



# Alameda CTC Local Bicycle Master Plan Guidelines

FINAL Version - January 2015

## Introduction

### Planning Context

Bicycle Master Plans are a critical planning, policy, and implementation document to support a jurisdiction's efforts to improve the safety, attractiveness, and participation in bicycling as a means of transportation and recreation. A Bicycle Master Plan helps a jurisdiction to achieve a number of key objectives including identifying a network of facilities, supportive programs, and policies; gathering input on needs and opportunities related to bicycling and ensuring that recommended improvements are aligned with community and partner agency priorities; and identifying available resources, needed additional resources, and formulating an implementation workplan.

Good planning practice and adopted funding requirements in Alameda County dictate that all local jurisdictions develop Bicycle Master Plans, either as a standalone document or as part of a combined bicycle/pedestrian or active transportation plan. Further, these documents are to be updated every five years to ensure continued alignment with community priorities.

In addition, Alameda CTC develops a Countywide Bicycle Plan which focuses on routes and programs of countywide significance; because local jurisdictions own and operate the right of way in which bicycle facilities reside, Alameda CTC's plan is formulated based on local plans.

### Purpose and Goals of Guidelines

These guidelines serve three major objectives:

- Ensure plans throughout the county are comparable and facilitate countywide planning
- Ensure plans meet requirements for state grant funding (e.g. Active Transportation Program)
- Ensure plans incorporate best practices to the extent feasible

### Relationship to Other Requirements/Guidelines

These guidelines implement a requirement from the Master Program Fund Agreements adopted by local jurisdictions in Alameda County. Specifically, the guidelines provide the required core elements that jurisdictions need to meet the Local Bicycle/Pedestrian Master Plan Requirement in Section 7.A.3 (see Appendix A for relevant text from MPFAs).

The State's Active Transportation Program Cycle 1 guidelines contain a list of components that should be included in an active transportation plan.<sup>1</sup> The guidelines also specify that "In future funding cycles, the [California Transportation Commission] expects to make consistency with an approved active transportation plan a requirement for large projects." Therefore, Alameda CTC Bicycle Master Plan Guidelines are based on Active Transportation Program guidelines to ensure future eligibility for statewide competitive funds. Alameda CTC Bicycle Master Plan Guidelines contain some additional required core elements needed to facilitate countywide comparability and smooth transition of local plans into the Countywide Bicycle Plan.

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<sup>1</sup> These components are updated from the former Bicycle Transportation Account required components

## Substantive Update vs. Focused Update

Alameda CTC funding requirements stipulate that local Bicycle Master Plans should be updated, at a minimum, every five years. Some level of update every five years is critical to ensure that a plan remains aligned with local priorities, to ensure that there are additional projects and programs to be implemented, and to assess barriers to implementation. At the same time, excessive investment in plan updates can compromise the ability of local jurisdictions to implement Bicycle Master Plans.

These guidelines differentiate between “substantive updates” and “focused updates.” Jurisdictions should decide what scale of update is warranted when updating their Bicycle Master Plans. **Substantive updates** cover more topics and involve a greater level of stakeholder engagement and analysis. A substantive update will generally involve developing a new Bicycle Master Plan document. **Focused updates** cover fewer topics and primarily involve project prioritization and implementation next steps. A focused update may be accomplished by developing a new plan document (which incorporates material from the old plan) or by developing supplemental sections that note progress, key changes, and key next steps since the previous plan.

## Bicycle Master Plan Core Elements

Bicycle Master Plans developed by Alameda County jurisdictions should include the following required core elements, or explain why the element is not applicable. Jurisdictions are encouraged to consider incorporating recommended core elements in their Bicycle Master Plans.

	Required	Recommended
Introduction	<ul style="list-style-type: none"> <li>• Introduction which summarizes plan’s purpose or vision and goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Performance measures related to plan goals.</li> </ul>
Stakeholder Engagement	<ul style="list-style-type: none"> <li>• <b>Public/community outreach process that gathers input at different stages of plan development process.</b></li> <li>• <b>Coordination with other city departments, transit operators, park districts, neighboring cities, and other agencies as applicable at different stages of plan development process.</b></li> <li>• <b><u>A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• Ride alongs, walk audits, or other participatory field observation.</li> <li>• “Pop-up meetings” – gathering input by going to heavily used facilities.</li> <li>• Open houses, small group meetings, or workshops at schools, places of worship, and community organization standing meetings, particularly within disadvantaged and underserved communities.</li> <li>• Online interactive web mapping sites to allow public to visualize and comment on existing conditions and potential improvements.</li> </ul>
Policy Framework	<ul style="list-style-type: none"> <li>• <b><u>A description of how the plan has been coordinated with neighboring jurisdictions, including school districts within the plan area, and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, general plans and a Sustainable Community Strategy in a Regional Transportation Plan.</u></b></li> <li>• A description of how plan has been coordinated with the Countywide Transportation Plan and its component modal plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Benchmarking of policies against national and regional best practices.</li> <li>• Discussion of policies related to development review (e.g. how impacts of development on bicycling network are assessed, how entitlement process is used to implement bikeways and supportive facilities).</li> <li>• Discussion of policies related to new bicycle technologies and types</li> <li>• Discussion of complete streets policy and implementation steps</li> </ul>

