

7 Implementation

This chapter details the overarching implementation strategy and provides an action plan for the City to carry out policy, program, practice, and project recommendations contained in the previous chapters. The chapter also presents the estimated total cost of the Plan, maintenance costs and potential funding sources to assist the City in planning, budgeting, and delivering the Plan update's recommendations.

This chapter details many specific actions leading to successful implementation of the Plan; however, there are six key strategies that provide an overarching framework for how the City will approach implementation:

1. **Build a high quality connected network in the areas most conducive for bicycling** by 2021, as detailed by high-priority corridor in **Chapter 5**. Once the AAA Backbone Network has been restriped with buffered bike lanes, staff will install vertical separation to create a separated/protected bike facility. In the initial years, staff will focus on installing additional buffered bikeways in corridors that will not be addressed through the pavement maintenance program in the near-term, to achieve immediate benefits of enhanced bikeways and vehicle speed reductions for improved safety. In outer years, staff will focus on the installation of vertical separators on the roadways that have been restriped with a buffered bike lane in the previous years.
2. **Apply for any competitive local, regional, state, and federal grant funding opportunities** that will fund the long-term enhanced bicycle facilities identified in the AAA Vision Network. Staff has already been successful in being awarded grant funding to build a multimodal complete streets upgrade of State Route 84 in the Centerville Priority Development Area, Phase I of the protected bike lane and intersections project along Walnut Avenue, and protected intersections on Fremont Boulevard at Mowry Avenue and Stevenson Boulevard.

The implementation strategy for the five-year priority AAA backbone network is:

- *To the extent possible, coordinate and utilize the annual pavement maintenance program to apply a cape or slurry seal treatment to the AAA Backbone Network and neighborhood bikeways*
- *Once the AAA Backbone Network has been restriped with buffered bike lanes, staff will install vertical separation to create a separated/protected bike facility*
- *Staff will apply for any competitive local, regional, state, and federal grant funding opportunities that will fund the long-term enhanced bicycle facilities identified in the AAA Vision Network.*

3. **Expand the trail network in places with best funding opportunities** through the recommended Comprehensive Trails Feasibility Study described in **Chapter 5** and through the long-term trails strategy developed through the *Pedestrian Master Plan*.
4. **Continue to use the pavement maintenance program to help develop and improve bikeways** and increase priority for pavement maintenance for locations identified from community feedback, a strategy that can be used opportunistically to build out the AAA Vision Network and specifically implement the projects detailed in **Table 5-11**. To the extent possible, coordinate and utilize the annual pavement maintenance program to apply a cape or slurry seal treatment to the AAA Backbone Network and neighborhood bikeways, which will provide an opportunity to restripe the roadways with buffered bike lanes and sharrows.
5. **Continue and enhance existing education and encouragement programs** such as the Alameda County Safe Routes to School program, the City's Fremont's educational YouTube videos, and events with the Fremont Freewheelers, as described in **Chapter 6**.

7.1 Action Plans

Table 7-1 presents the near-term implementation plan, and **Table 7-2** presents information on ongoing actions for the City to build out the AAA Vision Network and implement supporting programs over time. Both tables identify lead agency/partners, timeline and relative cost for each action. In some cases, lower priority projects may be implemented sooner as opportunities arise.

