

**Financing Strategies for a Future Multi-Jurisdictional
Mid-Peninsula Bike Corridor**

Anakaren Cervantes, Ryan Gaertner, Kaya McRuer, Alex Robinson, and Caleb Smith

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Executive Summary

The following memorandum presents five key potential financing strategies for a north-south bicycle/pedestrian path connecting the member cities of the Managers' Mobility Partnership or MMP (Redwood City, Menlo Park, Palo Alto and Mountain View). The proposed path would span four cities and two counties, requiring non-traditional forms of financing to facilitate jurisdictional collaboration.

This report provides the MMP with a menu of financing alternatives for a future mid-peninsula bicycle corridor. However, mindful of the best advice we received from our interview subjects — “there is no silver bullet” — we do not expect any single alternative to raise the full sum. Thus, upon public approval and adoption of a route, we recommend the MMP pursue a combination of financing strategies, including corporate sponsorship, regional sales tax revenue, and other regional grant opportunities. Additional financing could be found at a local level through reallocation of existing funds, the creation of a Mello-Roos district, and use of lease revenue financing. Together, these mechanisms could yield the \$40 million that we estimate will be needed to construct this corridor. In order to most effectively apply these strategies, we recommend the partnership formalize its structure in order to pool funding from multiple sources. Although investigating options for formalization is beyond the scope of our research, the formation of a joint powers authority is commonly used and strongly recommended when applying either Mello-Roos financing or a lease revenue financing strategy. Our analysis eliminated options that could not feasibly achieve the estimated construction cost in a multi-jurisdictional setting, and then rigorously assessed each alternative using criteria developed in collaboration with the client. Each alternative was assessed by considering the amount of funding available, its political feasibility, legal complexity, timeframe, and cross-city coordination difficulty.

The following analysis is agnostic about which particular north-south route the MMP should pursue. Rather, the financing strategies are analyzed according to their ability to achieve the \$40 million cost estimate across the four jurisdictions. This cost estimate was determined by building off the work of an earlier Stanford undergraduate policy analysis, which estimated such a project would cost \$18 million. In conjunction with staff from the MMP cities, our team adjusted their figure to account for construction and planning costs, including a more accurate assessment of protected intersection costs and a typical cost contingency for construction projects. It is important to note that the \$40 million estimate excludes land acquisition costs and maintenance costs. Our analysis focuses only on identifying initial financing for the potential route, which our client identified as the key policy challenge confronting the MMP.

Our recommended alternatives are corporate sponsorship, regional sales tax revenue and grant opportunities, reallocation of funding from existing city resources, formation of a Mello-Roos district, and lease revenue financing. Local companies have previously collaborated with local governments to realize projects similar to this proposed bike corridor and have indicated a willingness to do so again. In particular, corporate sponsorship is a strong alternative because it

is logistically less complex than other alternatives and minimizes the use of public funds.

We have identified two regional sales taxes measures, Measure B in Santa Clara County and Measure K in San Mateo County, as other promising sources of combined funding. Several additional regional grants, discussed in **Appendix I**, may be available to contribute to this project. If the MMP can indeed secure private sponsorship for part of the project, pledged private support may be helpful in attracting these funding sources. Regional grants and sales tax revenues are promising because they are relatively reliable funding sources that also avoid the use of municipal funds or new taxes.

Funding needs not satisfied through corporate sponsorship or grant opportunities may be met through targeted reallocation of general fund revenues or transportation impact fee revenues. Reallocation is a useful alternative because it is cost efficient compared to debt financing and can minimize the potential political contentions of generating new tax revenue.

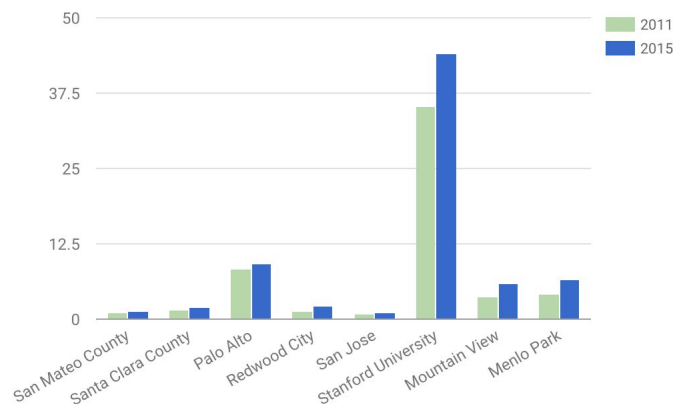
If existing revenue from cities' general or special funds cannot cover the full remaining cost of the project, we recommend the MMP consider creating a Community Facilities District through the Mello-Roos Act to levy a parcel tax in all four cities. Such a district could generate major funds for the north-south route, but would require the MMP to transition from a voluntary partnership to a Joint Powers Authority (JPA) spanning all four cities. Creation of a JPA would eliminate the potential complications of having four cities vote on new taxes on a city-by-city basis. If a new tax levy is not an acceptable option, lease-revenue financing offers a promising option to spread out the cost of construction. A detailed discussion of each of these options follows the summary and analysis of financing alternatives section.

Appendix II compiles a summary of several additional non-traditional financing alternatives that we examined that could be useful for future initiatives. These alternatives were identified through targeted literature review of academic and industry journals and existing research. Ultimately, our analysis demonstrated that financing strategies such as fee based-public private partnerships, social impact bonds, and crowdfunding are not suitable for the MMP at this time due to cost, time, limited funding potential, and/or legal constraints. Future research should investigate further options for formalization of the partnership, focus on identifying the best route, and calculate precise funding needs of the project based on the selected route. The MMP will also have to determine, based on this report, their willingness to contribute local funds to this project and should examine specific collaboration opportunities with local companies and grants options.

Background and Scope

Formed in May 2016, the Managers' Mobility Partnership (MMP) seeks to address transportation and mobility challenges resulting from the recent rapid economic and population expansion in the San Francisco Bay Area. Comprised of the cities of Redwood City, Menlo Park, Palo Alto and Mountain View, this voluntary collaboration seeks to proactively address mobility issues across all modes of transportation. Problems resulting from recent growth in Silicon Valley include, but are not limited to: longer commute times, decreased worker productivity, increased carbon emissions, and occasionally business relocation. While the member cities do not directly bear the cost of these externalities, alleviating these problems will allow the area to continue to grow and improve the quality of life for mid-peninsula residents.

Table 1: Percent Biking to Work in Select Silicon Valley communities, 2011 vs 2015*¹



Data Source: Joint Venture Silicon Valley 2017 Bike Vision report

As Table 1, which includes data drawn from Joint Venture Silicon Valley's 2017 Bike Vision report, demonstrates above, bike ridership in Silicon Valley is extremely low. According to the same report, only 1.7% of Silicon Valley residents bike to work.² Fear of collision is the primary deterrent for valley residents to bike ridership.³ The MMP bike corridor would specifically address this concern by creating a protected bike corridor and help shift the local policy mindset from planning for increased car capacity, to planning for bike ridership.⁴ As communities like Stanford have shown, with California's mild weather and flat landscape, high bicycle transportation mode share is possible.⁵

¹ 2017 Bike Vision report, Joint Venture Silicon Valley, <http://jointventure.org/images/stories/pdf/2017-02-bike-vision.pdf> (pg 21)

² 2017 Bike Vision report, Joint Venture Silicon Valley, <http://jointventure.org/images/stories/pdf/2017-02-bike-vision.pdf> (pg 1)

³ 2017 Bike Vision report, Joint Venture Silicon Valley, <http://jointventure.org/images/stories/pdf/2017-02-bike-vision.pdf> (pg 1)

⁴ Jeff Tumlin, speech delivered at Joint Venture Silicon Valley's 2017 State of the Valley conference on February 17, 2017.

⁵ Stanford has the residential advantage of providing housing near employment, accounting for its anomalously high ridership rates.

Acting on behalf of the MMP, Joint Venture Silicon Valley reached out to Stanford University's Public Policy Program to collaborate with a team of senior Public Policy students to answer the question: *What are the best financing mechanisms for the Partnership's projects?* In consultation with Joint Venture, our team further refined the question to fit the specific needs, timeframe, and scope of the project requested by the MMP: *What traditional and nontraditional financing strategies (or combinations thereof) can the MMP use to finance a future north-south bike corridor spanning the cities of Menlo Park, Palo Alto, Redwood City, and Mountain View?*

This report will focus on financing options for the initial construction and design of the proposed MMP bike corridor. As shown in Table 2, the four cities collectively spend around \$11 million annually on bike or pedestrian projects. These funds are allocated to a variety of projects already. As a result, use of these funds should be minimal if applied in conjunction with the mechanisms discussed in this report. This estimate shows that the cities already dedicate significant funds to similar projects. Relative to the needed \$40 million for the proposed route, these estimates indicate that the cities have the capacity to dedicate funds to fill a funding gap once other financing alternatives are attempted.

Table 2: Total Expenditures on Bike and Pedestrian Infrastructure Projects in MMP Cities

City	Palo Alto	Menlo Park	Redwood City	Mountain View
Amount	\$6,026,259 ⁶	\$600,000 ⁷	\$2.8 million ⁸	\$1.5 - 3 million ⁹
Time Period	FY 2017, Capital Improvement Budget	FY 2015-16 Bike Infrastructure Spending	FY 2015-16 Expenditures on Bike/Ped Projects	Average annual bike and pedestrian budget

Note: The numbers depicted above were gathered from publicly available documents. To the extent possible, these figures were verified by staff in each of the MMP cities. These numbers are intended to illustrate the general order of magnitude of current expenditures on transportation projects.

The MMP cities currently use a variety of funding sources to support bicycle and pedestrian infrastructure. Such funding sources include federal state and local grants, general fund revenue from taxes and fees, and transportation impact fees. Transportation impact fees are charged to the developers of new commercial, residential and industrial buildings to offset the

⁶ Does not include streetscape projects, and therefore may represent less than the full cost of bicycle infrastructure expenditures. Palo Alto Capital Improvement Budget

⁷ Angela Obeso, Menlo Park Associate Transportation Engineer, 3/14/17

Note: this number may be lower than the other cities because it more specifically identifies FY 15-16 spending on only bike infrastructure compared to funds available to bike/ped spending in general. This is also a ballpark estimate made by Menlo Park city staffers.

⁸ Susan Wheeler, Management Analyst, Redwood City Engineering and Transportation Services

⁹ Jim Lightbody, Project Manager, City of Mountain View

negative impacts the development would otherwise have on the transportation networks of the cities. Such impact fees are calculated through a nexus study, which clearly illustrates how a specified unit of development will affect the quality of government services (like transportation) that is provided. As of 2017, all four cities currently assess these fees, however the amount charged to developers varies, as shown in Table 3.

Our client, Joint Venture, requested that our research focus on financing strategies that could generate approximately \$40 million,¹⁰ could be easily applied cross-jurisdictionally, and that employed innovative or nontraditional approaches. Given these parameters, we identified approximately 10 initial financing strategies and funding sources through consultation with a wide range of contacts, from local firms to national experts in alternative financing and transportation. We then eliminated the alternatives that did not meet the initial parameters and those that could not be feasibly applied to the MMP. Using the criteria outlined in the methodology section below, we evaluated five alternatives and considered the accompanying tradeoffs of each alternative.

