

1. Introduction and Executive Summary

Vision Statement: *Oakland will be a city where bicycling is fully integrated into daily life, providing transportation and recreation that are both safe and convenient.*

To realize this vision of a bicycle-friendly community, the City of Oakland will promote the routine accommodation of bicyclists in its projects and programs. The ongoing development of the City's bikeway network, including Safe Routes to Transit and the associated support facilities, will provide the infrastructure for making Oakland more accessible by bicycle. Programs will educate cyclists and drivers on road safety while encouraging people to bicycle for both physical activity and utilitarian trips. The benefits of bicycling will help the city meet its policy goals regarding transportation, sustainability, public health, equity, and quality of life.

The *Bicycle Master Plan* is the citywide, long-range policy document for promoting bicycling in Oakland over the next twenty years. Policy T4.5 of *Envision Oakland* (1998), the Land Use and Transportation Element of the Oakland General Plan, recommended the creation of a *Bicycle Master Plan* to promote alternatives to the private automobile. To be eligible for funding from the State's Bicycle Transportation Account, local jurisdictions must complete bicycle transportation plans and then update or reaffirm those plans every five years (Streets and Highways Code 890-894.2). Oakland's original plan was completed in 1999 and reaffirmed by City Council in 2005. This document is the first update to Oakland's *Bicycle Master Plan* and it is adopted as part of the General Plan. Appendix A provides a summary of how this plan meets the requirements of the California Bicycle Transportation Act.

1.1 Goals and Objectives

To develop Oakland as a bicycle-friendly community, the *Bicycle Master Plan* identifies the following goals:

Goal 1 – Infrastructure: Develop the physical accommodations, including a network of bikeways and support facilities, to provide for safe and convenient access by bicycle.

Goal 2 – Education: Improve the safety of bicyclists and promote bicycling skills through education, encouragement, and community outreach.

Goal 3 – Coordination: Provide a policy framework and implementation plan for the routine accommodation of bicyclists in Oakland’s projects and programs.

To measure progress towards these goals, the *Bicycle Master Plan* specifies the following overarching objective: *Publicly strive to become a Bicycle Friendly Community by 2012, as recognized by the League of American Bicyclists.*

The Bicycle Friendly Community Campaign is a national program to evaluate and award municipalities for actively promoting bicycling.¹ The evaluation is based on a holistic consideration of a city’s accomplishments to date as well as outstanding needs. It follows a five E’s approach that considers the coordinated efforts of engineering, education, encouragement, evaluation and planning, and enforcement. Applications are reviewed by an independent committee that makes awards decisions and provides constructive feedback on how municipalities can better achieve their bicycle-friendly goals. To measure progress towards these goals, the City of Oakland will publicly strive to become a Bicycle Friendly Community by 2012 when this plan will again be updated or reaffirmed.

Accomplishments to Date

The City of Oakland has taken significant steps towards becoming a bicycle-friendly community and most of these steps have been accomplished in the past ten years. This Plan provides additional detail and focus for building upon the following accomplishments.

- *Bikeways:* Major bikeways include the Bancroft Bikeway (Melrose to San Leandro), the San Francisco Bay Trail (on-street component between Emeryville and Fruitvale), Grand Ave Bikeway (West Oakland to Grand Lake), Webster/Shafter Bikeway (downtown to Rockridge), Market St Bikeway (Jack London Square to Berkeley), and the bicycle routes in the Oakland Hills. In total, Oakland now has over eighty-five miles of designated bikeways.
- *Bicycle parking:* Since 1999, the City has installed 900 bike racks throughout Oakland accommodating over 2,000 bicycles. Electronic bicycle lockers are available at the downtown BART stations and the Fruitvale Bike Station at Fruitvale BART provides secure parking for over two hundred bicycles.
- *Bicycling information:* The web site for the City of Oakland’s Bicycle and Pedestrian Program includes extensive information on bicycle facilities and related resources.²

¹www.bicyclefriendlycommunity.org

²www.oaklandbikes.info

The *Walk Oakland! Map & Guide* includes detailed information on bikeways, street grades, bicyclist safety, and transit connections. Over the course of three editions, there are now 43,000 copies of the map in print and it is available at bookstores and bike shops throughout Oakland.