Table 7-1 Near-Term Implementation Plan

Category	Tasks	Lead Agency/ Partners	Timeline	Relative Cost
Apply for and Secure Funding	<ul style="list-style-type: none"> Identify appropriate funding sources for each near-term project Coordinate with and integrate projects into repaving and maintenance programs Integrate projects into the City's CIP Identify and apply for funding for projects that require outside funding sources Coordinate with development to fund projects 	Transportation Engineering Section, Maintenance Services Division	Year 1	\$100,000
Design and Build Near-Term Priority Projects	<ul style="list-style-type: none"> Develop detailed concepts and cost estimates for each of the ten near-term projects described in Chapter 5 Where feasible, integrate <i>Pedestrian Master Plan</i> and related Community Plans into bikeway projects Build near-term projects Coordinate with development to design and build near-term projects Opportunistically design and build medium- and long-term projects, as development, inter-agency coordination, or other opportunities present themselves 	Transportation Engineering Section, Engineering Division	Year 1-3 Year 1-3 Year 3-5 Year 0-5 Year 0-5	\$4,500,000
Bicycle Parking Program	<ul style="list-style-type: none"> Integrate short-term and long-term, secured bike parking into near-term priority projects, adjacent developments, and all new development per rack, locker, and siting guidelines in the <i>APBP Bicycle Parking Guidelines</i>, 2nd edition. As a minimum, new developments shall satisfy bike parking requirements of Fremont Municipal Code and California Green Building Standards Code, which is the City's existing practice. 	Transportation Engineering Section	Year 1 - ongoing	\$20,000
	<ul style="list-style-type: none"> Amend the City's Municipal Code to include more specific bicycle parking requirements for short-term and long-term parking per the recommendations in Chapter 4 Establish corral and locker bicycle parking programs in the public-right-of-way or on easements and integrate into near-term priority bicycle projects 	Transportation Engineering Section	Year 1 - ongoing	\$30,000

Table 7-1 Near-Term Implementation Plan

Category	Tasks	Lead Agency/ Partners	Timeline	Relative Cost
<i>Bike Share Program</i>	<ul style="list-style-type: none"> Consider installing bike share to serve City Center, Warm Springs BART Station Area, and Centerville Train Station (Note: In 2018 the City & MTC will execute 2018 Bike Share Grant Agreement in the amount of \$659,000 for bike share implement in Fremont.) 	Transportation Engineering Section	Year 1-2	\$100,000
<i>Bike Data Collection</i>	<ul style="list-style-type: none"> Collect weekday bike counts at 50 intersections every 2 years (25 intersections in Year 1 and 25 counts in Year 2) and weekend bike and pedestrian trail counts at major trail entry points every 2 years. 	Transportation Engineering Section	Year 1 - ongoing	\$12,000/year

Table 7-2: General Implementation Recommendations

Category	Tasks	Lead Agency/ Partners	Timeline	Relative Cost
Planning & Prioritization	<ul style="list-style-type: none"> Update prioritization of projects every five years to provide bicycle work plan for City Identify funding sources for each project and integrate into the City's CIP Update the Plan every five years per Alameda CTC Bicycle Master Plan Guidelines 	Transportation Engineering Section	Every 5 years	\$250,000
Signal Upgrades & Maintenance	<ul style="list-style-type: none"> Complete an inventory of existing bicycle detection citywide, and upgrade traffic signal detection to include bicycle and pedestrian video detection and counting capabilities. Conduct a pilot of app-based bicycle signal detection. 	Transportation Engineering Section	Year 0 - Ongoing	\$75,000
Maintenance & Ongoing Operations	<ul style="list-style-type: none"> Develop a maintenance plan for City-operated trails and separated bikeways Coordinate with City maintenance staff and City Recreational Services staff to provide a well maintained bicycle and pedestrian network in the roadway network and City's parks and trail facilities Continue to implement 8% of local street and roads funds for bike and pedestrian facilities maintenance (administered through City Pavement Management Program) 	Transportation Engineering Section Maintenance Services Division, Recreation Services Department, Community Services Department	Ongoing	\$380,000
Trail Studies	<ul style="list-style-type: none"> Secure funding for trail projects and coordinate with related agencies Complete comprehensive trail feasibility study = that includes the East Bay Greenway, Alameda Creek Trail, and Bay Trail 	Transportation Engineering Section, Recreation Services Department, ACFCWCD, SFPUC, EBRPD, Bay Trail	Within 5 years	\$200,000
Counts	<ul style="list-style-type: none"> Continue to develop and implement bicycle and pedestrian counting program 	Transportation Engineering Section	Ongoing	\$20,000

