
Regional Transportation Initiative White Paper



Monterey Bay
ECONOMIC PARTNERSHIP



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THE VISION

For decades transportation investments in the Monterey Bay Region have prioritized the movement of personal vehicles often at the expense of the types of human-centered transportation options that lead to walkable neighborhoods, dynamic main streets, and healthier communities in terms of the environment, local economies, and public safety/health. Instead of creating more sustainable transportation options, funding has been directed at highway and road building, an incredibly expensive system to maintain that has only led to more and more congestion with no end in sight.

With the recent passage of the state transportation funding bill (SB1) and sales tax Measures D and X in Monterey and Santa Cruz Counties, the region has an opportunity to chart a new path toward building a more balanced transportation system. Using these new funding sources to make targeted and impactful investments in sidewalks, bicycle lanes, trails and other active transportation infrastructure will reduce congestion, promote sustainable economic growth, improve public health, and safeguard a high quality of life in the Monterey Bay Region. Many counties have had sales tax transportation measures for 2-4 decades and there is a lot to learn from them on how their investment in transportation have fostered mode choices and options. Communities that prioritize investments in walking and biking have been shown to increase retail sales, commercial property values, and overall economic development. Communities that have prioritized investments in freeways and roadway widenings have experienced sprawl and increase in vehicle miles traveled along with greater costs to provide services for their community per acre and home. Talent workforce and the companies that employ them are seeking to locate where running errands, commuting to work, or dropping off the kids at school can be accomplished by walking or biking. Developing walking, bicycling, and efficient transit systems also helps communities address economic disparities by providing convenient and comfortable alternatives to the high cost of car ownership to the individuals driving them and agencies building and maintaining the infrastructure.

To accelerate the impact of these new funding sources and realize the vision for a more active transportation network, MBEP should focus its efforts around three key initiatives:

- 1) Optimizing and Repurposing Existing Infrastructure
- 2) Enhancing Connectivity
- 3) Leveraging Public/Private Partnerships

The purpose of this white paper is to describe these policy initiatives in the context of creating healthy, active communities, outline policy recommendations, and share real-world examples where they have demonstrated success.

I. Optimizing and Repurposing Infrastructure

Building an active transportation system does not mean dismantling existing infrastructure. There are proven strategies to optimize transportation infrastructure so that it serves everyone more efficiently. An opportunity to accommodate transit or find room for bicycle lanes happens each time a road is resurfaced and lanes markings repainted. Instead of putting the same design back in place, engineers can evaluate options for narrowing or removing excess travel lanes to create dedicated space for bicycles, transit, or both. Main streets and commercial corridors that encourage walking and bicycling support a vibrant retail economy. Walkable and bike friendly communities attract tourists for the weekend and talented workers to join a local business or start their own. These communities also see an increase in a higher quality of life for residents. To connect residents and visitors with more recreational and commuting opportunities, innovative communities are also repurposing abandoned railroads and utility corridors next to canals or under power lines to create off-street trails.

Recommendations

1. **Advocate for Bus On Shoulder Statewide Policy Change & Regional Implementation**

- A. Partner with Monterey-Salinas Transit, Caltrans District 5, TAMC, RTC, and major regional employers to assess opportunities and challenges to implementing a bus on shoulder program.
- B. Conduct a study on the economic impact of repurposing shoulders for transit operations and share results as an advocacy tool.
- C. Build local coalition to advocate the California Legislature pass a bill to allow bus on shoulder projects.
- D. Work with Association of Monterey Bay Area Governments (AMBAG) and Monterey-Salinas Transit to implement a bus on shoulder pilot program in Monterey County. As part of the pilot, administer pre and post commute time surveys in partnership with regional employers.

2. **Help Local Communities Understand Road Resurfacing Opportunities**

- A. Work with local jurisdictions to collect and review street resurfacing schedules on a regular basis to identify opportunities for striping bicycle facilities, narrowing travel lanes, or implementing a road diet.
- B. Create a database to flag roads that are slated for resurfacing and are identified in Bicycle Plans for new bicycle projects. If a local or county Bicycle Plan is not recent (over six years old), work with the city to reach out to local groups such as Bicycle and Pedestrian Advisory Committees or advocacy organizations to identify roadways that would benefit from bicycle treatments/enhancements that are also scheduled for resurfacing.
- C. Work with jurisdictions at least six to twelve months prior to resurfacing if they need help or direction on bicycle facility design. Help fund consultant to design treatments if local agency is unable to design facility in-house.

