in place to support bicycling. Per the 2012 RTP/SCS, Los Angeles County has almost 1,270 miles of bicycle infrastructure with approximately an additional 1,030 miles planned. Metro rail stations also house a total of 624 bike lockers, 1,231 bike racks and three secured bike parking hubs will be opened within the coming year.

Bike Share Implementation

Metro's role has been to facilitate Bike Share implementation, including providing funding to local jurisdictions through the Call for Projects and coordinating regional compatibility efforts such as addressing technology and software issues. Metro's 2012 Bike Share Concept Report used a number of key criteria to identify where within Los Angeles County Bike Share would be most successful. Based on the report's findings a Bike Share Working Group was established and several communities have been awarded Call funding, including Long Beach, Los Angeles and Santa Monica.

Supporting the 2012 Concept Report findings, these cities have attempted or are in the process of launching Bike Share within their city boundaries, each with varying degrees of progress and success. Other cities are considering initiating similar efforts. Each of these cities has also acknowledged the importance of a seamless regional system.

In light of the varying degrees of progress each of these cities have made and the growing interest to have a regional, seamless program, both the Bike Share Working Group and Bicycle Roundtable recommended that Metro take a lead role. To ensure a user friendly system and facilitate first-last mile connections across Metro's rail network, it is particularly important that Metro facilitate the development of a Bike Share program where users are able to access Bike Share systems seamlessly throughout key cities in the County. The primary role for Metro may be to create a common platform that can be expanded throughout the County, as local communities dedicate facilities and operating revenues.

Based on area readiness, as identified in the 2012 Concept Report and expressed interest from cities, we would recommend an initial Bike Share launch in three key areas: Downtown Los Angeles, Pasadena and Santa Monica/Venice. We would also coordinate with Long Beach, as they are independently pursuing Bike Share and anticipate launching in early 2014. Areas that should be considered for future early phases and that would further enhance first-last mile connections to our transit system or would facilitate intra-jurisdictional travel may include Boyle Heights, Burbank, Culver City, East Los Angeles, Echo Park/Silver Lake, Glendale, Hollywood, Marina Del Rey, UCLA, USC and West Hollywood (Attachment D). Future Bike Share phasing and timeframes would be confirmed as we develop the Implementation Plan and in conjunction with each jurisdiction as they develop funding programs.

Bike Share Pilot Launch

Using Metro's rail network as the foundation for the Bike Share program, we identified key rail stations within each of the recommended pilot areas- Downtown Los Angeles, Pasadena, and Santa Monica, then identified a one mile radius around each of these stations to identify the minimum and maximum number of potential Bike Share stations that could be located within these jurisdictions. We assumed two spread options- the densest is based on findings established by the 2012 Mineta Transportation Institute report, "Public Bike Share in North America: Early Operator and User Understanding",

where the recommended distance between docking stations is considered to be approximately every one-quarter mile. The second, less dense distancing is based on minimum densities as cited in the 2012 USDOT/FHWA "Bike Sharing in the United States: State of the Practice and Guide to Implementation" where a half mile distance is noted. For each of the pilot jurisdictions, preliminary potential locations within the public right-of-way have been identified by each city. As such, these locations, in addition to the recommended rail station locations are noted in the three maps included in Attachment E.

Within the Downtown Los Angeles area we identified five key rail stations and created one mile buffers around them: Union Station, Civic Center, Pershing Square, 7th/Metro and Pico/Chick Hearn. This netted a 7.68 square mile Bike Share station aggregated buffer area. At a one-quarter mile density, 123 Bike Share stations could potentially be located within this area. At a half mile density, 31 Bike Share stations could potentially be located within this area. Because the Chinatown and Little Tokyo/Arts District stations fall within the buffer range and due to characteristics that indicate bike sharing would be successful, we would also recommend docking stations at these rail stations.

In Pasadena, five rail stations were identified: Fillmore, Del Mar, Memorial Park, Lake and Allen stations. A one mile buffer around each of these stations netted an 8.91 square mile Bike Share aggregated buffer area. At a one-quarter mile density, 142 Bike Share stations could potentially be located within this area. At a half mile density, 36 Bike Share stations could potentially be located within this area.

In Santa Monica, three future Expo Stations were identified: 26th Street/Bergamot, 17th Street/Santa Monica College and Downtown Santa Monica. A one mile buffer around each of these stations netted a 6.39 square mile Bike Share aggregated buffer area. At a one-quarter mile density, 102 bike share stations could potentially be located within this area. At a half mile density, 25 Bike Share stations could potentially be located within this area.

As indicated in Attachment E, each of the Bike Share aggregated buffer areas have the bicycle infrastructure in place to support bicycling as a form of transportation. Within three miles of the Union Station, Civic Center, Pershing, 7th/Metro, Little Tokyo, and Chinatown stations, there are 62.3 miles of bicycling infrastructure. Pasadena has 75 miles of bicycle infrastructure and Santa Monica has 42 miles.

Bike docking locations within the public right-of-way and at Metro rail stations will be solidified as we develop the Implementation Plan and will be finalized based on a number of variables, including sources of demand, availability of space, real estate costs and jurisdictional support.

Business Model

Three Bike Share business models dominate the industry: (1) Public agency owns capital and contracts for the operations and maintenance, (2) a non-profit public/private

partnership, created specifically to provide Bike Share service owns capital and contracts for the operations and maintenance and (3) private company owns capital, operates and maintains. We have been focusing on the first and third models as potential options for a Metro led Bike Share program.

The first model, public agency owns and contracts operations/maintenance is the model that tends to be adopted by larger jurisdictions and those wherein multiple jurisdictions that have implemented a regional program. The advantages of this model include providing the jurisdiction with the flexibility to expand offerings of Bike Sharing as is deemed appropriate and necessary, while bringing the experience and innovation of a tried and tested operator. A primary disadvantage is the jurisdiction assuming capital investment and all liability. Cities and regions operating under this model include: Alexandria, Arlington, Aspen, Boston, Broward County, Cambridge, Chicago, Columbus, Fort Worth, Houston, Madison, Nashville, Santa Clara County/San Francisco (Bay Area) Pilot, and Washington, D.C. Based on program success, program size and multi-jurisdictional collaboration, we have found the Bay Area, Chicago and Washington D.C./Arlington/Alexandria programs to be most representative of a Los Angeles region endeavor.

Under this model, participating agencies would purchase and own the Bike Share infrastructure- bicycles, docking stations and kiosks. Attachment F breaks down the potential capital investment. Reflecting the minimum and maximum number of potential Bike Share stations per each pilot jurisdiction at a per bike cost of \$4,500 (based on Bay Area, Washington D.C. and vendor estimates of system and bike costs) we find that the total capital investment could range between \$4,815,000 and \$17,190,000. These cost figures do not include potential real estate costs.

The second model, private company owns and operates is akin to what the City of Los Angeles had previously pursued and Long Beach is now pursuing. Advantages of this model are that the burden of liability and cost of implementing a Bike Share program lies with the vendor. The disadvantages may include a profit driven decision making process whereby Bike Share stations are strictly business decisions with limited consideration for equity issues and regional distribution. Cities operating under this model include: Charlotte, Miami Beach, New York City, and Tampa Bay.

Both business models assume revenues would be derived from membership fees, and advertising and/or sponsorships. Via the Industry survey that we conducted all participating vendors confirmed that advertising and sponsorships would be relied upon to some extent. It was noted that in cases where advertising policies are highly restrictive, then sponsorship policies needed to allow for the maximum potential sponsorship revenues. Vendors also confirmed that advertising and/or sponsorship revenues are especially relied upon in models where the vendor is required to carry the full risk. In the few instances where neither advertising or sponsorships are options, the jurisdiction funds the revenue gap.