At the request of the client, we researched several case studies to better understand the scope of the proposed north-south bicycle trail. These included international (Amsterdam), domestic (Davis and Temecula, CA), and local (Stevens Creek Trail) examples of similar projects targeted at increasing bicycle mode share and/or involving multiple public agencies coordinating on a shared project. Information about these case studies can be found in **Appendix IV**. The case studies generally showed that the most typical model for bike/pedestrian project financing involved a combination of local and grant funds, or significant support at the federal level. In addition to the type of financing utilized, many of these projects spanned a long period of time. For example, the Virginia Capital Trail, which also links four jurisdictions, was first conceived as an idea in 1990 but not completed until the middle of 2015¹¹.

Methodology

Prior to identifying and analyzing financing alternatives for the MMP, we first needed to establish a working cost estimate for construction of the proposed path. We started by building upon the work of a previous Stanford policy analysis from fall 2016, which estimated the construction cost for a path along a major north-south surface street as \$18 million. We used this figure as a baseline and, in consultation with Chris Corrao, senior transportation planner at the City of Palo Alto, adjusted to consider a number of additional costs and arrived at an estimated \$40 million for this project. This adjustment accounts for the cost of constructing protected intersections (\$650,000 per protected intersection, for a \$11.25 million increase), which was the major change in physical construction. We also added set-asides for planning and environmental work

¹⁰ This \$40 million estimate assumes the MMP prioritizes the use of public land as opposed to privately acquired land, which is not accounted for in our cost estimate.

¹¹

<https://www.railstotrails.org/trailblog/2015/october/05/new-virginia-capital-trail-to-boost-economic-development-community-health/>

(a 15% increase to the physical construction cost), and an additional set-aside for cost contingency (15% increase to the physical construction cost). This figure comes out to \$38.025 million, which we rounded up to \$40 million for simplicity. The exact amount will vary depending on the route chosen, among other factors. However, for the purposes of this analysis, we consider this \$40 million estimate to be a reasonable basis to conduct our analysis.

With this cost estimate in mind, we identified ten financing strategies for consideration. Some models involved traditional financing approaches like leveraging existing sales tax revenues and reallocating existing funds, and others involved more innovative approaches like public-private partnerships and social impact bonds. In addition to examining a number of domestic and international bicycling finance case studies, we surveyed research on experimental financing models and built upon group member experience in municipal government. Our search did not prioritize traditional funding sources, particularly grants, given the extensive knowledge of MMP city staff. However, a selection of particularly relevant grants are outlined in **Appendix I** for MMP consideration.

Based on our literature review, interviews, and client direction, the initial portfolio of financing strategies identified for analysis included:

1. **Coordinated use of regional sales tax revenues**, particularly revenues from the recently approved Measure B in Santa Clara County and Measure K in San Mateo County
2. **Reallocation of existing municipal funds**, particularly transportation impact and traffic mitigation fee revenues
3. **Creation of a Community Facilities District under the Mello-Roos Act** to generate revenue specifically for a north-south bike corridor
4. **Lease Revenue Financing**, a common strategy that has been used in the past and is popular amongst cities because it does not require them to make a large investment up front
5. **Sponsorship Public-Private Partnership**, an agreement between the public and private sector in which the private sector philanthropically sponsors a certain project
6. **Fee-producing Public-Private Partnership**, a contractual agreement between the public and private sector in which the private sector pays for and often designs, maintains, and even constructs a fee-producing infrastructure project
7. **Social Impact Bonds**, an experimental kind of debt that is issued with repayment dependent on some societal outcome
8. **63-20**, a nonprofit authorized to issue tax exempt debt for use of construction of transportation infrastructure
9. **Revolving Fund**, a state fund that is started with both state and federal funds that loans money specifically for the construction or maintenance or infrastructure projects of any kind. In California, the revolving fund is an Infrastructure Bank managed by the Infrastructure State Revolving Fund.
10. **Crowdsourcing/Crowdfunding**, allowing people/companies to pledge/donate

personal/private money for social use without guaranteed individual return on investment (think Indiegogo or Kickstarter for public projects)

With this list of alternatives, we developed a list of evaluative criteria to apply to our selected models. These criteria include (in order of consideration):

- **Coordination Feasibility** is the ability of a particular financial strategy to be applied across all four cities. In order for this project to work, the cities have to be able to work together and reach an agreement concerning funding allocation.
- **Political Feasibility** is the likelihood of success of the project and funding alternative given the parties that are going to be involved. This is important because developing a multi-jurisdictional project of this nature depends on stable financing sources in each member city.
- **Available Funding** refers to whether a given model could yield a significant portion of the \$40 million estimated cost. We decided to discard models that could only provide minimal funding, which would potentially be less useful for a project of this scope.
- **Stackability** refers to the ability for funding sources to be combined with each other. This criterion developed as we evaluated each alternative against other criteria, and is an important consideration given the fact that no single strategy is likely to yield the total amount necessary to fund the project. Models with restricted possibilities for combination would thus have limited practical applicability.
- **Legal Complexity** refers to whether pursuing a particular funding source would require a change to existing state laws, county or municipal codes or ordinances, or would otherwise face significant legal obstacles. This consideration helps inform whether a financing strategy can be applied as intended across the four cities, with less legally complex models being preferable.
- **Time Frame** refers to how soon the funds could be available. Short-term refers to funds being available within one year, medium-term refers to funding available between one and five years, and long-term funding is five years from now and beyond.

Our analysis indicates that private contributions, grant funding, allocation of existing tax revenues, the formation of a Mello-Roos district, and use of lease revenue financing to be feasible models. Our recommendation is for the MMP to pursue these financing strategies in this order because these models provide the greatest funding potential and fewest tradeoffs as evaluated by the criteria listed above. This memorandum focuses on analysis of models identified as feasible. Options deemed infeasible for the MMP under current conditions included social impact bonds, 63-20, revolving funds, and crowdsourcing. These models were classified as unfeasible largely as a result of their limited funding potential, given that all required a substantial secondary funding source. Nonetheless, given that our initial project scope included research and evaluation of non-traditional models, an in-depth summary of these models is included in **Appendix II**.

Summary and Analysis of Financing Alternatives

This section provides an overview and definitions of financing alternatives for MMP consideration. A definition of each model is presented along with a discussion of its application and limitations. A summary analysis of each model and its ranking against our set of evaluative criteria is provided in Tables 4 and 5.

We analyzed several non-traditional financing strategies, but our analysis ultimately found them to be unsuitable for the MMP. A similar summary overview and discussion of potential application and constraints of Social Impact Bonds, 63-20's, revolving funds, and Crowdsourcing can be found in **Appendix II**. Upon evaluation, we determined that these financing mechanisms were not suitable for consideration based on a variety of reasons. Briefly,

- Social Impact Bonds require too much monitoring and an objectively quantifiable benefit around which to structure, which would be difficult to identify for a bike corridor.
- 63-20's require the implementation of fee-producing infrastructure, which is impractical and contrary to the goals of the project; charging people for the use of this path defeats the purpose of having a free-to-use bike path.
- Revolving Funds in California through the ISRF (Infrastructure State Revolving Fund) must see the project come to fruition within two years of the approval of funding and do not offer enough funding to reach \$40 million.
- Crowdsourcing does not offer enough funding to merit further consideration.

Although our critical and primary task was to look at financing strategies, in the process of identifying strategies, the need to formalize the MMP's agreement emerged as a key next step in order to realize several financing strategies, including potentially some of these non-traditional financing mechanisms. As such, the strategies outlined below fall under one two categories: 1) strategies that the MMP can pursue in their current form and 2) strategies that would warrant them formalizing. Each is presented in the subsequent discussion with an overview of the proposed model, its potential application to the MMP, and limitations the managers should consider.

Models Applicable Under Current MMP Voluntary Membership Structure

The following models could be used with the existing MMP structure if the MMP decides to maintain its status as a voluntary partnership. Our research and analysis have led us to recommend that the MMP should formalize its partnership. It was beyond the scope of our project to examine options for formalization. However, the creation of a Joint Powers Authority (JPA) is traditionally used for two of our alternatives (which we elaborate on in a following section, "Models Applicable with a Restructuring of the MMP"). Nonetheless, the current voluntary membership structure allows the MMP to access several important financing strategies, as presented below.

The Sponsorship Public-Private Partnership Approach

Overview

Public-Private Partnerships (P3) consist of a contractual agreement formed between public and private sector partners that allow private sector participation in many facets of the project.

There are two main types of P3s: fee-producing and sponsorship.

- In a traditional fee-producing P3, the private sector provides capital to a project that will bring about a desired revenue return. For infrastructure projects, revenue comes in the form of tolls or user fees. In such cases, the public sector usually retains ownership in the facility while the private party is given additional rights in determining how the project or task will be completed¹².
- In contrast, a sponsorship P3 involves significant financial contribution from the private sector to a given public project. The sponsorship model is based on philanthropy, with the private sector donating money and resources towards employee and community benefit. Outlined later in this section, the public sector can supplement a sponsorship P3 through local grants or tax measures secured after the promise of private funding.

For this proposed project, the traditional fee-producing P3 would penalize commuters choosing to use alternative modes of transportation. In contrast, the sponsorship P3 offers a viable financing alternative because it provides capital to the project with minimal impact to each member city's annual operating budget. In order to actually finance and complete a project within a certain jurisdiction, a sponsorship P3 would require the public sector collaborate with the private entity or entities to facilitate the process with one or more agencies that own land or construction rights.

Sponsorship can function with equal or combined public and private financial contributions into public betterment projects. According to a transportation manager at Google, one of the corporate commute goals for their company is to put up funds into a grant pool in which other companies can contribute¹³; this grant pool of monetary reserves would be used for projects that are beneficial to the communities surrounding the contributing corporations. For an organization such as the MMP, this grant pool could serve as a funding "pledge" that the MMP could leverage when applying for regional grants (see **Appendix I**). With private funding already pledged toward this project, the project could appear more viable to regional grant administrators and may therefore attract more grant funding. In this way, the public sector can utilize the grant opportunities available while also collaborating with the private sector to catalyze a program that helps both company employees and city residents.

Application

¹² *Transportation Planning Handbook: Institute of Transportation Engineers, Fourth Edition*, Michael D. Meyer

¹³ Dialogue with Jeral Poskey, *Head of Transportation - Google* (March 2017)

The sponsorship P3 model is a viable funding option for the MMP for three primary reasons. First, there are numerous local companies who have expressed interest (see **Appendix III**) or have already completed bicycle path projects similar to the MMP's proposal. Two such examples are Google's 2015 resurfacing of the Bay Trail in Sunnyvale¹⁴ and Facebook's current community trail design through the Dumbarton corridor¹⁵. Second, local technology companies in particular share with the MMP a high regard for increased use of diverse mode share forms. For example, employers such as Stanford¹⁶ and Intuit¹⁷ subsidize their employees to show up to work car-free. Similarly, Oracle in Redwood City annually sponsors water stations on the Shoreline route to Redwood Shores on Bike To Work Day in May¹⁸. Third, and most importantly, private funding can be combined with public money to avoid pulling from municipal budgets and align partnership incentives across the sectors while reaching the total funding goal. Secured private funds can be used as leverage in grant applications and tax measures as outlined in our Final Recommendation.