3. Support Repurposing Abandoned or Underutilized Infrastructure as Future Trails

- A. Partner with Friends of the Rail Trail, Fort Ord Rec Trail and Greenway (FORTAG), Bike Santa Cruz County, local and county bicycle and pedestrian transportation groups and other organizations to investigate regional trail maintenance needs, and to evaluate the potential to leverage private funding through Adopt-a-Trail type programs.
- B. Share trail-oriented tourism best practices to help support local economic development.

CASE STUDIES

Buses on Shoulders – Minneapolis-St. Paul, MN

Bus-on shoulder operations, or “bus bypass shoulders,” allow buses to travel at or near free slow speeds on congested arterials and freeway routes. This operation is a policy-based and cheaper alternative to constructing dedicated right-of-way (Bus Rapid Transit, BRT lanes) or restricting lane use to high-occupancy vehicles (HOV). The primary goal is to prioritize the reliable performance of public transit over capacity for single-occupant vehicles. Bus-only shoulders are used only when certain criteria are met such as when traffic is moving slower than 35 mph and transit customers save between five and 15 minutes per trip thanks to shoulder use. As such, Metro Transit ridership has increased.

The Minneapolis-St. Paul region has the largest application of bus-on shoulders in the nation with over 300 miles of freeway shoulders available to buses. Bus-only shoulders cost a fraction of new vehicle lanes. Now, as roadways are built or reconstructed, shoulders are made to accommodate the extra weight and width of a bus. Since shoulder use is built into the project, the transit advantage adds capacity without significant cost. The Minnesota Department of Transportation estimates per-mile implementation costs range from \$1,500 for restriping to \$100,000 if major repairs are needed. This range of per-mile capital costs is so low that savings from operator labor savings may earn the agency a positive return on its capital investment.

Metro Transit experimented with bus-only shoulders on Highway 252 in 1991 and liked the results. The city piloted bus-only shoulders on several arterial routes with traffic signals for two years until nearly all freeway bridges over the Minnesota River were closed due to flooding. As a way to relieve congestion at the bridges that were open, Minnesota Department of Transportation allowed buses on the shoulders of the bridge. In addition to opening park and ride facilities on either side of the bridge, traffic congestion was reduced across the bridge during flooding and Metro Transit was able to determine the efficacy bus-only shoulders on freeways as well as arterials.

Over a ten-year span, bus-only shoulders went from a pilot project to a network with Metro Transit and partners worked to create operating rules and standards, incorporating the bus-only shoulders concept into part of the larger transportation system. While initial bus-only pilot projects did not require a formal process for establishing their legality, the increasing number of successful sections of bus-only shoulders created pressure for codifying operating regulations and standards. Bus-only shoulders had been shown to be a safe and efficient means of improving the Twin Cities transportation system, and legislation describing the conditions under which bus-only shoulder routes could be operated and who was authorized to use them was passed into state law in 2001. The passage of the law also enabled the state patrol to issue tickets for misuse of the shoulder by bus and automobile/truck drivers. Bus drivers also proved vital to the success of the program by providing feedback about operations such as appropriate speeds, shoulder widths, and potential to expand the network.



Figure 1: An example of a bus bypass shoulder. Source: MnDOT

No law grants transit buses permission to use highway shoulders in California. Vehicle Code § 21755 prohibits use of the shoulder to pass on any California street or highway. Vehicle Code § 21718 prohibits transit buses from stopping on freeways unless sidewalks are provided and the bus exits mixed flow traffic for the stop. California law may provide a pathway for future legislation or regulations that supports shoulder use by qualified transit bus drivers.