Discussions with potential pilot cities all indicate that each of their advertising policies prohibits advertising and most limit or prohibit sponsorship opportunities as well.

However, each of the cities also indicated that efforts are underway to re-examine and revise outdoor policies so as to allow some level of sponsorships.

Preliminary Bike Share Cost Analysis

For this exercise, we examined 14 Bike Share programs currently in place throughout the United States (Attachment G). In doing so we studied their respective business models, membership structures and funding sources. Because the Bay Area, Chicago and Washington D.C./Arlington/Alexandria programs are most reflective of a Los Angeles County-wide effort, many of the cost assumptions are derived from these programs. Locally, we also looked at the model the City of Long Beach is pursuing.

The Preliminary Bike Share Cost Analysis (Attachment H) was developed using several assumptions. These assumptions are as follows:

- Year 1 estimates of 250 stations and 2,500 bikes based on averages from Metro's Preliminary Bike Share Analysis. Year 2 to Year 5 bike fleet growth is based on Metro recommendations for regional Bike Share growth (assuming an average of 25 Bike Share stations per jurisdiction). After 5 years, 10% of fleet is expected to need replacement each year.
- Cost per bike is based on estimates from Washington D.C., Bay Area Pilot, and vendor provided estimates.
- Operating and Maintenance costs per kiosk based on Washington D.C. and Denver systems.
- User Fees in Washington D.C. were \$20,000 per station in the first year. Long Beach's preliminary estimates are \$15,000 per station. Our model assumes a rate structure of \$19,000 per station.
- The \$1,000,000 sponsorship revenue is based on Long Beach's preliminary estimates. New York City's sponsorship was \$8 million in the first year. We have shown a low number due to currently restrictive sponsorship policies in multiple jurisdictions.
- Advertising revenues shown are based on Long Beach's preliminary estimate. We have kept this number low number due to current strict advertising policies in multiple jurisdictions.
- Grant funding assumptions are based on the Bay Area Pilot, Boston Hubway and Washington D.C. trends.

The Cost Analysis is also model neutral, meaning, we do not identify who owns the capital and the cumulative pretax cash flow should be regarded as the program's overall cash flow. It is the cash flow that is typically divided between the jurisdiction(s) and vendor/operator based on negotiated revenue splits.

Per our cost analysis, the bike share program would begin to recover the capital cost and to make a profit in the fifth year of operation. We assumed the program would grow as it becomes a truly regional effort growing from 2,500 bicycles in the initial year to approximately 5,775 bikes by the sixth year. Potential for additional growth would be assessed as part of the Implementation Plan.

Attachment I includes a list of potential funding sources that could be considered for the Bike Share program's capital cost. Availability of listed funds has not yet been analyzed. Funding sources, including private investment opportunities, would be identified through development of the Implementation Plan and brought back to the Board for approval at a future date.

Implementation Plan

In conducting the industry review it became clear that given the number of agencies involved with a regional Bike Share program, the development and successful implementation requires resolution of a number of issues that need to be addressed prior to releasing a Request For Proposals (RFP) to potential bike share vendors.

Some of the items include identifying the best business model that meets the program purpose and addresses each jurisdiction's financial capacity and flexibility; advertising and sponsorship policies need to be solidified as this will inform the program budget; permitting processes need to be established by each jurisdiction so as to facilitate Bike Share implementation; identifying number and locations for Bike Share stations within the public right-of-way; determining if Metro, each jurisdiction or vendor will be responsible for Bike Share marketing, outreach and education; determining revenue split among participating jurisdictions and Metro's role in distributing revenue; coordinating Transit Access Pass (TAP) integration; identifying available real estate or associated costs; identifying a sustainable source of funding; establishing inter-agency agreements; and identifying phase two and three communities. We have therefore concluded that the best approach is to undertake an Implementation Plan to address these issues prior to launching the bike share program by local participating jurisdictions..

DETERMINATION OF SAFETY IMPACT

Approval of this program will have no impact on the safety of our employees or patrons.

FINANCIAL IMPACT

Funding for the study of how a Bike Share Program could be implemented throughout the County is included in the FY14 budget under cost center 4320, project number 405510, task 06.001.11. Once the program is actually underway, no Metro funds are envisioned to be used for the program.

Impact to Budget

The funding source for this activity is Proposition A Administration dollars. This fund is not eligible for bus and rail operating and capital expenditures. No other source of funds was considered.

ALTERNATIVES CONSIDERED

The Board could decide to not authorize the development of an Implementation Plan. However, this would be contrary to the October 2013 Board directive to examine the implementation of a Regional Bike Share program

NEXT STEPS

Upon approval, we will issue a RFP for the development of an Implementation Plan. It is anticipated that an Implementation Plan can be developed within six months of award.

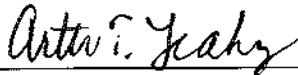
ATTACHMENTS

- A. October 2013 Bike Share Motion 66
- B. December 2013 Receive and File Bike Share Industry Review Status
- C. Rail System Bike Boardings
- D. Potential Bike Share Expansion Map
- E. Pilot City Maps
- F. Bicycle Share Preliminary Capital Cost Estimates
- G. Bicycle Share Business Models
- H. Preliminary Bicycle Share Cash Flow Analysis
- I. Bicycle Share Funding Options

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Martha Welborne, FAIA
Chief Planning Officer



Arthur T. Leahy
Chief Executive Officer

**MAYOR ERIC GARCETTI,
SUPERVISOR ZEV YAROSLAVSKY,
SUPERVISOR DON KNABE,
DIRECTOR MIKE BONIN, AND DIRECTOR PAM O'CONNOR**

Countywide Bicycle Share Program

October 17, 2013

MTA needs to lead and supplement its regional public transportation system by supporting bicycles and bicycle infrastructure in completing the first and/or last leg of a trip (e.g., from a train station to the workplace).

Bicycle ridership will also help reduce dependency on automobiles, particularly for short trips, thereby reducing traffic congestion, vehicle emissions, and the demand for parking.

A bicycle share program will also promote sustainable and environmentally friendly initiatives.

Bicycle share is a program designed for point-to-point short trips using a for-rent fleet of bicycles strategically located at logical stations locations.

Beginning in 1993, a series of successful bicycle share programs were implemented in Europe.

Currently the US is home to a number of bicycle share programs in cities such as Chicago, Denver, Minneapolis, New York City, San Francisco, etc.

According to the Earth Policy Institute, the number of bicycles in the U.S. bicycle share fleet is set to double by the end of 2014.

The Los Angeles region has seen a variety of bicycle share efforts, but none have taken hold because of a lack of regional coordination.

Given its role as the countywide transportation agency, in July 2011 the MTA board passed a motion directing staff to develop a strategic plan for implementing bicycle share in Los Angeles County.

CONTINUED

WE THEREFORE MOVE that the MTA Board direct the CEO to:

- A. Adopt as policy MTA's support of bicycles as a formal transportation mode.
- B. Convene a bicycle share industry review in November 2013 in order to advise on procuring a regional bicycle share vendor for Los Angeles County.
- C. Report back to the Board at the January 2014 meeting with the results of the industry review, including a business case analysis and recommendations on proceeding with a Request for Proposals (RFP) to implement a regional bicycle share program.
- D. Include in the analysis a phased approach for implementing this program based on area readiness, including, but not limited to, an examination of existing bicycle infrastructure, existing advertising policies, current ridership trends, and transit station locations.