The sponsorship P3 model is currently being deployed in Mountain View, with pooled funding from multiple contributing private entities¹⁹. For example, MVgo is a 2014 program run by the Mountain View Transportation Management Association (MTMA), an independent nonprofit entity that is "focused on improving multimodal transportation access and connectivity" in Mountain View. According to MTMA chair Denise Pinkston, "Private companies in Mountain View are effectively collaborating and working in partnership with the city and local transit agencies to fill gaps in the local transportation network and allow people to travel to work car-free. MTMA represents the first and only partnership that includes Valley employers (Google, LinkedIn, Intuit, and Samsung Research America) and Valley landowners (Broadreach Capital Partners, Sares Regis, the Sobrato Organization, and TMG Partners) working together to solve challenging traffic problems that face us all."²⁰ With multiple companies already collaborating towards mitigating transportation issues, a shared goal of increased bicycle infrastructure would help focus existing efforts on improving regional mobility.

Limitations

There are a number of limitations to the sponsorship model. First, the private entities that could potentially be involved have a finite budget dedicated towards transportation projects, and that budget is contingent on the state of the economy and the company's individual performance. For example, thus far Google's most expensive bicycle project design had a total cost of

¹⁴ "Google Funds Resurfacing of Bay Trail Connecting Sunnyvale and Mountain View", *Mercury News*. <http://www.mercurynews.com/2016/05/25/google-funds-resurfacing-of-bay-trail-connecting-sunnyvale-and-mountain-view/>

¹⁵ Dialogue with Lauren Swezey, *Project Manager - Facebook* (March 2017)

¹⁶ Dialogue with Lesley Lowe, *Transportation Planning - Stanford* (February 2017)

¹⁷ Dialogue with Tom Harrington, *Head of Transportation - Intuit* (February 2017)

¹⁸ Dialogue with Chris Bright, *Transportation Manager - Oracle* (March 2017)

¹⁹ Dialogue with Roni Hatstrup, *Program Manager - MTMA* (March 2017)

²⁰ "Free Shuttle to Connect Tech Companies and Downtown", *Mountain View Voice*.

<http://mv-voice.com/news/2014/12/10/free-shuttle-to-connect-tech-companies-and-downtown>

approximately \$12 million, which was on the higher end of their individual budget for transportation projects²¹. Second, private companies currently have other priorities that compete with transportation funding, such as subsidizing housing developments in nearby neighborhoods²². These separate agendas could potentially divert money away from bicycle infrastructure improvements. Lastly, a bike path project would fundamentally be a public good. An agreement between the public and private sector must be a true partnership that equitably benefits both parties, whether that be in the form of equal financial involvement or a design that simultaneously provides congestion relief to both employees and community residents. To this end, the optimal next step for the MMP to ensure equity in such a partnership would be the formalization of the voluntary agreement. In this way, the MMP could serve as a neutral group that administers funds and consults with employers over the design of the path.

Measure B (Santa Clara) & Measure K (San Mateo) Sales Tax Revenues

Overview

Santa Clara and San Mateo Counties recently approved county-wide sales taxes that will generate revenues that can be leveraged for transportation projects. These are Measures B (passed in 2016) administered by Santa Clara County's Valley Transportation Authority (VTA) and K (2016) administered by the San Mateo County Board of Supervisors, respectively. Both are half-cent sales tax measures set to be in place for several decades.²³ Measure B alone has reserved a total of \$250 million for Bicycle and Pedestrian projects over the next 30 years. Measure K is a general purpose sales tax and the amounts available for bicycle and pedestrian projects is more limited. The compatibility of the potential path's goals with county goals makes the proposed MMP project a strong candidate for funding priority.

The precise amount of funding available from these sales tax measures is difficult to determine, especially as VTA is finalizing the details of its grant allocation program. In the past, however, Measure K funds have been allocated for capital bike and pedestrian projects, including construction on a portion of the Bay Trail in 2015. This precedent informs our recommendation to consider Measure K funds as a viable funding source for the project at hand.

Application

To finance a significant portion of the path, the strategy that we propose is for the MMP to concurrently apply for funding from the proceeds of these taxes. To the best of our knowledge based on our research, this is a novel approach because such a coordinated application has not previously been pursued for a project of this scale. Accessing Measure B funds will require application for funds through a planned competitive grant application process, as well as

²¹ Dialogue with Jeral Poskey, *Head of Transportation* - **Google** (March 2017)

²² "Facebook Invests \$20m to Catalyze Affordable Housing Development in Menlo Park", *Tech Crunch*. <https://techcrunch.com/2016/12/02/facebook-invests-20m-to-catalyze-affordable-housing-development-in-menlo-park/>

²³ Measure B will be in place for 30 years, until 2046. Measure K will be in place until 2043.

approval from the VTA Board of Directors. The competitive grant application, timeframe and specific eligibility criteria for Measure B funds have not yet been released, but are scheduled to be finalized by June 2017, making this an attractive, immediate source of funding for the MMP. According to the VTA, priority will be given to projects that “fill gaps in the existing bicycle/pedestrian network; safely cross barriers to mobility; connect schools, transit, and employment centers; and make walking or biking a safer and more convenient means of transportation.”²⁴ The proposed north-south corridor directly aligns with these priorities, making it a strong potential candidate for these funds once the application process and timeline has been finalized. **Appendix V** includes the contact information for Scott Haywood, Policy and Community Relations Manager at VTA, who was consulted regarding the status of Measure B program guidelines in our research process, and with whom the MMP could correspond with in the future as the project moves forward.

Similarly, accessing Measure K funds will require application and approval from the San Mateo County Board of Supervisors. According to Measure K Communications Officer Marshall Wilson, of the San Mateo County Managers' Office, the process for applying for Measure K funding is undergoing development and will not be open for some time, potentially making Measure K a source of financing once the MMP project and route is further developed. At the time of our research, more specific timeline and eligibility criteria was not yet available. However, among the priorities that the San Mateo County Board of Supervisors has set for Measure K funding are projects that make transit accessible and reduce greenhouse gas emissions, both of which are goals that the proposed path would address.

Limitations

The county-specific nature of these sales tax measures presents a direct challenge to the MMP's collaboration. This issue is compounded by the potential for unaligned application timelines, disparate funding amounts, and the volatility of sales tax as a funding source. Moreover, sales tax revenues are closely tied to a strong economy; if and when recent economic growth slows down, this may become a less reliable source. At this time, it is difficult to predict the likelihood of this scenario given the present lack of finalized information about application requirements and eligibility guidelines for both measures. Nonetheless, in this case, the MMP may decide to proceed with partial construction of the trail with funds secured from other sources. As more information becomes available, given the scale of the project, MMP leadership may be able to work directly with the governing bodies of each tax measure to establish a special coordinated timeline for application and receipt of funds. To this end, contact information for following up with relevant authorities as project development continues are included in **Appendix V**. Another alternative would be for the MMP to pursue Measure B and Measure K as separate grants, each of which could be applied to half of the corridor.

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http://vtaorgcontent.s3-us-west-1.amazonaws.com/Site_Content/2016%20Measure%20B%20Program%20Areas.pdf, slide 7

The funding limitations of these tax measures represent the most significant drawback of this strategy, as neither measure would be able to secure funding for the full estimated \$40 million cost. Measure B has dedicated \$250 million in 2017 dollars of its projected lifetime revenues to bicycle and pedestrian projects. Preliminary criteria established by the VTA for Measure B funds stipulates that selected projects must secure a 10% minimum contribution from a non-Measure B source. This means that the absolute maximum that could be garnered from the measure is \$36 million.²⁵ Given that the VTA has already identified a preliminary list of projects for which to prioritize Measure B funding, the final amount secured would likely be significantly less than \$36 million. In order to capture the unallocated funds, the MMP should move forward with finalizing the details of the project as quickly as possible as quickly as is possible once application details are available for Measure B.

Similarly, while Measure K has no specified cap for funding provided to a single project, as a general tax measure it does not dedicate a certain amount to bicycle and pedestrian projects. The most that it has allocated to a similar project — the Ravenswood Bay Trail Project that completed a segment of the regional San Francisco Bay Trail — is \$1 million.²⁶ That project was much smaller in scale (a .6 mile segment with a total cost of \$2.4 million), but nonetheless suggests that significant external funding would be necessary.

Reallocation of Existing Funds

Overview

Our research and the case studies we examined indicate that projects of this magnitude will typically require the use of some existing funds contributed by MMP member cities. In this alternative, funding from the general funds of the cities and/or funding from transportation impact fee accounts would be dedicated to support the cost of constructing the bike corridor. Currently the four cities collectively spend approximately \$11 million on bicycle and pedestrian projects annually (seen in **Table 2**). Transportation impact fees are fees assessed on developers to offset the impact of the new development, and are determined following a study that determines what nexus future development will have to the increased use of city infrastructure and services. Transportation impact fees are an inconsistent source of revenue; they swing in tandem with new development. Funds appropriated under this alternative could be dedicated as soon as the rules of each jurisdiction permit (which may entail waiting for budget cycles or updates to capital improvement plans). This strategy should be used to help fill a gap in needed funds up to the amount the cities find feasible to contribute. Contribution ratios according to case studies from state DOTs²⁷ and the city of Temecula²⁸ could be formed in one of three ways: equal contributions from the member cities, contributions based on mileage of new trail, or contributions based on impact factors as determined by the partnership.

²⁵ 90% of the estimated \$40 million cost

²⁶ <http://cmo.smcgov.org/ravenswood-bay-trail-connection-midpeninsula-regional-open-space-district>

²⁷ Hin Kung, CA DOT District 4 contact, interview on 2/8/17

Cost Sharing Policies of State Transportation Agencies, Minnesota Department of Transportation, <https://www.lrrb.org/media/reports/TRS1307.pdf>

²⁸ Dale West, City of Temecula contact, interview on 2/16/17

Application

We suggest the MMP consider creating a joint powers agreement or a similar legally binding commitment such as a Joint Powers Authority to pool redirected funds into a trust controlled by the partnership. A joint powers agreement, by comparison to a joint powers authority, is a document of accountability which outlines the responsibilities of each partnership rather than a full formalization of the partnership. In Temecula for another four city voluntary partnership²⁹ there was a major issue when three of the four cities failed to provide promised funds. This was a smaller scale project and was completed thanks to additional contribution from the fourth city, but on a larger scale project like the MMP corridor this would not be feasible. According to Bob Leland, a California municipal finance expert with consulting firm Management Partners, this could be prevented through the administration of a joint powers agreement which would help ensure that each city fully commits the funds they promise in the agreement to the project.³⁰ An agreement should specify the contribution levels of each city based on factors the partnership deem appropriate (this can be in equal ratio, based on mileage, or based on impact in each jurisdiction). Besides a resource to fill gaps in needed funds, direct contribution by each city would demonstrate commitment to the project, which could help to further leverage sources like grants and private sponsorship.

Limitations

We are mindful that using existing funding streams for the project may adversely impact other transportation priorities and recognize that this may pose an element of political risk. The member cities of the MMP, however, have already demonstrated their dedication to expanding bicycle infrastructure in their area and therefore may be willing to accept these political costs. This strategy relies on a strong economic period in which the cities can and are prioritizing alternative modes of transportation.