- *Lake Merritt and the waterfront*: With the passage of Measure DD, the City of Oakland is embarking on major capital improvements that will dramatically improve bicycling conditions along Lake Merritt, the Lake Merritt Channel, and the Oakland Estuary.
- *Measure B*: In November 2000, Alameda County voters passed this half-cent transportation sales tax that over its twenty-year lifetime will deliver \$80 million in bicycle and pedestrian improvements throughout the county.

In addition to bicycle facilities, there is a growing group of programs and organizations promoting bicyclist safety and skills.

- The City's Parks and Recreation Department offers a Bicycle Safety Helmet Program and an Earn Your Bike Program for children and youth, respectively.
- The Oakland Police Department has a highly successful Bicycle Patrol that provides community policing in the downtown and neighborhood commercial districts.
- In 2007, Oakland celebrated its fourteenth annual Bike to Work Day with over 450 bicyclists participating in the traditional pancake breakfast at City Hall.
- Community-based organizations including Cycles of Change and The Crucible provide bicycle programs and repair shops to engage and educate youth in disadvantaged neighborhoods.
- Bicycle clubs like the Oakland Yellowjackets and the Royal Ground Velo Raptors offer regular recreational rides and support for cyclists of all abilities.
- Advocacy organizations including the East Bay Bicycle Coalition and Walk Oakland Bike Oakland speak on behalf of their membership in promoting the interests of cyclists.
- Oakland's nine neighborhood-based bicycle shops provide sales and service while creating jobs and sales tax revenue.

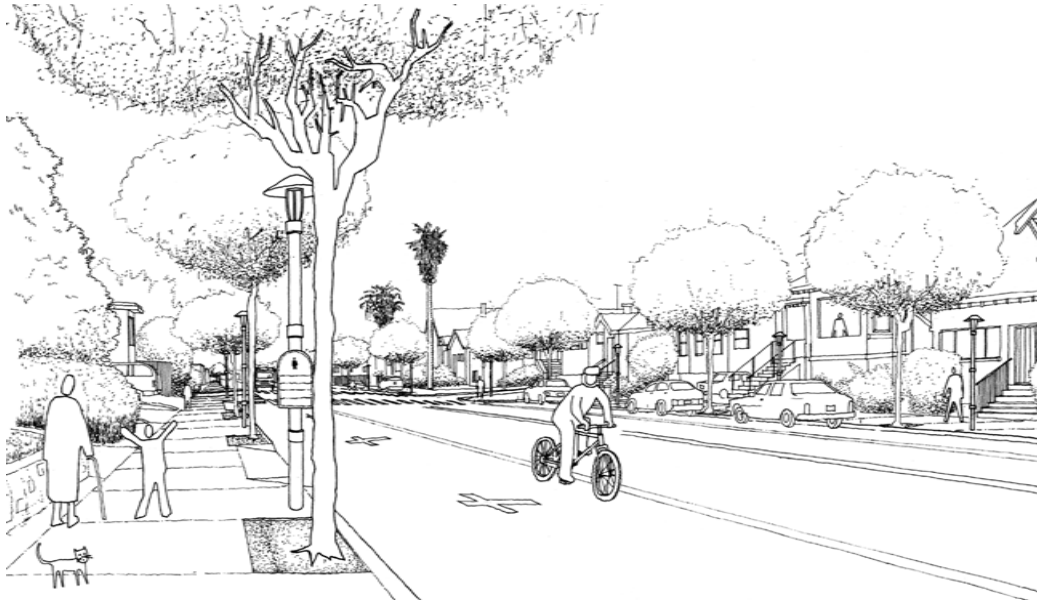


Figure 1.1: *Improving Neighborhood Quality of Life*. Bicycle improvements are mutually reinforcing with traffic calming efforts on residential streets. Bicycling helps connect residents with their communities by exposing them to sights, sounds, and social interactions that are otherwise muted by traffic. Through bicycling, children gain independence, stay active, and develop an enriched understanding of their neighborhoods. (Illustration by Amit Price Patel.)