###

**Metro**Los Angeles County
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metro.net**62****EXECUTIVE MANAGEMENT COMMITTEE
NOVEMBER 21, 2013****SUBJECT: BIKE SHARE PROGRAM****ACTION: RECEIVE AND FILE****RECOMMENDATION**

Receive and file this update on the Bike Share Program in response to the October 2013 Board Motion 66 (Attachment A).

ISSUE

At the October meeting, the Board approved Motion 66, providing direction to:

- A. Adopt as policy MTA's support of bicycles as a formal transportation mode;
- B. Convene a Bicycle Share Industry review in November 2013 in order to advise on procuring a regional bicycle share vendor for Los Angeles County;
- C. Report back to the Board at the January 2014 meeting with the results of the industry review, including a business case analysis and recommendations on proceeding with a Request for Proposals (RFP) to implement a regional bicycle share program; and
- D. Include in the analysis a phased approach for implementing this program based on area readiness, including, but not limited to, an examination of existing bicycle infrastructure, existing advertising policies, current ridership trends, and transit station locations.

This report provides the status of the Board directive.

DISCUSSION

Connected by the Metro transit system, bike share can help address first-last mile gaps around transit stations, increase the station catchment area and can introduce new users to bike transportation by removing barriers, such as bicycle ownership, maintenance, and security and can increase mobility while decreasing automobile use.

Most recently, Metro's role has been to facilitate bike share implementation, including providing funding to local jurisdictions for bike share through the Call for Projects and coordinating regional compatibility efforts such as addressing technology and software issues.

Status

In response to the Motion, we initiated the first phase of the industry review. We have met with bike share industry stakeholders and municipal planners, convened as the Bike Share Working Group and Metro's Bicycle Roundtable on November 4th and November 5th, respectively. The goal of the meetings were to gauge what role stakeholders and municipalities deemed appropriate for Metro to take and what opportunities as well as concerns existed by Metro taking on a larger role in a regional bike share effort. In anticipation of the next phase of the industry review which will be to conduct a market survey as well as developing the business case and next steps, we established a rudimentary understanding of the level of flexibility municipalities would need if Metro led a regional effort and highlighted areas that still need to be vetted further.

The following is a summary of the Bike Share Working Group and Bicycle Roundtable input received:

- One contractor, or multiple contractors with compatible technologies is key to achieving regional connectivity
- Metro, as a regional agency, should lead the effort and set the regional framework for cities to leverage at the local level
- A single system with local flexibility
- Bike Share must connect to a larger transit network
- Infrastructure, such as bike lanes and way finding, should support bike share implementation
- Phasing, especially pilot phase is key to success
- Local universities and colleges should be invited to participate
- Increase bike mode Call for Project funding to facilitate regional participation and infrastructure to support bike share

If we move forward with a greater role in establishing a regional bike share program, the following items surfaced during the two meetings as needing to be addressed:

- Revenue Split with Cities: Would Metro serve as a clearing-house or would cities receive their split directly from vendors
- Advertising/Sponsorship: How would differing advertising policies potentially affect proposed business plans
- Software: Develop a program that allows flexibility for evolving software and bike technology
- Payment: Can Transit Access Pass be adapted to allow for bike share payment
- Implementation: Pilot area and subsequent phasing and timing for roll out
- Inter-jurisdictional Operability: Bike redistribution and cost split, multi-jurisdictional membership cards

NEXT STEPS

We will return to the Board in January with the results of the market survey, business case and recommended next steps.

