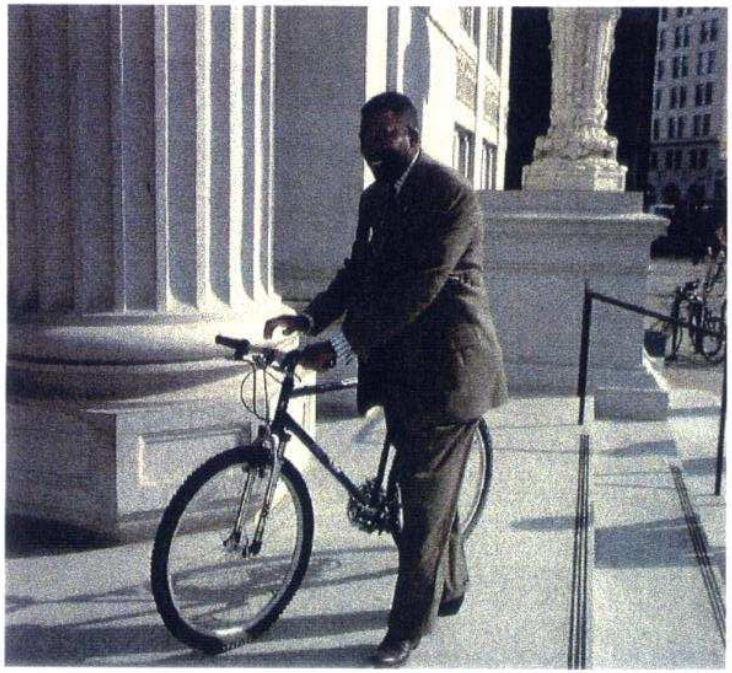
CITY OF OAKLAND

Bicycle Master Plan

Part of the Land Use & Transportation Element of the Oakland General Plan

Adopted July 20, 1999



ACKNOWLEDGEMENTS

Mayor and City Council

Mayor Jerry Brown

Henry Chang	At-large
Jane Bruner	District 1
John Russo	District 2
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Ron Bishop	Chair
Bill Berry	At-large representative
Derek Liecty	East Bay Bicycle Coalition
Carol Levine	Regional Bicycle Advisory Comm.
Robert Raburn	East Bay Bicycle Coalition
Andrew Young	At-large representative
Alex Zuckerman	Regional Bicycle Advisory Comm.
Sgt. Frank Lowe	Oakland Police Department
K. Rickets-Ferris	Oakland Parks & Recreation
Michael Shafer	Oakland Unified School District

Special thanks:

Dan Brenner	Bicyclist
Gabriel Brovadoni	California Bicycle Advocates
Jennifer Cassan	Spanish Speaking Unity Council
Marina Carlson	Office of Former Mayor Harris
Raines Cohen	Bicyclist
Doug Cross	Bicyclist
Robert Pratt	California Bicycle Advocates
Kenya Wheeler	AC Transit

CITY STAFF

Robert Bobb	City Manager	
William Claggett	Director, Community & Economic Development Agency (CEDA)	
Leslie Gould	Acting Planning Director	
Mark Wald	Deputy City Attorney	

Bicycle Master Plan Staff

Colin Burgett	Project Planner	CEDA
Iris Starr, AICP	Project Manager (Phase I)	CEDA
Michelle Hightower	Project Manager (Phase II)	CEDA
Kathryn Hughes	Bicycle & Pedestrian Facilities Coordinator	Public Works Agency
Seleta Reynolds	Management Assistant	Public Works Agency
Parissh Knox	Planning Intern	CEDA

Other Contributing Staff

Shanna Ohare	Senior Transportation Planner	Public Works Agency
Michael Vecchio	Senior Traffic Engineer	Public Works Agency
Darren Goon	Graphic Artist	CEDA
Noel Ibalio	Planner II	CEDA
Alison Post	Intern	CEDA
Sam Zimmerman	Intern	CEDA

CONSULTANTS

Michael Jones	Alta Transportation Consulting
Lynn Scholl	Alta Transportation Consulting
John Dowden	Dowling Associates
Alice Chen	Dowling Associates
J. Kevin Keck	Dowling Associates

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Executive Summary

The Bicycle Master Plan, part of the Land Use and Transportation Element of the Oakland General Plan, provides a much-needed policy framework and action program for increasing bicycle travel options in Oakland. These measures are intended to enable Oakland residents to reach jobs, shopping, school, and recreational facilities in a safe, inexpensive, enjoyable, and timely manner. Improving bicycle access throughout the City supports the City's efforts to become more environmentally, economically, and socially sustainable.

The Bicycle Master Plan (BMP) will serve as the official policy document addressing the development of facilities and programs to enhance the role of bicycling as a viable and appropriate transportation choice in Oakland. In the past, limited policies pertaining to bicycle circulation were contained within the Transportation Element of the General Plan. However, with the adoption of the most recent Land Use and Transportation Element in 1998, the creation of a separate, more comprehensive document to address bicycle circulation was mandated. In addition, eligibility for key sources of grant funding for bicycle projects is contingent upon adoption of a bicycle plan.

The BMP presents community based recommendations to improve bicycle access throughout Oakland. The Plan recommends the creation of a citywide bikeway network and related policies. The scope of the BMP focuses on six elements:

1. Evaluating existing conditions.
2. Recommending the creation of a citywide bikeway network.
3. Providing secure bicycle parking and support facilities.
4. Improving the link between bicycling and transit.
5. Promoting bicycle education, awareness and safety programs.
6. Implementing the Plan and obtaining grants to fund the recommended programs.

The BMP compliments a number of existing plans and programs currently underway in Oakland and has been completed as required by Policy T4.5 of the Land Use and Transportation Element of the General Plan. The City of Oakland initiated a Bicycle Master Plan to:

- Work with active bicyclists and bicycle advocacy groups toward making substantial physical and program improvements in Oakland that will benefit all citizens, business interests, and visitors;
- Position the City to successfully compete for federal, state and regional funding for bicycle related improvements;
- Focus City departments and Capital Improvement funds on creating a sensible bicycle improvement program;
- Take advantage of opportunities to develop bicycle facilities as part of roadway improvements and through new development and redevelopment projects.
- Meet federal and state guidelines for improving air quality and reducing traffic congestion;

The planning approach for this project involved working closely with the Bicycle and Pedestrian Advisory Committee (BPAC) to: (1) assess current conditions; (2) determine needs; (3) develop goals, policies, objectives and actions, and (4) create a recommended bikeway system map. In addition, community meetings were held to solicit additional public input.

Goals of the Bicycle Master Plan

- Provide a policy framework and action program for enhancing the role of bicycling as a viable and appropriate transportation choice.

- Encourage and support bicycling to work, shopping, school and recreation by eliminating barriers and providing safe and convenient bicycle facilities.

- Maximize the number of bicycle commuters to help reduce traffic congestion and air pollution.

- Create a citywide network of bikeways connecting neighborhoods, activity centers and regional destinations.

Existing Conditions (Chapter 2)

Determining the current number of bicyclists in Oakland with any precision is difficult, since most traffic studies do not include counts of bicyclists. According to the 1990 Census, 1.1 percent of Oakland residents commuted to work primarily by bicycle, a total of 1,758 commuters. This figure does not include those who ride less than fifty percent of the time, nor does it accurately measure the number of bicyclists travelling to school, shopping, to run errands or for recreation. However, the census data may be useful in comparing the percentage of bicycle commuters from one census year to the next and extrapolating trends.

Oakland has many unique characteristics that suggest potential to increase the number of bicyclists. The City is located in close proximity to numerous major employers and universities. The Bay Area's mild climate allows for year-round bicycle commuting. BART, AC Transit, Capitol Corridor rail service and ferry service to San Francisco create opportunities for bicyclists to extend their trips. Remnants of the old Key System trolley network has left the City a legacy of wide through streets that provide direct and relatively flat routes between activity centers.

Unfortunately, large segments of the City have no existing bikeways. Most of the existing bikeways are located in North Oakland, in the hills and along the estuary, as shown on the Existing Bikeways map provided as an attachment to the BMP. However, bicyclists can be found in virtually all Oakland neighborhoods. One of the few existing and continuous bikeways in Oakland is the Webster/Shafter/Colby route that connects downtown Oakland with neighborhoods in North Oakland and Berkeley. Within the past few years, bicycle lanes have been striped on portions of Telegraph Avenue, West Street and Broadway.

Bicycle-related accident data reveals an average of 225 accidents per year occurred over a 10-year period. Accidents occurred throughout the City, indicating that bicycle travel is not limited to one area. Accident rates were highest on corridors such as Shattuck Avenue, College Avenue, Telegraph Avenue, International Boulevard and Grand Avenue, indicating a need for bicycle-related safety improvements on those streets.

The lack of adequate training and education is a leading cause of accidents involving bicyclists, especially among young people. Adult education is also important, not only for bicyclists learning to adequately negotiate intersections and safely interact with motor vehicles, but also for motorists unsure of how to share a roadway with a bicyclist.

There is a shortage of bicycle parking facilities in Oakland, with the exception of bicycle racks at some parks, public buildings and a few locations downtown. Bicyclists visiting stores, restaurants, places of employment, and community facilities are often left to their own devices to temporarily store their bicycles. The City's Bicycle & Pedestrian Coordinator is actively working to provide additional bicycle parking at key locations and has recently secured grant funding to provide bicycle parking at key locations in the downtown area and as part of the "merchant request" program.

Objectives of the Bicycle Master Plan

- Objective 1: Expand the bikeway network to connect all six of the City's service delivery districts within five years.
- Objective 2: Increase the percentage of Oakland residents commuting to work by bicycle to 4% by 2010.
- Objective 3: Reduce the number of bicycle-related accidents by 10% within five years.
- Objective 4: Double the number of bicycle parking spaces within five years.

Recommended Bikeway Network (Chapter 3)

A principle reason that more people do not choose to regularly bicycle in Oakland is that automobile traffic often threatens the safety of bicyclists. Given the fact that Oakland is a built-out urban community, this problem can best be addressed by facility designs that safely accommodate and encourage bicycling on the existing network of roads.

The Recommended Bikeway Network map was adopted as an attachment to the Bicycle Plan. The proposed bikeways are prioritized into short-term, mid-term and long-term projects. The creation of a safe and seamless citywide bicycle network is essential to allow bicyclists to safely travel through all of Oakland's neighborhoods and between activity centers. The goal is to create a network of bikeways tailored to Oakland's geography, current transportation network, and land use pattern.

The recommended bikeway routes were selected to satisfy the following criteria:

1. Connect residential areas to activity centers such as transit stations, commercial districts, employment centers and educational institutions.
2. Create a citywide network of bikeways serving each of the City's six service delivery districts.
3. Choose direct routes that take advantage of old trolley corridors.
4. Facilitate community development by locating routes along commercial corridors.
5. Take advantage of recreational amenities along the waterfront, Lake Merritt and in the hills.

The recommended bikeway network map indicates the preferred locations and types of improvements for development of the citywide bikeway network. While some of the proposed bikeways have been subject to preliminary engineering and feasibility analysis, other proposed bikeways are of a conceptual nature and will ultimately require design, engineering and feasibility studies. Most of the recommended bikeways are located on existing streets. In most cases, the preferred type of bikeway improvement is the provision of Class II bicycle lanes.

Bicycle Parking & Support Facilities (Chapter 4)

Every bicycle trip has two basic components, the route selected by the bicyclist and the end-of-trip facilities at the destination. These end-of-trip facilities include convenient and secure bicycle parking and showers and changing space for bicycle commuters. The Plan recommends that bicycle support facilities be provided at key destination points throughout Oakland and that the City adopt a bicycle-parking ordinance to require that adequate bicycle parking be provided when new development or redevelopment occurs. Proposed bicycle parking requirements are described on page 4-7.

Bicycles & Transit (Chapter 5)

Bicycles can serve an important "feeder" role with respect to public transportation. If the "service area" for a transit station is calculated based on a 10-minute journey to and from the station, the "service area' is 15 times greater for travel by bicycle than by foot (assuming an average travel speed of 3 mph for pedestrians and 12 mph for bicyclists).

The BMP recommends policies and actions aimed at improving the bicycle-transit link, an important part of offering additional transportation choices to Oakland residents. Allowing bicycles on buses and rapid transit vehicles greatly increases the range of destinations that may be reached by bicycle and helps to overcome barriers such as riding in bad weather, through hill areas, at night or through seemingly unfriendly areas. Providing secure bicycle parking facilities at transit stations helps to make bicycling and transit a convenient option in comparison to the private automobile. Furthermore, the provision of bicycle parking at transit stations is a low-cost alternative to the costly provision of subsidized automobile parking found at most BART stations and "park-and-ride lots".

Education and Encouragement (Chapter 6)

The need for enhanced bicycle safety education is demonstrated in City and national surveys that consistently identify safety as being the top reason people do not choose to commute by bicycle. An analysis of accident statistics in the City reveals that a substantial percentage of collisions were caused by either bicyclists or motorists being unaware of basic rules-of-the-road. Motorist education of the rights of bicyclists is virtually non-existent.

Existing programs to encourage bicycling are currently sponsored through the Public Works Agency and the Parks and Recreation Department. The annual 'Bike-to-Work Day' is a City-facilitated event that attempts to encourage bicycle commuting. The completion of the Bicycle Master Plan and related BPAC and public workshop activities are other efforts to maximize interest and exposure of bicycling needs and constraints.

Funding and Implementation (Chapter 7)

Implementation of the programs, policies and actions proposed by the Bicycle Master Plan will require a long-term commitment. While it is anticipated that the majority of the funding will be provided through grants, adequate staffing is essential for the City's bicycle program to submit grant applications, conduct planning and promotion and ensure that development or redevelopment projects incorporate the needs of bicyclists.

Federal funding through the TEA-21 (Transportation Efficiency Act for the 21st Century) program will provide a considerable percentage of outside funding. Federal funding programs include:

- TEA (Transportation Enhancement Activities)
- CMAQ (Congestion Mitigation and Air Quality Improvement)
- Transit Enhancements
- TLC (Transportation for Livable Communities)
- STP (Surface Transportation Program)

State and regional funding sources are expected to increase in the next few years:

- Bicycle Lane Account (BLA): Annual program for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Funding was increased to $1 million in Fiscal Year 1999 with an increase to $5 million per year scheduled for the next few years.
- TDA Article 3: State block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from state sales tax revenue and are distributed to local jurisdictions based on population.
- The Bay Trail Regional Development Program (RDP): In 1996-97 and 1997-98 the Bay Trail project awarded nearly $1 million in grants under the RDP to local jurisdictions for construction of Bay Trail segments. The RDP has been funded through State legislative appropriations to the California Conservation Corps.
- Transportation Fund for Clean Air (TFCA): The Bay Area Air Quality Management District is a major potential source of funding for bicycle and pedestrian programs. TFCA funds are generated by a $4 vehicle surcharge paid on all motor vehicles registered in the Bay Area.

Policies and Implementation Actions

The following policies were adopted as part of the Bicycle Master Plan. Each policy contains accompanying implementation actions.

BMP Policy 1: Create, enhance and maintain the recommended bikeway network.

Action 1.1: Prioritization
Work in conjunction with the Bicycle and Pedestrian Advisory Committee and other community organizations to identify and prioritize projects to implement the recommended bikeway network as funding becomes available.

Action 1.2: Grants
Apply for grants to fund the recommended bikeway network.

Action 1.3: Design
Complete necessary preliminary design and engineering work for all proposed projects as funding becomes available.

Action 1.4: Route and Facility Upkeep
When designing bicycle facilities, identify and include the cost, funding source and agency responsible for future maintenance and operation of the facilities.

Action 1.5: Signage System
Develop a continuous, easy to identify, and informative signage system for the recommended bikeway network. Provide directional signs for bicyclists as well as warning signs for motorists. Include occasional information kiosks for the use of visiting cyclists. Work with adjacent cities and the county to develop a uniform and informative signage system for designating routes of regional significance.

Action 1.6: Support Facilities
Provide facilities including, but not limited to, restrooms, drinking water, and public telephones

at end of trip destinations, as funding becomes available.

Action 1.7 Maintenance
Inspect and maintain all support facilities on a regular basis.

Action 1.8 Safety
Publicly identify security and monitoring mechanisms such as lighting, call boxes, emergency access, and bicycle patrols, especially along isolated portions of pathways and publicly sponsored park and ride lots.

Action 1.9 Colored Bicycle Lanes
Consider the use of colored lane treatment for bicycle lanes crossing hazardous intersections or freeway ramps.

Action 1.10 Alternative Bikeway Types
In cases where the installation of Class II bicycle lanes is not feasible, consider the use of wide curb lanes, green bicycle stencils, “share the road signs”, traffic calming and other similar methods to improve safety for bicyclists.

Action 1.11 Bicycle Priority Streets
Consider enhancements to some Class III routes on local streets to create “bicycle priority streets” or “bicycle boulevards”. Evaluate the success of similar efforts in other cities. Prior to the development of bicycle priority streets, affected residents and property owners should be polled.

Action 1.12: Diagonal Parking
Discourage the installation of diagonal or 90-degree parking on streets included in the recommended bikeway network. Replace existing diagonal or 90-degree parking on streets included in the recommended bikeway network with parallel parking or off-street parking where feasible.

BMP Policy 2: Establish design and maintenance standards for all streets that recognize the needs of bicyclists.

Action 2.1: Roadway Improvements
Include bicycle-related improvements in roadway resurfacing or realignment projects. For all multi-lane streets with excess capacity or adequate width, bicycle lanes or wide curb lanes should be installed whenever feasible, subject to review by the Bicycle Program Manager and Bicycle Pedestrian Advisory Committee (BPAC).

Action 2.2: Paving and drainage grates
Review and maintain city streets with a smoothly paved surface and bicycle-safe drainage grates.

Action 2.3: Public Utilities
When locating or relocating public utilities, design the placement of boxes, hydrants, curbs, poles and other objects so that they do not interfere with bicycle travel.

Action 2.4: Barriers and hazards to bicycle access
Identify and eliminate barriers to bicycle access in Oakland. Inventory railroad crossings and install bicycle-safe treatments at these locations.

Action 2.5: Automobile Parking
Whenever new on-street automobile parking spaces are created, especially the conversion of parallel parking to diagonal parking, the potential detrimental effects on cyclists should be considered.

Action 2.6: Design Standards
Develop standards for bicycle-friendly design of road geometrics, intersections, traffic controls, bikeways, and bicycle parking. Follow these guidelines in all future new development and improvement projects.

Action 2.7: Intersection Improvements
Schedule intersections for needed improvements including signal loop or video detectors, bike

lane pockets, curve geometry, striping, and signage.

Action 2.8: Ramp and Lane Improvements
Work with Caltrans to reduce conflicts produced by loop ramps, free right-turn lanes, or speed ramps at freeway interchanges.

Action 2.9: Right Turn Lanes
Provide straight-through bicycle lanes to the left of right-turn only lanes where possible. Alternatively, additional width for bicyclists should be provided in the right through-lane.

BMP Policy 3: Make efforts to obtain, redevelop, or encourage private redevelopment of unused railroad, utility, and other right-of-ways as linked, multi-use Class I bicycle paths or trails.

Action 3.1: Rail Line Abandonment
Where rail lines (including sidings and spurs) are to be abandoned, evaluate feasibility of acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.

Action 3.2: Union Pacific Right-of-Way
Evaluate the abandoned Union Pacific right-of-way as a potential Class I bicycle pathway connecting Jack London Square with the planned Fruitvale BART Transit Village, Oakland Coliseum and the San Leandro Bikeway System. If this right-of-way proves unfeasible or too costly, consider the installation of bicycle lanes on the entire length of San Leandro Street.

BMP Policy 4: Include provisions for safe and direct bicycle access to special development areas and key corridors.

Action 4.1: Mandela Parkway Improvements
Include Class II bicycle lanes in plans for the development of Mandela Parkway. Provide connections to the proposed surrounding bicycle network that includes Grand Avenue, Maritime Street, Shellmound Street, 3rd Street, and the new Bay Bridge alignment as funding becomes available.

Action 4.2: Broadway Corridor
Designate Broadway from Caldecott Field to Jack London Square as a transit/bicycle corridor promenade. Incorporate bicycle facilities in any development or redevelopment projects with ¼ mile of Broadway whenever feasible.

Action 4.3: Coliseum and East Oakland Access
Ensure that development and redevelopment plans in and for the Coliseum, Coliseum BART, and East Oakland incorporate bicycle access to and from the Coliseum, regional shopping centers, Martin Luther King Jr. Regional Shoreline, and Oakland International Airport and surrounding employers.

Action 4.4: The Waterfront
Seize opportunities to improve bicycle access to the Oakland waterfront through completion and implementation of 1) the Estuary Policy Plan; 2) the Bay Trail alignment; and 3) the joint City, Port, and BCDC's Public Access Plan.