²⁹ The case study is of an infrastructure project involving the city of Temecula, CA and is detailed in Appendix IV.

³⁰ Robert Leland, Davis Resident and Special Advisor, Management Partners LLC, interview on 2/9/17

TABLE 3
Overview of Existing Local Resources

City	Transportation Impact Fee Funds	Calculation of Impact Fees
Menlo Park (San Mateo County)	Total Unencumbered Fund Balance (FY 14-15): \$4,427,245 ³¹ Final Projected Balance (FY16-17): \$4,848,982 ³²	\$3,107.87 per evening Peak Hour Trip under the "all other land uses" classification ^{33 34}
Mountain View ³⁵ (Santa Clara County)	Transit-Oriented Development Fund: \$48,930 ³⁶	\$34 per sq. foot of new development ³⁷
Palo Alto (Santa Clara County)	Net Funds Available (June 2015): \$2,441,765 Unexpended balance at next finding date (FY 17-18): \$1,216,124	\$3,354 per net new PM peak hour trip ^{38 39}
Redwood City (San Mateo County)	Traffic Impact Fees Fund Total Available (FY 16-17): \$3,470,133 ⁴⁰	Non-Downtown Developments: \$1,484 * weekday PM peak hour * (1 – passby rate) Downtown Developments: Fee \$1,484 * weekday PM peak hour * (1 – passby rate) * 0.75

Note: The numbers depicted above were gathered from publicly available documents. To the extent possible, these figures were verified by staff in each of the MMP cities. These numbers are intended to illustrate the general order of magnitude of current expenditures on transportation projects.

Models Applicable with Restructuring of the MMP

Our final two models are impractical without the formalization of the MMP structure through the creation of a Joint Powers Authority (JPA). There are significant coordination hazards if taxes are levied on a city-by-city basis (as it poses a collective action problem) that a JPA would mitigate. For example, if the MMP were a JPA it would be empowered to levy a single

³¹ <https://www.menlopark.org/documentcenter/view/8949>

³² <https://www.menlopark.org/ArchiveCenter/ViewFile/Item/4483>

³³ <http://www.menlopark.org/DocumentCenter/View/10131>

³⁴ Possibly will be changed to \$4.63 per square foot this FY

³⁵ Impact Fees not immediately clear in published budget, awaiting confirmation of figures

³⁶ <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=20643> (p. 1-30)

³⁷ Recent Traffic Impact Fee on new development. NEXUS study -- fee of \$34 per sq. ft. - not confirmed (Jim Lightbody)

³⁸ <http://www.cityofpaloalto.org/civicax/filebank/documents/50632>

³⁹ PAMC Ch. 16.59, for congestion reduction projects

⁴⁰ <http://www.redwoodcity.org/departments/administrative-services/finance/financial-information-reports/budget>

all-or-nothing tax measure across all four cities. A JPA also would serve as a commitment device for lease revenue financing, coordinating a steady supply of funding is available to pay off the debt.

Even if the following alternatives are not adopted, we still recommend formalizing the status of the partnership. The recommendation to formalize derives from our consultation with experts on multi-jurisdictional shared-cost projects⁴¹ and contact with the Valley Transportation Authority (VTA) regarding Measure B.⁴² Formalization such as a Joint Powers Agreement or a Joint Powers Authority is a highly advisable structure because it would allow the MMP to more easily pool funds and coordinate planning and construction of the project. While a voluntary partnership allows each city more flexibility to adjust its participation in response to changing economic circumstances, a formalization would benefit all the cities by maximizing the partnership's ability to access a diverse set of financing tools.

Taxation Via a Community Facilities District (Under the Mello-Roos Act)

Overview

A Community Facilities District (CFD) is a special taxation district that is created for the purpose of providing services and/or infrastructure. If a CFD were created that covers part or all of the four cities, it could levy a property tax (on any basis except *ad valorem*) to pay for part or all of the project. This tax could also pay for maintenance of the bike corridor, which although not part of the scope of our project is an additional advantage. A CFD would be created by a two-thirds vote of residents in the affected area, unless there are 11 or less registered voters in the district. If there are 11 or less registered voters in the district, the landowners of the affected parcels would vote instead. In either case the vote may take place concurrent with a regular election, or via mail in ballot.

A CFD could be utilized with any route the MMP selects. Notably, a CFD can be drawn any way the MMP sees fit, which means a CFD could be designed that only includes only commercial, only residential, or only industrial parcels (or a combination thereof). We estimate that if the MMP were to create a CFD to finance the entire project, it would cost roughly \$291 dollars per year per parcel if only commercial parcels were taxed, and roughly \$26 dollars per year per parcel if all parcels (non-commercial and commercial) were taxed.⁴³ A CFD could be used for other MMP projects and priorities in addition to the proposed bicycle corridor if the ballot measure authorizing the district includes these other purposes in its text. CFDs can only support certain services, but the list of services that can be supported is extremely broad and includes police, fire, park maintenance, flood and storm management, and environmental cleanup.

⁴¹ Robert Leland, Davis Resident and Special Advisor, Management Partners LLC, interview on 2/9/17

⁴² Informational interview with Scott Haywood, Policy and Community Relations Manager, Valley Transportation Authority

⁴³ We assume that the CFD would issue 30 year bonds with a 2 percent yield. We assume there are 6102 taxable non-residential parcels and 63115 parcels in the MMP, based on the information we were supplied by the MMP member cities.

Application

Most critically for the purposes of the partnership, if a Joint Powers Authority was created that spanned all four cities, it could place a single ballot measure seeking creation of a CFD in all four cities.⁴⁴ In such a case, there would no longer be a need to secure a two-thirds majority vote in each city. Instead, the results would be tallied across all four cities, requiring a two-thirds majority from the summed population of the cities.

Limitations

A CFD would avoid the coordination difficulties found in each city voting on their own tax measure. There are certain public consultation and waiting requirements listed in the Mello-Roos Act (which governs the process for creating a CFD), so we advise setting aside at least a year between the beginning of the CFD process and the actual vote being held. The public consultation process and ballot measure could also result in some political difficulties. Our research did not uncover any specific examples of a CFD spanning multiple jurisdictions, but we are not aware of any restriction that would prevent such a district from being created.

Lease Revenue Financing

Overview

California cities are often under strict restrictions that prevent them from borrowing funds without voter approval, but cities are able to effectively do so through use of lease revenue financing.⁴⁵ Under lease revenue financing, the asset that is financed is technically owned by a third party and is “rented” back to a city agency. The third party is commonly a joint powers authority or a city financing authority. In this case, we suggest using a special purpose joint powers authority or the California Statewide Communities Development Authority (an existing joint powers authority with experience in this kind of project). As the third party is enjoying a revenue stream from the “rents,” the joint power is allowed to issue debt to pay for the construction and upgrading of the facility. There is no hard cap on the amount of funding that could be raised through this method, but lease revenue financing is only suitable for routes where the asset in question can be legally transferred to a third party.

Application

Please note that this strategy is purely for raising the capital to build the project, and does not serve as a revenue stream that covers the cost of ongoing maintenance. However, it may be a helpful way of spacing the cost of the project out over a number of years. To be specific, the third party issues the debt up front and the cities make “availability payments” to the third party for a set number of years until the debt is paid off. At that point, the asset would be transferred to the cities proper for a nominal sum.

⁴⁴ https://www.orrick.com/Generic-Articles/~/_media/2F988A18EC454A57B5E6331BF13C1883.ashx. Available on archive.org/web.

⁴⁵ Interview with Dave Persselin, Finance Director for the City of Fremont. 1/23/2017

Limitations

The timeline for this alternative is difficult to predict and will likely depend on the particular financial arrangements reached. Due to the unconventional nature of using lease revenue financing for a bike corridor, a private placement of the debt would likely be required. This means that an arrangement would need to be made with a specific private fund rather than placing the debt on the open market. Although this might make the use of lease revenue financing here somewhat more difficult than using it on a prototypical building, it is a well developed option that should be usable in this instance. We also anticipate political costs to the elected officials of the MMP cities from the addition of unfunded liabilities, as unfunded liabilities are generally unpopular with voters. However, these costs may be mitigated by calling attention to how the MMP's project would reduce other costs in future (road maintenance, lost sales tax revenue due to traffic, etc.) Finally, lease-revenue financing is only practical when the deed over the financed asset can be transferred to the third party. This means that if the MMP selects a route that includes land that cannot be turned into a discrete parcel, it may become particularly difficult or impossible to finance part of the cost. Something with a discrete link to the project has to be owned by the third party and be theoretically re-possessable, should the cities renege on paying off the debt issued to finance the project.

TABLE 4
Non-Traditional Application of Traditional Financial Strategies

	Measure B and Measure K	Dedication of Existing Funds	Community Facilities District under Mello Roos Act	Lease Revenue Financing
Coordination Feasibility	Fairly straightforward, for the most part a matter of meeting application requirements for grant programs of both measures. Project must obtain funding approval from both VTA Board of Directors (Measure B) and the San Mateo County Board of Supervisors (Measure K), ideally during the same funding cycle, or within one cycle of each other. Creation of a Joint Powers Authority (JPA) would simplify use of funds across county lines.	Somewhat challenging. The cities would need to determine together how to assess impact level ratios in order to determine contribution rates per city, may require changes in rules in some jurisdictions, waiting for new budget cycles, or updates to capital improvement plans. However, coordination is realistic based on conversation with client.	Difficult but not insurmountable. A Joint Powers Authority would be necessary to place a single ballot measure seeking creation of a CFD in all four cities and facilitate coordination of project implementation.	Difficult but not insurmountable. It would be necessary for MMP members to together devise a method for dividing liabilities amongst the four cities.
Political Risk	Does not pose significant political risk given that involves leveraging of revenues already approved by voters.	Potentially risky politically given that it would involve diverting funds from other areas of the budget, or redefining transportation impact fee use, which might create challenges with developers who pay these impact fees.	Potentially politically challenging because this alternative would involve levying of a new tax, but less challenging than a separate tax in each city, and on the whole feasible.	Cost allocation may be challenging, but otherwise does not pose significant political risk.
Available Funding	Measure B: \$250 million max for all ped/bike projects. No specific cap yet determined for individual projects, but likely will require a 10% minimum non-VTA/non-Measure B contribution for funding. This would make the absolute maximum \$36m (given \$40m cost estimate). Measure K: No specific cap identified	Varies, but could potentially provide 75% or more of estimated \$40m cost.	No specific cap, but could potentially provide 75% or more of estimated \$40m cost.	No specific cap, but could potentially provide 75% or more of estimated \$40m cost.
Can be combined with other alternatives?	Yes. Neither measure would be able to provide entirety of funding, so combination with other sources is possible and in fact expected.	Yes. This is a very traditional funding source.	Somewhat. Joint Powers Authorities may not be eligible to apply for all funding types, such as grants.	Somewhat. Joint Powers Authorities may not be eligible to apply for all funding types, such as grants.
Legal Complexity	The only potential legal complexity for this strategy might be that funds from one county may not be applicable to the other county. Does not require any changes to existing law.	This strategy would require a formal joint powers agreement to be made among the four cities in order to determine contribution levels from each city.	The necessity a Joint Powers Authority for creation of a multi-jurisdiction Mello-Roos district adds legal complexity. Alternatively each city could conduct separate bond measures for four different Mello Roos districts.	The cities must create legally enforceable leases. This may be difficult to execute or guarantee in a multi-jurisdictional format.
Time Frame	Medium-to-long-term; Measure B prioritization of pre-identified projects (short term), measures in place long term.	Short-to-medium term; funds could be allocated next cycle.	Short-to-medium term. Legal preliminaries up to a year, more time for regular ballot vote.	Medium-to-long term. Depends on the financial arrangement in question.