- The City of Oakland’s Bicycle and Pedestrian Advisory Committee has been meeting monthly since 1995 to ensure participation and open communication between city government, residents, and community-based organizations.

This *Bicycle Master Plan* provides the vision, goals, policies, and priorities for additional facilities and programs that will build upon these accomplishments to help Oakland become a city where bicycling is fully integrated into daily life.

1.2 Benefits of Bicycling

Bicycling is a healthy, non-polluting, low-cost, and quiet form of transportation that is ideal for many trips, including commuting and shopping. Improving safety and access for cyclists supports the City’s efforts to become more environmentally, economically, and socially sustainable (Figures 1.1 to 1.3).

Transportation: Bicycles are ideal transportation for shorter trips within urban areas. In Oakland, in-fill projects and residential development in the downtown are creating land uses that are well-served by bicycle. In the San Francisco Bay Area, 43% of all trips are two miles in length or less (Federal Highway Administration 1999). In Oakland, 85% of residents live within two miles of downtown or a major transit station. This two-mile

distance equates to an easy 12-minute bicycle ride. Forty percent of American adults identified that they would sometimes commute or commute more often by bicycle if there were safe bikeways serving their trips (Parkwood Research Associates 1995). As the population of Oakland and the Bay Area continues to grow, the transportation system faces increasing demands on its crowded infrastructure. Compared to automobiles, bicycles are a very efficient use of roadway capacity and parking space.

Sustainability: Bicycling is the most energy efficient form of transportation and it has no emissions. Motor vehicles are responsible for 47% of Oakland's greenhouse gas emissions (ICLEI 2006, p. 7). Smarter land uses that foster nonmotorized transportation is a key strategy for slowing human-created climate change as well as for preserving open space throughout the region. The use of bicycles for short trips reduces the number of short trips by automobile. These are high-polluting trips because of the car's cold start and the associated inefficient operation of the engine's catalytic converter. In fact, up to 70% of the pollution from a ten-mile car trip is generated in the first mile because of the cold start.³ By extending human-powered travel beyond walking distance, bicycles are especially effective for linking neighborhoods to major transit stations and thereby eliminating short, high-polluting car trips.

Public Health: Bicycling is healthy transportation. Physical inactivity and poor nutrition are the root causes of the obesity epidemic in the United States. In the Oakland Unified School District, 20% of students are physically unfit and 36% of students are overweight or obese (California Department of Education 2005). Over 40% of the leading causes of death in Oakland including heart disease, cancer, stroke, and type 2 diabetes are related to physical inactivity. These deaths contribute to a lifespan that is 2.5 years shorter than that of Alameda County residents as a whole. Oakland's African Americans have a lifespan that is five years shorter than the citywide average (Alameda County Public Health Department 2004). Thirty minutes of moderate physical activity per day is an effective prevention measure against these leading causes of death (US Department of Health and Human Services 2005). Building physical activity into people's daily lives is one of the most sustainable interventions to promote healthy lifestyles. Bicycling for recreation is an aerobic and low-impact form of exercise. Bicycling for transportation is an ideal means for integrating physical activity into daily life.

Equity: Bicycling is an inexpensive and broadly accessible form of transportation. The average annual cost of operating a car is \$5,000 to \$12,000 versus \$120 per year for operating a bicycle (American Automobile Association 2006).⁴ Bicycling is affordable transportation for the urban poor who—because of the correlation between wealth and race in the United

³<http://www.baaqmd.gov/pio/triplinking.htm>

⁴<http://www.bicyclinginfo.org/pp/benefits/econoben/index.htm>



Figure 1.2: *Providing Sustainable Transportation*. Bicycles are ideal transportation for urban areas. In the San Francisco Bay Area, 43% of trips are two miles in length or less. In Oakland, 85% of residents live within two miles of the downtown or a major transit station. This two-mile distance amounts to a casual 12-minute bicycle ride. Bicycling is the most energy efficient form of transportation and it has no associated emissions. Bicycling helps Oakland reduce the 47% of its total greenhouse gas emissions that are caused by motor vehicles. (Illustration by Amit Price Patel.)