Action 4.5: Lake Merritt
Develop a network of bikeways around and leading to Lake Merritt incorporating landscape treatments to enhance the aesthetic and natural qualities of the lake. Design the bikeways closest to the shore of the lake as multi-use paths for walking, wheel-chair access, running, and in-line skating. Design the bikeways further from the lake to provide more direct and higher speed routes for bicycling. Provide a safe, direct and convenient route across the 12th/14th Street couplet at the west end of the lake.

Action 4.6: Channel Pathway
Upgrade the existing path along the Lake Merrit Channel from Lake Merritt to the Bay Trail. Design the path to accommodate a variety of users as noted in the action above.

BMP Policy 5: Promote secure and conveniently located bicycle parking at destinations throughout Oakland.

Action 5.1: Bicycle Parking at Public Destinations
Work with local public, private, and nonprofit agencies to provide and maintain secure and weatherproof bike racks, lockers, or corrals at all public destinations, including BART and bus stations, community centers, parks, schools, hospitals, libraries, in the public right-of-way near shops, in public plazas, and near or inside public buildings.

Action 5.2: Conduct Needs Assessment
Examine major destinations to determine the type of bicycle parking appropriate to the users in that area.

Action 5.3: Security
Identify security and monitoring mechanisms around bicycle parking such as lighting, call boxes, emergency access, and bicycle patrols.

Action 5.4: Bicycle Parking Ordinance
Adopt an ordinance to be implemented as part of the City's Zoning Code that requires public and private development or redevelopment projects to provide conveniently located, clearly signed, weatherproof and secure, short and long-term bicycle parking.

BMP Policy 6: Support improved bicycle access to public transportation

Action 6.1: Bicycle racks on AC Transit buses
Support AC Transit's efforts to provide bicycle racks on all buses. Assist AC Transit in obtaining the necessary funding and selecting the appropriate rack type most suitable for bicyclists and has the lowest maintenance impacts. Work with AC Transit to develop a policy for carrying bicycles on buses when racks are not available.

Action 6.2: Bicycle Parking at Transit Stations
Provide safe and secure long-term bicycle parking at the Alameda-Oakland Ferry terminal, Jack London Square Amtrak Station, BART stations and major AC Transit bus stops. Bicycle parking should be identified by consistent signing and provide sufficient capacity to meet existing and future needs of all bicyclists. Bicycle parking should be in lockers available on both a monthly and coin-operated basis. Explore the feasibility of installing Bike Stations at transit terminals that provide valet-type parking, maintenance, and supplies for bicycle commuters. Encourage BART to provide high security, weather protected racks to supplement their bicycle locker program, especially at 12th Street and 19th Street Stations where lockers are not available.

Action 6.3: Bicycles on BART
Work with BART to expand the hours that bicyclists have access to BART trains, including commute direction trains. Encourage researching the feasibility of adding new types of bicycle storage and/or special train cars specifically designed to accommodate bicycles. Identify the cost-benefits of such improvements in comparison to similar investments in vehicle parking and connecting transit service. Continue to support the work of the BART Bicycle-Accessibility Task Force in addressing these and other related issues. Encourage BART to ease the current restriction on carrying bicycles in the 12th Street and 19th Street stations during peak hours.

Action 6.4: Access to Transit Stops
In implementing the proposed bikeway network, provide direct bicycle access from all directions to the Alameda-Oakland Ferry terminal, Jack London Square Amtrak Station, BART stations and major AC Transit bus stops. Install new bridges or under-crossings as needed.

Action 6.5: Access to Ferries
Support the provision of adequate bicycle storage on ferry service to San Francisco.

Action 6.6: Estuary Water Taxi Service
Work with the Port of Oakland, Metropolitan Transportation Commission, and the City of Alameda in exploring a potential water taxi service on the Estuary that could provide an alternative to the Webster/Posey tubes for bicyclists. Identify the threshold of service levels, optimum routes, and costs that would address bicyclists' needs and abilities.

Action 6.7: Amtrak/Capitol Corridor
Work with Amtrak and the Capitol Corridor operators (BART) to ensure that adequate capacity is provided for bicyclists on all inter-city rail service in Oakland. Assist rail operators in obtaining the necessary funding and selecting the appropriate rack type that is most suitable for bicyclists and has the lowest maintenance impacts.

Action 6.8: Bicycle – Transit Information
Work with appropriate agencies, including AC Transit, BART, MTC, and RIDES to publish bicycle transit information.

BMP Policy 7: Work with other public agencies and the private sector to improve bicycle education, enforcement and promotional programs.

Action 7.1: Bicycle Education
Assist with the development of a program of bicycle education in the City of Oakland that extends to all age groups in the city and targets bicyclists, pedestrians and motorists alike. Make use of opportunities in the schools (public and private, elementary, junior and high schools and colleges), day care centers, parks and recreation programs, citywide media campaigns, drivers education classes and city events, fairs and festivals.

Action 7.2: Expand Current Education Programs.
Encourage the expansion of educational programs in Oakland schools and the development of a secure, regular funding source. A Joint City/School District Safety Committee, consisting of appointed parents, teachers, administrators, police, and public works staff, should work to identify problems and solutions, ensure implementation, and submit recommendations to the School Board or City Council.

Action 7.4: Develop an Adult Education Program.
Encourage the establishment of an adult bicycle education program through local colleges, the Parks and Recreation Department, or other City departments that (a) teaches adults how to ride defensively, (b) how to ride on a variety of city streets, and (c) encourages adults to feel more confident to ride to work or for recreation. Work with local groups such as the East Bay Bicycle

Coalition (EBBC) who could provide the training expertise, and possibly lead organized bicycle training sessions, tours and rides.

Action 7.5: Educate Motorists.
Educate motorists on the rights and characteristics of bicyclists through a variety of means including: (a) making bicycle safety a part of traffic school curriculum in Oakland, (b) producing a brochure on bicycle safety and laws for public distribution, (c) enforcing existing traffic laws for both motorists and bicycles, (d) sending an official letter to the Department of Motor Vehicles recommending the inclusion of bicycle laws in the drivers license exam, and (e) install signs that read 'Share the Road' with a bicycle symbol at least every 1,000 feet along all routes of the proposed primary system where bike lanes are not feasible, travel lanes are under 14 feet wide, and Average Daily Trips (ADT) exceed 10,000.

Action 7.6: Enforcement
Enforce existing traffic laws as they are applied to both motorists and bicyclists. Consider developing a fine structure for bicycle violators including a provision for a bicycle traffic school program. Educate law enforcement officials on the necessity and methods for citing bicycling offenders.

Action 7.7: Commute Incentives
Develop a bicycle commute incentive program for city employees to encourage bicycle commuting, perhaps as part of the Sustainable Community Development Initiative. Work with employers in Oakland to develop similar programs for their employees.

Action 7.8: Incentives for New Development
Consider reducing required automobile parking in new developments in exchange for provisions of bicycle parking and other commute alternatives.

Action 7.9: Public Awareness
Provide awareness of educational programs for children and adults through a comprehensive marketing program, including the use of local press, politicians, businesses, utility companies, Department of Motor Vehicles (DMV) and public service announcements on radio and television.

Action 7.10: Maps
Provide adequate maps of the Oakland bikeway system and support facilities for distribution to the public and placement at key locations such as BART stations. Include information such as the location of transit routes that carry bicycles, trailheads, bicycle parking, and scenic and commuter routes. Work with the East Bay Bicycle Coalition to increase availability of the maps to local schools, employers, libraries, and other locations. Work with Parks & Recreation, the School District, and other departments to update and produce specialty maps such as school commute maps and routes through historic downtown and the waterfront. Explore the feasibility of placing the Oakland Bikeways Map in the local telephone book.

BMP Policy 8: Insure that the needs of bicyclists are considered in the design of new development and redevelopment projects.

Action 8.1: Project Review
Through existing project review processes, evaluate both public and private development projects to ensure that they meet adopted standards for bicycle-friendly design.

Action 8.2: Drive-up windows
Drive-up windows, drive-in services and take-out services, excluding car washes, should provide full access to bicyclists.

BMP Policy 9: Provide the support necessary to implement the Bicycle Master Plan

Action 9.1: Bicycle Program Manager
Designate a Bicycle Program Manager to guide implementation of the Plan.

Action 9.2: Responsibilities of the Bicycle Program Manager
Implement the facilities and programs outlined in the Master Plan; apply for grants and other funding; manage a program budget; complete necessary preliminary design and engineering work.

Action 9.3: City Commitment
Allocate adequate funds to enable the Bicycle Program Manager to obtain roadway engineering and public outreach assistance and to provide seed money to obtain other funding.

Action 9.4: Capital Improvement Program (CIP)
To help achieve the goal of increasing the bicycle commute share to 4% by 2010, the City should consider allocating four percent of CIP transportation funds to bicycle projects on an annual basis.

BMP Policy 10: Prior to the implementation of bikeway projects, affected residents, merchants and property owners shall be notified in writing of the potential impacts.

Action 10.1: Citizen Input
Public meetings shall be held for all bikeway projects.

Action 10.2: City Council Approval
If the design of a bikeway will reduce the number of traffic lanes or parking, there shall be a vote of the City Council before implementation of the bikeway project.

Chapter 1 Introduction

Bicycling is a low-cost, quiet, non-polluting and healthy form of transportation that is ideal for many trips. Bicycles also offer mobility to the non-driving public, including the young. The existing transportation network in Oakland has been chiefly designed to facilitate motor vehicle travel. Adoption and implementation of the Bicycle Master Plan is intended to help create a more balanced transportation system and provide additional and appropriate transportation choices for Oakland residents.

Oakland is an exciting, diverse and beautiful city of nearly 400,000 residents. Distinctive residential neighborhoods, schools and colleges, cultural centers, and shops and restaurants are located throughout. The Oakland landscape is geographically diverse, including flatlands, hills, lakes, channels, and marshlands. Oakland has regional attractions such as Jack London Square, Lake Merritt and the Oakland Coliseum. The Oakland waterfront is a 19-mile shoreline of recreational and commercial activities, while the Oakland hills are bordered by an extensive regional parks system.

Oakland boasts a wide range of cultural, historic, employment and recreational destinations that are easily reachable by bicycle. Downtown Oakland has numerous businesses, City, State and Federal offices, the Oakland Museum, Main Library and Laney College. Commercial districts such as College Avenue, Piedmont Avenue, Lakeshore/Grand Avenue, Foothill/Seminary and the Dimond and Laurel districts create neighborhood destinations for bicyclists. Encouraging bicycling in and between those areas would intensify activity without an increase in motor vehicle traffic.

1.1 WHY DOES OAKLAND NEED A BICYCLE MASTER PLAN?

The Bicycle Master Plan (BMP) will serve as the official policy document addressing the development of facilities and programs to enhance the role of bicycling as a viable and appropriate transportation choice in Oakland. In the past, limited policies pertaining to bicycle circulation were contained within the Transportation Element of the General Plan. However, with the adoption of the most recent Land Use and Transportation Element in 1998, the creation of a separate, more comprehensive document to address bicycle circulation was mandated. In addition, eligibility for key sources of grant funding for bicycle projects is contingent upon adoption of a bicycle plan.

Although bicycles were a popular means of transportation in the early part of the twentieth century, the potential role of bicycling in Oakland has been largely ignored, as it has in most American cities. Since the 1920s transportation planning and engineering has typically been concerned with just one or two modes of travel within cities: travel by automobile and, in some cases, mass transit. Although there are over 100 million bicycles in the United States today, bicycling typically accounts for just one percent of all trips. (By contrast, in some European countries bicycles account for 20 to 30 percent of all trips).

In recent years, bicycling has experienced a resurgence in many U.S. cities, especially as existing transportation networks have become jammed and environmental concerns have risen. Cities similar in size to Oakland, such as Seattle, Portland and San Francisco, have adopted Bicycle Master Plans and hired full-time staff to implement bicycle programs. Recent national and local surveys find that many people are willing to cycle more frequently if cities provide better bicycle facilities such as bicycle lanes and bicycle parking.

Bicycles are an ideal means of transportation for short trips within cities, especially those under three miles in length. According to the U.S. Department of Transportation, one-quarter of all trips in this country are under one mile; about 40 percent of all trips are two miles or shorter. The use of bicycles for short trips in Oakland would reduce the amount of short trips by automobiles, which are high-polluting trips because car engines produce more pollutants when they are cold and inefficient. A study for the state of California estimated that 90 percent of emissions in a 7-mile auto trip are generated in the first mile. It has been estimated that for every 1 percent of auto trips replaced by cycling, air pollution from cars drops by 2 to 4 percent.

The Federal Highway Administration and the National Highway Traffic Safety Administration established two goals pertaining to bicyclists:(1) to improve safety and (2) to increase use. One of the primary goals of this Bicycle Master Plan is to increase the number of regular users by making bicycling an attractive, safe, and viable option for commuting and recreation. According to the 1990 U.S. Census, 1.1 % of employed Oakland residents commuted primarily by bicycle. A key objective of the Bicycle Master Plan will be to increase the percentage of regular bicycle commuters to 4% by 2010.

As the population of Oakland and the Bay Area continues to grow, the transportation system will face increasing demands on its already crowded infrastructure. In addition to offering greater transportation choices to Oakland residents, bicycles provide mobility to residents who do not own cars or are too young to drive. This may be especially important in cities such as Oakland that have suffered in recent years from a reduction in off-peak transit service. While more than half of Oakland's employed residents drove alone to work in 1990, almost one quarter do not have access to cars and rely on alternative forms of transportation.

1.2 INITIATION OF THE BICYCLE MASTER PLAN

The City of Oakland initiated a Bicycle Master Plan to:

- Meet federal and state guidelines for improving air quality and reducing traffic congestion;
- Work with active bicyclists and bicycle advocacy groups toward making substantial physical and program improvements in Oakland that will benefit all citizens, business interests, and visitors;
- Implement the Land Use and Transportation Element of the General Plan, which called for creation of a Bicycle Master Plan;
- Position the City to successfully compete for federal, state and regional funding for bicycle related improvements;
- Focus City departments and Capital Improvement funds on creating a sensible bicycle improvement program;
- Take advantage of opportunities to develop bicycle facilities as part of roadway improvements and through new development and redevelopment projects.

1.3 CITIZEN PARTICIPATION

The Bicycle Master Plan was created in a collaborative process between City staff and the public representatives serving on the Bicycle & Pedestrian Advisory Committee (BPAC). All BPAC meetings were open to the public, and many additional individuals attended, contributing their time, expertise and vision to the plan creation process. These outstanding members of the bicycling community have contributed many hours of volunteer time in drafting this plan. The BPAC's primary responsibility lay in the field of policy making, focused toward defining new City policies that would encourage and support bicycle travel. In addition, the BPAC worked with City staff in selecting routes for the Recommended Bikeway Network and assisted in the editing and revision process in the creation of this Plan.

In addition to the regular monthly meetings of the BPAC, two community workshops were held in the few months leading up to preparation of the BMP. The purpose of the workshops was to gain additional input from a wide range of bicyclists and concerned citizens.

1.4 TRAFFIC AND AIR QUALITY BENEFITS OF BICYCLE COMMUTING

Efforts to promote bicycling are often aimed at maximizing the number of bicycle commuters in order to help achieve large transportation goals such as minimizing traffic congestion and air pollution. In order to set the framework for these benefits, national statistics and policies are used as a basis for determining the benefits to Oakland.

- Currently, nearly 3 million adults nationwide (about 1 in 60) commute by bicycle. This number could rise to 35 million if adequate facilities were provided (according to a 1991 Lou Harris Poll).

- Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about 10 vehicle trips per day. Work trips account for less than 30% of these trips on average.

- Nationally, the mean travel time for bicycle commuters is 14 minutes, which translates roughly into a commute distance of about 3.5 miles.

- North Oakland is the leading bicycling neighborhood in Oakland, with 52% of the bicycle commuters identified in the 1990 U.S. Census living in this neighborhood. Factors influencing this fact include proximity to downtown and the University of California, higher residential densities, and active commercial areas with limited parking. Most of the existing bikeways in Oakland are located in this section of the City.

- A key objective of the Bicycle Master Plan is to increase the bicycle commute mode share to 4% (6,406 daily bicycle commuters based on 1990 employment levels) by 2010. These bicyclists will be saving an estimated 2.6 million vehicle trips and 9 million vehicle miles per year. The estimated air quality benefit of these future bicycle commuters is a daily reduction of about 425 tons of particulate matter (PM_{10}), 1225 tons of nitrogen oxide (Nox), and 1783 tons of ROG.

- Bicycling is one of the most popular forms of recreational activity in the United States, with 46% of Americans bicycling for pleasure. These figures indicate that about 180,000 residents in Oakland would like to bicycle for pleasure. If nothing else, this indicates a latent demand for facilities and a potent constituency to push for better facilities.

1.5 PLANNING CONTEXT

The Bicycle Master Plan will be adopted as part of the Land Use and Transportation Element of the General Plan. The Land Use & Transportation Element encourages changes in the current vehicular and mass transit transportation system in order to meet citywide objectives such as linking downtown businesses, the waterfront, and local neighborhood activity centers with each other and the neighborhoods themselves.

The Land Use & Transportation Element aims to revitalize Oakland's neighborhoods and increase economic development prospects through appropriate land use designations and targeted transportation improvements. The Bicycle Master Plan defines new City policies and recommends actions that would encourage and support bicycle travel improvements toward achievement of this objective. The Master Plan's citywide goals with respect to bicycling complement the citywide goals of the Land Use and Transportation Element. The creation and maintenance of bikeways and other facilities that support an increase in bicycling is an important component of sustainable development practices for Oakland. The Bicycle Master Plan supports related efforts adopted as part of the Open Space, Conservation and Recreation (OSCAR) element of the General Plan, Estuary Policy Plan, Mandela Parkway Corridor Plan, Bay Trail Plan and the Sustainable Community Development Initiative.

1.5.1 Relevant Legislation and Policies

There are several state, regional, and federal requirements for master plans which are primarily related to funding. Regional agencies such as the Metropolitan Transportation Commission, Alameda County Congestion Management Agency, and Bay Area Air Quality Management District (BAAQMD), all include bicycle elements in their adopted plans and frequently have specific requirements as part of their own funding and/or regulatory role. For example, the BAAQMD requires applicants for bikeway funding to calculate the future number of bicycle commuters, replaced vehicle trips, and other benefits, as part of their approval process. Caltrans has played an oversight and review role for federal funding programs for bicycle projects.

The recently approved federal Transportation Equity Act for the 21st Century (TEA-21) provides many of the same programs oriented to bicycles as did the previous Intermodal Surface Transportation Enhancement Act (ISTEA)-- with more money available. Most of these bikeway funding programs require approval of a Bicycle Master Plan with specified elements in order to qualify for the program.

1.5.2 State Requirements for contents of a Bicycle Master Plan

According to the California Bicycle Transportation Act (1994), all cities and counties should have an adopted bicycle master plan that contains descriptions of the following:

- Estimated number of existing and future bicycle commuters
- Land use and population density
- Existing and proposed bikeways
- Existing and proposed bicycle parking facilities
- Existing and proposed multi-modal connections
- Existing and proposed facilities for changing and storing clothes and equipment
- Bicycle safety and education programs
- Citizen and community participation
- Consistency with transportation, air quality, and energy plans
- Project descriptions and priority listings
- Past expenditures and future financial needs

1.6 GOALS OF THE BICYCLE MASTER PLAN

By shaping public and private development to better accommodate bicycles through this policy framework and accompanying diagrams, Oakland can provide for the implementation of a significant portion of the Bicycle Master Plan, project by project. The goals of the BMP are described below.

- Provide a policy framework and action program for enhancing the role of bicycling as a viable and appropriate transportation choice.

- Encourage and support bicycling to work, shopping, school and recreation by eliminating barriers and providing safe and convenient bicycle facilities.

- Maximize the number of bicycle commuters to help reduce traffic congestion and air pollution.

- Create a citywide network of bikeways connecting neighborhoods, activity centers and regional destinations.

Chapter 2 Existing Conditions

Oakland has a mild climate, dense development pattern, proximity to local colleges and a supportive bicycling community in the East Bay. Despite these facts, there are few existing bikeways in Oakland and a lack of bicycle parking and support facilities. These factors act as a deterrent to bicycling. The following chapter summarizes the existing conditions for bicyclists in Oakland.

2.1 CURRENT NUMBER OF BICYCLISTS

Determining the current number of bicyclists in Oakland with any precision is difficult, since most traffic studies do no include counts of bicyclists. Anecdotal evidence suggests that the number of bicyclists has been increasing in the past few years.

One of the few attempts at measuring bicycle use is conducted every ten years as part of the United States Census. The value of those figures is limited, however, because the Census only measures bicyclists commuting to work at least 50% of the time. There is little data that accurately indicates the number of bicyclists travelling to school, shopping, to run errands, or for recreation. Furthermore, the Census data found that most commuting cyclists live in North Oakland, while bicycle accident data presented in Section 2.4 suggests bicycle trips are dispersed throughout the City. However, the census data is useful in comparing the percentage of bicycle commuters from one census year to the next and extrapolating trends.