Table 7-2: General Implementation Recommendations

<i>Category</i>	<i>Tasks</i>	<i>Lead Agency/ Partners</i>	<i>Timeline</i>	<i>Relative Cost</i>
Collisions	<ul style="list-style-type: none"> Continue to complete annual reporting on collision trends Integrate collision countermeasures into the final design of all bikeway projects Update the high-injury network identified in the Vision Zero Action Plan every five years Develop and maintain a map that highlights the corridors with the highest number of bicyclist injury collisions 	Transportation Engineering Section Fremont Police Department	Ongoing Every 5 years	\$50,000
Safe Routes to School	<ul style="list-style-type: none"> Continue Traffic Safety Assessment engineering work and implementation at each school site Expand education and encouragement programs through Alameda County Safe Routes to School Coordinate with the Police Department and schools (PTA, School District, School staff) 	Transportation Engineering Section, Local schools, Police Department	Ongoing	\$200,000
Support Programs	<ul style="list-style-type: none"> Promote and make available the 2018 draft Fremont Bikeways brochure and continue to update the map every five years Continue to support ongoing education efforts Produce additional videos and print materials about new infrastructure treatments Coordinate on enforcement Focus on adult education (in progress) 	Transportation Engineering Section, Police Department	Year 1 & every 5 years Year 1 & ongoing	\$70,000
Stakeholder Involvement	<ul style="list-style-type: none"> Through BPTAC meetings, provide a bi-annual update on progress made on the Plan, including an update on the performance measures contained in Table 7-3. 	Transportation Engineering Section	Annually	\$10,000

7.2 Performance Measures

Table 7-3 presents the four primary performance measures that will allow the City to measure how successfully the Plan is being implemented over time.

Table 7-3: Primary Performance Measures

Goal	Metric
<i>Improve Safety</i>	Maintain 0 fatal bicycle collisions and reduce severe injury bicycle collisions by half by 2020, supporting the City's Vision Zero policy, through driver and bicyclist education and implementation of the All Ages and Abilities Vision Network.
<i>Provide an All Ages & Abilities Cycling Network</i>	Implement the five-year projects - the All Ages and Abilities Backbone Network - by 2021
<i>Commit to Increasing Cycling Rates Citywide</i>	Increasing bicycle mode share to three percent by 2022 and ten percent by 2040, which will be assessed through bi-annual intersection and trail counts at key intersections throughout the city. The City anticipates collecting data at 50 locations over two years (25 locations in Year 1, 25 locations in Year 2).
<i>Increase Funding for Cycling</i>	Secure funding for all five year projects and studies by 2021

7.3 Cost of the Plan

Table 7-4 summarizes the cost to complete the Plan. These are planning-level cost estimates that include contingencies. The City will develop detailed estimates during the preliminary engineering stage as individual projects advance toward implementation.

For purposes of this Plan, conceptual construction costs for the proposed system were based on the following assumptions:

- New Class I facilities would be constructed on generally flat right-of-way and minimal grading needed given the existing topography within the City; cost of right-of-way acquisition is not included.
- Most new Class II bikeways would require minimal or no roadway improvements, such as roadway widening, unless otherwise called out in the project description.
- New Class III bikeways would require sharrows and striping. Bicycle boulevards assume traffic calming measures would also be installed.
- New Class IV separated bikeways can vary substantially in cost, due to the wide variety of treatment types and materials used. It is assumed the City will primarily use striped buffers with plastic pylons.

Table 7-4: Estimated Cost of the Plan

<i>Description</i>	<i>Total</i>
<i>Bicycle Network Mileage</i>	105 miles
<i>Bicycle Network Cost</i>	\$164,610,000

Costs are in 2016 dollars, excluding right-of-way costs.