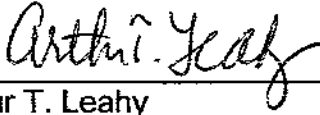
ATTACHMENT

A. October 2013 Motion 66

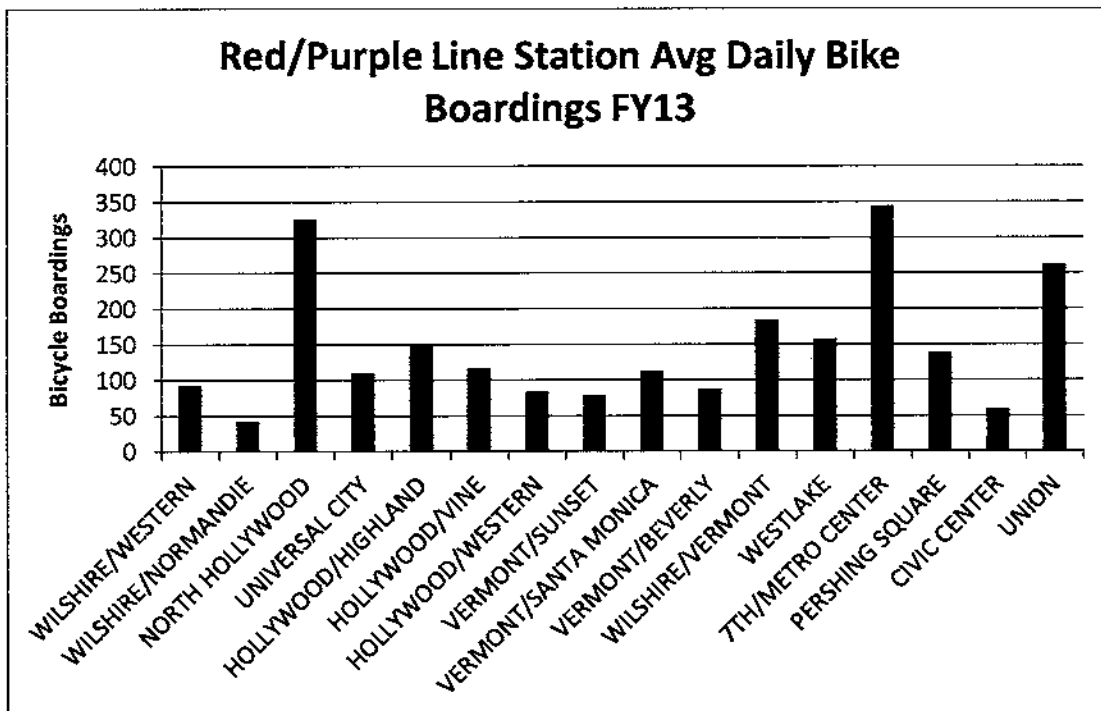
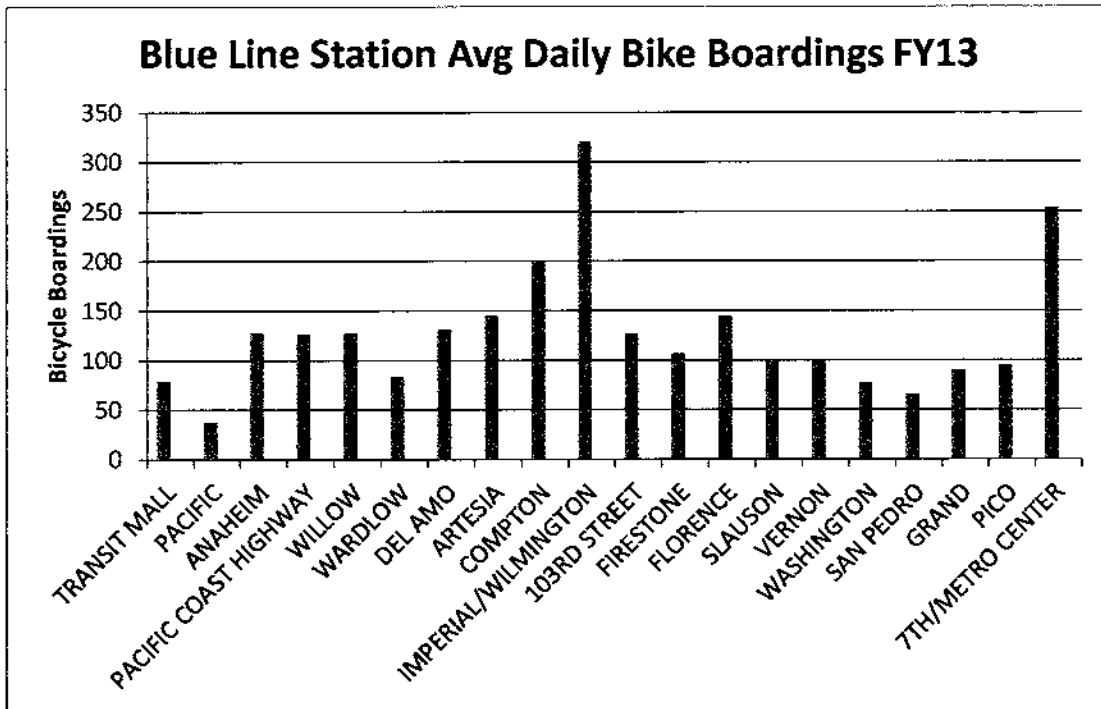
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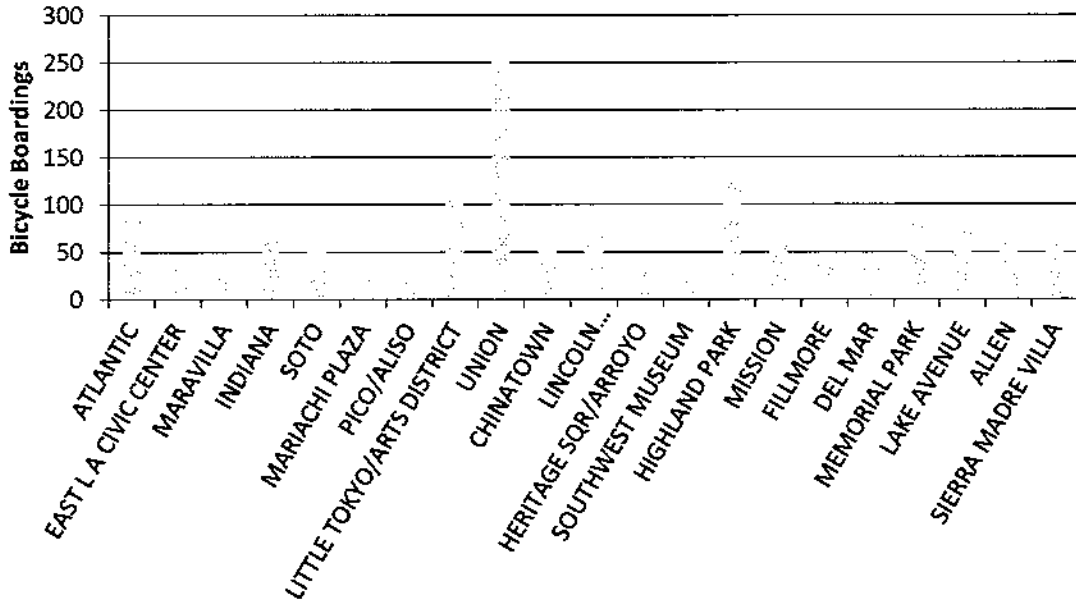
Martha Welborne, FAIA
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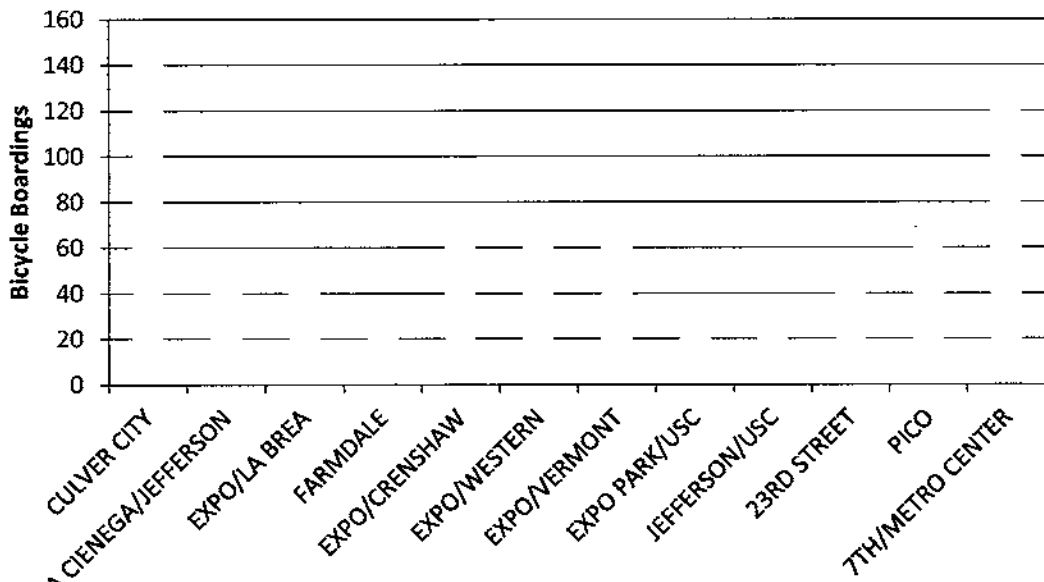
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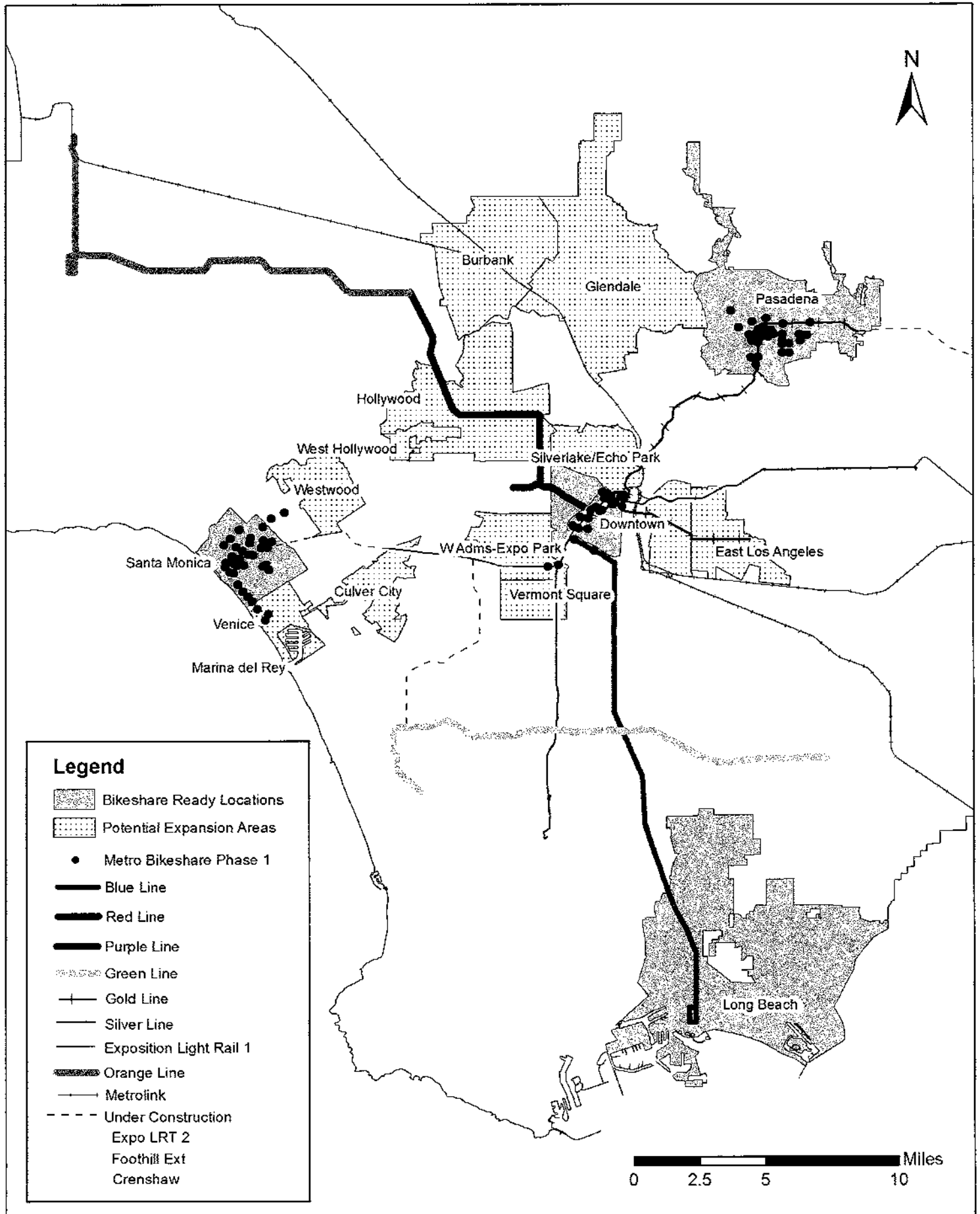
Gold Line Station Avg Daily Bike Boardings FY13