Bicycle Commuters

According to the 1990 census, 1.1% of all employed Oakland residents, or 1,758 people, commuted to work primarily by bicycle.

The census does not include those who ride less that 50% of the time, nor does it include those who ride to transit (such as BART) and list “transit.”

2.2 OPPORTUNITIES

Oakland has many unique characteristics that suggest a great potential to increase the number of bicyclists. Some of the key opportunities are summarized below:

- Oakland has a great potential to increase the number of people who ride to work or school because of proximity to numerous major employers and universities.
- Oakland's mild climate allows for year-round bicycle commuting.
- Remnants of the Key System has left the City a legacy of wide through streets that provide direct and relatively flat routes between activity centers.
- BART, AC Transit, Capitol Corridor rail service and ferry service to San Francisco create opportunities for bicyclists to extend their trips.
- Transit villages planned around BART stations will emphasize multi-modal transportation connections.
- Most Oakland residents live within bicycling distance of a BART station.
- A large and active bicycling community in the East Bay represents a broad constituency to support investments in bicycle improvements.
- Oakland offers bicyclists many cultural, historic, and recreational destinations.
- The Oakland waterfront is close to many neighborhoods and offers the excitement of a working harbor and views of the Bay and San Francisco.
- Lake Merrit is a unique feature of downtown Oakland and a regional recreational destination. It is also provides an attractive commuter route into downtown.
- Existing natural and manmade corridors exist in Oakland, such as the old Western Pacific Railroad tracks (now Union Pacific), old Sacramento Northern railroad right-of-way, and Sausal Creek.
- The decommissioning of the Oakland Army Base and Oak Knoll Naval Hospital create opportunities to plan for new bicycle facilities.

2.3 CONSTRAINTS

Some of the key constraints that have limited the viability of bicycling as a form of transportation in Oakland are listed below:

- Few of Oakland's streets provide bike lanes or wide curb lanes for bicyclists.
- Poor pavement quality and streets littered with debris make bicycling difficult in many areas.
- Lack of secure bicycle parking, particularly at places of employment, acts as a deterrent for many people to use their

bicycle for daily trips.

- Restricted access for bicyclists to BART limits mobility during peak hours.
- Many motorists are unaware of bicyclists' rights, including the fact that bicycles are permitted on all City streets.
- There are few educational and training programs for bicyclists.
- The City's street system was not designed with a traditional grid pattern. Diagonal streets, such as Broadway or MacArthur Boulevard, create many offset and sharply angled intersections.
- A fear of crime leads some bicyclists to prefer riding on arterial streets where they are more visible than on side streets.
- Freeways, railroads and the road network around Lake Merritt act as major barriers between neighborhoods and destinations.
- Diagonal parking on commercial streets such as Grand Avenue creates safety conflicts between motor vehicles, bicycles and pedestrians.
- Numerous at-grade railroad crossings create a safety concern for bicyclists.
- Hills with moderate to extreme grades represent a challenge to less experienced bicyclists in some areas.
- High traffic speeds on many streets are a safety concern for bicyclists.
- The existing tubes provide poor access for bicyclists to Alameda.
- Double-parked cars and trucks frequently block the path of bicyclists.
- Speed bumps and traffic barriers on some streets can create dangerous situations for bicyclists.
- Poorly placed drainage grates and other road hazards impede the movement of bicyclists.

2.4 BICYCLE-RELATED ACCIDENT DATA

Safety concerns are a primary impediment to increasing the number of bicyclists. Bicycle-related accident data was evaluated to identify specific roadway segments in need of improvements. In addition, this data can be helpful in determining which corridors tend to be most heavily used by bicyclists.

Data was collected for the years 1985-1994. A total of 2,246 bicycle-related accidents occurred in Oakland during that time period. Compared to other communities in California, Oakland's rate of 0.50 incidents per 1,000 persons per year (3-year average from 1992-1994) is slightly lower than the average of 0.67 incidents per 1,000 persons for other California cities.

The top seven "accident corridors" for bicyclists were found to be:

- Shattuck Avenue
- College Avenue

- Telegraph Avenue
- International Boulevard
- Grand Avenue
- San Pablo Avenue
- 27th Street

The ten worst intersections for bicycle-related accidents in Oakland are identified on Table 2A and accidents by corridor are shown in Table 2B:

Table 2A Accidents by Intersection

Intersection	**Frequency** (Total Accidents)
College & Alacatraz Ave.	15
Alacatraz & Telegraph	14
Grizzly Peak & Claremont Ave.	11
Shattuck & 52nd St.	11
Broadway & 27th St	10
Grand Av. & Bay Pl	8
Foothill Blvd & 35th Ave.	8
Mac Arthur blvd. & Martin Luther King Jr Way	7
Mac Arthur Blvd & Telegraph Ave.	7
High St. & 14th St.	7

Table 2B Accidents by Corridor

Corridors	**Accidents per Mile (10 Year Period)**
Shatttuck (Oakland-Berkeley-)	33.8
College Ave	30.0
Telegraph Ave	29.4
International Blvd (East 14th)	24.0

Grand Ave	22.8
San Pablo Blvd	22.3
27th	21.2
Piedmont Ave	15.8
Foothill Blvd	14.8
Market St	14.2
Fruitvale Ave	13.1
High St	12.6
Bancroft	12.4
Mac Arthur Blvd	10.9
Broadway	10.0
98th Ave	9.7
Adeline	7.8
Skyline Blvd	1.2

A map displaying the distribution and frequency of bicycle accidents are on the following pages. An analysis of the map highlights the following:

- Bicycle-related accidents occurred throughout Oakland, indicating that cyclists can be found in virtually all neighborhoods.
- Corridors such as International Boulevard in East Oakland clearly show up as frequent accident sites on the map.

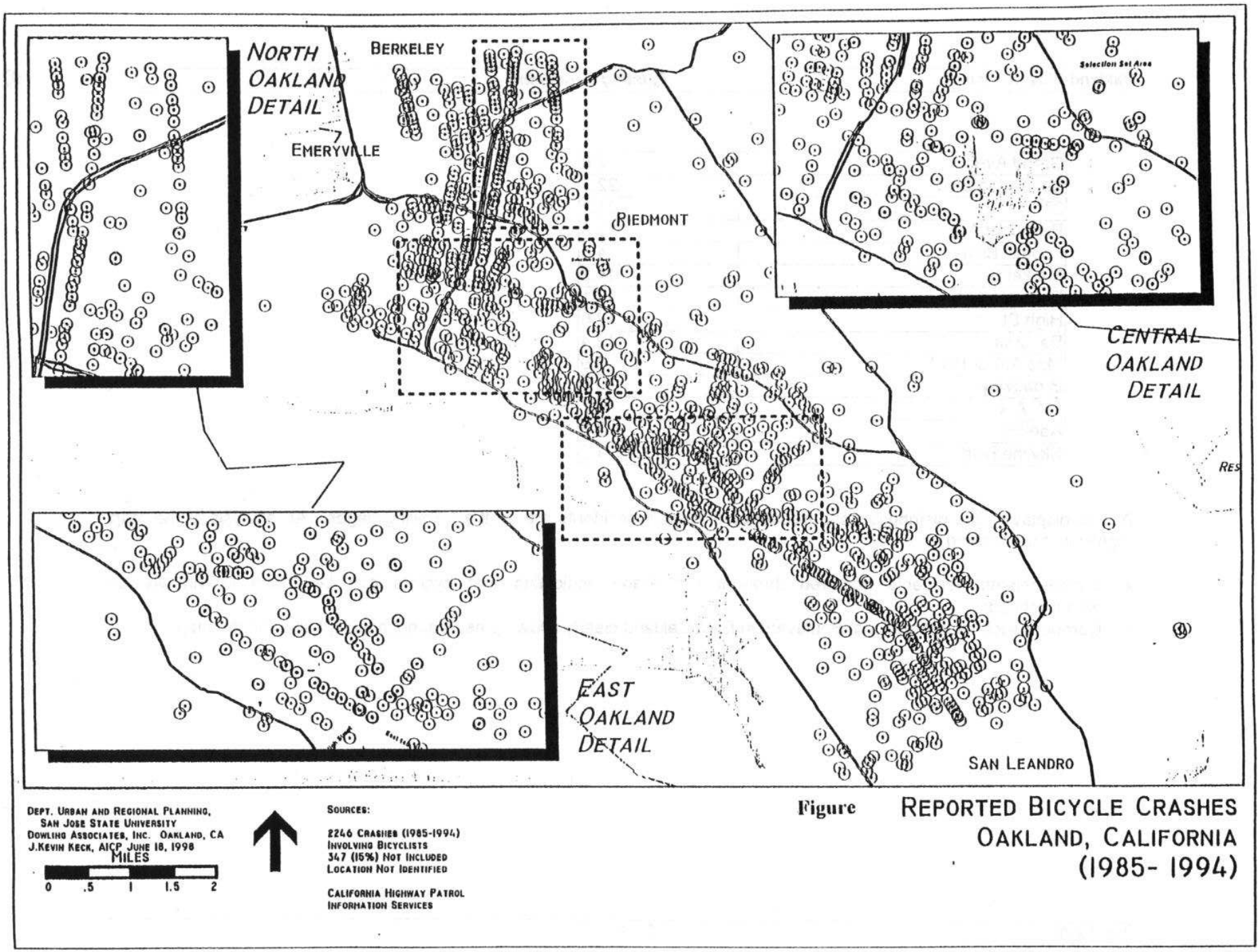


Figure REPORTED BICYCLE CRASHES
OAKLAND, CALIFORNIA
(1985- 1994)

2.5 EXISTING BIKEWAYS

According to State law, bicycles are allowed on all City streets. Bikeways are streets or corridors that have been designated for specific improvements. Bikeways are described by Caltrans in Chapter 1000 of the Highway Design Manual as being one of three basic types:

Class I Bikeway — *Bicycle path or multi-use trail.* Provides for bicycle travel on a paved right of way completely separated from any street or highway. Bike paths are often located along waterfronts, railroad right-of-ways (active or abandoned), through parks, or stream or river channels. In most cases sidewalks can not be considered Class I bike paths, unless there is at least a 5-foot horizontal separation or a physical barrier from auto lanes.

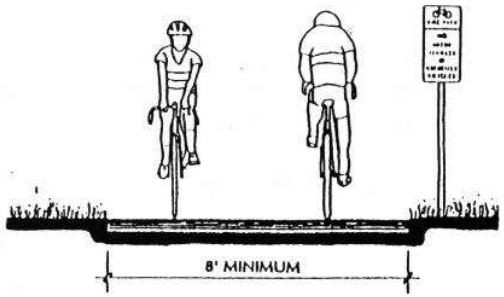
Class II Bikeway — *Bicycle lanes.* Provides striped lanes for travel on a street or highway, usually five feet in width. Bicycle lanes have specific signing and striping requirements, and can be designed a variety of ways for intersections. Where feasible, on-street bicycle lanes should be placed on all routes of the primary bicycle system with average daily traffic volumes of over 5,000 vehicles per day.

Class III Bikeway — *Bicycle route.* Provides for shared use with motor vehicle traffic. As defined by Caltrans, Class III bicycle routes are characterized by signing only and should provide a superior through route for bicyclists than other parallel routes. Design options including widening curb lanes, eliminating on-street parking, removing multiple turn lanes, replacing street grates running parallel to traffic, smoothing the pavement, and installing signs.

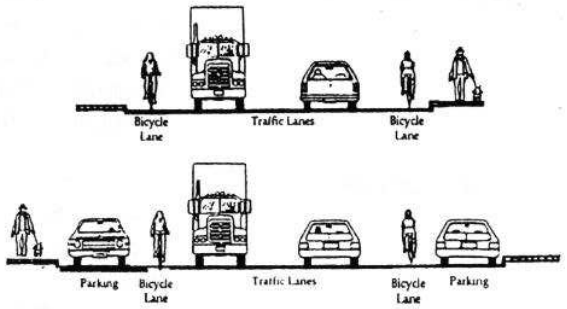
A map of Existing Bikeways in Oakland is presented as an attachment to the BMP. Key characteristics of existing bikeways in Oakland are:

- Most of the existing bikeways are located in North Oakland, in the hills and along the waterfront.
- The only existing and semi-continuous commuter bikeway in Oakland is the Webster/Shafter/Colby Class III route. It is a popular bikeway that connects downtown Oakland with North Oakland and Berkeley.
- Most of the existing bikeways consist of short segments with many remaining gaps, such as on Broadway, Telegraph Avenue, West Street and Bancroft Avenue.
- Large segments of the City have no existing bikeways. This is especially true in the neighborhoods of East Oakland.

Class I
BIKE PATH



Class II
BIKE LANE



Class III
BIKE ROUTE

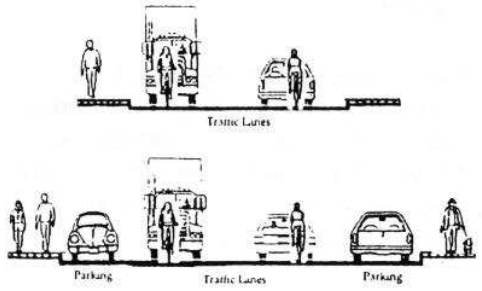


Figure 2-1. Class I, II, and III Bikeways

2.6 WHO RIDES BICYCLES?

This section will discuss several categories of cyclists and the basic needs of each. This analysis will focus on two categories of cyclists: commuter cyclists and recreational cyclists. Within each of these categories are cyclists of various experience levels; for the purposes of this discussion, two levels of experience will be used: experienced and casual. Promoting the provision of facilities and programs to fill the needs of cyclists from various categories and with differing levels of experience is intended to enhance the role of bicycling as an everyday form of transportation in the City.

2.6.1 Levels of Experience

Bicyclists are typically separated between experienced and casual riders. The U.S. Department of Transportation identifies thresholds of traffic volumes, speeds, and curb lanes where less experienced bicyclists begin to feel uncomfortable. For example, on an arterial with traffic moving between 30 and 40 miles per hour, less experienced bicyclists require bicycle lanes to separate themselves from motor vehicle traffic, while more experienced bicyclists may be comfortable sharing a wide curb lane with motor vehicles.

Casual riders include those who feel less comfortable negotiating traffic. Children and the elderly may have difficulty gauging traffic, responding to changing conditions, or moving rapidly enough to clear intersections. Other bicyclists, experienced or not, may be willing to sacrifice time by avoiding heavily traveled arterial streets and using quieter local (side) streets. In some cases, casual riders may perceive side streets (or sidewalks) as being safer alternatives than major through routes, when in fact they may be less safe. Other attributes of the casual bicyclist include shorter distances than the experienced rider and unfamiliarity with many of the rules of the road.

- The casual bicyclist will benefit from route markers, paths, bike lanes, wider curb lanes, and educational programs. Casual bicyclists may also benefit from marked routes that lead to parks, museums, historic districts, and other visitor destinations.
- Experienced bicyclists include those who prefer the most direct, through route between origin and destination, and a preference for riding within or near the travel lanes. Experienced bicyclists negotiate streets in much the same manner as motor vehicles, merging across traffic to make left turns, and avoiding bike lanes and shoulders that can contain gravel and glass. The experienced bicyclist will benefit from wider curb lanes and loop detectors at signals. The experienced bicyclist that is primarily interested in exercise will benefit from loop routes that lead back to the point of origin.

2.6.2 Bicycle Commuters

Commuter bicycle trips include trips to work or school, and for the purposes of this analysis, utilitarian trips to run errands, meet with friends or enjoy a movie or restaurant. Commuter trips often link with transit, such as BART, ferry or AC Transit. Access to transit helps extend the commute range of cyclists. Bicycle commuters tend to be experienced riders; however, measures to benefit casual riders may make conditions more attractive for casual bicycle commuters.

Key bicycle commuter needs in Oakland are:

- Commuters typically seek the most direct and fastest route available, with regular adult commuters often preferring to ride on arterial streets rather than side streets.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- A place to safely store bicycles is of paramount importance to all bicycle commuters.
- Commuters are concerned with personal safety and security, especially when riding in darkness. Given these concerns, arterial routes are considered safer than isolated side streets.
- Rather than be directed to side streets, most commuting adult cyclists would prefer to be given bike lanes or wider curb lanes on direct routes.
- Unprotected crosswalks and intersections (no stop sign or signal control) in general are the primary concerns of all bicycle commuters.
- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.

2.6.3 Recreational Riders

The needs of recreational bicyclists must also be understood prior to developing a system or set of improvements. Recreational riders include both experienced and casual bicyclists. While it is not possible to serve every neighborhood and every need, a good plan will integrate recreational needs to the extent possible. The following points summarize recreational needs. Recreational users include healthy adults, children and senior citizens. Each group has their own abilities, interests, and needs.

- Directness of route is typically less important than routes with less traffic conflicts, visual interest, shade, protection from wind, moderate gradients, or other features.
- People exercising or touring may prefer a loop route rather than having to "back-track".

2.6.4 Public Workshops

In addition to regular meetings between City staff and the Bicycle & Pedestrian Advisory Committee (BPAC), public workshops were held to solicit public input on the Bicycle Master Plan and determine the needs of bicycle users in Oakland on January 29, and February 1, 1999. Attendees were asked to comment verbally and on a written survey. They were also asked to show on large-scale maps of the City their current riding habits and views on bicycling opportunities and constraints in Oakland. The following is a sample of feedback received from public workshop participants:

- Intersection signals that detect bicycles are needed at intersections throughout the bikeway system.
- Skyline Boulevard needs widening on some portions, improved lighting and traffic calming.
- Lake Merritt Bike Path: a) underpass connection not continuous, b) not maintained, c) needs lighting.
- Bike lane stenciling is needed on the portion of Broadway that has been recently striped with Class II bike lanes.
- I-580 to 51st Street needs improvement and bike lanes.
- Lighting and maintenance are needed under freeways
- Improvements needed on Broadway for Jack London Connection.
- Highway connection to Berkeley: suggest possible bridge over Highway 24 for bikes.
- Paving along waterfront needs resurfacing.
- Railroad tracks on Embarcadero are unsafe for bicyclists.
- Bike racks should be on Transbay Buses during all hours.
- Secure bike parking is needed at downtown BART stations.
- BART access is needed during commute hours.

- Roads with bike routes should be resurfaced.
- Webster Tube needs improvement for bikes.
- The City should consider establishing neighborhood scenic tour routes to promote recreational cycling and an awareness of Oakland's neighborhoods.

2.6.5 Bicycle Users' Survey

In addition to the public workshops, over 200 "bicycle user" surveys were distributed throughout the City. Results of the surveys are summarized below:

- Most survey respondents rode their bicycles between one and six times per week.
- The average survey respondent lived nine miles from work and 1.5 miles from a BART station.
- The top cycling constraints listed by survey respondents were poor road conditions, lack of driver education, high-speed motor vehicle traffic, and lack of secure bicycle parking.
- Most of the survey respondents divided their trip purposes mainly between work (43%) and recreational (37%) purposes with 19% of trips being for shopping.
- Seventy-one percent of respondents preferred Class II bicycle lanes over other bikeway types.

The top three reasons given for not riding more often were:

- Weather and/or darkness
- Restricted access to BART during peak commute hours
- Safety concerns related to the automobile.

2.7 NEEDS ANALYSIS

Based on an the analysis of existing conditions in Oakland, the following key needs have been identified:

- Bikeway connections should be provided that give highest priority to bikeways that:
  - Provide connections to neighborhoods that have no existing bikeways.
  - Eliminate gaps in existing bikeways.
  - Provide bicycle lanes on arterial streets that best meet the needs of commuter cyclists and increase safety in

corridors with higher rates of accidents involving cyclists.
  - Overcome barriers and constraints to bicycle circulation.
  - Provide access to BART and other transit stations.
  - Take advantage of the many opportunities that suggest a great potential to increase the number of bicyclists in Oakland, described in Section 2.2
- Bicycle parking is needed at destinations throughout Oakland.
- Improving bicycle access to BART and other public transit should be a priority.
- Education and encouragement programs should be designed to increase awareness of safety and rules of the road for both cyclists and motorists.

2.8 OBJECTIVES OF THE BICYCLE MASTER PLAN

Based on the current conditions and key needs, the following performance objectives have been selected to complement the plan goals:

- **Objective 1: Expand the bikeway network to serve all six of the City's service delivery districts within five years.**
- **Objective 2: Increase the percentage of Oakland residents commuting to work by bicycle to 4% by 2010.**
- **Objective 3: Reduce the number of bicyclists killed or injured annually by 10% within five years.**
- **Objective 4: Double the number of bicycle parking spaces within five years.**

Chapter 3 Recommended Bikeway Network

The creation of a safe and seamless citywide bikeway network is essential to allow residents to safely bicycle through all of Oakland's neighborhoods and between activity centers. The goal is to create a network of bikeways tailored to Oakland's geography, current transportation network, and land use pattern. This chapter describes the recommended citywide bikeway network and policies aimed at improving conditions for bicyclists on streets throughout the City.