Note: this total mileage and cost estimate does not include the following projects/segments: Alameda Creek Spur between Alameda Creek Trail & Shinn Street

- Bay Trail Project
- Blacow Road between Fremont Boulevard & East Bay Greenway
- Coyote Creek Levee between Dixon Landing Road & Bay Trail
- Crandall Creek Path between Decoto Road & Alameda Creek Trail
- E. Warren Avenue between Curtner Road & Warm Springs Boulevard
- Freeway Interchanges and Spot Improvement Projects

7.4 Maintenance Costs

Multi-use path maintenance includes cleaning, resurfacing, and re-striping an asphalt path, repairing bridges and other structures, cleaning drainage systems, removing trash, and landscaping. While typical month-to-month maintenance may be low, it does have the potential to develop heavy expenses if it is not done periodically.

The estimated annual maintenance expenses for shared-use paths is approximately \$13,000 per mile for landscaping work, including monthly trash collection, biannual weeding and asphalt cleaning, and annual tree pruning. This annual estimate is in addition to slurry seal treatments, which should occur roughly once every ten years, and costs approximately \$28,000 per mile (based on \$4 per square yard and a 12 foot wide trail, including restriping). If slurry seal is applied every 10 years, more expensive trail rehabilitation (i.e., pavement overlay and reconstruction) may not be necessary. If all of the proposed bike paths were implemented, there would be a total of nearly 27 miles of paths. Thus the annual maintenance cost for Class I facilities is estimated at about \$350,000.

For bicycle lanes, the cost consists of maintaining pavement markings and striping. The estimated annual cost is \$8,500 for a full build-out of nearly 20 miles of Class II facilities (including paint only buffered Class II bike lanes), based on an annual cost of \$455 per mile in restriping (including the cost to restripe bike lanes and refresh stencils). This annual expense is in addition to sign replacement costs of about \$2,000 per sign. Signs need to be replaced roughly once every ten years.

Class III facilities will require maintenance of bike signs located along the bike route every ten years.

The cost for maintaining Class IV facilities depends on the type of bikeway constructed. For grade-separated bikeways, maintenance costs are similar to sidewalk maintenance costs, of approximately \$132,000 per mile every ten years. For bikeways separated by painted buffer and a vertical element such as a bollard, per mile maintenance costs are approximately \$15,000/year.

Table 7-5 Citywide Estimate Annual Maintenance Costs

<i>Facility type</i>	<i>Length of Existing Plus Proposed Segments</i>	<i>Estimated Cost (2016 \$)</i>
Shared-Use Path	28 miles	\$362,000
Bicycle Lane	24 miles	\$12,000
Bike Route/Boulevard	21 miles	<i>Sign Replacement (Every 10 Years)</i>
Separated Bikeway	32 miles	\$486,000
<i>Total Annual Maintenance Costs</i>		\$860,000

Costs are in 2016 dollars, excluding right-of-way costs. Cost do not include sign replacement and other maintenance that does not occur annually.

7.5 Funding

To fund the projects and programs outlined in this Plan, the following funding strategies should be considered:

- Measure B & Measure BB as a funding source through the Alameda County Transportation Commission (Alameda CTC) Capital Investment Plan (CIP), One Bay Area Grant (OBAG) program, and local allocations
- TDA Article 3 Funding to install near-term projects
- Traffic Impact Fee program(s)
- New development
- Other roadway projects involving widening, overlays, or other improvements

- Caltrans Highway Safety Improvement Program (HSIP) or Alameda CTC applications⁷
- Existing funding sources as matching funds for regional or state funding
- Foundations and private-partnerships

The City currently estimates the following revenue sources – excluding competitive grant – for the next five years:

- Measure B & BB: \$1,200,000 annually for bike projects
- TDA Article 3: \$160,000 annually for bike projects
- Local Streets & Roads Contribution: \$210,000 annually for bike projects

As a point of comparison, The City estimates that over the past five years, approximately \$3,300,000 has been expended on bike-related projects.

Appendix E presents summaries of potential funding sources available to the City.

⁷ Where projects will be competitive, reserve staff time or funding resources to complete competitive grant applications. Consider joint applications with other local and regional agencies, such as the City of Newark, Union City or Milpitas, Alameda CTC, BART, and the East Bay Regional Park District for competitive statewide funding programs.