States—are disproportionately people of color. Bicycles provide added freedom and independence for youth and parents (who are otherwise shuttling their children) as well as for some people who cannot drive and those who have chosen not to drive.

Quality of Life: Bicycling is a means for improving the livability of Oakland’s neighborhoods. Bicycle improvements are mutually reinforcing with traffic calming efforts on residential streets. Bicycling helps connect residents with their community by exposing them to sights, sounds, and social interactions that are otherwise muted by traffic. The lives of parents are simplified when their children can ride safely and confidently to school and their activities. Through bicycling, children gain independence, stay active, and develop an enriched understanding of their communities.

1.3 Executive Summary

In the following chapters, the *Bicycle Master Plan* describes existing conditions, policy recommendations, proposed bikeways, support facilities, and an implementation program. The policies were developed from the existing conditions and they in turn guide the recommendations for “Bikeways” and “Parking and Support Facilities.” Taken as a whole,

the Plan provides a framework for achieving the vision, goals, and objectives by improving bicyclist safety and access. The specific recommendations reflect consensus amongst stakeholders on how best to achieve this overarching vision.

Chapter 2: Existing Conditions

Chapter 2 provides a comprehensive description of bicycling in Oakland based on available data, fieldwork, and an extensive community process. It identifies the opportunities for and constraints to bicycling, and characterizes the user groups that are common in Oakland. The chapter reviews the available data on bicyclist mode share (with an emphasis on bicycling to transit) and bicyclist-involved collisions. It also summarizes bicycle-related programs in Oakland and provides an overview of the community process through which the *Bicycle Master Plan* was developed. In assessing the existing conditions, these quantitative data were complemented by a community outreach process that included meetings with neighborhood groups and merchants associations throughout Oakland.

Oakland's mild climate and varied topography are highly suited for both commuter and recreational cycling. In fact, Oakland has the third highest cycling rate of all California cities with populations over 150,000 (US Census 2000). However, busy streets and high motor vehicle speeds create real and perceived barriers to more people cycling. On average, a bicyclist-involved collision occurs every other day in Oakland. Ninety-seven percent of these collisions involve motor vehicles and youth cyclists are disproportionately represented in these collisions (based on their share of the population). However, considering both the number of cyclists and number of collisions, Oakland is a comparatively safe place for bicycling: the fourth safest city in California with a population over 60,000 (Jacobsen 2003).

Chapter 3: Policy Recommendations

Based on the existing conditions, Chapter 3 provides policy recommendations for each of the Plan's three goals: Infrastructure, Education, and Coordination. These policies address the Bikeway Network, Routine Accommodation, Safe Routes to Transit, Parking and Support Facilities, Education, Enforcement, Resources, Project Development, and Public Review. In particular, the policy on routine accommodation states that bicycle safety and access be addressed, as a matter of course, in the design and maintenance of all streets. The chapter contextualizes these recommendations with related policies at the federal, state, regional, and municipal levels. An inventory of all related Oakland General Plan policies and actions are compiled in Appendix D.

The United States Department of Transportation's Policy Statement on Walking and Bicycling specifies that "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist." Similarly, the California Department of Transportation's Deputy Directive 64 requires that Caltrans fully consider the needs of bicyclists in all of its activities. California Assembly Concurrent Resolution No. 211 encourages all cities to implement these USDOT and Caltrans policies. The Metropolitan Transportation Commission's policy on routine accommodation requires that all projects using regional funds consider bicyclist access. Oakland's *Bicycle Master Plan* follows this guidance through the policy on Routine Accommodation: that bicycle safety and access be addressed in the design and maintenance of all streets. Another key policy direction, Safe Routes to Transit, promotes bicycle facilities serving major transit hubs, thereby extending the reach of bicyclists while simultaneously increasing transit ridership. These policy recommendations are applied in Chapter 4, "Bikeways," and Chapter 5, "Parking and Support Facilities."