A principle reason more people do not choose to regularly bicycle in Oakland is that automobile traffic often threatens the safety of bicyclists. Given the fact that Oakland is a built-out urban community, this problem can be best be addressed by bikeway facility designs that safely accommodate and encourage bicycling on the existing network of roads. The Recommended Bikeway Network Map is presented for adoption as an attachment to the Bicycle Master Plan (BMP).

The recommended bikeway network is not meant to accommodate every bicyclist and bicycle trip in the City. Once in place, this network would furnish safer and more direct travel paths for a majority of those bicycling within Oakland. A bikeway network consists of routes that are designed to be the primary system for bicyclists travelling through the City. It is important to recognize that, by law, bicyclists are allowed on all streets and roads regardless of whether they are a part of the bikeway network. The bikeway network is a tool that allows the City to focus and prioritize implementation efforts where they will provide the greatest community benefit. Streets or corridors selected for inclusion in the network should be targeted for specific improvements, such as the installation of bicycle lanes or wide curb lanes.

3.1 CRITERIA FOR SELECTING RECOMMENDED BIKEWAYS

The method for selecting the recommended bikeway system involved outreach by City staff to receive input from the local bicycling community familiar with the best routes and existing opportunities and constraints. Input for the Plan has been received through a variety of means, including monthly meetings with the Bicycle & Pedestrian Advisory Committee (BPAC), surveys and two public workshops. During the workshops citizens were asked to identify the routes they regularly ride.

The recommended bicycle circulation strategy consists of a system of bikeways connecting activity centers and residential neighborhoods in Oakland. Routes were selected to satisfy the following criteria:

1. Connect residential areas and activity centers such as transit stations, commercial districts, employment centers and educational institutions.
2. Create a citywide network of bikeways.
3. Choose direct routes that take advantage of old trolley corridors.
4. Facilitate community development by locating bikeways along commercial corridors.
5. Take advantage of recreational amenities along the waterfront, Lake Merritt and in the hills.

3.2 BIKEWAY DESIGNATIONS

The Recommended Bikeway Network map was discussed and designed through various public meetings with the Bicycle and Pedestrian Advisory Committee (BPAC) and other interested parties and public agencies. The streets designated on the map represent the intended network for the City. Proposed bikeways are designated by recommended class type, as defined in Chapter 2:

- *Class I bicycle paths*
- *Class II bicycle lanes*
- *Class III bicycle routes*
- *Future Study Corridors* (for proposed bikeways in which Class II bicycle lanes or Class III bicycle routes with wide curb lanes are desirable but where specific concerns indicate such installation appears to be controversial or problematic due to limited roadway widths).

The bikeway class designations indicate the preferred type of improvement for each proposed bikeway. Class II bicycle lanes are recommended for most of the network. On some streets, bicycle lanes can be installed with minimal alteration to the existing traffic lanes, such as by narrowing existing lanes.

While some streets have had preliminary engineering or analysis that indicates installation of Class II lanes is feasible, other streets have not had adequate study to make this determination. If additional study and public input reveal that Class II bicycle lanes would not be feasible or desirable, then other types of improvements, such as a Class III signed route with wide curb lanes or traffic calming measures should be considered.

Some streets in the network have very high traffic volumes; these streets will require not only engineering and traffic studies, but also collaboration with outside agencies such as AC Transit to ensure compatible planning and engineering. Public input should also be considered prior to the implementation of any bikeway project. The intent of the overall design plan is

to provide a framework on which specific road segments can be studied in detail, presented for public comment, and implemented where feasible.

Prior to installation of any part of the network, the City will complete preliminary engineering studies to determine the feasibility of adding Class II bicycle lanes, wide curb lanes, or in some cases, placing the bikeway on a nearby street that is better suited to achieve the overall object of a well-connected city network. Once preliminary engineering has determined a particular segment of the network is feasible for some type of Bicycle facility (Class I, II, or III); a public meeting should be scheduled to give those that live nearby advance notice that the City is considering installing a bicycle facility. At these public meetings, interested parties may state their position on the proposal and offer suggestions for improvements. If there is substantial support, the proposal will become part of a package of projects that are submitted to State, Regional, and Federal Agencies to compete for grant money to fund construction.

The recommended bikeway system and the top projects are flexible concepts that serve as guidelines to those responsible for implementation. The system and segments themselves will change over time as a result of changing bicycling patterns and implementation constraints and opportunities. At some point in the future, the creation or delineation of neighborhood feeder routes might be considered as well.

The proposed Oakland Bikeway network is characterized by:

- Major arterial streets providing inner and inter-city connections for experienced bicyclists
- Some alternative routes, where possible, for less experienced bicyclists using secondary streets
- Recreational bikeways in the hills, along the estuary and around Lake Merritt
- Class I bicycle paths adjacent to roadways within jurisdiction of the Port of Oakland.

3.2.1 Alternative Bikeway Treatments

While the installation of Class II bicycle lanes is the preferred type of recommended bikeway improvement, alternative road treatments have been employed by other cities to improve conditions for bicyclists. These include the following:

- Wide curb lanes: the curb lane is the traffic lane closest to the curb, not including area devoted to on-street automobile parking. The creation of a 14-foot curb lane allows for motor vehicles and bicyclists to share the lane with reduced conflicts.
- Green bicycle stencils for shared lanes: Cities such as San Francisco have recently installed green bicycle stencils placed directly on the roadway within shared lanes for Class III bikeways, generally within a wide curb lane. The stencil serves as a reminder to motorists that bicycles are present.

- "Share the Road" signs: The placement of signs reminding motorists to "share the road" can serve a purpose similar to the green bicycle stencils, increasing motorists' awareness that bicyclists are present.

An additional type of enhanced Class II bicycle lane that is common in Europe and has recently been tested in Portland and Montreal is the use of color treatments to distinguish bicycle lanes from surrounding traffic, especially at dangerous intersections. Portland chose to create "blue lanes" for bicycles in several locations. The use of colored bicycle lanes should be considered for situations in which bicycle lanes cross the path of traffic entering or exiting freeways and similar hazardous situations.

3.2.2 Bicycle Priority Streets

In recent years, a type of bikeway that has been developed in some cities is the "bicycle priority street", or "bicycle boulevard", in which the through movement of bicyclists is given priority over that of motor vehicles. Typically, this type of improvement is reserved for local streets (as opposed to arterial streets) that provide direct connections to cyclists. The "bicycle priority street" is a modification of the Class III route (shared roadway) in which specific measures are introduced to facilitate bicycle travel and discourage through trips by motorists.

The first "bicycle boulevard" was established in Palo Alto in 1982. Along a two-mile stretch of a 36-foot wide residential street, stop signs were removed and two-way stops were placed on cross streets instead. Four-way stops or signalized intersections were installed at intersections with collector or arterial streets. In order to prevent automobile traffic from migrating to this newly improved through route, traffic diversion poles were placed at several points along the street; bicyclists and emergency vehicles could pass through gaps in the poles. In all other respects the boulevard continued to function as a normal city street, with full access to all residences and on-street parking. Bicycle traffic on Bryant Street increased dramatically. High school students constituted a significant portion of the flow. Motor vehicle traffic within the corridor remained fairly constant, indicating that traffic was not diverted to other local streets. Following an initial six-month test of the "bicycle boulevard", the City of Palo Alto concluded:

"This test of the bicycle boulevard concept has shown that a predominantly stop-free bikeway corridor on a less-traveled local, residential street can be an attractive and effective route for bicyclists."

The bicycle boulevard concept has been tested and expanded by other cities. In Portland, several bicycle boulevards have been created in residential neighborhoods. The central strategy of the recently adopted Berkeley Bicycle Plan is the creation of seven bicycle boulevards.

The creation of bicycle priority streets, or "bicycle boulevards", should be studied for future use in Oakland. Streets that are candidates for conversion to bicycle priority streets should meet the following criteria:

- The concept should have the support of the affected residents. The implementation process for traffic calming measures should have extensive public input, including a poll of residents and property owners directly fronting the street.
- The route should appeal to casual cyclists by being located on streets with low traffic volumes.
- The route should appeal to experienced cyclists by being as direct and fast as possible by giving priority to bicycle travel over motor vehicles.
- The route should not be a street classified as an arterial street.
- The route should reduce delay to the bicyclist by assigning right-of-way to travel on the route.
- Motor vehicle access should be restricted only enough so autos are not diverted from other thoroughfares to the bicycle route.
- Intersections with major streets should be controlled by traffic signals.

3.3 PRIORITY RANKING OF RECOMMENDED BIKEWAYS

After selecting the recommended bikeway network, the routes were prioritized to determine those that should be implemented in the short-term (seven years), mid-term (15 years), or long-term (30 years). The priorities listed below will be updated periodically as opportunities present themselves. Future updates and revisions to the priority list will be reviewed by the BPAC. Eligibility for certain funding sources requires that a local bicycle advisory committee (MTC Resolution 875) review priority projects.

The criteria for designating priority bikeways is listed below:

A. Eliminate gaps in existing bikeways.
B. Overcome significant obstacles and barriers such as bridges, tunnels and freeways.
C. Facilitate regional connections with bikeways in neighboring cities.
D. Target improvements in corridors with identified safety concerns.
E. Provide facilities in service districts that have no existing bikeways.
F. Provide direct connection to BART, ferry or other transit station.
G. Provide direct connection to a major employment center.

Proposed bikeways that satisfy at least three of the criteria listed above have been designated as short-term priority bikeways, while projects satisfying two criteria are designated as mid-term priority bikeways. Currently funded or significantly planned bikeway projects are listed separately.

3.3.1 Currently funded or planned bikeway projects

- Mandela Parkway (Bay Trail segment)
- Lake Merritt Channel path
- Bay Bridge Approach (includes Maritime-Shellmound Bikeway)
- Grand Avenue (from El Embarcadero to Market Street)
- 3rd Street – 2nd Street (Bay Trail segment from Mandela Parkway to Oak Street)
- Clay St - Washington St (below San Pablo Boulevard)
- Maritime Street - New Port Road – 7th Street- Middle Harbor Shoreline Park path (Bay Trail spur)
- Telegraph Avenue (16th Street to Eileen Street)
- Embarcadero Parkway (Bay Trail segment)
- 8th Street (Mandela Parkway to Market Street)

3.3.2 Short-term priority bikeways (Target completion, pending funding: 2000-2007)

- Downtown Bikeways (Phase I)
  - Broadway Corridor (below 25th Street)
  - 14th Street (from Mandela Parkway to Lakeshore Avenue)
- Upper Broadway (above Interstate 580)
- Airport Drive - Hegenberger Road - 73rd Avenue
- Fruitvale Avenue
- West Grand Avenue
- Foothill Boulevard / Bancroft Avenue
- International Boulevard
- West Street / Genoa Street

Completion of the currently funded and short-term priority bikeways by 2007 would create a system that serves all six of the City's service districts. A continuous bikeway would be created from Berkeley to San Leandro via Telegraph Avenue, 14th Street and Foothill / Bancroft, while West Grand Avenue would provide a connection to the Bay Bridge and Fruitvale Avenue would provide a connection with Alameda.

3.3.2 Mid-term priority projects (Target completion: 2000-2015)

- Downtown Bikeways (Phase II)
  - Harrison Street (upper portion) - Lakeside Drive - Oak Street / Madison Street (one-way couplet)
  - 7th Street / 8th Street (one-way couplet)
- Lakeshore Avenue
- 82nd Avenue - Golf Links Road
- BART right-of-way/ San Leandro Street corridor (Class I path in BART right-of-way or Class II lanes on street)
- 2nd Avenue - Park Boulevard – Shepherd Canyon
- 40th Avenue – Linda Street

Completion of the mid-term priority projects by 2015 would result in a network of bikeways serving neighborhoods in each area of the City.

3.3.3 Long-term projects (Target completion: 2000-2030)

The remaining projects on the Recommended Bikeway Map would be designated as long-term projects, with the ultimate goal of completing the entire bikeway network by 2030. The fact that a project is designated as "long-term" would not preclude completion at an earlier date if opportunities arise.

3.4 DESCRIPTIONS OF KEY BIKEWAY CORRIDORS

Key bikeway corridors envisioned by the BMP are listed alphabetically below:

- Airport Drive-Hegenberger Road-73rd Avenue

From: Metropolitan Oakland International Airport (MOIA)
To: MacArthur Blvd
This route would connect a major employment center (MOIA) with two major transit centers (Coliseum BART Station and Eastmont Transit Center) and also provide connections from East Oakland residential neighborhoods with the Oakland Coliseum and Arena, Bay Trail, Bay Farm Island, and Alameda. A potential connection with Leona Quarry and Mountain Blvd could be provided on Edwards Avenue.

❑ Bay Bridge Approach

The construction of pathways connecting the proposed Bay Bridge Class I pathway with Maritime Street in Oakland and Shellmound Street in Emeryville is planned by Caltrans as mitigation for earlier roadway projects. The BMP recommends that the preferred connection to Maritime Street be provided as a Class I pathway adjacent to Burma Road. Cyclists travelling to downtown Oakland from the bridge would most likely use Grand Avenue from Maritime Street.

❑ Bay Trail

From: Emeryville border
To: San Leandro border

The San Francisco Bay Trail is a regional 400-mile trail network envisioned to circle the bay, funded primarily by State grants and administered by the Association of Bay Area Governments (ABAG). Relatively little of the proposed Bay Trail segments in Oakland have been constructed, although portions exist along the San Leandro Bay shoreline. Significant additions are expected with the planned completion of the Mandela Parkway, Third Street Extension (connecting Mandela Parkway with Jack London Square), 2nd Street Class III route near Jack London Square and the Embarcadero Parkway proposed from Oak Street to 66th Avenue.

❑ Broadway-Tunnel Road

From: Jack London Square
To: Skyline Blvd

Another former streetcar line, Broadway begins at Jack London Square and serves as the main transit, pedestrian, and vehicular corridor for the downtown area.

- *Broadway Corridor (Special Study Area):* The BPAC strongly recommends the designation of Broadway, between 25th and 7th Street, as an important bikeway corridor for future study in downtown Oakland. Bicycle lanes have recently been installed on the portion of Broadway just north of downtown, between Interstate 580 and 25th Street. The continuation of bicycle lanes between 25th and 19th Street would provide a connection with the 19th Street BART station and with a proposed bicycle parking and support facility in the area. Between 19th Street and 7th Street, the high volume of bus traffic has raised concerns about installing bicycle lanes. At a minimum, curb lanes should be as wide as possible with appropriate intersection protection, signing and stenciling.

  Alternative proposals that should be considered include the following:

- Create "bus and bike only" lanes in each direction between 19th and 7th Street; or
- Designate the center lanes for bus traffic only, with bus loading platforms placed to the left of the right travel lanes (as done on Market Street in San Francisco); or
- Explore the feasibility of creating a Class I bicycle path adjacent to Broadway between 19th and 7th Street, modeled after similar paths in Amsterdam; or
- Convert Franklin Street to allow two-way travel with bicycle lanes in each direction; or
- Install bicycle lanes on both Franklin and Webster Streets.

- *Upper Broadway – Tunnel Road:* Broadway links central Oakland with lower-density commercial and residential districts including nodes at Grand Avenue, MacArthur Boulevard and College Avenue. Once past College Ave., Broadway begins to climb into the hills and serves as an important route for bicyclists headed towards Lake Temescal and Skyline Boulevard. The preferred route to the ridgeline is via Tunnel Road, which branches from Broadway and has a moderate to steep grade.

❑ Foothill Blvd / Bancroft Avenue
From: Lakeshore Ave
To: San Leandro border
Aside from the Bay Trail, which is primarily a recreational facility, this 8.5-mile segment is the primary north-south bicycling route in Oakland. Once again the remnants of the old Key System, the route provides a direct connection between downtown Oakland, Lake Merritt, the residential and commercial districts of East Oakland, San Antonio, Fruitvale, and Elmhurst Districts, and San Leandro. The generally level route start at Lake Merritt on the one-way pairs of Foothill Blvd. (northbound) and East 15th Street (southbound). These two-lane streets with on-street parking provide good connectivity but moderate to heavy traffic levels and little room for bicyclists. At 14th Avenue, the route jogs to Foothill Blvd., which becomes two-way at this point, and continues southward to Bancroft Avenue--which requires a one-block jog at Fremont Way. Bancroft Avenue is typically four lanes with on-street parking and an extremely wide median (old streetcar right-of-way) for much of its length.

❑ 14th Street
From: Mandela Parkway
To: Lakeshore Avenue
14th Street would provide an excellent connection for bicyclists from West Oakland to the numerous destinations downtown and around Lake Merrit. Including the Federal Building, State Building, City Hall, Laney College, Lake Merritt Channel,

Kaiser Auditorium, County Center, and the Oakland Museum. The creation of a Class I pathway on the existing 12th / 14th Street couplet across Lake Merrit Channel would eliminate a major impediment to commuter cyclists in accessing downtown from East Oakland.

- 40th Street-41st Street-Linda Avenue

From: Emeryville
To: Grand Ave

Connecting Emeryville, MacArthur BART station and North Oakland with Piedmont Avenue and Grand Avenue, this series of streets provides a good route across the 'spokes' of Broadway and Telegraph Avenue radiating from downtown Oakland. The route begins on 40th Street at the Emeryville city line, and continues across Market Street to Telegraph Avenue, where it jogs one block to 41st Street. Crossing Broadway, the route climbs a low hill and descends to Piedmont Avenue. At Piedmont the route jogs one block north to Linda Avenue, which provides a direct low-traffic connection to Grand Avenue through the city of Piedmont. The route is generally level with several moderate hills between Broadway and Grand Avenue. The surrounding area is essentially low to moderate density residential, except for the short stretches of commercial along Piedmont Avenue

- Fruitvale Avenue - Lincoln Avenue - Joaquin Miller Road

From: Alameda
To: Skyline Blvd

This route begins at the Fruitvale Bridge and follows Fruitvale Avenue east, connecting with the Bay Trail at Chapman Street, the Fruitvale BART station and surrounding transit-oriented development project, and the Fruitvale / International Boulevard commercial district. The primary commute route continues north of I-580, where it jogs to Lincoln Avenue. Joaquin Miller Road would provide an additional connection into the hills. A secondary parallel route with lower traffic volumes is recommended for Coolidge Avenue.

- Grand Avenue

From: Maritime Street
To: Piedmont border

Grand Avenue has been consistently identified as the top priority project by the BPAC. The route arches around the periphery of downtown Oakland, linking it to several key neighborhoods such as West Oakland and the Grand/Lakeshore District, and providing a conduit for bicyclist coming from Berkeley and North Oakland. The Grand Avenue bikeway will

eventually connect to the Bay Bridge and the proposed Class I path across the bridge. Due to the lake and street layout, there are few alternatives for bicyclists (and motorists) between the Uptown District and points west. The route is generally flat and traverses medium to high-density residential and commercial districts. The street itself is generally very wide, with widths up to 84 feet and six travel lanes. Some of the key activity centers on or near Grand Avenue include the Uptown District of downtown Oakland, Lake Merritt and the Grand Avenue commercial district.

- Harrison Street / Oakland Avenue – Lakeside Drive – Oak / Madison couplet

From: Piedmont border
To: Embarcadero

This route connects Piedmont and neighborhoods in the Oakland Avenue – Harrison Street corridor with Grand Avenue, Lake Merrit, downtown Oakland, Alameda County Courthouse, Oakland Museum, Laney College, Lake Merrit BART station, ABAG/MTC Metro Center and the Bay Trail. Bicycle lanes should be installed on each direction of the one-way couplets; if the one-way couplets are ever converted to allow two-way travel, bicycle lanes should be installed in both directions on Oakland Avenue and Oak Street.

- High Street

From: Alameda
To: Mountain Boulevard

This route provides a cross-town connection from Alameda and the Bay Trail to residential neighborhoods both below and above the 580 freeway.

- International Boulevard

From: Lakeshore Avenue
To: San Leandro border

International Boulevard has one of the highest accident rates for bicyclists in Oakland, indicating the need for safety improvements such as the installation of bicycle lanes or other improvements. Although not an ideal cycling environment, there are no adequate parallel routes to connect the many commercial establishments and residential areas located immediately adjacent to this busy arterial street. As a state highway (S.R. 185), jurisdiction over this roadway ultimately rests with Caltrans.