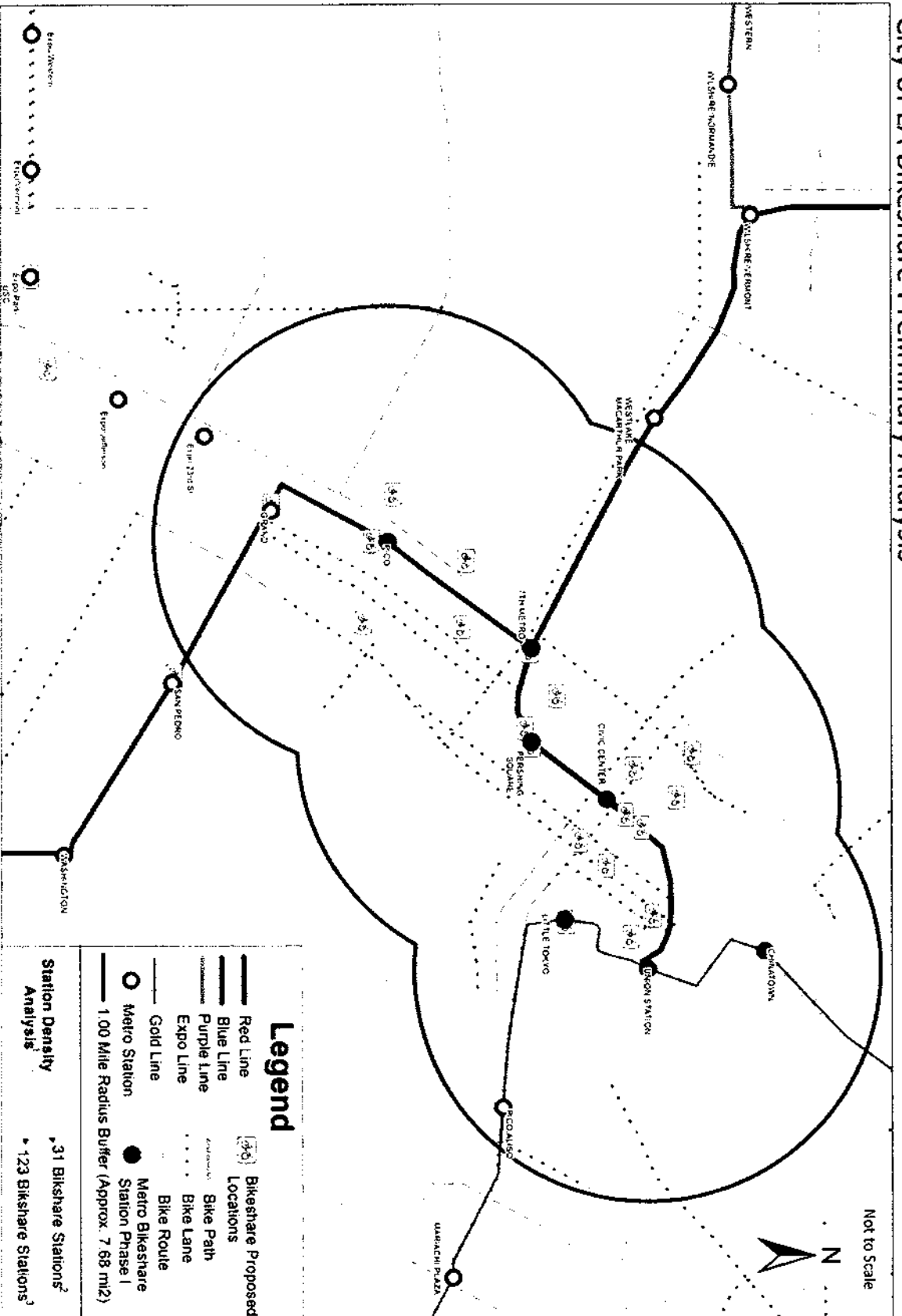
Expo Line Station Avg Daily Bike Boardings FY13