In 2005, Caltrans and San Diego's Metropolitan Transit System (MTS) implemented a trial bus on shoulder program modeled after the Twin Cities' experience. After ten months, transit vehicles operating on the shoulder achieved 99% on-time performance; the project had improved travel times and raised levels of customer satisfaction. The trial program, although successful from the point of view of the Metropolitan Transit System and the San Diego Association of Governments (SANDAG), was terminated after two years with no plans for permanent implementation. Also in 2005, California Assemblywoman Shirley Horton introduced AB 461, which was originally a bill to formalize the bus-on shoulder demonstration program within California law. The bill was stripped, amended and later passed without the bus-on shoulder provisions.

SANDAG is once again trying to implement a Bus on Shoulder project. At the August 10, 2017 California Traffic Control Devices Committee, SANDAG and Caltrans District 11 requested permission to experiment with utilizing non-standard signing to designate converted freeway shoulders/gores as "Transit Only Lanes" for MTS transit bus use, and warn entrance ramp motorists while MTS transit buses are operating on the Transit Only Lanes. The experiment is scheduled to run through 2022.

Lincoln Avenue Road Reconfiguration – San José, CA

Lincoln Avenue serves as the main activity center for Willow Glen neighborhood of San José, CA. There are more than 250 retail, dining, service, and professional businesses along or adjacent to the Willow Glen Business District. The street, a four-lane, undivided roadway, had become a popular route for commuters avoiding the more congested nearby freeways and expressways. Close to 20,000 vehicles per day traveled along this route, often above posted speed limits. In an effort to be more bicycle-friendly and to slow down reported speeding vehicles, the Willow Glen Business Association, the Willow Glen Neighborhood Association, and the City of San José discussed the possibility of implementing a four-lane to three-lane conversion of Lincoln Avenue, with bike lanes in the stretch running through the Business District in the fall of 2014.

City staff proposed and city council approved a pilot study to evaluate the potential impacts of a road diet along an approximately one-mile stretch of Lincoln Avenue in the Business District. The intent of the pilot was to install temporary road markings and evaluate the effectiveness of the road diet prior to a major repavement effort, at which point the road diet could be made permanent if the pilot performed well.

Because the project faced considerable controversy and the outcome of pilot evaluation was of great community interest, the city designed a very extensive evaluation project with over a year of data collection. Vehicle counts and speed data was collected before and after the road diet implementation at 45 locations along the roadway and on nearby major and neighborhood streets. City Council approved the staff recommendation to make the road reconfiguration permanent after repaving. Community members report a decrease in traffic noise, an increase in bicycle riders, and a stronger sense of place.



Figure 2: The proposed roadway reconfiguration was made permanent by City Council in 2015. Source: Willow Glen Neighborhood Association

II. Enhancing Connectivity: Choices and Options

Communities across the nation are changing the way they design their roads to create “Complete Streets” that prioritizes safe access for all users. In California, the Complete Streets Act of 2008 requires cities and counties to include complete streets policies as part of their general plans so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists.

Currently 71% of commuters in the region drive alone to get to work and only 7% walk, bike, or take transit. Walking is a convenient option for short trips, however transit and bicycling have the potential to replace more vehicle trips. Without physical separation from moving vehicles, most people do not feel comfortable bicycling on the road. Cities around the country are developing enhanced bikeways where parked cars, planters, medians, or plastic barriers are used to protect bicyclists from moving traffic. Commonly called cycle tracks or protected bike lanes, Caltrans refers to them as Class IV separated bikeways. Retrofitting existing streets to include a Class IV separated bikeway may require changing the dimensions of the sidewalk, parking, shoulder, and vehicular lanes. These possible tradeoffs need to be evaluated in the context of creating Complete Streets that include comfortable and connected bikeway options. Caltrans *Design Information Bulletin #89*, NACTO *Urban Bikeway Design Guide*, and the Federal Highway Administration (FHWA) *Separated Bike Lane Planning and Design Guide* are resources local agencies should consult when evaluating opportunities for separated bikeways. This protection can also be carried into the intersection where bicyclists and pedestrians face the greatest risk of being hit by a motor vehicle. During work on the development of the NACTO *Urban Bikeway Design Guide*, Alta Planning + Design staff saw merit in the Dutch junction style “protected intersection” and have spent subsequent effort studying it and attempting to create a framework for adapting it to the North American roadway context. For more information see the white paper *Lessons Learned: Evolution of the Protected Intersection*:

<https://altaplanning.com/resources/evolution-of-the-protected-intersection/>

Recommendations

1. Support Complete Street Policy Adoption and Implementation

- A. Compile Complete Streets Resolutions, General Plan policy language, and model Complete Street ordinances to share with cities. Change Lab Solutions has California model language available for distribution (<http://www.changelabsolutions.org/publications/CA-complete-streets-policies>) along with Appendix A in the Monterey Bay Area Complete Street Guidebook (<https://sccrtc.org/wp-content/uploads/2013/08/final-2013-complete-streets-guidebook.pdf>)
- B. Publicize adoption of Complete Streets resolutions, policies, and ordinances with signing ceremonies and press releases.
- C. Advocate for the funding, design, and construction of Complete Streets, separated bikeways, and protected intersections.

- D. As construction of active transportation projects is completed, organize and publicize ribbon cutting ceremonies. Highlight well-designed “complete street” projects.
 - E. Ensure design of new separated bikeways connect to the regional backbones: San Lorenzo River path, rail corridor, Monterey Bay Coastal Trail, etc.
 - F. As new Complete Streets are implemented, track transportation mode shift from driving to transit, bicycling and walking on the MBEP Regional Dashboard using US Census Commuting data, transit agency ridership data, and bicycle/pedestrian counts.
2. **Encourage local communities apply for Bicycle Friendly Community designation through the League of American Bicyclists.** MBEP can help publicize awarded communities through local press releases and other marketing activities.
 3. **Advocate Monterey Bay Area businesses apply for Bike Friendly Business designation through the League of American Bicyclists.** Awarded businesses are recognized in a national press release and through the League's social media. MBEP can also recognize awarded businesses through local press releases and other publicity activities.

CASE STUDIES

Protected Intersection – Berkeley, CA

In December 2016, Berkeley installed its first protected intersection. Protected intersections extends bike lanes into the intersection to create a much better experience for less confident and new bicyclists. A right-turning queue space is created in the intersection for cars to wait for people bicycling straight through the intersection or for pedestrians to cross.

Berkeley saved money and expedited project implementation by upgrading from standard pedestrian curb extensions to a protected intersection. In 2010, Berkeley received a Safe Routes to School grant to add pedestrian bulb outs at the busy intersection of The Alameda and Hopkins Street. Hundreds of students cross this section every day, which connects the North Berkeley Branch Library with neighboring parks and schools. Curb extensions shorten crossing distances for walking and place pedestrians where they are more visible to drivers. However, because curb extensions cause water to drain differently on the street, they are costlier to design.



Figure 3: Protected intersection installed in Berkeley. Source: Susie Hufstader, Bike East Bay

When the project was delayed due to engineering staff constraints, California DOT, Caltrans, threatened to rescind the grant to fix the intersection. City staff quickly determined that the drainage design challenges are minimized by moving the bulb outs into the street. This move allowed them to maintain existing curb lines and drainage. Then, by moving the bike lane behind the bulb outs, Berkeley created a protected intersection.

Separated Bikeway – Alameda, CA

The City of Alameda installed its second separated bikeway in early 2015 on Shoreline Drive. Separated bikeways, also known as protected bikeways or cycle tracks, are bike lanes separated from vehicle traffic through vertical separation, as opposed to just paint. The two-way Shoreline Drive project uses a combination of concrete islands and parked cars as a means of separation. A painted buffer zone allows for room to safely open car doors without risk of hitting a person riding by. Also included in the design were bus boarding islands, which separate bus passengers from bike traffic.

A road reconfiguration was implemented to achieve the design. Although there are few crossing points along this roadway, the road reconfiguration allows for a shorter crossing distance for pedestrians. As such, city staff did not need to struggle with designing a safe way for drivers to turn across the bikeway, making the street a “low-hanging fruit” for separated bikeway design. It is reported that bicycle use is up within the city and more separated bikeways will be installed soon.