- Lake Merrit Channel Pathway - Lakeshore Avenue

From: Bay Trail
To: Piedmont border

This bikeway would begin at the Bay Trail (Embarcadero) and be created by upgrading existing paths along the Lake Merrit Channel, passing Laney College and connecting with Lake Merrit though a tunnel under the 12th St / 14th Street bridges. Currently, no adequate connection exists between the channel pathway and Lakeshore Avenue. Lakeshore Avenue and the adjacent pathway around Lake Merritt are one of the most popular walking and bicycling destinations in the City. Unfortunately, the combination of heavy usage, narrow width and other factors makes the lakeside pathway unsuitable for higher-speed bicyclists. Lakeshore Avenue along the lake is a four-lane arterial with on-street parking and very little room for bicyclists. Many of the intersections, such as Foothill Boulevard and MacArthur Boulevard have multiple-approaches and high traffic volumes and are difficult for bicyclists to maneuver. This level route traverses the popular Lakeshore commercial district and terminates at the Piedmont border. The pathway segment along the Lake Merritt channel is programmed for improvements, including a proposed connection to the Embarcadero.

- Lake Merrit Pathway

The Lake Merrit Pathway is a series of paved and unpaved pathways that completely encircle Lake Merrit, providing an auto-free experience for everyone from children to joggers and roller bladders. The pathways range from sidewalks to informal, unpaved, jogging trails to water-edge promenades. None of the pathways exceed six feet in width, and generally are not suitable for bicycle commuting, but some portions do accommodate slower recreational riders. Access into the pathway is afforded at signalized cross walks, which are well used by nearby employees and residents. Potential improvements include enhancing the surface and width of the existing path, providing better delineation between bicyclists and other trail users and providing signs that identify speed trail courtesy, right-of-way and other regulations. Adjacent streets such as Lakeshore Avenue and Lakeside Drive should have bicycle lanes installed to serve bicycle commuters and minimize conflicts between cyclists and other users of the pathway.

- MacArthur Boulevard

From: Lakeshore Avenue
To: San Leandro border

Narrow road widths and heavy traffic on this important corridor make the provision of bicycle facilities difficult. Nonetheless, this key corridor has been designated for future study, to provide bicycle connections with numerous commercial and residential destinations.

- Mountain Boulevard

From: Broadway
To: San Leandro border

This route follows the Highway 13 and Interstate 580 freeway corridors the entire length of Oakland. Most of this bikeway would be located on Mountain Boulevard, although alternative connections would be provided in key locations, such as the existing Class I path above Lake Temescal and a proposed Class I path adjacent to Interstate 580 below the Leona Quarry.

- 98th Avenue

From: Hegenberger Road
To: Golf Links Road

This route provides a key connection from East Oakland neighborhoods with the Bay Trail, regional routes on Bancroft Avenue, International Boulevard, San Leandro Street / BART right-of-way corridor and a major employment center (Metropolitan Oakland International Airport). Recent improvements to the roadway and sidewalks may have precluded the possibility of installing bicycle lanes, so this route has been designated as a "future study corridor". An alternative Class III route may be created on 105th Avenue.

- Port Vision 2020 pathways

The Port of Oakland, as part of its Port Vision 2020 plan and related projects, has proposed the creation of Class I pathways adjacent to the following roadways within its jurisdiction:

- Maritime Street
- New Road (proposed to replace the existing Middle Harbor Road)
- 7th Street (between the planned Middle Harbor Shoreline Park and Maritime Street)

These pathways would connect the Bay Trail, proposed Bay Bridge pathway and planned Middle Harbor Shoreline Park with surrounding neighborhoods.

- San Leandro Street / Union Pacific Railroad – BART Right-of- Way

From: Intersection of Third & Oak Street
To: San Leandro border

San Leandro Street is a major north-south corridor in Oakland connecting with San Leandro. This proposed bikeway differs from the Foothill-Bancroft route in that it traverses an industrial/commercial area in East Oakland and parallels with BART for much of its length. The creation of a Class I bicycle pathway within the abandoned Union Pacific Railroad Right-of-Way

has been considered in the past, and is recommended as the preferred option by the Bicycle Master Plan, which could ultimately connect with a similarly proposed pathway in San Leandro. However, such a project may be infeasible due to the high cost of acquiring the right-of-way and constructing a pathway. Alternatively, a Class II bikeway should be considered for San Leandro Street, a four to six-lane major arterial with moderate to heavy traffic volumes and traffic speeds often over 45 mph. Bicycling conditions, while not ideal, include good connectivity, few signals and cross traffic, and wider curb lanes. Debris on the roadway is a significant impediment on this route.

- San Pablo Avenue

From: Broadway
To: Berkeley border

Another former streetcar route, San Pablo Avenue also doubles as a state highway (S.R. 123) and a major transit and vehicular connection to Emeryville, Berkeley, Albany, and points northward. As a parallel route to I-80, San Pablo traffic volumes can vary from moderate to congested, depending on freeway traffic conditions. Due to the many commercial attractions and residential neighborhoods on this corridor, bicycle traffic is higher than might be expected, despite the high amount of motor vehicle traffic. The lack of good alternative routes ensures that San Pablo Avenue will continue to serve as a primary route for bicycle commuters and, as a major commercial corridor, is important for non-work trips such as shopping. Any improvements to San Pablo Avenue for bicyclists should be coordinated with the City of Emeryville, where San Pablo runs for about six blocks before re-entering Oakland. One improvement could involve changes to allow more shoulder room, the creation of a wide curb lane for cyclists, “share the road” signs and green bicycle stencils placed on the roadway within shared lanes.

- 2nd Avenue - Park Boulevard - Shepherd Canyon

From: Embarcadero
To: Skyline Boulevard

This route provides a key connection from the Bay Trail, Lake Merrit and downtown with the residential neighborhoods located in the Park Boulevard corridor. The existing Class I path in Shepherd Canyon provides an additional commuter and recreational connection from the Oakland Hills and Skyline Boulevard.

- 7th Street / 8th Street

From: Middle Harbor Shoreline Park (proposed)
To: Oak Street

This bikeway would include a Class I pathway proposed by the Port of Oakland between the planned Middle Harbor Shoreline Park and Maritime Street. Extending the proposed bikeway from Maritime Street to Mandela Parkway would connect the planned park with the West Oakland BART station. Additionally, Class II bicycle lanes are proposed through West Oakland as part of the Acorn Prescott Community Transportation Plan. The installation of bicycle lanes on the 7th and 8th Street one-way couplets though Chinatown would provide connections with the Lake Merrit BART station and surrounding Metro Center government offices.

- Skyline Boulevard

From: Berkeley border
To: San Leandro

Skyline Boulevard is one of the premier recreational bicycling corridors in Oakland and the Bay Area, providing good connections into regional parks, good road conditions for all levels of bicyclists, and exhilarating views. The route starts at Tunnel Road, which is the primary access route from Broadway and North Oakland into the hills. Skyline Blvd merges with Grizzly Peak Blvd. near the Robert Sibley Volcanic Regional Preserve, and continues southward through low density residential areas and park lands to Shepherd Canyon Road, which is a major access route from Montclair and central Oakland. The route twists and turns through Joaquin Miller Park, Chabot Regional Park, passes near Merritt College, Knowland Park, and finally terminates near San Leandro and heads west as Grass Valley Road. The gradients on Skyline Blvd. range from moderate to severe. Traffic volumes are generally light to moderate, although commute hour and weekend traffic can be heavy in places. Bicyclists generally have a wider curb lane or shoulder to use, although there are some narrow sections. Future improvements should include wider shoulders, striping, and signing where needed.

- Telegraph Avenue

From: Broadway
To: Berkeley border

One of the original Key System streetcar lines between Oakland and Berkeley, Telegraph Avenue provides a level "straight-shot" between downtown Oakland and the University of California at Berkeley. Telegraph Avenue is primarily medium to low-density commercial for virtually its entire length, but the relatively low number of curb cuts and signalized major intersections minimizes conflicts for the fast-moving bicyclist. From downtown Oakland to the University of California at Berkeley campus, Telegraph Avenue provides a direct connection to a wide variety of destinations. Bike lanes have

recently been installed on Telegraph north of MacArthur Boulevard to the Berkeley border. Current studies are underway to determine the feasibility of installing bike lanes on remaining portions of Telegraph.

- 35th Avenue

From: Fruitvale BART station
To: Mountain Boulevard
This route provides a connection with the planned transit-oriented development around the Fruitvale BART station from adjacent residential neighborhoods.

- Webster Street-Shafter Avenue-Colby Avenue

From: Broadway & 27th
To: Berkeley border
This popular Class III bike route connects downtown, North Oakland and Berkeley. It is the only existing, continuous commuter bikeway in Oakland. The bikeway serves several large medical centers, and continues into residential neighborhoods. Shafter follows the old alignment of the Sacramento Northern Inter-Urban Railroad northeastward, a gentle uphill gradient. The route reaches Colby Avenue and continues into Berkeley and is heavily used by bicyclists as a primary route from North Oakland to U.C. Berkeley.

- West Street / Genoa Avenue

From: 14th Street & West Street
To: Berkeley border (Genoa Street, Adeline Street & King Street)
This proposed bikeway would connect West Oakland and downtown with residential neighborhoods near the Oakland, Berkeley and Emeryville border. Bicycle lanes have been installed on West Street between West Grand Avenue and MacArthur Boulevard. Installation of bicycle lanes on the remaining portions of West Street to 52nd Avenue and the designation of a Class III bikeway on Genoa Street would create a continuous bikeway that would ultimately connect with the planned King Street “bicycle boulevard” in Berkeley.

3.5 POLICIES AND ACTIONS

The following policies and accompanying implementation actions were adoption with respect to the City's road system and maintenance of the recommended bikeway network:

BMP Policy 1: Create, enhance and maintain the recommended bikeway network.

Action 1.1: Prioritization
Work in conjunction with the Bicycle and Pedestrian Advisory Committee and other community organizations to identify and prioritize projects to implement the recommended bikeway network as funding becomes available.

Action 1.2: Grants
Apply for grants to fund the recommended bikeway network.

Action 1.3: Design
Complete necessary preliminary design and engineering work for all proposed projects as funding becomes available.

Action 1.4: Route and Facility Upkeep
When designing bicycle facilities, identify and include the cost, funding source and agency responsible for future maintenance and operation of the facilities.

Action 1.5: Signage System
Develop a continuous, easy to identify, and informative signage system for the recommended bikeway network. Provide directional signs for bicyclists as well as warning signs for motorists. Include occasional information kiosks for the use of visiting cyclists. Work with adjacent cities and the county to develop a uniform and informative signage system for designating routes of regional significance.

Action 1.6: Support Facilities
Provide facilities including, but not limited to, restrooms, drinking water, and public telephones at end of trip destinations, as funding becomes available.

Action 1.7 Maintenance
Inspect and maintain all support facilities on a regular basis.

Action 1.8 Safety
Publicly identify security and monitoring mechanisms such as lighting, call boxes, emergency access, and bicycle patrols, especially along isolated portions of pathways and publicly sponsored park and ride lots.

Action 1.9 Colored Bicycle Lanes
Consider the use of colored lane treatment for bicycle lanes crossing hazardous intersections or freeway ramps.

Action 1.10 Alternative Bikeway Types
In cases where the installation of Class II bicycle lanes is not feasible, consider the use of wide curb lanes, green bicycle stencils, “share the road signs”, traffic calming and other similar methods to improve safety for bicyclists.

Action 1.11 Bicycle Priority Streets
Consider enhancements to some Class III routes on local streets to create “bicycle priority streets” or “bicycle boulevards”. Evaluate the success of similar efforts in other cities. Prior to the development of bicycle priority streets, affected residents and property owners should be polled.

Action 1.12: Diagonal Parking
Discourage the installation of diagonal or 90-degree parking on streets included in the recommended bikeway network. Replace existing diagonal or 90-degree parking on streets included in the recommended bikeway network with parallel parking or off-street parking where feasible.

BMP Policy 2: Establish design and maintenance standards for all streets that recognize the needs of bicyclists.

Action 2.1: Roadway Improvements
Include bicycle-related improvements in roadway resurfacing or realignment projects. For all multi-lane streets with excess capacity or adequate width, bicycle lanes or wide curb lanes should be installed whenever feasible, subject to review by the Bicycle Program Manager and Bicycle Pedestrian Advisory Committee (BPAC).

Action 2.2: Paving and drainage grates
Review and maintain city streets with a smoothly paved surface and bicycle-safe drainage grates.

Action 2.3: Public Utilities
When locating or relocating public utilities, design the placement of boxes, hydrants, curbs, poles and other objects so that they do not interfere with bicycle travel.

Action 2.4: Barriers and hazards to bicycle access
Identify and eliminate barriers to bicycle access in Oakland. Inventory railroad crossings and install bicycle-safe treatments at these locations.

Action 2.5: Automobile Parking
Whenever new on-street automobile parking spaces are created, especially the conversion of parallel parking to diagonal parking, the potential detrimental effects on cyclists should be considered.

Action 2.6: Design Standards
Develop standards for bicycle-friendly design of road geometrics, intersections, traffic controls, bikeways, and bicycle parking. Follow these guidelines in all future new development and improvement projects.

Action 2.7: Intersection Improvements
Schedule intersections for needed improvements including signal loop or video detectors, bike lane pockets, curve geometry, striping, and signage.

Action 2.8: Ramp and Lane Improvements

Work with Caltrans to reduce conflicts produced by loop ramps, free right-turn lanes, or speed ramps at freeway interchanges.

Action 2.9: Right Turn Lanes
Provide straight-through bicycle lanes to the left of right-turn only lanes where possible. Alternatively, additional width for bicyclists should be provided in the right through-lane.

BMP Policy 3: Make efforts to obtain, redevelop, or encourage private redevelopment of unused railroad, utility, and other right-of-ways as linked, multi-use Class I bicycle paths or trails.

Action 3.1: Rail Line Abandonment
Where rail lines (including sidings and spurs) are to be abandoned, evaluate feasibility of acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.

Action 3.2: Union Pacific Right-of-Way
Evaluate the abandoned Union Pacific right-of-way as a potential Class I bicycle pathway connecting Jack London Square with the planned Fruitvale BART Transit Village, Oakland Coliseum and the San Leandro Bikeway System. If this right-of-way proves unfeasible or too costly, consider the installation of bicycle lanes on the entire length of San Leandro Street.

BMP Policy 4: Include provisions for safe and direct bicycle access to special development areas and key corridors.

Action 4.1: Mandela Parkway Improvements
Include Class II bicycle lanes in plans for the development of Mandela Parkway. Provide connections to the proposed surrounding bicycle network that includes Grand Avenue, Maritime Street, Shellmound Street, 3rd Street, and the new Bay Bridge alignment as funding becomes available.

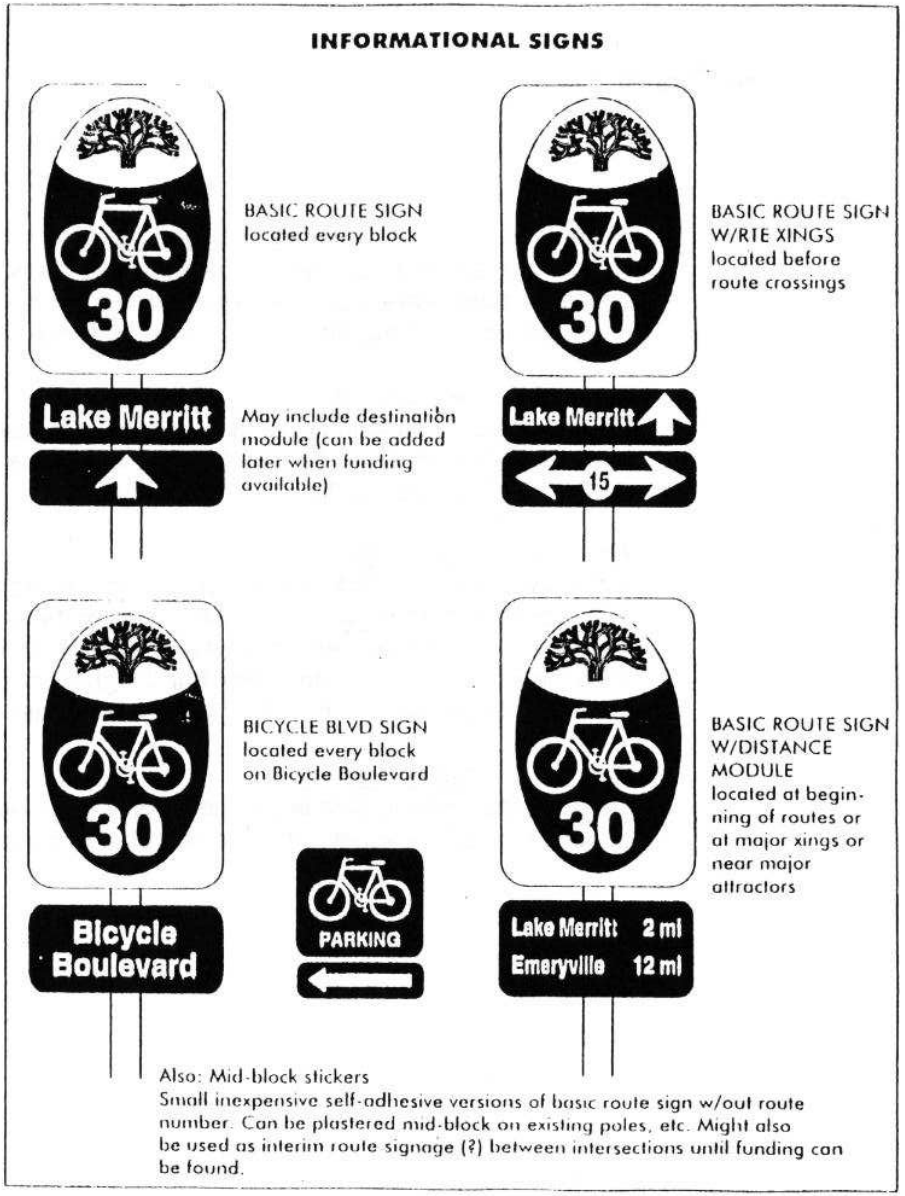
Action 4.2: Broadway Corridor
Designate Broadway from Caldecott Field to Jack London Square as a transit/bicycle corridor promenade. Incorporate bicycle facilities in any development or redevelopment projects with ¼ mile of Broadway whenever feasible.

Action 4.3: Coliseum and East Oakland Access
Ensure that development and redevelopment plans in and for the Coliseum, Coliseum BART, and East Oakland incorporate bicycle access to and from the Coliseum, regional shopping centers, Martin Luther King Jr. Regional Shoreline, and Oakland International Airport and surrounding employers.

Action 4.4: The Waterfront
Seize opportunities to improve bicycle access to the Oakland waterfront through completion and implementation of 1) the Estuary Policy Plan; 2) the Bay Trail alignment; and 3) the joint City, Port, and BCDC's Public Access Plan.

Action 4.5: Lake Merritt
Develop a network of bikeways around and leading to Lake Merritt incorporating landscape treatments to enhance the aesthetic and natural qualities of the lake. Design the bikeways closest to the shore of the lake as multi-use paths for walking, wheel-chair access, running, and in-line skating. Design the bikeways further from the lake to provide more direct and higher speed routes for bicycling. Provide a safe, direct and convenient route across the 12th/14th Street couplet at the west end of the lake.