Potential Bikeshare Expansion Areas



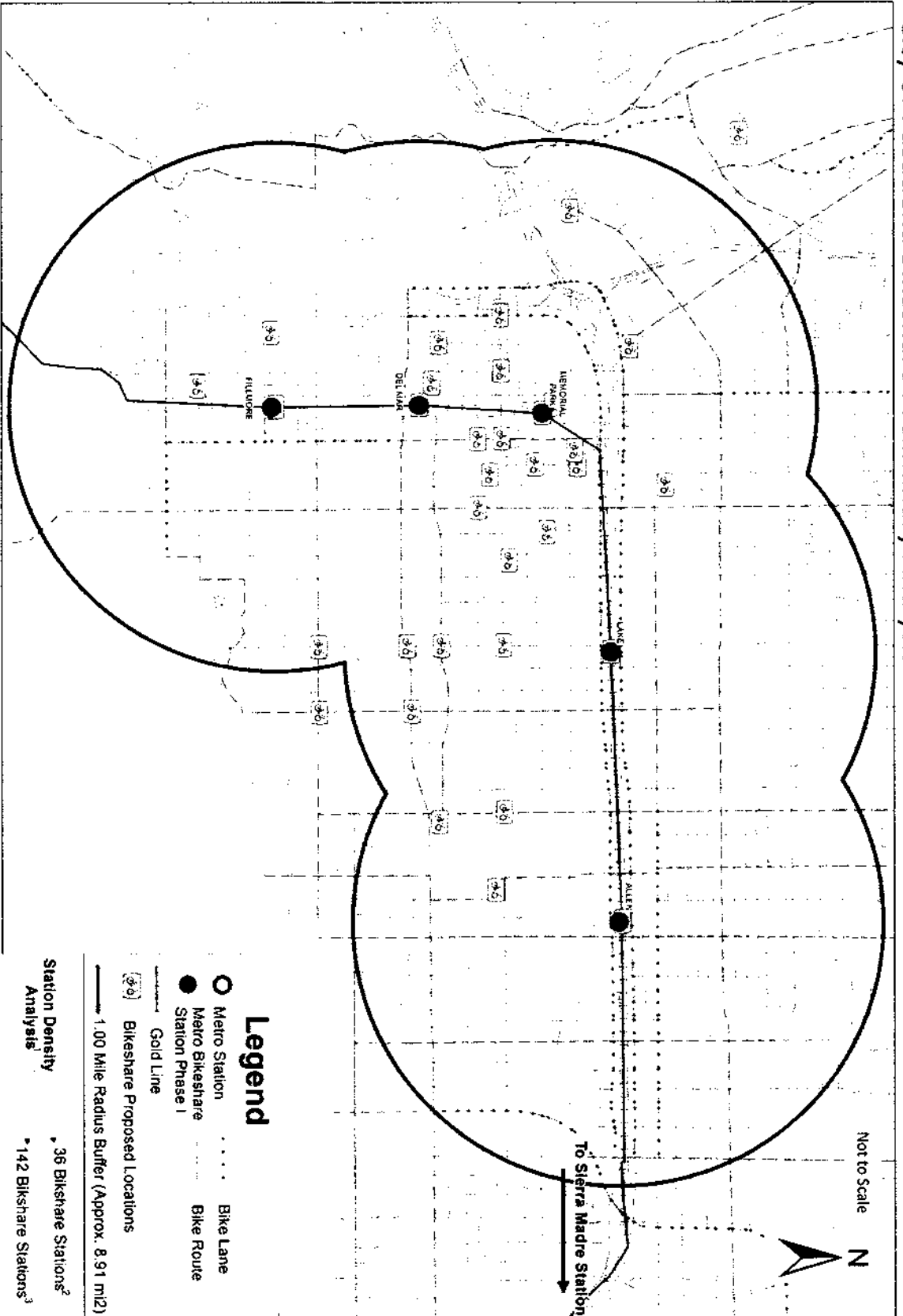
City of LA Bikeshare Preliminary Analysis



1. "Bike Sharing in the United States: State of the Practice and Guide to Implementation- USDOT/FHWA 2012", indicates a range of 3.5 to 5 bikeshare stations per square mile of service area for most existing systems. For denser urban areas, 14 stations or more per square mile may also be recommended. MTTI Report 11-26, Public Bikesharing in North America: Early Operator and User Understanding (2012), found that out of 19 operators 53% preferred distance between docking stations 300 yards to one-quarter mile apart. For this assessment one-quarter mile and one-half mile between docking stations was used.
2. 4 bikeshare stations per square mile at one-half mile apart.
3. 16 bikeshare stations per square mile at one-quarter mile apart.

Disclaimer: This map is for preliminary analysis only. Actual quantities and locations of bikeshare stations will be determined upon feasibility study and implementation in conjunction with local jurisdictions

City of Pasadena Bikeshare Preliminary Analysis



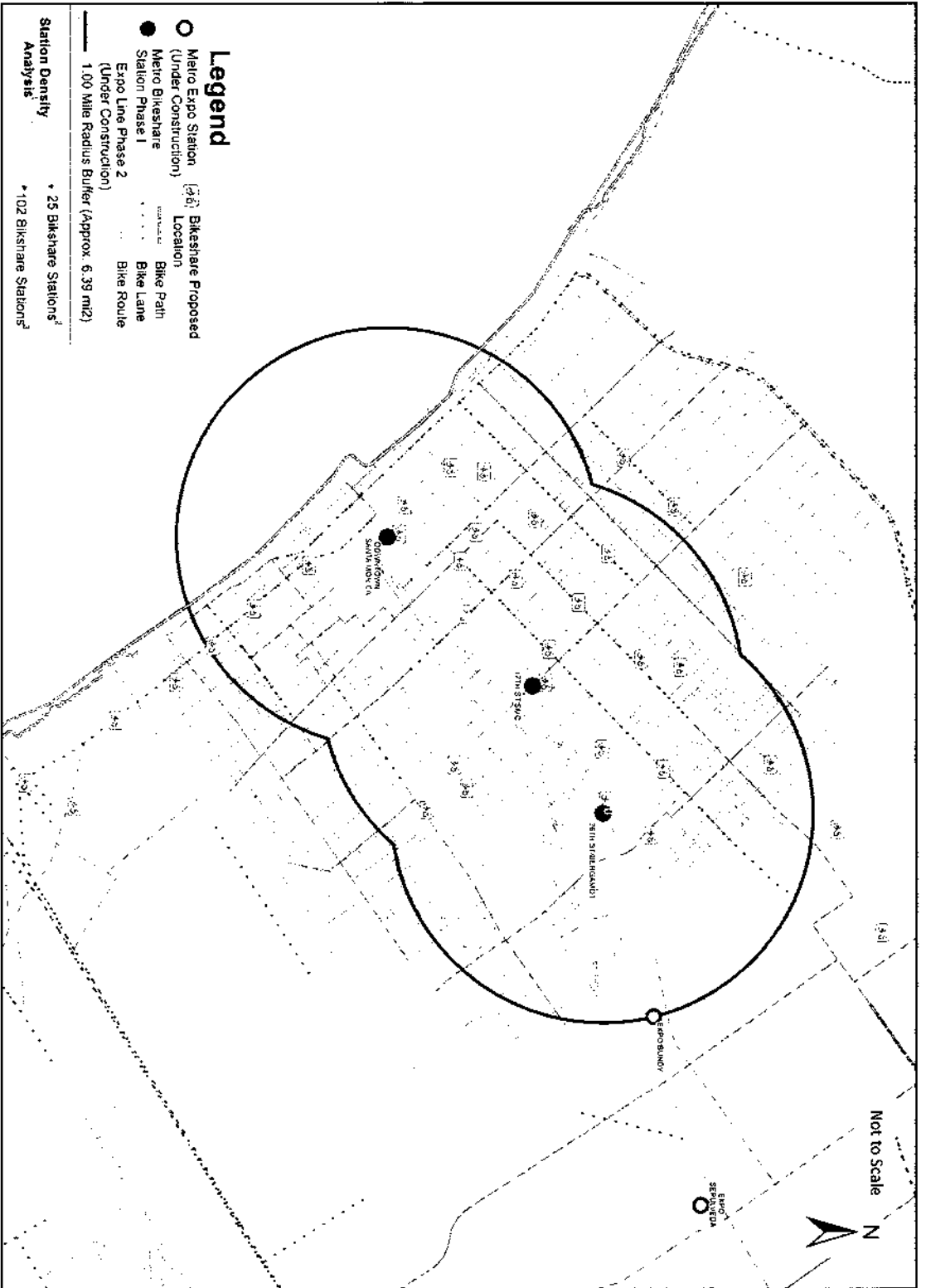
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City of Santa Monica Bikeshare Preliminary Analysis