TABLE 5
Non-Traditional Financial Strategies

	Sponsorship Public-Private Partnership
Coordination Feasibility	Would require agreement between private sponsor and cities to determine how each city would match private sponsorship funds and to decide whether cities would independently manage construction, or whether private sponsor might manage construction with city approval and oversight. The most desirable way to coordinate would potentially be to have cities agree that private sponsor(s) will manage uniform construction across all 4 cities, with each city facilitating provision of permits and granting approval where necessary to streamline bureaucratic process.
Political Feasibility	Potentially politically risky to have extensive private involvement in a project to establish a public good.
Available Funding	No cap, and could potentially fund 75% or more of estimated \$40m cost. Given conversations with a number of private companies within the MMP partnership cities, there is significant private interest in financially supporting a project such as the one proposed here.
Can be combined with other alternatives?	Yes. Ideal scenario would have private companies pledging an amount of money for the project, which would then be leveraged in applications for grants and combined with any secured grant funds.
Legal Complexity	This form of Public Private Partnership does not fall under the limitations on Public Private Partnerships with local entities set by CA state law. It is therefore relatively free of legal complexity beyond creating effective contracts with private partners to guarantee that they fulfill their promises.
Time Frame	Short-to-medium term. This alternative could be implemented as soon as an agreement was reached between MMP partner cities and the private companies that choose to be involved.

Final Recommendation

Our final recommendation ranks the financing alternatives based on a consideration of the criteria analysis conducted in Tables 4 and 5 and places a premium on minimizing coordination, political, and legal difficulties. We recommend that the alternatives be used in the order listed until the adequate sum is raised, rather than any alternative being used in isolation. The following recommendation describes the sequence of alternatives and the criteria analysis that led to specific sequencing.

Our recommendation assumes that the MMP could utilize each approach until the funding goal is met. As a result, we ranked the options based on their best outcomes, prioritizing meeting criteria over being a reliable source of funding. Among the alternatives that utilize local public funds, we continued to prioritize options with less political and legal complexity.

Implementation Recommendation: Formalize the Partnership or Form a Monetary Trust

Based on conversations with finance experts and local policy officials in the course of our research, it is clear that successful reallocation of existing funds and use of Measures B and K would include a partnership formalization or a formal trust. Our research has also shown that in order for either Mello-Roos or lease revenue financing to be successful, the partnership should form a Joint Powers Authority (JPA). Although our research has not specified the importance of a JPA (or other form of formalization) for a public-private partnership as well, it is clear that the same benefits would apply. Therefore we recommend that the voluntary partnership's first step towards financing the MMP bike corridor be to formalize in some manner, potentially through the formation of a JPA.

A JPA, or other means of formalization, may limit flexibility for each individual city; however, it simplifies coordination and flexibility for the partnership by placing all funds into a single pool designated for the project. This pooling would simplify administration of funds, particularly if they are derived from a combination of sources. If the cities prefer to maintain their voluntary partnership, we recommend creating a Joint Powers Authority only if the full funding goal is not reached through a combination of public-private partnerships, Measures B and K and other grant funding, or reallocation of existing funds.

First Recommended Alternative: Corporate Sponsorship

Based on rigorous criteria analysis, the sponsorship model of a P3 is the first alternative that the MMP should consider. Corporate sponsorship ranks above the sales tax revenue in our recommendation because of its relative simplicity and revenue potential. This alternative would be effective on a quick timeline and could fulfill the monetary goal of the project without using municipal funds or potentially losing the opportunity to utilize grants for other projects.

In order to create a successful partnership, there must be an alignment between private interest and public benefit. Fortunately, numerous Silicon Valley tech companies have demonstrated a shared commitment to this community benefit. They agree that the future ridership rate of residents in the area should grow past the current 1.7% rate⁴⁶. As seen in **Appendix III**, many of these companies already have bicycle programs and are ahead of the Valley's bike-to-work average as a result. Support of projects like the MMP bike corridor is a clear next step in their bike-to-work initiatives. Employers in the area recognize that biking to work benefits their employees and the surrounding communities through reductions in congestion and improvements in health, among others. The companies also value environmental sustainability efforts and for many, their development opportunities are tied to single occupancy vehicle trip reduction caps. Prompting their employees to bike to work helps improve company brand as a proponent of green initiatives. These incentives align closely with the public goals for the MMP bike corridor and make investment in this project a feasible possibility. This model is the least

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<http://www.bizjournals.com/sanjose/news/2017/02/17/silicon-valley-san-jose-bike-commuting-google.html>

costly and contains minimal (political, legal, and coordination) difficulty for the partnership. Involvement from multiple companies or grant opportunities could potentially yield the full monetary requirement for the MMP bike project. Thus, sponsorship should be actively pursued while local corporations remain heavily focused on investing in transportation mode shift.

Second Recommended Alternative: County Sales Tax Revenues

Once the partnership has explored the possibility of a private sponsorship, it should focus its attention on leveraging any secured private funds in pursuing grant opportunities. The first grant options we recommend the partnership pursue are future Measures B and K sales tax revenue grants. These measures represent long-term, stable sources of funding. Although these measures may not provide the full funding or be the most simple to coordinate, they still avoid the use of city funds and a new tax on residents within the MMP cities. Therefore, we do not anticipate any significant political or legal disadvantages. The primary difficulty with this funding source would be ensuring that both counties can contribute funds since each function under separate grant processes. This may slow the process and pose some coordination difficulties if funds can only be obtained for one county. Given the partnership's strong commitment to regional cooperation, these coordination problems could be minimized such that Measures B and K would be a relatively simple partial source of funding. Given the scope of this project, we also recommend that the MMP proactively reach out to the administering authorities regarding the possibility of establishing a special coordinated timeline for application and receipt of funds. A second alternative would be for the MMP to pursue Measure B and Measure K as separate grants, each of which could be applied to half of the corridor.

Third Recommended Alternative: Regional Grants

Directly after the use of Measure B & K funds, we recommend the partnership consider the use of other regional grants, a number of which are identified in **Appendix I**. We again see these as being relatively free from political, coordination, and legal obstacles. Primary constraints of this alternative include long timelines and limited revenue potential. Because many of these grants could be sought for other transportation purposes in the MMP cities, they also carry a certain opportunity cost. Due to the longer timeline and the potential for longer term political change, the partnership should prioritize applying for both Measures B and K and other grants early in the process of obtaining funds (i.e. second to or in concert with seeking a public-private partnership).

Fourth Recommended Alternative: Reallocation of Existing Local Funds

Once outside sources of funding have been exhausted, we recommend the partnership turn to the use of local funds, starting with the reallocation of existing municipal revenues. This alternative is both reliable and relatively simple compared to the other alternatives that use local funds. It would require some coordination among the cities to determine contribution levels. Ensuring adequate funding from each city implies some political and legal complexity as well. This model, however, has the advantage of allowing each city to work with its own budget to determine areas from which money can most feasibly be derived. This model should be pursued

if non-local funds do not fulfill the funding needs of the project and if the cities have some flexibility in their existing budgets.

Fifth Recommended Alternative: Community Facilities District Under Mello-Roos Act

If reallocation of existing revenue cannot meet the full funding needs of the project or is infeasible for the cities, the partnership should seek a new revenue source through the formation of a communities facilities district (or Mello-Roos district). This is a traditional financing option, which makes it a reliable source of revenue if achieved. The cities can use the creation of a new revenue source to avoid impacting existing city services by drawing from their existing funds. It is, however, a potentially difficult source of funds to access. The creation of a CFD poses significant coordination and political burden as it requires a $\frac{2}{3}$ voter approval. If a single vote is to be held across all four cities, this alternative would require the creation of a Joint Powers Authority. A Community Facilities District should be pursued if private and grant funding is insufficient for funding the project, and cities are unable to appropriate existing funds without impact on existing and equally important projects and services.

Sixth Recommended Alternative: Lease Revenue Financing

If the cities have pursued the other recommended financing options and have a remaining need for funds to complete the project, they should utilize lease revenue financing. This option could fulfill significant capital needs if necessary. It would also nullify the need for a politically challenging ballot measure. It is a less cost effective option than the use of existing funds, which would allow payment upfront. Lease revenue financing for this project would generate interest costs and possibly extra expenses associated with placing the debt with private investors. Moreover, it does not actually pay for the the path construction (it simply defers the cost into the future). Nevertheless, it is a reliable option to fulfill any remaining funding needs after other strategies have been applied.

Conclusion

A place of innovation and growth, the Silicon Valley is in dire need of reducing automotive congestion by increasing bicycle mode share. California communities like Stanford and Davis have shown that investment in bike and pedestrian infrastructure increases mode share use by creating a safer and more desirable bikeway network. This report has sought to help the MMP identify strategies to finance a future north-south bike corridor with these goals in mind. It explores the applications and limitations of six (when counting additional regional grants) suitable financing alternatives and ranks a recommended order of use for the partnership. It also recommends the formalization of the partnership to better facilitate the recommended alternatives. Our research and analysis make us confident that through these financing strategies the partnership will be able to successfully finance a bike corridor, which will significantly benefit all four of its member cities and surrounding region.

The research in this report was based on interviews with experts and members of the local tech industry and local governments. It demonstrated that private funding through both corporations and grants are likely to be available to the partnership for the construction of this project. This information, coupled with case studies from other regions, informed our recommendation that these are the best and simplest financial strategies and therefore should be applied first. Our research also explored local funding mechanisms and found that in order to limit political, legal, and coordination difficulties the partnership should first explore reallocating existing funds, then generating new revenue, and finally using lease revenue financing. Lastly, our report explained that the formalization of the partnership through the formation of a Joint Powers Authority or an alternative agreement that would both simplify the use of these alternatives and improve their chances of success.

It is our hope that our recommendations and research will be of use to the partnership as they pursue this valuable project.

APPENDICES

Appendix I: Grant Opportunities for Gap Funding

Grant funding provides the MMP with an important opportunity to capture existing funds that already have been prioritized for multi-jurisdictional projects or are uniquely suited for bicycle projects the size of the proposed corridor. The MMP asked our team to identify grants that could be used to help fund this corridor, and in particular, to focus on grants that might not already be on the radar of the MMP cities. In light of uncertainty about federal infrastructure spending with the new administration and Congress, we have focused our efforts on state and local grants. In this appendix, we survey grant funding options that are large enough to register in a \$40 million project and have unique factors that favor the project. In no particular order, here are the main options we identified:

1. One Bay Area Grant

The One Bay Area Grant program is one of the most prominent grant programs available in the Bay Area. It is administered by the Metropolitan Transportation Commission (MTC).⁴⁷ A subset of this grant money is dedicated to bicycle and pedestrian projects. To the best of our understanding, the overall cap on bicycle and pedestrian spending through this program is \$5.9 million per cycle. Each city can request a maximum of \$1 million, but there is a citywide cap of \$1.5 million across the transportation for livable communities and bicycle and pedestrian improvement grant programs (so a tradeoff may well be involved with other transportation priorities). Projects funded through this program may need to be built in designated Priority Development Areas (PDAs), which cover much of the candidate project routes and therefore may make this project attractive to the MTC.