**Required core elements that correspond to a component from the ATP guidelines are indicated in this document using bold underlining.** Required core elements that should be updated as part of a “focused update” are indicated in this document in red.

	Required	Recommended
Existing Conditions	<ul style="list-style-type: none"> <li>• <b><u>The estimated number of existing bicycle trips in the plan area, both in absolute numbers and as a percentage of all trips.</u></b></li> <li>• <b><u>The number and location of collisions, serious injuries, and fatalities suffered by bicyclists in the plan area, both in absolute numbers and as a percentage of all collisions and injuries</u></b></li> <li>• <b><u>A map and description of existing and proposed land use and settlement patterns which must include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, major employment centers, and other destinations.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• Level of traffic stress analysis of existing bikeway network to inform possible additions or modifications to network.</li> <li>• Reporting on performance measures from previous bicycle master plan.</li> <li>• Analysis of most common collision types at locations with extensive collision history (to inform spot improvements).</li> <li>• Use of cell-phone data, GPS data, and other similar data sources to identify routes and corridors with high demand.</li> </ul>
Bikeway Network	<ul style="list-style-type: none"> <li>• <b><u>A map and description of existing and proposed bicycle transportation facilities, including facilities that are existing and have improvements planned.</u></b></li> <li>• Designate and map an “all ages and abilities” bikeway network (described in Appendix C).</li> <li>• A map and description of major barrier/gap closure projects (bridges, freeway crossings, major arterial crossings, etc.).</li> <li>• A description of which design guidelines jurisdiction uses for bikeway geometry, striping, and traffic control devices.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of bikeway facility classification system (described in Appendix C).</li> <li>• Maps of overlap between bikeways and transit trunk lines, truck routes, and CMP networks. Procedure or decision-making sequence if modal networks come into conflict (e.g. Seattle Bicycle Master Plan).</li> <li>• Map and description of proposed intersection improvements.</li> </ul>
Programs	<ul style="list-style-type: none"> <li>• <b><u>A description of bicycle safety, education, and encouragement programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the law impacting bicycle safety, and the resulting effect on accidents involving bicyclists.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• Identify partners and concrete action items needed to implement programs.</li> <li>• Establish ongoing program or platform to “crowdsource” suggested bicycling infrastructure improvements in order to “build up a queue” of spot improvements, traffic calming projects, etc.</li> </ul>

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	Required	Recommended
Supportive Infrastructure and Intermodal Facilities	<ul style="list-style-type: none"> <li>• <b><u>A map and description of existing and proposed end-of-trip bicycle parking facilities.</u></b></li> <li>• <b><u>A description of existing and proposed policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments.</u></b></li> <li>• <b><u>A description of proposed signage providing wayfinding along bicycle networks to designated destinations.</u></b></li> <li>• A description of which design guidelines jurisdiction uses for the development of bicycle parking and wayfinding.</li> <li>• <b><u>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These must include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.</u></b></li> </ul>	<ul style="list-style-type: none"> <li>• Large event bicycle parking policies or programs.</li> <li>• A description of role of bike sharing in jurisdiction.</li> <li>• A description of policies related to bicycle parking for cargo bicycles and other non-standard sized bicycles.</li> <li>• A description of policies related to bicycle parking in existing developments.</li> <li>• A description of policies related to other end-of-trip facilities (e.g. showers).</li> </ul>
Costs and funding	<ul style="list-style-type: none"> <li>• <b><u>A description of past expenditures for bicycle facilities and programs, and future financial needs for projects and programs that improve safety and convenience for bicyclists in the plan area. Include anticipated revenue sources and potential grant funding for bicycle and pedestrian uses.</u></b></li> <li>• Infrastructure cost estimates developed for individual projects or network segments (planning-level cost estimates acceptable).</li> <li>• Estimates of maintenance (including repaving of bikeway and trail network) and staffing costs over life of plan.</li> </ul>	