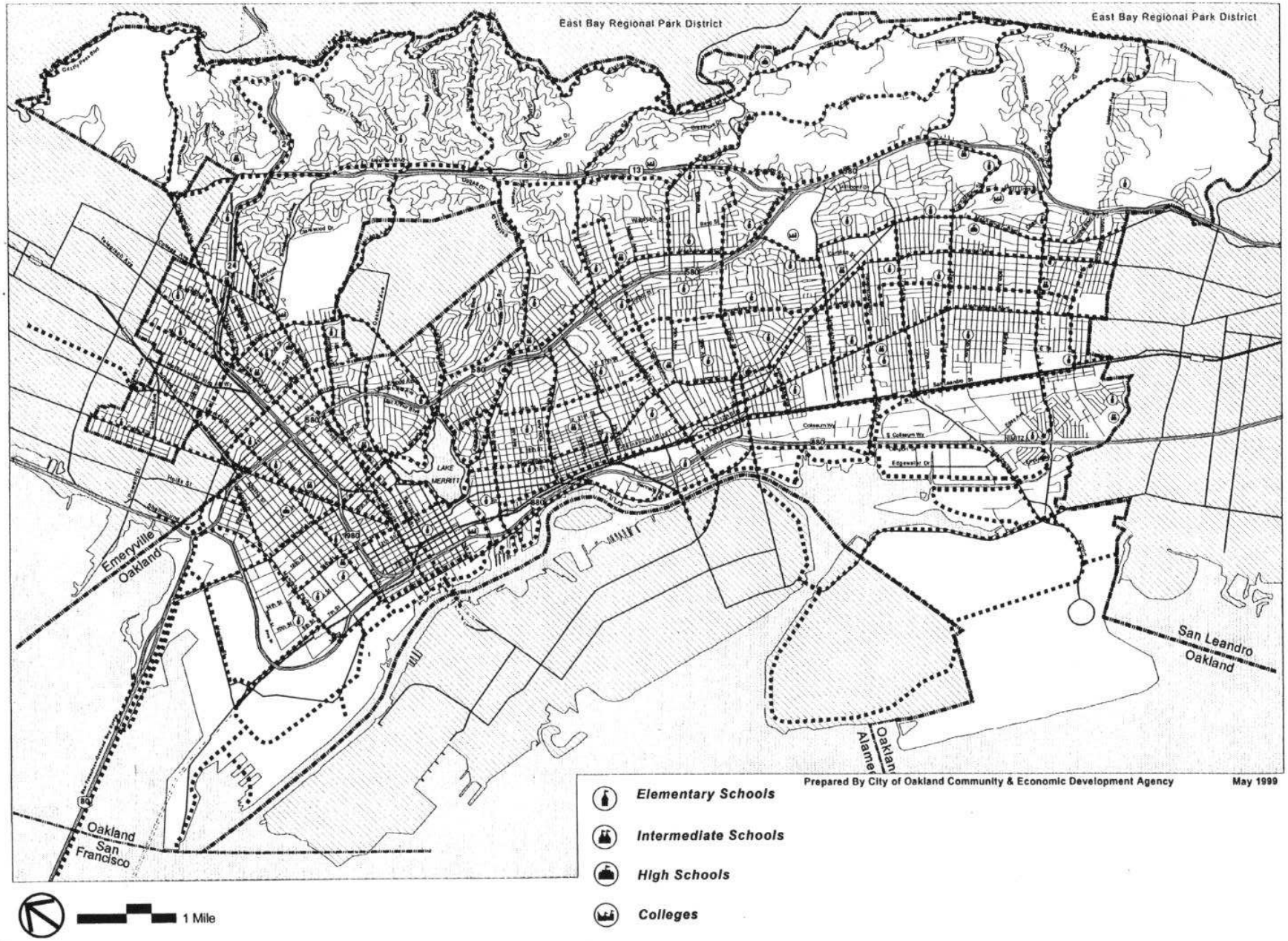
Action 4.6: Channel Pathway
Upgrade the existing path along the Lake Merrit Channel from Lake Merritt to the Bay Trail. Design the path to accommodate a variety of users as noted in the action above.



Specialized Informational Signs for Oakland

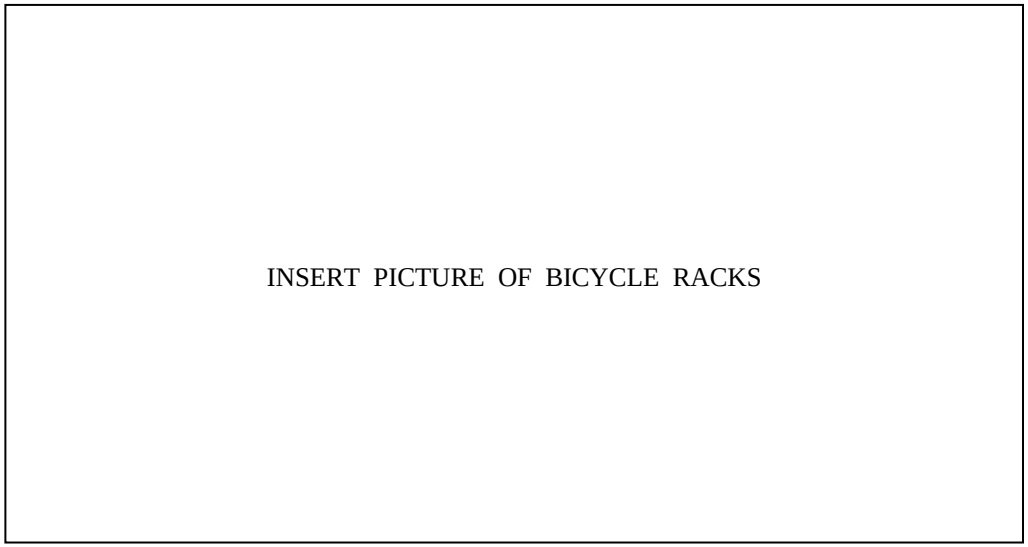
Design courtesy of Wilbur Smith Associates.
Graphics courtesy of Alta Transportation Consulting and Hawkins Sign Company.

CITY OF OAKLAND
SCHOOLS AND PROPOSED BICYCLE ROUTES



Chapter 4 Bicycle Parking & Support Facilities

Every bicycle trip has two basic components: the route selected by the bicyclist and the "end-of-trip" facilities at the destination. These end-of-trip facilities include convenient and secure bicycle parking, showers and changing space for bicycle commuters. In a nationwide poll conducted in 1991, nearly 20 percent of the respondents said that they would sometimes commute to work by bicycle, or would commute more often, if there were showers, lockers and secure bicycle storage at work. Bicycle support facilities should be provided at key destination points throughout Oakland. The City should adopt a bicycle parking ordinance ensuring that adequate bicycle parking is provided as new development or redevelopment occurs.



4.1 TYPES OF BICYCLE PARKING AND SUPPORT FACILITIES

Bicycle parking and support facilities fall within three main categories:

- Short-term bicycle parking: *Bicycle racks* are low-cost devises that allow bicyclists to securely lock their frames and wheels, are secured to the ground and located in highly visible areas. Bicycle racks are most often found in commercial districts and locations where bicyclists need to safely park their bicycles for short periods of time.

- Long-term bicycle parking: *Bicycle lockers* are covered storage units that typically accommodate one bicycle each and provide additional security and protection from the elements. *Bicycle cages or corrals* are secure areas in which bicyclists can store their bicycles for extended periods of time. Locking the enclosure or locating it near an attendant booth can provide security.

- Shower and locker facilities at or near places of employment. *Lockers* provide a place for cyclists to store helmets, clothing, and other cycling accessories during the workday. *Showers* are important for those who must dress in more formal attire or who have a more rigorous commute.

4.2 EXISTING FACILITIES

There is currently a shortage of bicycle parking facilities in Oakland, with the exception of bicycle racks at some parks, public buildings and a few locations downtown (see figure 4-1). Bicyclists visiting stores, restaurants, places of employment, and community facilities are often left to their own devices to temporarily store their bicycles. The lack of secure bicycle parking has become a major consideration in Oakland and around the country, the result of the increased value of bicycles.

The City has previously secured grant funding to provide bicycle parking at some locations. The City's Bicycle & Pedestrian Coordinator is actively working to improve bicycle parking conditions in downtown Oakland, and has produced a pamphlet and map that identifies bicycle parking in the downtown area. The City has also installed bike racks at 20 Oakland Parks & Recreation Centers accommodating 100 bicycles.

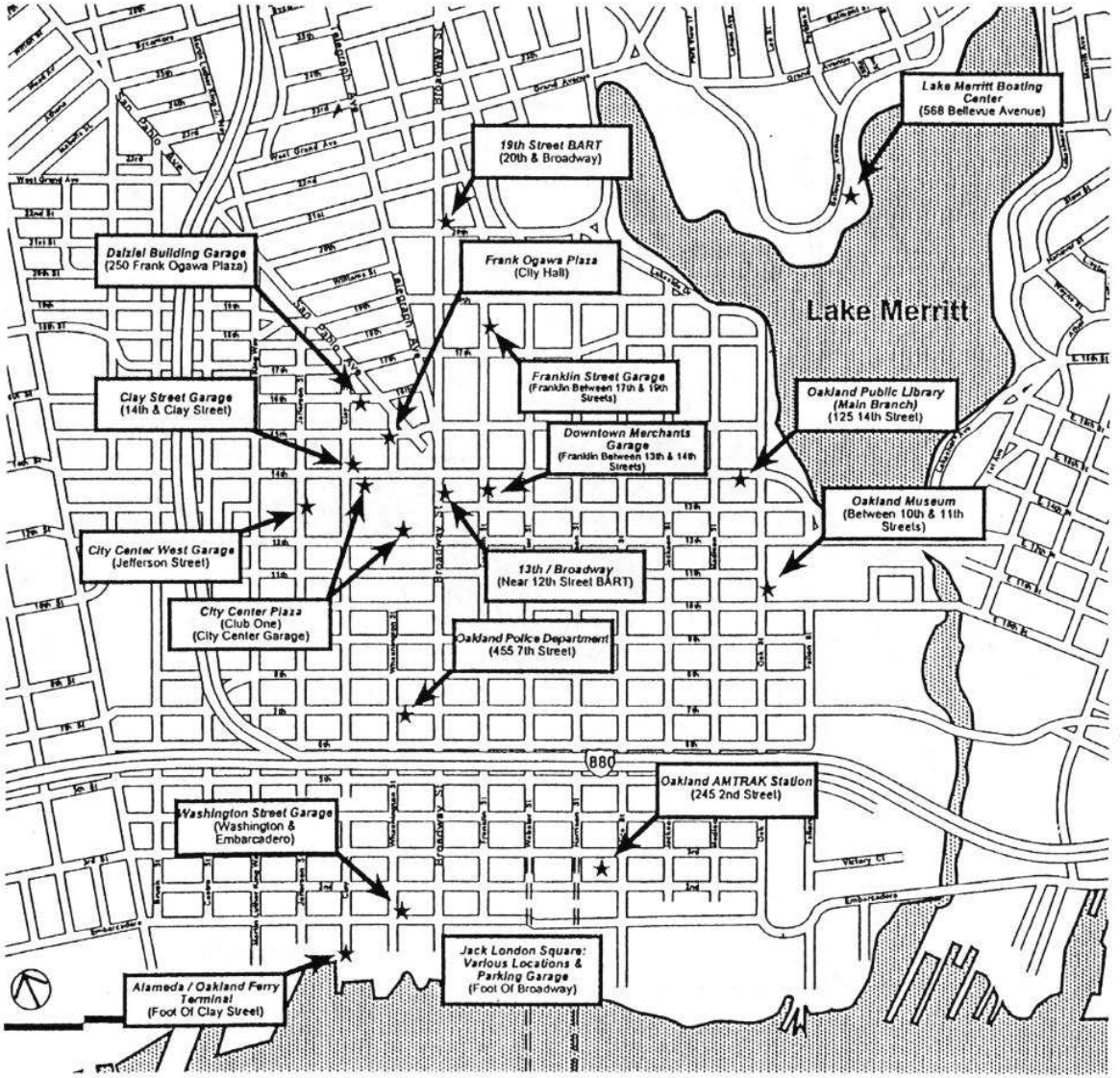
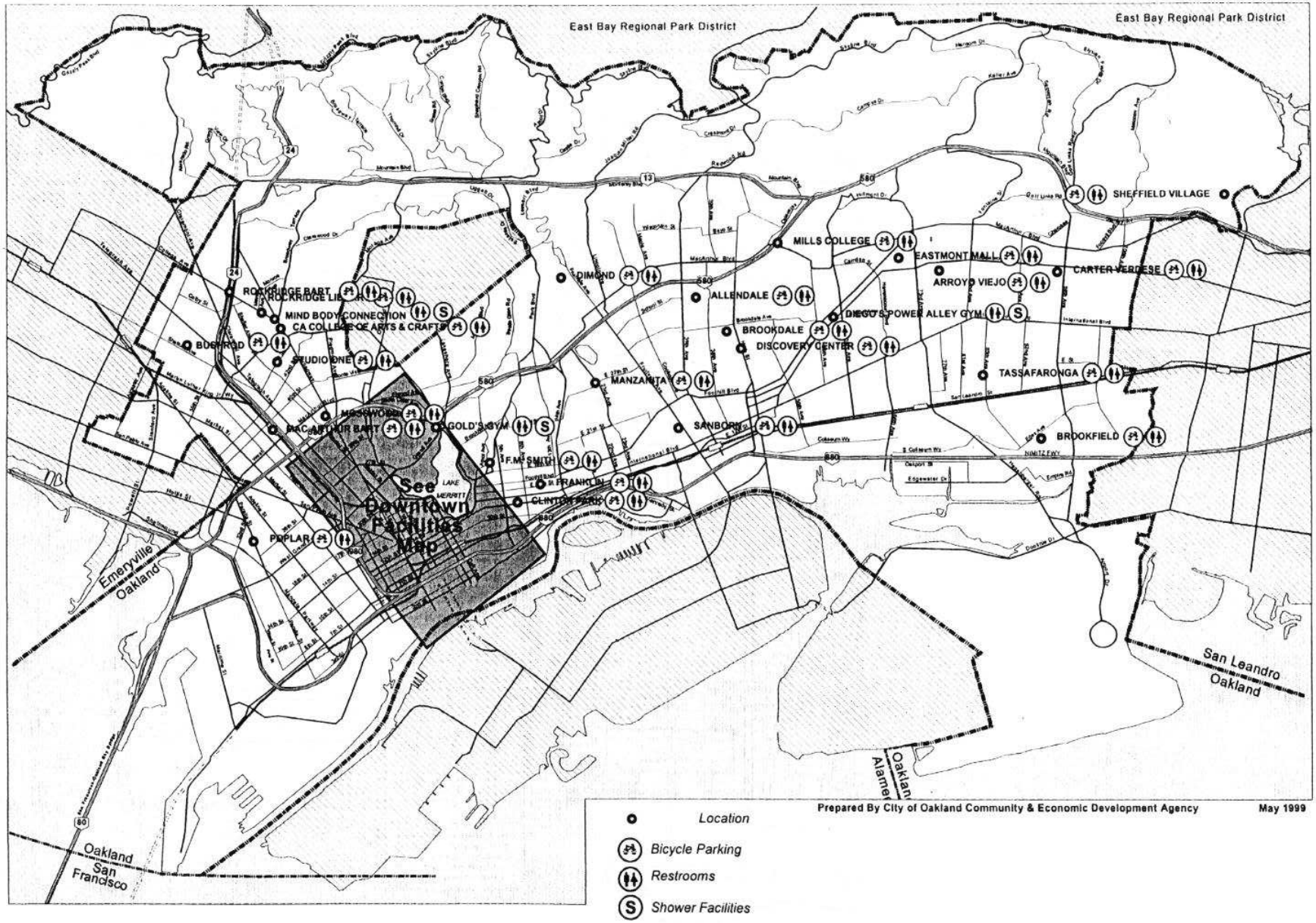
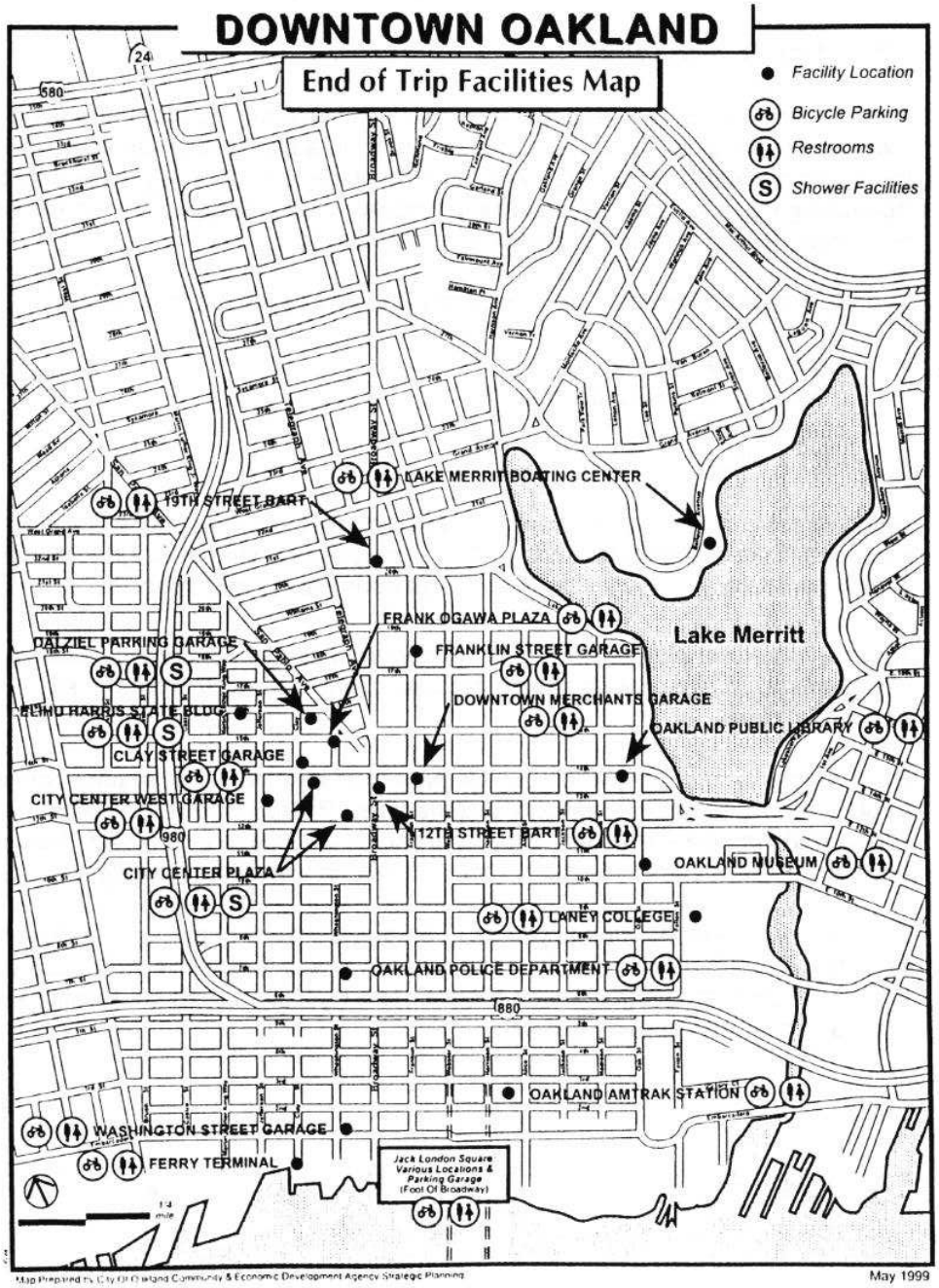


Figure 1: Existing Downtown Bicycle Parking

CITY OF OAKLAND
CITYWIDE END OF TRIP FACILITIES




DOWNTOWN OAKLAND
End of Trip Facilities Map
Facility Location
Bicycle Parking
Restrooms
Shower Facilities
LAKE MERRITT BOATING CENTER
19TH STREET BART
FRANK OGAWA PLAZA
DALZIEL PARKING GARAGE
FRANKLIN STREET GARAGE
Lake Merritt
ELIHU HARRIS STATE BLDG
DOWNTOWN MERCHANTS GARAGE
OAKLAND PUBLIC LIBRARY
CLAY STREET GARAGE
CITY CENTER WEST GARAGE
12TH STREET BART
OAKLAND MUSEUM
CITY CENTER PLAZA
LANEY COLLEGE
OAKLAND POLICE DEPARTMENT
OAKLAND AMTRAK STATION
WASHINGTON STREET GARAGE
FERRY TERMINAL
Jack London Square
Various Locations &
Parking Garage
(Foot Of Broadway)
580
980
880
May 1999

4.3 NEEDS ANALYSIS

The City of Oakland has recently been involved in identifying bicycle-parking needs by working with the BPAC, interacting with members of the public in workshops, and through a bicycle user survey. The lack of bicycle parking is identified in surveys as one of the top constraints to bicycling. With no safe place to temporarily store their bicycle, student and adult commuters are discouraged from using this alternative transportation mode. Stolen bicycles and components are not uncommon experiences for most bicyclists, resulting in a distinct need to address this deficiency.

The top locations identified by survey respondents as having inadequate bicycle parking were:

- Piedmont Avenue
- Grand Avenue near Lake Merritt
- College Avenue
- BART stations

Along street corridors, racks were the preferred type of bike parking while at BART stations the majority of the respondents preferred enclosed lockers or caged parking. The survey results indicate a general need for bike parking on commercial corridors, in shopping areas, particularly grocery stores, at transit connections and schools.

Secure, *long-term bicycle parking* is needed at multi-unit residential dwelling complexes, transit stations, schools, and places of employment. While parking should not necessarily be visible from the street, it should be covered, secure, and well-marked by directional signs.

Reasonably secure, *short-term bicycle parking* is needed within major commercial areas and neighborhood centers, as well as at public institutions and recreational destinations. Parking should be visible from the street or marked by directional signs, and should be maintained by the installer. Bicyclists should be able to lock bicycle frames and wheels. Convenience racks should be installed near building entrances. Security racks should be installed in well-lighted areas that are heavily traveled or under surveillance.

Shower and locker facilities at places of employment are important to encourage bicycle commuting. Lockers provide a place for cyclists to store helmets, clothing, and other cycling accessories during the workday. Showers are important for those who must dress in more formal attire or who have a more rigorous commute. Facilities should be either well publicized or well marked, and maintained by the property owner.