Figure 4: The redesign of Shoreline Drive includes bus boarding islands and parked cars that serve as the buffer between bicyclists and moving vehicles. Source: Google

III. Leveraging Public/Private Partnerships

Apart from building active transportation infrastructure, people need information, incentives, and encouragement to make different choices about their travel behavior. Transportation demand management (TDM) is a set of programs and policies that communities use to promote sustainable transportation options. Programs could include advertising campaigns, subsidies for bus passes and bike helmets, offering a new shuttle service, or incentive programs for people who regularly bicycle to work. Policies include limiting the number of single-occupancy vehicles that park at a large private employer or risk paying fees. Providing free parking to employees can be very expensive. Having policies and programs in place that encourages and incentivizes large companies to implement TDM practices reduces costs and saves the companies money. Large private employers that want to reduce their parking footprint and retain talented workers make natural allies with the local governments and transit operators in developing and delivering these programs and policies.

Publicly owned bicycle share programs have also had success raising funds through selling naming and advertising rights to private sectors. For instance, Ford recently partnered with San Francisco, San Jose, and several East Bay communities to launch Ford GoBike. By the end of 2018 the system will include 7,000 publicly available bikes at over 500 stations. Low income households are eligible for unlimited rides through a \$5 annual membership.

Recommendations

1. Support Transportation Demand Management

- A. Partner with AMBAG, RTC, TAMC, Monterey Bay Air Resources District, and Ecology Action Transportation Services to explore regional commuter benefits ordinances similar to the successful program in the Bay Area (a partnership between MTC and Bay Area Air Quality Management District: <http://www.baaqmd.gov/~media/files/planning-and-research/commuter-benefits-program/reports/commuter-benefits-report.pdf>).
- B. Work with these and other partners to advocate for the California Legislature to extend statutory authority for regions to adopt and implement a regional commuter benefits ordinances.
- C. Conduct research on TDM best practices for employers of different sizes and encourage voluntary programs such as Ecology Action Transportation Services, a membership program that helps provide TDM programs to member in the greater Monterey Bay area. Best practices may include, but are not limited to:
 - i. Rideshare matching (helping connect employees together in order to carpool)
 - ii. Financial incentives like parking cash out (employer provides the option of cash instead of free parking) and transit allowances
 - iii. Telework (allowing staff to work from home)
 - iv. Walking and cycling encouragement (events, campaigns, and challenges)

- v. Providing bicycle parking and changing/shower facilities
- vi. MBEB sponsored commuter shuttle to major employment centers

2. Support Bike Sharing Efforts at local and regional level

- A. Determine best practices for a successful bike share system. Help fund feasibility studies for those jurisdictions that meet that criteria.
- B. Help local agencies who are already exploring bike share to find sponsors for the system.
- C. Publicize a ribbon cutting ceremony for bike share system “ground breaking” and openings.
- D. Ensure bike share programs are compatible throughout the region (e.g. same access/system).

CASE STUDIES

Mountain View Community Shuttle – Mountain View, CA

The Mountain View Community Shuttle is a public-private partnership between the City of Mountain View and Google, Inc. This free and 100% electric shuttle offers free Wi-Fi and bicycle racks, providing a strong first and last mile connection for community residents. There are 50 stops along the route, with 30 minute headway times. The Mountain View Community Shuttle began operations in January 2015. In 2015, there were 97,079 riders. There were 153,720 riders in 2016. In the first half of 2017 (through June 2017) there were 93,671 riders. As the first company in Silicon Valley to offer a free shuttle option to its employees, Google is able to help its workforce get to work without the burden of car ownership and the aggravation of driving in traffic. Employees value the free benefit and increased amount of productive time.



Figure 5: Mountain View Community Shuttle. Source: John Green/Bay Area News Group

Eco Pass – Santa Clara County, CA

The Santa Clara Valley Transportation Authority (VTA) offers Eco Passes to Santa Clara County residents, employers, universities, and private colleges to give commuters and students unlimited rides on VTA Bus, Light Rail, and Express Bus service seven days a week. Eco Passes are deeply discounted below the standard cost of passes; making it an attractive, low-cost benefit to employers and residential communities. Employers purchase annual Eco Passes for all full-time employees at a given worksite, paying one low cost. Pricing levels are based on proximity to VTA services and your number of employees.

The Eco Pass uses a personalized Clipper Card system. Clipper Card is a smart card that can hold multiple transit agency passes and cash.



Figure 6: Clipper Card and Eco Pass. Source: VTA