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	Required	Recommended
Implementation	<ul style="list-style-type: none"> <li>• <u>A description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.</u></li> <li>• <u>A description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.</u></li> <li>• <u>The estimated increase in the number of bicycle trips resulting from implementation of the plan.</u></li> <li>• <u>A description of the policies and procedures for maintaining existing and proposed bicycle facilities, including, but not limited to, the maintenance of smooth pavement, freedom from encroaching vegetation, street sweeping, maintenance of traffic control devices including striping and other pavement markings, and lighting.</u></li> <li>• <u>A goal for collision, serious injury, and fatality reduction after implementation of the plan.</u></li> <li>• Table of implementation actions that clearly illustrates the timeline for implementing this action and the departments/staff positions responsible for implementation.</li> <li>• Discussion of ongoing stakeholder involvement process.</li> <li>• Description of ongoing data collection plans such as counts, facility inventory, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritization of projects and programs that is fiscally constrained.</li> <li>• Use collision analysis and level of traffic stress analysis in prioritization of projects.</li> <li>• Maps of near-term (and mid-term) networks to ensure that short-term projects close gaps or result in continuous corridors.</li> <li>• Integration of bicycle projects and programs with Capital Improvement Program.</li> <li>• Project “cut sheets” or conceptual designs that can be used in grant applications.</li> <li>• Outcome based performance targets – e.g. install X miles of bikeways by year Y, install 1 bike rack on every commercial block, etc.</li> <li>• Estimate of economic/social benefits from implementing plan</li> </ul>

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# Appendix A: Measure B/Vehicle Registration Fee Bicycle and Pedestrian Safety Program Implementation Guidelines Text

## Section 7. Local Bicycle/Pedestrian Master Plan Requirement

A. To receive Measure B and VRF funds, local jurisdictions must do all of the following with respect to local bicycle and pedestrian master plans. The Alameda CTC will provide technical assistance and funding to local jurisdictions to meet these requirements through the competitive Bicycle and Pedestrian Safety Grant Program. Jurisdictions may also use pass-through funds for the development of local bicycle and pedestrian master plans.

1. Have an adopted Local Pedestrian Master Plan AND Local Bicycle Master Plan, OR have an adopted combined Local Pedestrian and Bicycle Plan; or demonstrate that the plan is being developed and will be adopted by December 31, 2015.
2. Each plan must be updated, at a minimum, every five years. This policy is consistent with the state's Bicycle Transportation Act (BTA) grant requirement for bicycle plans, and will ensure that plans are addressing current local needs, while also allowing jurisdictions to be eligible for BTA funding.
3. Each plan must include core elements to ensure that the plan is effective, and that plans throughout the county are comparable, to the extent that is reasonable, to facilitate countywide planning. **The Alameda CTC will develop and maintain guidelines outlining these core elements.** For pedestrian plans, these elements are described in the *Toolkit for Improving Walkability in Alameda County*: <http://www.actia2022.com/ped-toolkit/ACTIA-ped-toolkit.pdf>. **The Alameda CTC will develop guidelines for bicycle plans.**



## Appendix B: Active Transportation Program Cycle 1 Guideline Text

A city, county, county transportation commission, regional transportation planning agency, MPO, school district, or transit district may prepare an active transportation plan. An active transportation plan prepared by a city or county may be integrated into the circulation element of its general plan or a separate plan which is compliant or will be brought into compliance with the Complete Streets Act, Assembly Bill 1358 (Chapter 657, Statutes of 2008). An active transportation plan must include, but not be limited to, the following components or explain why the component is not applicable:

- a) The estimated number of existing bicycle trips and pedestrian trips in the plan area, both in absolute numbers and as a percentage of all trips, and the estimated increase in the number of bicycle trips and pedestrian trips resulting from implementation of the plan.
- b) The number and location of collisions, serious injuries, and fatalities suffered by bicyclists and pedestrians in the plan area, both in absolute numbers and as a percentage of all collisions and injuries, and a goal for collision, serious injury, and fatality reduction after implementation of the plan.
- c) A map and description of existing and proposed land use and settlement patterns which must include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, major employment centers, and other destinations.
- d) A map and description of existing and proposed bicycle transportation facilities.
- e) A map and description of existing and proposed end-of-trip bicycle parking facilities.
- f) A description of existing and proposed policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments.
- g) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These must include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.
- h) A map and description of existing and proposed pedestrian facilities at major transit hubs. These must include, but are not limited to, rail and transit terminals, and ferry docks and landings.
- i) A description of proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations.
- j) A description of the policies and procedures for maintaining existing and proposed bicycle and pedestrian facilities, including, but not limited to, the maintenance of smooth pavement, freedom from encroaching vegetation, maintenance of traffic control devices including striping and other pavement markings, and lighting.
- k) A description of bicycle and pedestrian safety, education, and encouragement programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the law impacting bicycle and pedestrian safety, and the resulting effect on accidents involving bicyclists and pedestrians.
- l) A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.
- m) A description of how the active transportation plan has been coordinated with neighboring jurisdictions, including school districts within the plan area, and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, general plans and a Sustainable Community Strategy in a Regional Transportation Plan.
- n) A description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.

- o) A description of past expenditures for bicycle and pedestrian facilities and programs, and future financial needs for projects and programs that improve safety and convenience for bicyclists and pedestrians in the plan area. Include anticipated revenue sources and potential grant funding for bicycle and pedestrian uses.
- p) A description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.
- q) A resolution showing adoption of the plan by the city, county or district. If the active transportation plan was prepared by a county transportation commission, regional transportation planning agency, MPO, school district or transit district, the plan should indicate the support via resolution of the city(s) or county(s) in which the proposed facilities would be located.

## Appendix C: Bikeway Facility Classification

### Description of classification system

The Alameda CTC bikeway facility classification system consists of subcategories within the Caltrans Highway Design Manual bikeway classifications that capture differences in treatment/design that meaningfully impact bicyclist experience as well as implementation cost. Many jurisdictions in Alameda County already use subcategories as part of their local bicycle plans. The Alameda CTC system aims to harmonize these local classification systems (so they may be used in the Countywide Bicycle Plan) and to incorporate emerging bikeway types. Jurisdictions are encouraged to adopt this classification system when developing network maps in local Bicycle Master Plans.

Caltrans Class	Detailed Facility Class
Class 1	1a. Paved Path
	1b. Unpaved Path
Class 2	2a. Standard bike lane
	2b. Upgraded bike lane (includes buffered bike lanes, green bike lanes, etc.)
	2c. Climbing bike lane (bike lane in uphill direction, route in downhill direction)
	2d. Contraflow bike lane
Class 3	3a. Signage-only route (e.g. bike route)
	3b. Wide curb lane or shoulder (may also include signage)
	3c. Route with standard sharrows or other pavement stenciling (may also include signage)
	3d. Route with green-backed sharrows or super sharrows
	3e. Bicycle Boulevard (routes that include signage and stenciling, traffic calming treatments, and intersection crossing treatments at major arterial streets).
Class 4	4a. One-way cycletrack/protected bikeway
	4b. Two-way cycletrack/protected bikeway

### All ages and abilities network

In addition to identifying facility type, jurisdictions should identify an “all ages and abilities” network as part of network mapping. Jurisdictions may identify this network using another name in local plans (e.g. family network, low-stress network, 8-to-80 network, etc.). This should be identified as an overlay and may consist of a mix of facility types such as trails, on-street protected bikeways, and traffic calmed neighborhood streets. The network may have specific performance metrics associated with it, such as maximum traffic volumes or speeds for on-street segments, and jurisdictions are encouraged to identify such metrics in their local plans.

## GIS Implementation

Mapping bikeway networks in GIS as part of a Bicycle Master Plan is standard practice. Jurisdictions are encouraged to use a framework similar to the framework below. This framework captures cases where a street may have an existing bikeway facility but be planned for an upgraded facility, which is an increasingly common situation in Alameda County jurisdictions

Street	From	To	Status	Exst_Class	Exst_AllAges	Prop_Class	Prop_AllAges
Main St	1 <sup>st</sup> Ave	2 <sup>nd</sup> Ave	Planned			3a	N
Oak St	Jefferson St	Adams St	Existing, Improvements Planned	2a	N	2b	N
Mountain Ave	Lake St	Canyon Rd	Existing, Improvements Planned	3c	N	3e	Y
Lakeside Trail	Chestnut St	Maple St	Existing	1a	Y	1a	Y

Exst\_Class = Existing bikeway classification

Exst\_AllAges = Existing all ages network designation

Prop\_Class = Proposed bikeway classification

Prop\_AllAges = Proposed all ages and abilities network designation