Although the City's Bicycle & Pedestrian Coordinator may be able to secure grant funding for facilities at some locations, the provision of adequate bicycle parking throughout the City will require a contribution from the private sector as well. Just as developers and property owners are required to provide automobile parking for new development or redevelopment, the provision of bicycle parking should be mandated through a bicycle-parking ordinance that would be adopted as part of the Zoning Ordinance.

4.4 BICYCLE PARKING ORDINANCE

As part of the City of Oakland's plan review process conducted by the departments of Planning & Zoning, property owners and developers are required to provide an adequate amount of automobile parking to accommodate proposed development projects. The parking requirements for various land uses are contained within the City's Zoning Ordinance.

In recent years, many cities have also begun to incorporate bicycle parking requirements into their zoning ordinances to ensure that an adequate number of bicycle parking spaces be provided. The actual burden to be placed on developers or property owners by requiring that bicycle parking be provided is relatively small in comparison to the cost of providing automobile parking. A bicycle rack with space for two bicycles typically costs less than $100.

Proposed bicycle parking requirements are described on the following pages. The recommended bicycle-parking ordinance should be designed to allow developers flexibility in satisfying requirements for long-term parking. For example, in cases where long-term parking is required for multifamily dwellings, the provision of storage units, extra closet space or similar indoor storage should satisfy the long-term parking requirements.

In cases where the provision of 10 or more long-term bicycle-parking spaces is provided, developers should be given the option of providing half of the required long-term bicycle parking at an off-site location (located within three blocks of the project site) or through payment of an in-lieu fee to the City's Bicycle Program to be used for the provision of bicycle parking at public locations.

Facility Type	Use Category	Minimum Required Spaces Short-term	Long-term
Residential	One-family dwelling	None	None
Residential	Two-family dwelling	None	None
Residential	Multifamily dwelling with private garage	2, or 1 per 10 units	None
Residential	Multifamily dwelling without private garage	2, or 1 per 10 units	2, or 1 per 2 units
Residential	Rooming house	2, or 1 per 10 residents	2, or 1 per 2 bedrooms
Residential	Mobile home park	2, or 1 per 10 units	2, or 1 per 2 units
Civic	Essential Service, Limited Childcare	None	2, or 1 per 10 employees
Civic	Nursing home Residential care	2	2, or 1 per 10 employees
Civic	Community assembly	2, or 1 per 30 average daily visitors	2, or 1 per 10 employees
Civic	Private non-profit clubs and lodges	2, or 1 per 2,000 sq. ft.	2, or 1 per 10 employees
Civic	Churches	2, or 1 per 40 fixed seats	2, or 1 per 10 employees
Civic	Community Education	2, or 1 per classroom	2, or 1 per 10 students plus 1 per 10 employees
Civic	Health Care	2, or 1 per 20,000 sq. ft.	2, or 1per 3,500 sq. ft.
Civic	Extensive impact: colleges and universities	2, or 6% number of students plus 3%number of employees	2, or 1 per 10,000 sq. ft. building floor area plus 1 per dormitory unit
Civic	All other categories	2	2, or 1 per 10 employees

FACILITY TYPE	USE CATEGORY	SHORT-TERM	LONG-TERM
Commercial	General Food Sales; Convenience Market; Alcoholic Beverage Sales; Convenience Sales & Service; General Retail Sales General Personal Service; Fast-Food Restaurant	2, or 1 per 5,000 sq. ft.	2, or 1 per 8,000 sq. ft.
Commercial	General Wholesale Sales; Sale of bulky merchandise such as furniture and large appliances.	2	2, or 1 per 10 employees
Commercial	Administrative; Consultative &Financial Service; Business & Communication Service; Retail Business Supply; Research Service;	2, or 1 per 10,000 sq. ft.	2, or 1 per 3,000 sq. ft.
Commercial	Automotive Sales, Rental, and Service; Automotive Servicing, Repair and Cleaning	2	2, or 1 per 10 employees
Commercial	Automotive Fee Parking	None	10, or 1 per 20 automobile spaces
Commercial	Group Assembly	10, or 1 per 40 seats	2, or 1 per 10 employees
Commercial	Repair of bulky merchandise such as furniture or large appliances; Transport and Warehousing ; Scrap operation	None	2, or 1 per 10 employees

FACILITY TYPE	USE CATEGORY	SHORT-TERM	LONG-TERM
Commercial	All other categories	2	2, or 1 per 10 employees
Manufacturing	All categories	None	2, or 1 per 10 employees
Agricultural and extractive activities	All categories	None	2, or 1 per 10 employees
Transit station	BART	10, or 2% passenger load	10, or 2% passenger load, or 1 per 5 car spaces
Transit station	Park & Ride	10	10, or 1 per 5 car spaces

4.5 POLICIES AND ACTIONS

The following policy and actions are proposed:

BMP Policy 6: The City should promote secure and conveniently located bicycle parking at destinations throughout Oakland.

Action 6.1: Bicycle Parking at Public Destinations
Work with local public, private, and nonprofit agencies to provide and maintain secure and weatherproof bike racks, lockers, or corrals at all public destinations, including BART and bus stations, community centers, parks, schools, hospitals, libraries, in the public right-of-way near shops, in public plazas, and near or inside public buildings.

Action 6.2: Conduct Needs Assessment
Examine major destinations to determine the type of bicycle parking appropriate to the users in that area.

Action 6.3: Security
Identify security and monitoring mechanisms around bicycle parking such as lighting, call boxes, emergency access, and bicycle patrols.

Action 6.4: Bicycle Parking Ordinance
Adopt an ordinance to be implemented as part of the City's Zoning Code that requires public and private development or redevelopment projects to provide conveniently located, clearly signed, weatherproof and secure, short and long-term bicycle parking.

Chapter 5 Bicycles & Transit

Improving the bicycle-transit link is an important part of offering additional transportation choices to Oakland residents. Allowing bicycles on buses and rapid transit vehicles greatly increases the range of destinations reached by bicycle and helps to overcome barriers such as riding in bad weather, through hill areas, at night or through seemingly unfriendly areas. Providing secure bicycle parking facilities at transit stations helps makes bicycling and transit a convenient option in comparison to the private automobile. Furthermore, the provision of bicycle parking at transit stations is a low-cost alternative to the costly provision of subsidized automobile parking found at most BART stations and "park-and-ride lots".

The bicycle-transit nexus is a critical component of any bikeway system. Transit helps extend the trips that commuter or recreational bicyclists can normally make, either due to constraints of time, geography, topography, or weather.

Bicycles can serve an important "feeder" role with respect to public transportation. If the "service area" for a transit station is calculated based on a 10-minute journey to and from the station, the "service area" would be 15 times greater for travel by bicycle than by foot (assuming an average travel speed of 3 mph for pedestrians and 12 mph for bicyclists). For Oakland residents that do not live or work within walking distance of a bus stop or transit station, bicycling can make transit a viable and attractive option.

5.1 EXISTING CONDITIONS

The BPAC and other organizations such as the East Bay Bicycle Coalition (EBBC) and Regional Bicycle Advisory Committee (REBAC) and all of the transit, rail, and ferry services have a long history of trying to improve access to transit for bicyclists. Currently, transit-bicycle connections consist of four distinct modes in Oakland: AC Transit buses, Amtrak trains, Oakland-San Francisco ferry, and BART.

The 1997-2006 AC Transit Short Range Transit Plan approved by the Board of Directors in September 1997 included the goal of a 100% bicycle accessible fleet by fiscal year 2001. To achieve this goal, AC Transit has put into service 204 new coaches with front-loading racks installed. As of December 1998, buses with bicycle racks are assigned to many of the trips on the following lines that serve Oakland: 43, 51, 58, and Transbay lines F, N, and O. In 1999, AC Transit will procure 300 additional bicycle racks for retrofitting onto existing buses. AC Transit's bus fleet is expected to reach 100% bicycle accessibility with the delivery of new buses in the summer of 2000.

BART allows bicycle on-board all trains except in the commute direction during peak hours. Bicycles are allowed in Oakland BART stations except for the 12th and 19th Street Stations which do not permit bicycles during peak commute periods. Bicycle lockers are provided at all Oakland BART stations except 12th Street and 19th Street stations. Anecdotal evidence suggests that theft of bicycles left in BART lockers has recently been a problem at the Rockridge station.

Amtrak and Capitol Corridor trains operating between Oakland and San Jose, Davis, Sacramento, and the San Joaquin Valley allow bicycles on a first-come first-serve basis, and in fact there are numerous bicyclists who use this service between Oakland and Davis. The Oakland-San Francisco ferry, which departs from Jack London Square, allows bicycles for no additional fee—although there are limitations based on available capacity.

5.2 NEEDS ANALYSIS

Bicyclists' needs include consistent access to transit and adequate storage facilities at transit stations. Consistent access can be defined in terms of access on all vehicles and routes at all times and access to all transit stations, with sufficient capacity to accommodate existing and future bicycle users. A substantial number of bicycle users' survey respondents cited limited access to BART during peak hours as a reason for not cycling more often.

Storage facilities at transit stations should consist primarily of bike lockers or attended bicycle parking, unless racks are located next to attended booths or security stations. The ability to bring bicycles on board BART and Amtrak trains, ferries and AC transit buses is critical to the success of intermodal transportation efforts.

5.3 POLICIES AND ACTIONS

BMP Policy 7: The City should support improved bicycle access to public transportation

Action 7.1: Bicycle racks on AC Transit buses
Support AC Transit's efforts to provide bicycle racks on all buses. Assist AC Transit in obtaining the necessary funding and selecting the appropriate rack type that is most suitable for bicyclists and has the lowest maintenance impacts. Work with AC Transit to develop a policy for carrying bicycles on buses when racks are not available.

Action 7.2: Bicycle Parking at Transit Stations
Provide safe and secure long-term bicycle parking at the Alameda-Oakland Ferry terminal, Jack London Square Amtrak Station, BART stations and major AC Transit bus stops. Bicycle parking should be identified by consistent signing and provide sufficient capacity to meet existing and future needs of all bicyclists. Bicycle parking should be in lockers that are available on both a monthly and coin-operated basis. Explore the feasibility of installing Bike Stations at transit terminals that provide valet-type parking, maintenance, and supplies for bicycle commuters. Encourage BART to provide high security, weather protected racks to supplement their bicycle locker program, especially at 12th Street and 19th Street Stations where lockers are not available.

Action 7.3: Bicycles on BART
Work with BART to expand the hours that bicyclists have access to BART trains, including commute direction trains. Encourage research into the feasibility of adding new types of bicycle storage and/or special train cars specifically designed to accommodate bicycles. Identify the cost-benefits of such improvements in comparison to similar investments in vehicle parking and connecting transit service. Continue to support the work of the BART Bicycle-Accessibility Task Force in addressing these and other related issues. Encourage BART to ease the current restriction on carrying bicycles in the 12th Street and 19th Street stations during peak hours.

Action 7.4: Access to Transit Stops
In implementing the proposed bikeway network, provide direct bicycle access from all directions to the Alameda-Oakland Ferry terminal, Jack London Square Amtrak Station, BART stations and major AC Transit bus stops. Install new bridges or under-crossings as needed.

Action 7.5: Access to Ferries
Support the provision of adequate bicycle storage on ferry service to San Francisco.

Action 7.6: Estuary Water Taxi Service
Work with the Port of Oakland, Metropolitan Transportation Commission, and the City of Alameda in exploring a potential water taxi service on the Estuary that could provide an alternative to the Webster/Posey tubes for bicyclists. Identify the threshold of service levels, optimum routes, and costs that would address bicyclists' needs and abilities.

Action 7.7: Amtrak/Capitol Corridor
Work with Amtrak and the Capitol Corridor operators (BART) to ensure that adequate capacity is provided for bicyclists on all inter-city rail service in Oakland. Assist rail operators in obtaining the necessary funding and selecting the appropriate rack type that is most suitable for bicyclists and has the lowest maintenance impacts.

Action 7.8: Bicycle – Transit Information
Work with appropriate agencies, including AC Transit, BART, MTC, and RIDES to publish bicycle transit information.

Chapter 6 Education & Encouragement

Education and encouragement is an important element for increasing bicycle use while also improving safety. The need for enhanced bicycle safety education is demonstrated by surveys that consistently identify safety concerns as being the top reasons that most people do not commute by bicycle. Motorists and cyclists are often unaware of basis 'rules-of-the-road". Bicycle encouragement programs include the annual Bike-to-Work Day. This chapter presents an overview of sample bicycle safety and education programs.

Education programs aimed at bicyclists include the development of safe cycling skills in children, teaching adult cyclists their rights and responsibilities, and teaching motorists how to more effectively share the road. Encouragement programs include bicycle commute days, such as "Bike-to-Work Day", providing incentives for bicycling, and promoting bicycling through the distribution of bicycle maps and other information.

6.1 EXISTING PROGRAMS

Existing programs to encourage bicycling can be found at the Public Works Agency, including the publication of information pamphlets and notices designed to make bicyclists aware of bicycle parking and maintenance resources. The annual 'Bike-to-Work Day' is a City-sponsored event that attempts to encourage bicycle commuting. The Public Works Agency is also responsible for the construction and maintenance of the physical environment, designs and builds facilities such as bike lanes to help improve safety, and responds to specific incidents and problems. The completion of this Bicycle Master Plan and related BPAC and public workshop activities has also been an effort to maximize interest in and exposure of bicycling needs and constraints.

The Oakland Unified School District, Police Department and Public Works Agency have consistently attempted to improve safety conditions for bicyclists. Existing education programs in schools are occasionally taught once a year to third-, fourth- and fifth-graders. Curriculum is generally derived from established programs developed by groups such as the California State Automobile Association and taught by members of the Oakland Police Department. Budget cuts, demands on students' time and liability concerns have limited the extent of bicycle education to school children.

The Oakland Police Department is charged with enforcing existing laws related to bicyclists and motorists, responding to specific incidents, recording those incidents, and tracking bicycle-related accidents in the City in conjunction with the California Highway Patrol.

6.2 NEEDS ANALYSIS

The lack of adequate training and education is a leading cause of accidents involving bicyclists, especially among young people. The most common type of reported bicycle accident involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road during evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents is directly adjacent to elementary, middle and high schools.

Adult education is also important, not only for bicyclists learning to adequately negotiate intersections and safely interact with motor vehicles, but also for motorists unsure of how to share a roadway with a bicyclist. The need for enhanced bicycle safety education is demonstrated in City and national surveys which consistently identify concerns about safety as being the top reason people don't commute by bicycle. The analysis of accident statistics in the City reveals a substantial percentage of collisions caused by bicyclists or motorists unaware of basic rules-of-the-road.

Motorist education of the rights of bicyclists is virtually non-existent. Many motorists mistakenly believe, for example, that bicyclists do not have a right to ride in travel lanes and that they should be riding on sidewalks. As stated earlier, bicyclists are legally permitted to travel on all City streets.

6.3 SAMPLE PROGRAMS

Without community support, a bicycle plan lacks the key resources needed to ensure implementation over time. While the City Public Works Agency may be responsible for designing and constructing physical improvements, strategies for community involvement will be important to ensuring broad-based support--which translates into political support--which in turn can help secure financial resources. Involvement by the private sector in raising awareness of the benefits of bicycling and walking ranges from small incremental activities by non-profit groups, to efforts by the largest employers in the City.

Sample programs are described in the following pages.

6.3.1 Bicycle Donation Program

A fleet of lender bicycles available to employees to use as a commute alternative has proved successful in Portland and other U.S. cities. The bicycle may be purchased new or obtained from police auctions, repaired, painted and engraved with ID numbers, and made available free of charge to employees. Depending on demand, bicycles may be made available through reservations or on a rotating basis. The bicycles themselves should be lower-end heavy-duty bicycles that have minimal re-sale value. Employers' responsibilities would be limited to an annual maintenance inspection and repairs as necessary. The objective of the program is to encourage employees to try bicycling to work as an alternative, without making a major investment.

6.3.2 Bicycle Clunker and Parts Program, Bicycle Repair Program

This program ties directly into the previous program by obtaining broken, stolen, or other bicycles and restoring them to working condition. The program's dual mission is also to train young people (ages 12-18) how to repair bicycles as part of a summer jobs training effort. Bicycles are an excellent medium to teach young people the fundamentals of mechanics, safety, and operation. Young people can use these skills to maintain their own bicycles, or to build on related interests. The program is often staffed by volunteers from local cycling organizations and bicycle shops, who can help build an interest in bicycling as an alternative to driving. The seed money to begin this program often comes from a local private funding source. The proposal to any funding source should clearly outline the project objectives, operating details, costs, effectiveness evaluation, and other details. The bicycles themselves could be derived from unclaimed stolen bicycles from the police department, or from donated bicycles. The program will need to quality as a Section 501C(3) non-profit organization to offer tax deductions.

6.3.3 Bicycle Facilities Map

The East Bay Bicycle Coalition (EBBC) has developed and produced a detailed map of bicycle facilities that covers all of Oakland. The Bay Trail is also well mapped by the sponsoring agency, the Association of Bay Area Governments (ABAG). Most of the proposed Primary System is based on routes identified by the EBBC and ABAG. The City of San Francisco, as part of their Bicycle Master Plan, developed a full-color bikeway map that is included with Pacific Bell telephone books. A comprehensive bikeway map should be published and disseminated to the public, free or at nominal cost.

6.3.4 Adopt a Bikeway

Programs to have local businesses and organizations 'adopt' a pathway have proven effective around the country, similar to the adoption of segments of the Interstate Highway system. Supporters would be identified by small signs located along the pathway, acknowledging their contribution. Support would be in the form of an annual commitment to pay for the routine maintenance of the pathway, which in general costs about $8,500 per mile. This program may be administered by Parks & Recreation, the Bay Trail, the Port, or other groups.

6.3.5 Bike Fairs and Races

Oakland is already home to several well-known bicycle events, such as the Bay Trail Criterium around Lake Merritt and these events are typically privately-operated, but require extensive coordination with the City Police, Parks and Recreation, and Public Works Departments. The City can assist in maintaining and expanding these events by acting as a co-sponsor, expediting the permit approval process, and possibly underwriting some of the expense of--for example--police time. The City should also encourage these events to have races and tours that appeal to the less experienced cyclist. For example, in exchange for underwriting part of the costs of a race the City could require the event promoters to hold a bicycle repair and maintenance workshop for kids. A tour of the route led by experienced cyclists could demonstrate to less experienced riders how to safely negotiate city streets.

6.3.6 Employer Incentives

One of the key employer incentives has been described in section 5.3, the Bicycle Donation Program. Beyond this, employer incentives to encourage employees to try bicycling or walking to work include sponsoring bike fairs and races, providing bicycle lockers and shower facilities, and offering incentives to employees who commute by bicycle or walk by allowing for more flexible arrival and departure times, and possibly paying for transit or taxis during inclement weather. The City may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means.

6.3.7 Educational Materials

Education materials should be expanded to promote the benefits of bicycling. Such materials should capitalize on the most recent educational tools available in the country (including the use of low-cost safety videos such as 'The Basics of Bicycling, developed by the Bicycle Federation of America), and directives to parents on the proper school drop-off procedure for their children. Bilingual educational pamphlets for children of all ages should be made more readable. Incentive programs to reward good behavior should

be developed, including donated equipment and services from local bike shops, manufacturers, insurance companies, utilities, HMO's and hospitals, etc. Educational programs, and especially repetitive on-bike training, should be expanded to more grades (3rd through 6th) and for more hours per year (minimum 20 hours training per school year). Instruction should be provided by trained personnel such as police or volunteers from local bicycling organizations and clubs. Educational services should be promoted by the local press through advertisements and feature articles, and by press conferences/statements from the Mayor and Council Members. Education curriculum should, at a minimum, cover the following lessons:

- on-bike training or bicycle 'rodeos'
- how to adjust and maintain a bicycle
- night riding (clothes, lights)
- rules of the road
- riding on sidewalks
- how to negotiate intersections
- riding defensively
- use of hand signals

A standard safety handbook utilizing formats established by the Safety Center, AAA, and/or Florida DOT should be developed incorporating the best elements of those currently in use, and made available to each school on disk customized as needed. Each school should develop a circulation map of the campus and immediate environs to include in the handbooks, clearly showing the preferred circulation and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters.

Bicycle helmet subsidy-programs are available in California, and should be used to provide low-cost approved helmets for all school children that ride bicycles.

6.4 POLICIES AND ACTIONS

BMP Policy 8: The City should work with other public agencies and the private sector to improve bicycle education, enforcement and promotional programs.

Action 8.1: Bicycle Education
Assist with the development of a program of bicycle education in the City of Oakland that extends to all age groups in the city and targets bicyclists, pedestrians and motorists alike. Make use of opportunities in the schools (public and private, elementary, junior and high schools and colleges), day care centers, parks and recreation programs, citywide media campaigns, drivers education classes and city events, fairs and festivals.