2. Active Transportation Program

The Active Transportation Program is a grant program operated by the MTC. This program, which allocates funding for bicycle and pedestrian improvements, is expected to have its next cycle (Cycle 4) take place in 2018 (according to a planner with the MTC).⁴⁸ The MTC expects \$20 million to be available for the Bay Area in the next cycle, and in the past cycle there was a 20% set aside for projects requesting over a million dollars (which is a good fit for a project the size of the MMP's). In another possible advantage for the MMP, the past cycle included bonus points for projects that spanned multiple jurisdictions.

3. Bay Area Air Quality Management District Bikeway Grant Program

The Bay Area Air Quality Management District (BAAQMD), has a small grant program for bikeway improvements as part of their pollution reduction efforts.⁴⁹ In theory, up to roughly \$2 million might be available. However, there is a \$1.5 million cap for, if we understand correctly, each jurisdiction. Please note that eligible projects have to be within half a mile of transit or three major activity centers, the funds cannot be used to

⁴⁷ Eliza Yu, Transportation Programs Specialist at San Mateo City/County Association of Governments, 2/6/17

⁴⁸ Kenneth Kao, MTC Planner, 1/31/17

⁴⁹ Michael Neward, BAAQMD Administrative Analyst

replace an existing bike path, and there must be a local contribution of at least 10 percent. A possible issue of concern is that past grants have tended to be between \$100,000 and \$200,000, and funds are allocated on a cost-efficiency basis (using the [Air Resources Board calculator](#)). This program may be suited for the MMP because their commuter bikeway may be better at reducing air emissions than arterial bikeways.

4. Transportation Development Act Grants

Transportation Development Act Grants are a county level grant program that allocates state tax funds.⁵⁰ In San Mateo County, at least, requests for applications are issued periodically, but not every year. In the last call for applications, a total of \$1.5 million was available for all projects, with a per city cap of \$400,000. As a county-level program, the MMP can apply for these funds without the hazard of competing with similarly ambitious projects in San Francisco, Oakland, or other parts of the Bay Area (an implicit challenge of regional grants).

⁵⁰ Eliza Yu, Transportation Programs Specialist at San Mateo City/County Association of Governments, 2/6/17

Appendix II: Non-Traditional Financing Models for Future Consideration

At the first client meeting, we were asked to look into non-traditional, innovative, and/or creative financing strategies for a North-South Bike Corridor. Traditional financing mechanisms presented challenges that could potentially be overcome through the use of these alternative sources. Some of these challenges were applying funding across jurisdictions (four cities and two counties with different rules, regulations, laws, taxes, and limitations), like using tax revenue from Santa Clara County to help partially or fully finance a project that extended into San Mateo County, or limited amounts of funding from traditional sources, like tax revenues, grants, or federal loans. In addition to this, the unique corporate geography that exists in the areas where the bike corridor is planned to exist is home to some of the most powerful and alternative transportation-forward companies not only in the area, but around the country. Leveraging a unique mechanism like the ones listed below could set a precedent for private involvement or a novel financing mechanism, like social impact bonds.

In order to find alternative mechanisms for financing, we reached out to transportation experts and used online searches to gather information on financing mechanisms. One of the first exposures to alternative financing was an article titled "[The Future of Cities Depends on Innovative Financing](#)"⁵¹ that discussed the jumping off point for the "unconventional" financing source for this project: social impact bonds.

Upon researching social impact bonds, we expanded our search of knowledgeable professionals in the field of transportation and alternative finance. This search led us to interview Julie Kim,⁵² the P3 FLIPS Program Developer at the Stanford Global Projects Center with over 30 years of experience with P3's to help guide future, innovative financing mechanisms, in tandem with the author of the article mentioned above, John Macomber, a professor in the Harvard Business School and an expert in transportation and alternative financing. This phone call led us to explore 63-20's, revolving funds, and crowdfunding/crowdsourcing in more detail as either primary or secondary sources of funding for this project.

Upon investigation, however, these alternative mechanisms are considered "alternative" for a reason: they all have some inherent flaw that makes them difficult to apply for what the MMP is trying to accomplish. All options are discussed below.

⁵¹ The Future of Cities Depends on Innovative Financing, Harvard Business Review, <https://hbr.org/2016/01/the-future-of-cities-depends-on-innovative-financing>

⁵² Julie Kim and John Macomber, P3 FLIPS Program Developer | Professor, Harvard Business School, 2/2/17

63-20

63-20 is the name of an [IRS Tax Ruling](#)⁵³ which allows a non-profit to leverage public-issued, tax-exempt debt to fund a transportation project. This type of issuance is attractive due to low interest rates and private sector involvement, which essentially allows larger pools of capital to be provided to public works projects. 63-20's have been used frequently across the United States, most notably for the financing of the [Pocahontas Parkway in Virginia](#) and the [Southern Connector](#) in South Carolina, both automobile highways with fee-producing infrastructure. However, in both of these situations, tolls were used to pay off the tax-exempt debt. Given the underlying motivation for a bike path to get more people on bikes, a toll on the bike path would undermine the purpose of the project; the cost of the ride could outweigh the biker's desire to travel on the path.

Financially, a 63-20 leverages part of a non-profit corporation's legal makeup. According to [FWHA](#), a non-profit sponsor can "issue public or privately placed debt if it can enter into long term contracts for the use of the facility or if the facility generates revenues from direct-user fees."⁵⁴ Ultimately, this type of project would require a fee-producing infrastructure and therefore was not included as a recommendation for a bike corridor project.

Revolving Fund

Also suggested by Julie Kim and John Macomber was the use of revolving funds to finance the north-south bike route. A revolving fund is the mechanism behind a State Infrastructure Bank, like the Infrastructure State Revolving Fund in California (ISRF),⁵⁵ in which a set amount of money is placed in a bank and later loaned out at low interest rates. This mechanism is specifically used for infrastructure projects.

Currently there exists the Transportation Revolving Loan Fund, a Minnesota State Infrastructure Bank that was established in 1997.⁵⁶ The fund had a pool of \$3.96 million dollars upon its creation -- for a project of our scale requiring the creation of a new fund, this would not be a sufficient source of funding. Loans were approved on an application basis, and there have currently been 76 projects funded by this State Bank. The fund itself was created by federal incentive funds, 25% of which was matched by the state itself. In actuality, the current size is not known because the fund replenishes itself when loans are repaid with interest.⁵⁷

⁵³ The Use of '63-20' Nonprofit Corporations in Infrastructure Facility Development, Nossaman LLP, <http://www.nossaman.com/showarticle.aspx?Show=854>

⁵⁴ 63-20 Nonprofit Benefit Corporation, Federal Highway Administration, https://www.fhwa.dot.gov/ipd/p3/defined/dbfo_6320.aspx

⁵⁵ Infrastructure State Revolving Fund (ISRF) Program, California Infrastructure and Economic Development Bank, <http://gov-ibank-elb-78982517.us-west-2.elb.amazonaws.com/ibank/programs/isrf>

⁵⁶ Transportation Revolving Loan Fund, Minnesota Department of Transportation, <http://www.dot.state.mn.us/planning/program/trlf.html>

⁵⁷ Transportation Revolving Loan Fund, Minnesota Department of Transportation, <http://www.dot.state.mn.us/planning/program/trlf.html>

California has a revolving fund, called the ISRF, or the Infrastructure State Revolving Fund, which is used to finance public-use infrastructure projects, like the construction of new convention centers, airport terminals, parking garages, and utility upgrades, just to name a few. The current maximum amount to loaned out is \$25.5 million dollars (belonging to a convention center constructed in San Diego).⁵⁸ In the past three years, the largest loan amount contributed to a transportation project was \$14.13 million to Santa Cruz for road improvement. A possibility could be to create a local infrastructure bank that offers the same purpose -- small loans could quickly grow this fund to supplement other projects and offer additional funding. However, upon gaining funding approval from a revolving fund like the California ISRF, the project must be completed within two years.⁵⁹ As a result, in order for the MMP to consider this as a viable option (applying for a loan), the project must have a defined route, cost, timeframe, and sponsor (elaborated below) set in place before applying. The cost estimate would need to account for how much is needed from the fund, in addition to whatever external funding is needed based on a more exact estimate for the project based on fleshed-out details.

In order for the MMP to apply for a loan from this fund, they would have to file as a non-profit, either working as/for JVSV or as a separate entity. In addition to filing as a non-profit, the MMP would need to find a sponsor to file alongside them.⁶⁰

A sponsor, in this case, is “any division or subdivision of state or local government,” which also extends to include JPA’s, special districts, or combinations of anything above. This means that there is potential for this to work alongside a Mello-Roos District or a JPA, but not as a standalone source.

From the ISRF non-profit application:

“For a non-profit entity to be considered an eligible borrower such entity must be affiliated with a Sponsor and must apply for ISRF Program financing in conjunction with the Sponsor. A non-profit entity’s affiliation with a Sponsor may be evidenced by the non-profit entity’s technical, managerial, and financial obligation to the Sponsor to construct/acquire and complete the project, operate, manage, and maintain the project after construction, perform under one or more contracts between the Sponsor and the non-profit entity or be evidenced by financial or other interests (for example

⁵⁸ 2014-2017 Loans Approved, Infrastructure State Revolving Fund Program, <http://gov-ibank-elb-78982517.us-west-2.elb.amazonaws.com/Portals/1/ISRF/isrf-project-Profiles-1-24-17.pdf?ver=2017-02-07-211609-480>

⁵⁹ Criteria, Priorities, and Guidelines for the Selection of Projects for Financing Under the Infrastructure State revolving Fund (ISRF) Program, California Infrastructure and Economic Development Bank, <http://gov-ibank-elb-78982517.us-west-2.elb.amazonaws.com/Portals/1/ISRF/02-23-2016%20Board%20Approved%20Final%20ISRF%20Criteria.pdf>

⁶⁰ Sourcing of Financing Repayment, California Infrastructure and Economic Development Bank, <http://gov-ibank-elb-78982517.us-west-2.elb.amazonaws.com/ibank/programs/isrf>

loans or grants) between the Sponsor and the non-profit entity. A non-profit entity, without a Sponsor, is not an eligible borrower under the ISRF Program Criteria.”⁶¹

Crowdsourcing

Crowdsourcing relies on private individuals contributing varying amounts of money towards the achievement of a common goal. Sites like Indiegogo⁶² and Kickstarter⁶³ have seen massive success for the funding of novel, unique items. However, their projects are most often consumer items, like electric bikes, skateboards, playing cards, and the like, as opposed to public improvement projects.

Crowdsourcing is a means of evaluating current interest in the project by gauging public interest and demand for a bike corridor. Currently, crowdfunding for projects has always required a secondary contributor that either matched or far exceeded the amount gained from a crowdfunding campaign. In addition to this, crowdfunding projects tend not to generate very much income. For example, for a \$150,000 renovation of a one-mile protected bike path in Denver required donations from the local business community, a local Gates Foundation, and a “nearly completed \$35,000 crowdfunding campaign”⁶⁴ This number comes nowhere close the amount for even gap funding. The principal issue here is that people are not very inclined to spend their money on something that their tax dollars could or should cover.