1. "Bike Sharing in the United States: State of the Practice and Guide to Implementation- USDOT/FHWA 2012", indicates a range of 3.5 to 5 bikeshare stations per square mile of service area for most existing systems. For denser urban areas, 14 stations or more per square mile may also be recommended. MTR Report 11-26, Public Bikeshaaring in North America: Early Operator and User Understanding (2012), found that out of 19 operators 53% preferred distance between docking stations 300 yards to one-quarter mile apart. For this assessment one-quarter mile and one-half mile between docking stations was used.
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ATTACHMENT F

PRELIMINARY BIKE SHARE CAPITAL COST ESTIMATES

Based on figures from bike share locations in other regions across the United States and vendor estimates, cost ranges were calculated for the Los Angeles Region accounting for low and high density station locations and average costs of equipment (bikes per dock), as follows:

LOS ANGELES STATION COST	Low Density (41 Stations)	High Density (23 Stations)
Cost (\$4,000)	\$1,395,000	\$5,535,000

PASADENA STATION COST	Low Density (46 Stations)	High Density (42 Stations)
Cost (\$4,400)	\$1,620,000	\$6,390,000

SANTA MONICA STATION COST	Low Density (25 Stations)	High Density (102 Stations)
Cost (\$4,500)	\$1,125,000	\$4,590,000

Combined regional costs based on costs per stations in each city and the number of Metro stations in each jurisdiction yield potential cost ranges:

TOTAL COST AT METRO STATIONS IN JURISDICTION	Metro Stations	Cost (\$4,000)
Los Angeles	7	\$315,000
Santa Monica	3	\$135,000
Pasadena	5	\$225,000
TOTAL	15	\$675,000

TOTAL COST AT METRO AND CALTRAIN STATIONS	Low Density (107 Stations)	High Density (167 Stations)
Cost (\$4,000)	\$4,815,000	\$17,190,000

¹ Gold Line Station Pico/Aliso and Blue Line Station Grand are located within the City of Los Angeles buffer area, but not included in calculation due to physical space constraints at station locations.

² Methodology for calculating preliminary station ranges is detailed in Bikeshare Preliminary Analysis.

³ Bicycle per docking station costs calculated based on estimates from Washington D.C., Bay Area Pilot, Denver B-Cycle and Alta Bike Share. Actual costs will vary from location to location. Costs assume 10 bikes will dock at each station.

⁴ Cost does not assume any real estate transactions or land use considerations.

DISCLAIMER: This cost analysis is for preliminary analysis only. Actual costs will depend on the number of bike share stations determined by a feasibility study, vendor technology and land use considerations.

BICYCLE SHARE BUSINESS MODELS

BIKE SHARE BUSINESS MODELS

- Modern Information Technology-based bicycle share capital development appears in three forms:
 - 1) Public agency owns and contracts with private (for-profit or non-profit) company for operations
 - Advantages: Expands offerings of jurisdiction's transportation service, while bringing the experience and innovation of a tried and tested operator
 - Disadvantages: Jurisdiction assumes all liability
 - Cities operating under this model: Alexandria, Arlington, Aspen, Boston, Broward County, Cambridge, Chicago, Columbus, Fort Worth, Houston, Madison, Nashville, Santa Clara County & San Francisco Pilot, and Washington D.C.
 - 2) Non-profit public/private partnership, created specifically to provide bike share service, owns and contracts with private (for-profit or non-profit) company for operations
 - Entities can include city, county, chamber, public health department, redevelopment agency, or the private sector
 - Advantages: Receives funding from the jurisdiction while relieving liability from the jurisdiction
 - Disadvantages: Splitting control amongst multiple stakeholders is difficult
 - Cities operating under this model: Chattanooga, Boulder, Des Moines, Denver, Milwaukee, Minneapolis, Oklahoma City, Omaha, San Antonio, and Salt Lake City, and San Antonio
 - 3) Private company owns and operates
 - Advantages: Relieves jurisdiction from committing resources
 - Disadvantages: Does not ensure equity, quality service, and may fail if not profitable in first few years
 - Cities operating under this model: Charlotte, Miami Beach, New York City, and Tampa Bay

CAPITAL/OPERATIONAL COSTS & FUNDING SOURCES

- Direct Capital Costs
 - Bicycles
 - Docking stations
 - Kiosks or User interface technology
 - Real estate transactions
- Direct Operational Costs
 - Administration: Website, Mobile apps, Registrations
 - Redistribution of bicycles: Manual redistribution and/or pricing incentives
 - System monitoring: Call centers and on-call repair
 - Maintenance: Keeping bicycles, software, etc. in running order
 - Power supply: Maintaining solar, battery, or grid power supply
 - Data Reporting: Maintenance, planning and real time data
- Associated Capital Costs
 - Construction of infrastructure: Bicycles, docks, kiosks or user interface
 - Streetscape improvements

- Associated Operational Costs
 - Insurance
 - Maintenance of infrastructure and bikeways
 - Bicycle safety training and education
- Real Estate Costs
 - Land Use Negotiations:
 - Metro Property: Where Metro does not own sufficient land, negotiations with private owner or entity
 - Public Right of Way: Negotiations with Cities or County of Los Angeles
 - Private Property: Negotiations with private owner
 - Spatial Considerations:
 - Sidewalk: ADA compliance, right-of way negotiations
 - In-Street: Removal of street parking negotiations, safety considerations
- Funding Sources
 - Municipalities: Federal, state, local or other grants and funding
 - Advertising: Kiosk or Station advertising
 - Sponsorship: Title, presenting, station, dock, bike/fender, web, helmets, or other opportunities
 - Memberships & user fees
 - Public-private partnerships: Sponsorship or corporate donor

The business model matrix below captures the business models and funding sources for bike share for 14 systems in the United States:

COMPARISON TABLE OF EXISTING UNITED STATES BIKE SHARE PROGRAMS

JURISDICTION	LAUNCH DATE	SYSTEM NAME	SYSTEM SIZE (BIKES/STATIONS)	ANNUAL/CASUAL MEMBERS, RIDES	FARES	BUSINESS MODEL	FUNDING SOURCES
Boston & Cambridge, MA	July 2011	Hubway (Alta Bike Share)	600/60	36,000 annual/ 30,000 casual, 140,000 rides (in 4 months)	\$85/year \$20/month \$12/3-day \$5/day	Owned/Managed by County, operated by Alta (for-profit)	\$4.5 m (75% public FTA/CMAQ, 25% private). Each municipality responsible for own sponsorship
Boulder, CO	May 2011	Boulder B-Cycle	110/15	1,171 annual/ 6,200 casual	\$50/year \$15/week \$5/day	Owned/Managed by Non-Profit & operated by B-Cycle (non-profit)	Revenue from parking fees, citations; Transportation and Distribution Services
Broward County (Fort Lauderdale), FL	December 2011	Broward County B-Cycle	200/27	37,000 rides (in 1 year)	\$45/year \$25/week \$5/day	Owned/Managed by Broward County, operated by Broward County B-Cycle (non-profit)	\$1.1 m (63% private, 27% public)
Chattanooga, TN	July 2012	Bike Chattanooga (Alta Bikeshare)	300/30	400 annual, 12,600 rides (in 6 months)	\$75/year \$6/day	Owned/Managed by Non-Profit, operated by Alta (for-profit)	\$2 m CMAQ