Chapter 4: Bikeways

Chapter 4 describes the various bikeway types and explains the rationales for the proposed bikeway network. It also applies the Safe Routes to Transit policy to the bikeway network by specifying bikeways to each of the major transit stations. The chapter concludes with bikeway design guidelines to help project managers, consultants, and the public understand the basic design issues for accommodating bicyclists.

Oakland's proposed bikeway network consists of bicycle paths (Class 1), bicycle lanes (Class 2), bicycle routes (Class 3), arterial bicycle routes (Class 3A), and bicycle boulevards (Class 3B). The network reflects incremental modifications and improvements to the network identified in the 1999 *Bicycle Master Plan*. All proposals were evaluated through a citywide feasibility analysis that considered street grades, available right-of-way, street capacity, and bicycle/bus interactions. The network emphasizes Safe Routes to Transit by including bikeways from four directions to each transit station. The bikeway design guidelines summarize the basic parameters required by the Caltrans Highway Design Manual and the Manual on Uniform Traffic Control Devices. This section also explains additional treatments that address issues commonly found in Oakland.

Chapter 5: Parking and Support Facilities

The bicycle is a viable means of transportation when physical accommodations ensure that people's trips are safe and convenient and that their property is secure. These facilities in-

clude various types of bicycle parking as well as restrooms, showers, and lockers. Chapter 5 explains the basic types of bicycle parking and identifies the existing and proposed facilities for each type. The chapter describes Oakland's bicycle parking ordinance and provides design guidelines for selecting and locating bicycle parking facilities. The provision of high-quality bicycle parking is critical because people's decisions to bicycle are affected by security concerns over their property.

Chapter 6: Implementation

Chapter 6 prioritizes projects and programs for implementing the Plan's recommendations. In particular, priority bikeways were identified based on evaluation criteria to determine and rank their relative benefit. The chapter discusses the process for project implementation, including the need for further study. It then describes the relationship between proposed bikeways and other roadway and development projects that may affect the network. Most bikeway projects are implemented with some form of grant funding and the chapter provides a brief summary of the most common grant sources. Lastly, the chapter addresses staffing and public participation, with an emphasis on Oakland's Bicycle and Pedestrian Advisory Committee.

Appendices

The following appendices provide greater detail and additional documentation to augment the preceding chapters. Appendix A, "Caltrans BTA Requirements," is a quick reference guide on how this document meets the state requirements for a bicycle transportation plan. Appendix B, "Building on the 1999 Bicycle Master Plan," provides a policy-level discussion of how bicycle planning and engineering in Oakland have developed over the past eight years. Appendix C, "Local and Regional Coordination," documents the community outreach process for this Plan and summarizes other plans at the local, county, and regional levels that intersect with Oakland's *Bicycle Master Plan*. Appendix D, "Oakland General Plan Policies," inventories the bicycle-related policies and actions in all elements of Oakland's General Plan. Similarly, Appendix E, "Oakland Municipal Code," documents all references to bicycles in this code. Appendix F, "Bikeway Descriptions," provides descriptions of priority projects, bicycle paths and bridges, major on-street projects, bridges and freeway crossings, at-grade railroad crossings, and proposed changes to existing bikeways. Appendix G, "Requirements for Bikeway Feasibility Studies," specifies the additional analysis that will be necessary prior to implementing proposed bikeways. Lastly, Appendix H, "Supplementary Documentation" includes the data and evaluation for the approximately



Figure 1.3: *Promoting Equity and Public Health.* Bicycling is an inexpensive and broadly accessible form of transportation and recreation. Bicycle improvements are one aspect of improving Oakland's streets and open spaces to make them accessible and inclusive. Building physical activity into people's daily lives is a sustainable intervention for promoting healthy lifestyles. Bicycling for transportation and recreation is an ideal means for integrating physical activity into daily life. (Illustration by Amit Price Patel.)

700 bikeway segments that were evaluated in the development of the proposed bikeway network. Key maps are included as 11"x17" color pages and collected at the end of this document.