Social Impact Bonds

Social Impact Bonds (SIB's) are relatively novel. There have only been \$200 million issued in SIB's in the United States,⁶⁵ with the largest being a 7-year agreement for recidivism reduction in Massachusetts for \$27 million.⁶⁶ In California, the Pay for Success Initiative has issued \$5 million to catalyze the creation and realization of social improvement projects,⁶⁷ such as the collaboration between the Mayor of San Francisco and his focus on improving workplace

⁶¹ Eligible Non-Profit Applicants for ISRF Loan, <http://gov-ibank-elb-78982517.us-west-2.elb.amazonaws.com/Portals/1/Loan%20Program/Eligible%20Non-Profit%20ISRF%20Applicants.pdf>

⁶² Indiegogo, Indiegogo, https://www.indiegogo.com/#/picks_for_you

⁶³ Kickstarter, Kickstarter, <https://www.kickstarter.com/>

⁶⁴ Local Governments and Nonprofits Test Crowdfunding for Civic Projects, The Chronicle of Philanthropy, <https://www.philanthropy.com/article/Local-Governments-and/152005>

⁶⁵ 15 countries, other states use social impact bonds, too, Detroit Free Press, <http://www.freep.com/story/news/local/michigan/2016/12/03/social-impact-bonds-south-carolina/90955214/>

⁶⁶ The Massachusetts Juvenile Justice Pay for Success Initiative, Goldman Sachs, <http://www.goldmansachs.com/our-thinking/trends-in-our-business/massachusetts-social-impact-bond/MA-juvenile-justice-pay-for-success-initiative.pdf>

⁶⁷ California Pay for Success Initiative, Nonprofit Finance Fund, <http://www.nonprofitfinancefund.org/CaliforniaPFS>

development, public health, and human services.⁶⁸ Thus far, however, the Pay for Success Initiative has not yielded any infrastructure projects.

Social Impact Bonds are government bonds issued to a private entity to complete a social improvement project that eventually saves the government money.⁶⁹ These bonds are issued over a predetermined length of time for a set amount of money, and are paid only if the project meets a certain criteria. In almost all cases, these criteria are objective, and the costs savings have to be borne by the government directly. For our project, a goal such as reducing pollution, which is an externality borne by everyone, is not a city-specific metric of evaluation.

In order for the MMP to adopt social impact bonds as a viable model, a tangible and exclusive benefit or detriment would need to be able to be gathered and evaluated in terms of the scope of only this project. In addition to this, monitoring costs would need to be low enough so as to permit the use of this vehicle of financing.

Public Private Partnership - Revenue Model

As outlined by Boris Lipkin of California High Speed Rail⁷⁰, there are two specific types of Public-Private Partnership (P3) models. The first, sponsorship, is included in our recommendation. The second, a revenue model, is omitted due to the constraint of charging riders and thus dissuading them from using the bike path.

The revenue model is best explained as a private investment seeking revenue return. For a bike path, this would include tolls or user fees. Private funds invest a thoroughly analyzed amount of money upfront under the assumption that it will be paid back over a period of time via revenues generated from the fees of the project. Limitations in the context of bike transportation are extensive -- with a goal of enticing a more friendly alternative mode-share, charging money for use of the bike path could disincentivize possible riders and thus would lessen the value of constructing the project.

Conclusion of Non-traditional Funding Sources

The infeasible options have fundamental flaws either in execution or in amount of funding that can be generated. After doing extensive research, Social impact bonds are hamstrung by the fact that there needs to be a quantitative measure of how well the project is doing, which

⁶⁸ Social Impact Bonds: Using Impact Investment to Expand Effective Social Programs, Federal Reserve Bank of San Francisco, <http://www.frbsf.org/community-development/publications/community-development-investment-review/2013/april/social-impact-bonds-investment-expansion-social-programs/>

⁶⁹ Social Impact Bonds: Using Impact Investment to Expand Effective Social Programs, Federal Reserve Bank of San Francisco, <http://www.frbsf.org/community-development/publications/community-development-investment-review/2013/april/social-impact-bonds-investment-expansion-social-programs/>

⁷⁰ Boris Lipkin, *Director - California High Speed Rail Project*

requires lots of monitoring costs and a metric that can be accurately measured. In addition to this, there have been no transportation related social impact bonds in the United States, meaning that there is no benchmark so far. 63-20's are a common way to finance transportation projects due to high funding potential and low interest rates, but they require fee-producing infrastructure. Revolving funds, specifically in California, are run by the Infrastructure State Revolving Fund, which requires that the project must be completed within two years of the approval of funding. In addition to this, the largest amount issued by the ISRF for a transportation-related project to date has been \$14.13 million, meaning that there would need to be a substantial secondary funding source. The last rejected option was crowdsourcing, where the amount of funding is too inconsistent to predict.

Appendix III: Selected Corporate Data and Quotes

SAP Labs, LLC Commute Mode Summary	Percent Commuter Mode-use
2016	2.80%
2015	1.96%
2013	1.18%

Samsung - Mt. View Commute Mode Summary	Percent Commuter Rate
2016	3.57%
2015	1.79%

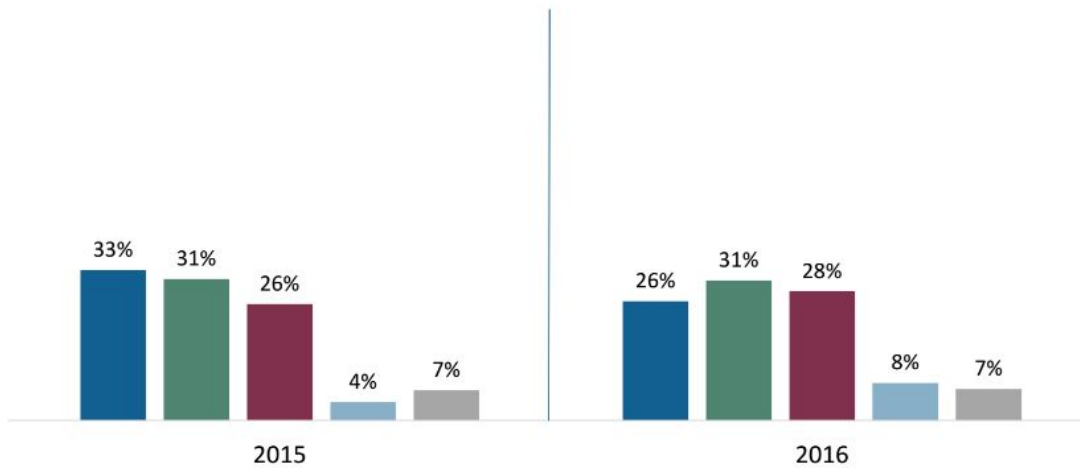
Note: 2015 rate is thought to be slighted understated as survey response rate was not robust. ⁷¹

Mode Share Over Time – Technology

Among technology businesses, SOV trips dropped compared to 2015.

■ Drove alone ■ Transit ■ Walk/Bike ■ Carpooled ■ Worked Remotely/Other

Among Technology Businesses, 290n

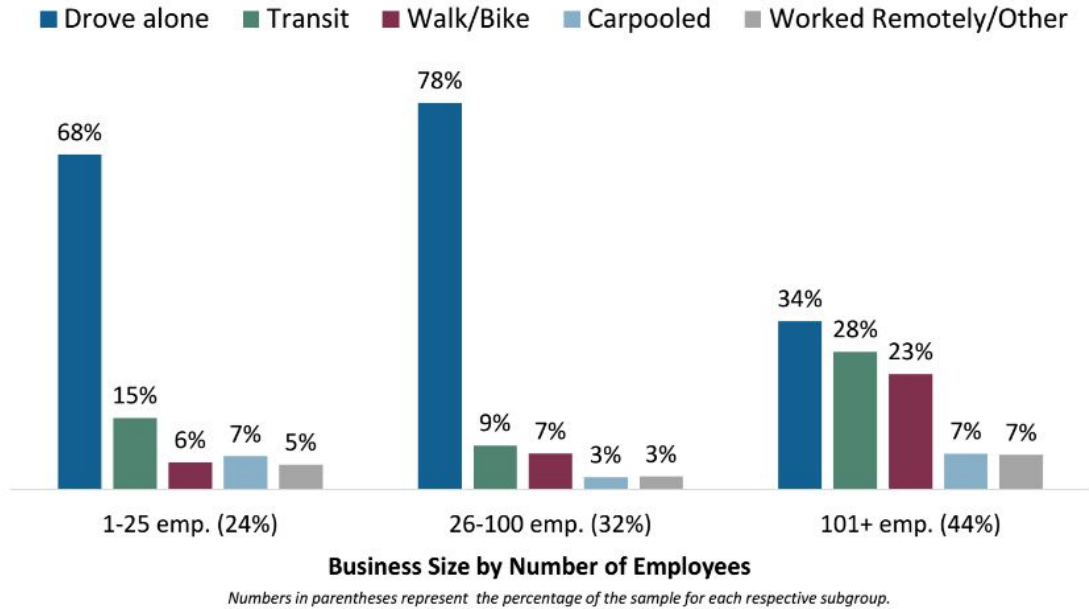


⁷¹ Data from Elizabeth Hughes, *President - TDM Specialists, Inc.*

⁷² Data from May 2016 Palo Alto TMA Mode Share Survey; 290 survey respondents

Mode Share by Worksite Size

Employees working at larger companies drive the least and utilize transit the most.



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TABLE 1: SAP PRIMARY COMMUTE MODE

Mode	SRP 2016 Survey Mode Share	June 2016 Driveway Mode Share Counts	Santa Clara County (Census)
SOV	48.8%	67.2%	77%
Shared Ride (Carpool and vanpool)	11.4%	22.3%	10%
Shuttle	1.8%	0.7%	0%
Transit	16.6%	N/A	3.5%
Bike	5.0%	2.8%	2%
Walk	0.3%	6.6%	2%
Other	3.7%	0.4%	1%
Telecommute	12.5%	N/A	4.5%

Sources: Fehr & Peers, 2016; American Community Survey, 2010-2014.

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⁷³ Data from May 2016 Palo Alto TMA Mode Share Survey

⁷⁴ Data from Elizabeth Hughes, *President - TDM Specialists, Inc.*

2016 COMMUTE MODE BY DISTANCE TO WORK										
0-5 miles	6-10 miles	11-15 miles	16-20 miles	21-25 miles	26-30 miles	31-35 miles	36-40 miles	41-45 miles	46-50 miles	More than 50 miles
21.8%	10.7%	2.6%	3.8%	0.9%	0.0%	0.4%	0.4%	0.0%	4.4%	0.0%

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Quotes from Oracle Employees who bike to work regarding necessity for better bike infrastructure⁷⁶:

- “Bike route from Belmont Caltrain doesn’t provide a safe, direct route to the Oracle campus.”
- “My ride from Los Altos could be more direct—it takes more time than it should. Need a more efficient network from the South Bay.”
- “A continuous trail along the bay (Bay Trail) would be nice to have.”