JURISDICTION	LAUNCH DATE	SYSTEM NAME	SYSTEM SIZE (BIKES/STATIONS)	ANNUAL/CASUAL MEMBERS, RIDES	FARES	BUSINESS MODEL	FUNDING SOURCES
Chicago, IL	June 2013	Divvy (Alta Bikeshare)	750/68	3,7000 annual, 50,000 trips (in 1 month)	\$75/year \$7/day	Owned/Managed by City, operated by Alta (for-profit)	\$22 m in fed/local grants
Denver, CO	April 2010	Denver B-Cycle	520/52	2,659 annual/ 40,600 casual, 100,000 rides	\$65/year \$30/Month \$20/week \$6/day	Owned/Managed by Non-Profit, operated by B-Cycle (non-profit)	Capital \$1.5 m (CDOT, EPA, FHWA, gifts); 16% public (Vehicle registration tax), 84% private
Des Moines, IA	Sept 2010	Des Moines Bicycle Collective B-Cycle	22/5	20 annual, 109 rides	\$50/year \$30/month \$6/day	Owned/Managed by Non-Profit, operated by B-Cycle (non-profit)	Capital \$120,000 funded by private contributors, sponsorships
Fullerton, CA	TBD: Planned for Fall 2014	BikeLink (Bike Nation)	TBD: Planned 165/15	N/A	\$75/annual, \$45/annual (student), \$12/week, \$5/day	Owned/Managed and operated by Bike Nation (for-profit)	Capital \$1.48 m (OCTA federal grants, local Mobile Source Air Pollution Reduction Review Committee Grant)

JURISDICTION	LAUNCH DATE	SYSTEM NAME	SYSTEM SIZE (BIKES/STATIONS)	ANNUAL/CASUAL MEMBERS, RIDES	FARES	BUSINESS MODEL	FUNDING SOURCES
Miami Beach, FL	Mar 2011	DecoBike	800/91	2,500 annual/ 338,828 casual	\$15/month (regular) \$25/month (deluxe) \$35/month (visitors) \$24/day (visitors)	Owned/Managed and operated by DecoBike (for-profit)	\$4 m Private investor DecoBike – revenues split between DecoBike and City
Minneapolis, MN	June 2010	NiceRide Minnesota B-Cycle	1,300/145	3,521 annual/ 37,103 casual	\$60/year \$30/month \$5/day	Owned/Managed & operated by Non-Profit	Capital \$5.3 m (FHWA); 63% public funds; 37% private funds.
New York City, NY	May 2013	Citibike (Alta Bikeshare)	5,700/330	80,000 annual (in 3 months)	\$95/year \$25/week \$10/day	Owned /Managed and operated by Alta (for-profit)	Private financing
San Antonio, TX	March 2011	San Antonio B-Cycle	210/23	1,000 annual/ 2,800 casual, 16,100 rides (in 6 months)	\$60/year \$24/week \$10/day	Owned/Managed by City and operated by B-Cycle (non-profit)	\$840,000 DOE/CDC funds, \$235,000 and \$58,000 in station sponsorships

JURISDICTION	LAUNCH DATE	SYSTEM NAME	SYSTEM SIZE (BIKES/ STATIONS)	ANNUAL/ CASUAL MEMBERS, RIDES	FARES	BUSINESS MODEL	FUNDING SOURCES
San Francisco/ Bay Area Cities, CA PILOT	August 2013	Bay Area Bikeshare (Alta Bikeshare)	700/34	2,080 annual, 14,591 trips (in 1 month)	\$88/year \$22/3-day \$9/day	Owened/Managed by Bay Area AQMD, operated by Alta (for-profit)	\$4.3 m Metropolitan Transportation Commission (Bay Area Climate Initiatives – CMAQ), \$1.4 m Clean Air Grant (BAAQMD)
Washington D.C. (first attempt)	2008	SmartBike (Alta Bikeshare)	120/10	1,050 annual	\$40/year	Owened/Managed and operated by Alta (for-profit)	DDOT funding & Advertising revenue
Washington D.C., Arlington, VA & Alexandria, VA (second attempt)	Sept 2010 & 2011	Capital (CaBi) Bikeshare (Alta Bikeshare)	1,200/140	19,200 annual/ 105,644 casual	\$75/year \$25/month \$15/3-day \$7/day	Owened/Managed by DDOT & City of Arlington, operated by Alta (for-profit)	Capital \$8 m fed (CMAQ)/state funds. Minimal private sponsorships & revenue.

ATTACHMENT H

	2024	2025	Total
Bikes and Docks			
Total Bikes	5,775	5,775	
Total Stations	525	525	

Capital cost			
Bikes		525	525
Stations			7,875
	Cost/bike	4,500	2,362,500
Vehicles		2,362,500	2,362,500
	Cost	35,000	-
			35,437,500
			175,000

O&M*			
	\$ 23,000	2,075,000	12,075,000
			104,075,000

Total cost/yr (cap + exp)	4,472,500	14,437,500	139,687,500
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Revenue			
User Fees**	\$ 19,000	9,975,000	9,975,000
Sponsor/yr***	\$ 1,000,000	1,000,000	1,000,000
Ads/kiosk****	\$ 12,000	6,300,000	6,300,000
Total		17,275,000	17,275,000
			150,275,000

Yearly free cash flow	2,802,500	2,837,500	10,587,500
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Cumulative cash flow			
Total Grants*****		-	-
Capital		33,250,000	35,612,500
O&M		32,000,000	104,075,000
Total cost		65,250,000	139,687,500
Total Revenue		38,000,000	155,275,000
Cum pretax cash flow		12,750,000	15,587,500

analysis. Year 2 to Year 5 bike fleet growth throughout 11 jurisdictions). After 5 years,

fleet requiring maintenance.

tion. To be conservative, this model assumes

\$8,000,000 in 1st year. We have shown a

Disclaimer: Cumulative Pretax Cash Flow may be split between jurisdictions and vendor/operator based on negotiated revenue and advertising policies in multiple jurisdictions.

Inputs

Bicycle Share Funding Options
(in millions)

Fund Type	\$	Allocation Process	Programming Action Needed by the Board	Eligibility Criteria & Parameters	Applications in Existing Bike Share Programs
Federal					
ATP	\$116.6 yearly**	Discretionary	No (Programming is made by CTC & SCAG)	Capital and non-infrastructure active transportation projects. **State guidelines have not been finalized.	
CMAQ	\$18 yearly	Discretionary	Yes	Capital and non-infrastructure costs. For projects that reduce single occupancy vehicle driving and improve air quality.	Has been used by Capital Bikeshare for infrastructure in Washington DC & Virginia.
JARC	\$8.35 Total	FTA grant	No	Capital and non-infrastructure costs for commute and reverse commute options for low income individuals in Long Beach & City of LA. FTA does not officially recognize bike share as public transit so the purchase and operation costs of individual bikes may be restricted. Station infrastructure may be covered.	Capital Bikeshare is using JARC to provide free membership, bike education programs and free helmets to low income participants.
Local					
CRD (Toll Lane Revenue)	\$4.2 - \$5.2 yearly*	Discretionary	Yes	Capital costs for active transportation & first-last mile solutions. Must be located within three miles of either the I-110 & I-10 Corridor) or provide regionally significant improvements for the 110 or 10 Corridor. *Fund estimate applies to FY14 only. Future funding contingent on 1-10 & 110 HOT lane project approval	
Local Return - Measure R 15% - PC20%	\$245 yearly	Formula By Population	No	Capital costs. Local cities could elect to use their share to pay for future phases or as a match.	Local sales tax funds have been used to match/supplement federal grants in many bike share schemes.
MR 25% Highway Operational Improvements	\$345 total	Discretionary to only Arroyo Verdugo and Malibu Las Virgenes Subregions	Yes	Capital costs. Potential to fund future bike share phases for cities within the subregion.	