⁷⁵ 2016 Silicon Valley Survey data from Elizabeth Hughes, *President - TDM Specialists, Inc.*

⁷⁶ Information from Chris Bright, *Transportation Project Manager - Oracle, Inc.*

Appendix IV: Case Studies

Davis, CA

This is a case study of a large, well respected bike program near a large university campus. The program has been fairly holistic, encompassing both infrastructure and people oriented campaigns to encourage biking. By 2015 this had resulted in a 20% mode share.⁷⁷ In recent years the focus has been more on maintenance including trail and road resurfacing.⁷⁸ In 2009 some of the local mechanisms considered by the city included formation of a Mello-Roos district, use of development impact fees and local funds, and participation by other entities for non-grant financial strategies.⁷⁹ Ultimately, the city has chosen to finance its current maintenance work for the program through development agreements to set aside space for program implementation.⁸⁰ Currently, maintenance costs have posed a challenge for the city of Davis. To address these challenges, the city is using their general fund to supplement gas tax revenue, investing \$4 million per year into resurfacing, 10% of which is devoted to resurfacing bikeways.⁸¹

Amsterdam

This is a case study of an extensive and well-established bike network in a major city. In response to mass public movements supporting improved bicycle transit infrastructure, beginning in the 1980s, local governments (initially small cities) began to introduce measures to make their streets more bicycle-friendly. Growth in local movements led to the creation of a Master Bicycle Plan at the national level, which was implemented between 1990 and 1997 and helped establish the extensive bicycle infrastructure that exists today in cities across the country, including in Amsterdam.⁸² Implementation of the Master Bicycle Plan received significant funding from the national government. Municipalities also began to allocate parts of their budgets for bicycle projects.⁸³ In Amsterdam, projects to improve the city's bicycle network draw on funding from regional subsidies, the central city's budget, and from various city sectors.⁸⁴ Additionally, the city has a Mobility Fund dedicated to transportation projects. Revenue for the fund comes from parking fees, and about 31% of the Mobility Fund is spent on bicycle projects.

⁷⁷ Davis, California--the American city which fell in love with the bicycle, The Gaurdian, <https://www.theguardian.com/cities/2015/aug/03/davis-california-the-american-city-which-fell-in-love-with-t-he-bicycle>

⁷⁸ Robert Leland, Resident of Davis and Finance Expert, interview on 2/9/17

⁷⁹ City of Davis Bicycle Plan (2009) Beyond Platinum Plan, City of Davis, <https://web.archive.org/web/20160506145245/http://cityofdavis.org/home/showdocument?id=1071>

⁸⁰ Robert Leland, Resident of Davis and Finance Expert, interview on 2/9/17

⁸¹ Robert Leland, Resident of Davis and Finance Expert, interview on 2/9/17

⁸² The Rise of Cycling in the Urban Areas of The Netherlands, Centre for Public Impact, <https://www.centreforpublicimpact.org/case-study/focusing-bicycles-transport-urban-netherlands/>

⁸³ Current bicycle policy is much more decentralized than in the past. National policies providing frameworks that municipal authorities generally implement independently. In Amsterdam, the Traffic and Transport Infrastructure Department coordinates bicycle policy, but actual implementation of policies is the responsibility of each of the 14 city areas within Amsterdam. Policy officers work and negotiate with these city areas to coordinate the bicycle network.

⁸⁴ Cycling in the Netherlands, Ministry of Transport, Public Works and Water Management, <http://www.fietsberaad.nl/library/repository/bestanden/CyclingintheNetherlands2009.pdf>

⁸⁵ Bicycle projects are also frequently included as parts of larger infrastructure projects.⁸⁶ Today, a lot of these projects have to do with increasing the availability of bicycle parking, since cycling accounts for about 38% of travel in Amsterdam.⁸⁷

Temecula, CA⁸⁸

The city of Temecula partnered with three other cities in 2010 to match a grant for a development planning study on a transportation corridor spanning all four jurisdictions. This is a case study of cost sharing from existing funds in which initially all four cities committed to an equal division of contribution to the costs of the grant match. Two of the other cities, however, realized they did not have the ability to commit full funds to the project and offered partial funds while a third city offered provision of services in lieu of provision of funds. This left Temecula with more of the cost than anticipated and they had to find an additional partnership group to add funds. Although Temecula deemed this project a success by virtue of its completion, on a more expensive project than a planning study (such as the MMP corridor) they would likely not have been able to pay the additional last minute costs. This case study demonstrates both the necessity of a binding project formalization if members of the partnership share local costs and the importance of additional financial strategies for each of the cities to fulfill their contributions beyond existing funds.

Stevens Creek Trail⁸⁹

The Stevens Creek Trail is a multi-jurisdictional trail project involving an example of cost sharing on the basis of jurisdictional location of each part of the project. The Stevens Creek Trail is open from Shoreline in Mountain View to Dale Heatherstone and covers five miles of paved pathway. Construction and maintenance of the trail is the responsibility of the city in which the trail is located. Approximately 50% of those funds from each city come from the city, and the balance from grant programs. The Stevens Creek Trail is a useful example of a bike/ped trail from which local companies (Google) have seen enormous benefit. If the MMP pursues a public private partnership, they could use the Stevens Creek Trail as an example of why companies should sponsor the MMP corridor.

⁸⁵ Push and Pull: "Parking management and incentives as successful and proven strategies for energy-efficient urban transport," Austrian Mobility Research AMOR, http://www.europeanparking.eu/media/1279/12122014_push_pull_a4_en.pdf

⁸⁶ Cycling in the Netherlands, Ministry of Transport, Public Works and Water Management, <http://www.fietsberaad.nl/library/repository/bestanden/CyclingintheNetherlands2009.pdf>

⁸⁷ The Rise of Cycling in the Urban Areas of The Netherlands, Centre for Public Impact, <https://www.centreforpublicimpact.org/case-study/focusing-bicycles-transport-urban-netherlands/>

⁸⁸ Dale West, City of Temecula contact, interview on 2/16/17
Caltrans Multi-Jurisdictional Transportation Corridor Planning Grant, City of Murrietta Agenda Report, https://web.archive.org/save/_embed/http://www3.murrieta.org/agendas/council/MG202493/AS202509/AI202522/DO202563/1.PDF

⁸⁹ <http://stevenscreektrail.org/FAQs/08097777.shtml#08109924>

Appendix V: Useful Contacts for Future Follow-Up

Michael Coleman - expert on California municipal finance. Coleman@muniwest.com

Scott Haywood - Policy and Community Relations Manager at Valley Transportation Authority. Scott.Haywood@vta.org, 408-321-7544

Marshall Wilson - Communications Director at County of San Mateo. mwilson@smcgov.org

Kevin Mathy - Head of Transportation at Facebook. He was a recent Facebook sponsor of Joint Venture's State of the Valley conference. kmathy@fb.com

Bill Wehl - Head of Sustainability at Facebook. wwehl@fb.com⁹⁰

Alyssa Holt - Sustainability Manager at Facebook. alyssa@fb.com

Mike Alba - Head of Global Transportation at LinkedIn. malba@linkedin.com

Danielle Glaser - Program Coordinator at LinkedIn. dglaser@linkedin.com

Jeral Poskey - Head of Transportation at Google. jonal@google.com

Robert Leland - Ameriprise Finance Expert. rleland@managementpartners.com

Jeff Tumlin - Acting Director of Transportation for Oakland, CA. jtumlin@nelsonnygaard.com

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<https://www.facebook.com/notes/green-on-facebook/meet-the-facebook-sustainability-team-bill-wehl/451128308235764/>

Appendix VI: Interview Sources

Interview Sources

Name	Affiliation	Contact information	Area of Expertise
Jeff Tumlin	Acting Director of Transportation for Oakland, CA Nelson Nygaard	"Tumlin, Jeffrey" <jtumlin@nelsonnygaard.com>	Strategies for repurposing existing funds (e.g. transportation impact fees) and exploring regional grant opportunities through MTC and others.
Robert Leland	Management Partners/Former Finance Director	Robert Leland <rleland@managementpartners.com>	The Davis, CA case study and any of the proposed alternatives.
Scott Haywood	VTA	"Haywood, Scott" <Scott.Haywood@vta.org>	Measure B
Joel Slavit	SamTrans	slavitj@samtrans.com	Measure A (2004) funding allocation and project guidelines
Marshall Wilson	San Mateo County	mwilson@smcgov.org	Measure K
Boris Lipkin	High Speed Rail	"Lipkin, Boris@HSR" <Boris.Lipkin@hsr.ca.gov>	Public Private Partnership with CA HSR
Kenneth Kao	MTC	kkao@mtc.ca.gov	MTC Grants
Eliza Yu	San Mateo County	eyu@smc.gov	Learn more about SM County Grant Allocations
Michael Neward	Bay Area Air Quality Management District	mneward@baaqmd.gov	BAAQMD grant programs
Dave Persselin	City of Fremont	dpersselin@fremont.gov	Lease-revenue and community facilities district financing.
Julie Kim and John Macomber	Stanford, Harvard	mjuliekim@gmail.com	Social impact bonds, other alternative financing mechanisms like 63-20s and crowdfunding.
Peter Skinner	SamTrans	SkinnerP@samtrans.com	Grant programs
Michael Coleman	CA Financial Almanac	Coleman@muniwest.com,	Pretty much every facet of California municipal finance
Katy Hartnett	People for bikes	katy@peopleforbikes.org	Context on the federal grant funding environment
Eric L. Stein	Stanford Be Well Program	elstein@stanford.edu	Stanford bike incentive program
Lesley Lowe, Carolyn Helmke	Stanford Lands, Bldgs, Real Estate	llowe@stanford.edu	Stanford's bike incentive program

Jim Lightbody	City of Mountain View	lightbody@yahoo.com	Mountain View budget
Susan Wheeler	City of Redwood City	SWheeler@redwoodcity.org	Redwood City transportation impact fees and amounts available/spent on bike/ped projects in FY 14-15 and 15-16
Chris Corrao	City of Palo Alto	Christopher.Corrao@cityofpaloalto.org	The modified cost estimate for the bike corridor; bicycle infrastructure more generally.
Hin Kung	CA DOT, District 4	(510)622-5930	Cost-sharing between the state and local entities.
Dale West	City of Temecula Contact	9516933918	Temecula Case study, example of small scale city cost sharing.
Laura Thompson	ABAG, Bay Trail	laurat@abag.ca.gov	Local corporate bike projects in conjunction with the Bay Trail
Elizabeth Hughes	President, TDM Specialists	elizabeth.hughes@tdmspecialists.com	Corporate bicycle usage, survey data
Tom Harrington	Intuit, Commuter Management Solutions	tom_harrington@intuit.com	Intuit's bicycle and commuter programs/incentives, member of MVgo program through MTMA
Kurt Martin	Co-founder, Bikes Make Life Better	kurt@bikesmakelifebetter.com	Bicycling consultants who suggest and then sometimes run corporate bike programs
Ronie Hatrup	Director, Mountain View MVgo	roni@graybowenscott.com	Mountain View TMA
Jeral Poskey, colleagues	Head of Google Transportation Planning	jeral@google.com	Google's Transportation department
Chris Bright	Transportation Director, Oracle	chris.bright@oracle.com	Transportation planning at Oracle in Redwood Shores
Lauren Swezey	Head of Facebook's Rail-Trail Project	laurens@fb.com	Facebook's bicycle projects

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