Action 8.2: Expand Current Education Programs.
Encourage the expansion of educational programs in Oakland schools and the development of a secure, regular funding source. A Joint City/School District Safety Committee, consisting of appointed parents, teachers, administrators, police, and public works staff, should work to identify problems and solutions, ensure implementation, and submit recommendations to the School Board or City Council.

Action 8.4: Develop an Adult Education Program.
Encourage the establishment of an adult bicycle education program through local colleges, the Parks and Recreation Department, or other City departments that (a) teaches adults how to ride defensively, (b) how to ride on a variety of city streets, and (c) encourages adults to feel more confident to ride to work or for recreation. Work with local groups such as the East Bay Bicycle Coalition (EBBC) who could provide the training expertise, and possibly lead organized bicycle training sessions, tours and rides.

Action 8.5: Educate Motorists.
Educate motorists on the rights and characteristics of bicyclists through a variety of means including: (a) making bicycle safety a part of traffic school curriculum in Oakland, (b) producing a brochure on bicycle safety and laws for public distribution, (c) enforcing existing traffic laws for both motorists and bicycles, (d) sending an official letter to the Department of Motor Vehicles recommending the inclusion of bicycle laws in the drivers license exam, and (e) install signs that read ‘Share the Road’ with a bicycle symbol at least every 1,000 feet along all routes of the proposed primary system where bike lanes are not feasible, travel lanes are under 14 feet wide, and ADTs exceed 20,000.

Action 8.6: Enforcement
Enforce existing traffic laws as they are applied to both motorists and bicyclists. Consider developing a fine structure for bicycle violators including a provision for a bicycle traffic school program. Educate law enforcement officials on the necessity and methods for citing bicycling offenders.

Action 8.7: Commute Incentives
Develop a bicycle commute incentive program for city employees to encourage bicycle commuting, perhaps as part of the Sustainable Community Development Initiative. Work with employers in Oakland to develop similar programs for their employees.

Action 8.8: Incentives for New Development
Consider reducing required automobile parking in new developments in exchange for provisions of bicycle support facilities such as showers, lockers and changing space for bicycle commuters.

Action 8.9: Public Awareness
Provide awareness of educational programs for children and adults through a comprehensive marketing program, including the use of local press, politicians, businesses, utility companies, Department of Motor Vehicles (DMV) and public service announcements on radio and television.

Action 8.10: Maps
Provide adequate maps of the Oakland bikeway system and support facilities. Include new information such as the location of transit routes that carry bicycles, trailheads, bicycle parking, and scenic and commuter routes. Work with the East Bay Bicycle Coalition to increase availability of the maps to local schools, employers, libraries, and other locations. Work with Parks & Recreation, the School District, and other departments to update and produce specialty maps such as routes through historic downtown, a waterfront map, access to local and regional maps, and school commute maps.

Action 8.11: Encourage Student Commuters
Work with public and private schools in Oakland to encourage, not prohibit, students bicycling to school.

Chapter 7 Funding & Implementation

Implementation of the Bicycle Master Plan will require a long-term commitment. It is anticipated that the majority of funding for completion of the recommended bikeway network and other projects will come from grants. Adequate staffing is essential for the bicycle program to apply for grants, conduct project planning and promotion and ensure that development or redevelopment projects incorporate the needs of bicyclists.

This chapter addresses the required City staffing and coordination to ensure effective implementation of the recommendations contained within this Plan and describes potential funding sources. Rough cost estimates for bikeway projects are contained in the Appendix to the Bicycle Master Plan (BMP).

7.1 CURRENT IMPLEMENTATION PROGRAM

The administration and implementation of the City's bicycle programs are carried out by several City agencies. The bulk of the programs take place in the Public Works Agency, which currently employs a full-time Bicycle and Pedestrian Facilities Coordinator and a full-time Management Assistant. Under the direction of a Senior Transportation Planner, the Coordinator oversees the City's bicycle and pedestrian projects, prepares grant applications to finance programs and projects, and coordinates with various other departments to plan, design and implement projects. The recent focus has been on installing bicycle lanes on selected streets and providing bicycle parking in key locations. The Coordinator position is funded by Measure B transportation sales tax revenues, while the assistant is funded by bicycle facility grants.

Several other City agencies are also involved in bicycle programs. The Community and Economic Development Agency's Strategic Planning division has managed the preparation of this Bicycle Master Plan and coordinated public involvement with the Bicycle and Pedestrian Advisory Committee (BPAC). The Parks and Recreation Department has programs geared towards bicycle promotion, safety and education.

7.1.1 Past and Current Expenditures for Bicycle Facilities

Table 7-1: Past Expenditures

Project Name	Project Type	Total Cost	City In-kind*	Grant Funding	Funding Source	Status
Broadway	**Class II Lanes**	**$10,000**		**$10,000**	**ISTEA****	**Completed 11/98**
16th Ave. Overpass Bicycle/Pedestrian Street Lighting Improvement Project	**Lighting Improvements**	**$40,000**	**$40,000**		**Street Lighting Improvement Project**	**Completed 4/98**
City Center/Ferry Route Signs	**Class III Route**	**$10,000**		**$10,000**	**TDA**	**Completed 2/99**
Downtown Oakland Bike Parking Map	**Maps**	**$500**			**General Fund**	**Published 4/96 Revised 11/98**
Parks and Recreation Centers	**Bicycle Parking**	**$5,000**		**$5,000**	**TFCA Local**	**Completed 11/98**
City Administration Building Parking Cage	**Employee Bicycle Cage and Public Racks**	**$108,490**	**$86,500**	**$21,990**	**TFCA Regional**	**Completed 12/98**
Frank H. Ogawa Plaza Parking	**Bicycle Parking**	**$7,000**		**$7,000**	**TFCA**	**All racks installed by 12/99 except those at the 14th St. BART entrance (DOC 8/99)**
Downtown Bicycle Parking	**Bicycle Parking**	**$25,000**	**$25,000**		**TFCA**	**Completed 1994**
Commuter Kiosk	**Touch screen and brochures on commute alternatives**	**$37,500**	**Staff Time**	**$37,500**	**TFCA Local**	**Published Revised 1998**

* City provided in-kind matches as staff costs on all projects in addition to the amounts shown.
** Funding source abbreviations defined in Section 7.3

Table 7-2: Current/On-going Expenditures

Project Name	*Project Type*	Total Cost	City In-kind	Grant Funding	*Funding Source*	Status
Telegraph Avenue	Class II Lanes	$141,830	$24,850	$89,480	TFCA Regional	Aileen to Berkeley Border striped, under development
				$27,500	TFCA Local	
Grand Avenue	Class II Lanes	$195,000		$195,000	TDA	Under Development
Embarcadero Bay Trail	Class II & III	$1,550,000		$1,550,000	TEA-21 / TDA/TFCA/ Bay Trail RDP	Completed 75% of plans; const. 7/99-12/99
Bike Parking Request Program 1998/99	Bicycle Parking	$36,650	$8,000	$22,65o	TFCA Regional	Under Development; Expected DOC 11/99
				$6,000	TFCA Local	
Bike-to-Work-Day	Promotional Event				Measure B	On-going project; yearly event.
Earn-A-Bike Program	Youth Safety & Education					On-going, year-round project
GIS Bicycle Project	GIS Maps of City bike facilities					On-going project; additional layers to be added to the City's GIS map

Miscellaneous Expenditures:

Within the past few years, the City striped bicycle lanes on several blocks of Broadway, West Street and Bancroft Avenue as part of resurfacing projects. The Public Works Agency is studying the feasibility of installing bicycle lanes on a number of other streets as part of resurfacing or redevelopment projects. In addition, the City has begun to paint bicycle stencils at traffic signals with bicycle-friendly loop detectors. Staff coordinates with Caltrans, Port of Oakland, and other agencies on an on-going basis to install bicycle facilities.

7.2 CONSTRAINTS TO EFFECTIVE IMPLEMENTATION

The key constraints to the implementation of an adequate bicycle program in Oakland have been:

- Limited institutional and City staff support for bicycle projects
- Lack of funding
- No policy framework or master plan

In recent years, many new sources of grant funding have been created at the federal, state and regional level. To effectively compete for this funding, the City may need to increase staffing to plan bicycle projects and apply for grant funding.

7.2.1 Project Review

New development and redevelopment projects have typically been planned and developed without consideration of bicycling needs, such as the provision of adequate bicycle parking or safe ingress and egress for bicyclists. The development of an effective review process should be implemented by the City to ensure that the needs of bicyclists are considered during project design and plan review. All roadway restriping and resurfacing projects should incorporate bicycle improvements whenever possible. Roadway resurfacing projects should incorporate the needs of bicyclists.

7.2.2 Staff Needs

With the current bicycle program staff limited to the Bicycle and Pedestrian Facilities Coordinator position and the recently hired ~~half-time~~ Management Intern, opportunities for funding, projects, or activities may be missed. To ensure coordination of all activities and to pursue all potential funding opportunities, a larger staff with expertise in bicycle planning, design engineering, safety, education/outreach, grant writing, and fund-raising is needed. There are many opportunities for increased funding for bicycle programs and facilities, but limited staff resources may constrain the potential to pursue all of these opportunities.

One possible strategy for providing better coordinated and increased staff support to the City's bicycle program would be to follow the lead of other cities, such as Portland, Seattle and San Francisco, and create a "bicycle unit" within the Public Works Agency to

STAFF ORGANIZATIONS FOR VARIOUS BICYCLE PROGRAMS
San Francisco Bicycle Plan

City (Population)[1]	Staff Person and Title	Department	Division	Bicycle Staff	Staff Funding Source	Grant Writing Responsibility
Seattle (520,000)	Pete Lagerway - Bicycle Coordinator	Engineering	Traffic Section - Bicycle & Pedestrian	5 Full Time 2 Part-Time	100% Project Funded	Bicycle Coordinator and staff
San Diego (1,149,000)	Michael Jackson - Bicycle Coordinator	Engineering	Traffic Engineering Division	1 Full-Time	100% General Fund	Bicycle Coordinator, assisted by other division staff
Tucson (415,000)	Keith Walzak - Alternative Modes Coordinator	Transportation	Division of Transportation Planning	1 Full-Time	100% General Fund	Alternative Modes Coordinator
Portland (445,000)	Mia Birk - Bicycle Program Coordinator	Transportation	Bureau of Traffic Management - Striping & Signage Division	1 Full-Time 2 Part-Time	60% Transportation Revenues 40% Projects	Bicycle Coordinator and staff as needed
Eugene (116,000)	Diane Bishop- Bicycle and Alternative Modes Coordinator	Public Works	Transportation Division	1 Full-Time	80% Transportation Revenues 20 % General Funds	Alternative Modes Coordinator

(1) 1992 Population statistics
Source: Nelson\Nygaard, January 1995

Wilbur Smith Associates; February 1995

manage implementation of the Bicycle Master Plan. Creation of such a unit would be contingent on the provision of funding, either through additional sales tax, grants, general funding or other sources.

While it would be preferable to develop a "bicycle unit" immediately, it should be noted that this is a long-term plan that will be implemented over many years. The proposed "bicycle unit" should include a full-time Bicycle Program Manager to manage bicycle projects, coordinate activities with other City departments and agencies, and seek funding. The Bicycle Program Manager would also manage staff within the bicycle unit, which should include a full-time Planner, a part-time Traffic Engineer and a part-time Management Assistant, for a total of two full-time equivalent employees. The staff would assist with planning, feasibility and traffic studies and securing grants to fund projects.

Successful implementation of the Bicycle Master Plan requires coordination with other departments and staff in order to allow various bicycle-related activities to work together more effectively. It is essential for the Bicycle Program Manager and staff to oversee any project which directly affects bicycling, to be involved in Citywide bicycle transportation policies, and to ensure coordination of activities among departments and organizations to maintain consistency.

Coordination between various City agencies with regard to bicycle projects could also be facilitated through creation of a standing committee to meet on a regular basis. This committee should be overseen by the Bicycle Program Manager and include representatives from City departments such as Traffic Engineering, Planning, Redevelopment, Police, and Life Enrichment.

7.3 FUNDING SOURCES

This section describes the many potential sources of funding for financing the recommended bikeway network and related programs. There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle improvements. Many of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits.

7.3.1 Federal funding

Federal funding through the TEA-21 (Transportation Efficiency Act for the 21st Century) program will provide a considerable percentage of outside funding. Some of the federal funding sources include:

- TEA (Transportation Enhancement Activities)

- CMAQ (Congestion Mitigation and Air Quality Improvement)
- Transit Enhancements
- TLC (Transportation for Liveable Communities)
- STP (Surface Transportation Program)

The Metropolitan Transportation Commission (MTC) or the County's Congestion Management Agency (CMA) generally administers Federal funding in. These funding programs are oriented towards transportation (not recreation) with an emphasis on (a) reducing auto trips and (b) providing inter-modal connections. Funding criteria often includes completion and adoption of a bicycle master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, and commitment of some local resources.

7.3.2 State funding

State funding sources will increase dramatically in the next few years:

- Bicycle Lane Account: Annual program for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Funding was increased to $1 million in Fiscal Year 1999 with an increase to $5 million per year scheduled for the next few years.
- TDA Article 3: state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from state sales tax revenue and are distributed to local jurisdictions based on population.
- The Bay Trail Regional Development Program (RDP): In 1996-97 and 1997-98 the Bay Trail project awarded nearly $1 million in grants under the RDP to local jurisdictions for construction of Bay Trail segments. The RDP has been funded through State legislative appropriations to the California Conservation Corps. The RDP went unfunded in 1998-99 and at this time it is not certain when funds will be available again for this program.

7.3.3 Regional funding

- Transportation Fund for Clean Air (TFCA): The Bay Area Air Quality Management District is a major potential source of funding for bicycle and pedestrian programs. TFCA funds are generated by a $4 vehicle surcharge paid on all motor vehicles registered in the Bay Area.

7.3.4 Local

Potential local measures to implement the Bicycle Master Plan include the following:

- Require provision of bicycle parking for new development or redevelopment through development of a Bicycle Parking Ordinance
- Require the installation of bicycle lanes or wide curb lanes for future road widening and construction projects.
- Impose developer impact fees, typically ties to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements which will encourage bicycling. In-lieu parking fees may be used to help construct new or improved bicycle parking.
- Create a local assessment or benefit district, such as a Mello Roos district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a larger parks and recreation or public infrastructure program with broad community benefits and support.
- Local sales taxes, fees, and permits may be implemented, requiring a local election.
- Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as the California Conservation Corp may be effective at reducing project costs. Local schools or community groups may use the bikeway or pedestrian improvement as a project, possibly working with a local designer or engineer. Work parties may be formed to help clear the right of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations adopt a bikeway and help construct and maintain the facility.

7.4 FUTURE ROLE OF THE BPAC

The City's Bicycle & Pedestrian Advisory Committee (BPAC) should continue to play a viable role in the implementation of this Plan. The role of the BPAC is to advise and recommend policies for the planning, development and maintenance of pedestrian and bikeway systems for safe and enjoyable circulation for both commuting and recreation within the City. Because of limited City resources, the BPAC has served a valuable role in marshalling outside resources and volunteers.

The role of the BPAC should continue to include the following:

- Review and comment on recommended changes to the Bicycle Master Plan.
- Make recommendations on proposed bicycle projects and projects that may impact bicyclists.
- Participate in the review, prioritization and recommendations of bicycle projects for funding under the City's Capital Improvement Program, Transportation Development Act or other regional, state or federal bicycle grant programs.
- Work with the City to promote bicycling.

7.5 POLICIES AND ACTIONS

BMP Policy 8: Insure that the needs of bicyclists are considered in the design of new development and redevelopment projects.

Action 8.1: Project Review
Through existing project review processes, evaluate both public and private development projects to ensure that they meet adopted standards for bicycle-friendly design.

Action 8.2: Drive-up windows
Drive-up windows, drive-in services and take-out services, excluding car washes, should provide full access to bicyclists.

BMP Policy 9: Provide the support necessary to implement the Bicycle Master Plan

Action 9.1: Bicycle Program Manager
Designate a Bicycle Program Manager to guide implementation of the Plan.

Action 9.2: Responsibilities of the Bicycle Program Manager
Implement the facilities and programs outlined in the Master Plan; apply for grants and other funding; manage a program budget; complete necessary preliminary design and engineering work.

Action 9.3: City Commitment
Allocate adequate funds to enable the Bicycle Program Manager to obtain roadway engineering and public outreach assistance and to provide seed money to obtain other funding.

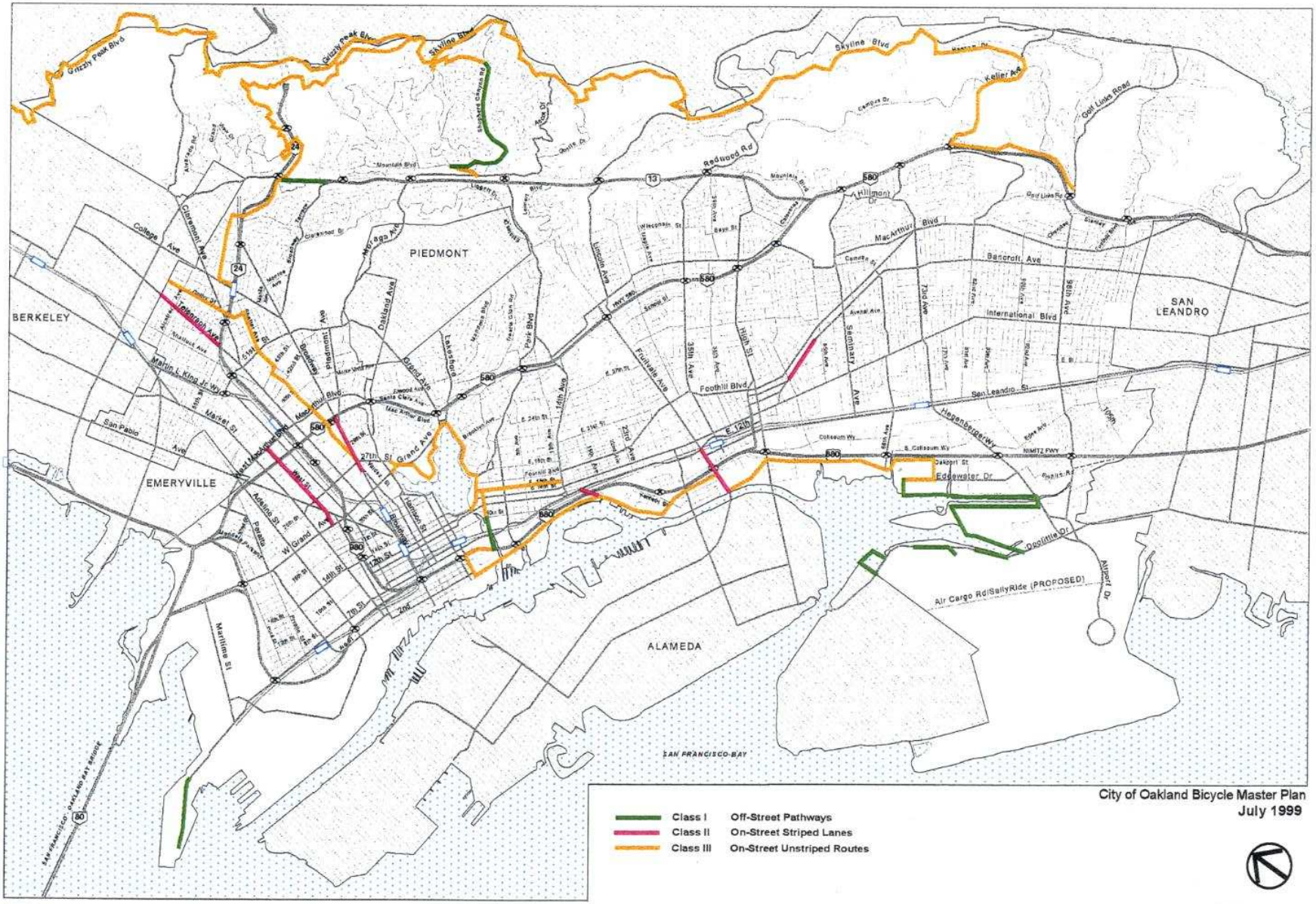
Action 9.4: Capital Improvement Program (CIP)
To help achieve the goal of increasing the bicycle commute share to 4% by 2010, the City should consider allocating four percent of CIP transportation funds to bicycle projects on an annual basis.

BMP Policy 10: Prior to the implementation of bikeway projects, affected residents, merchants and property owners shall be notified in writing of the potential impacts.

Action 10.1: Citizen Input
Public meetings shall be held for all bikeway projects.

Action 10.2: City Council Approval
If the design of a bikeway will reduce the number of traffic lanes or parking, there shall be a vote of the City Council before implementation of the bikeway project.

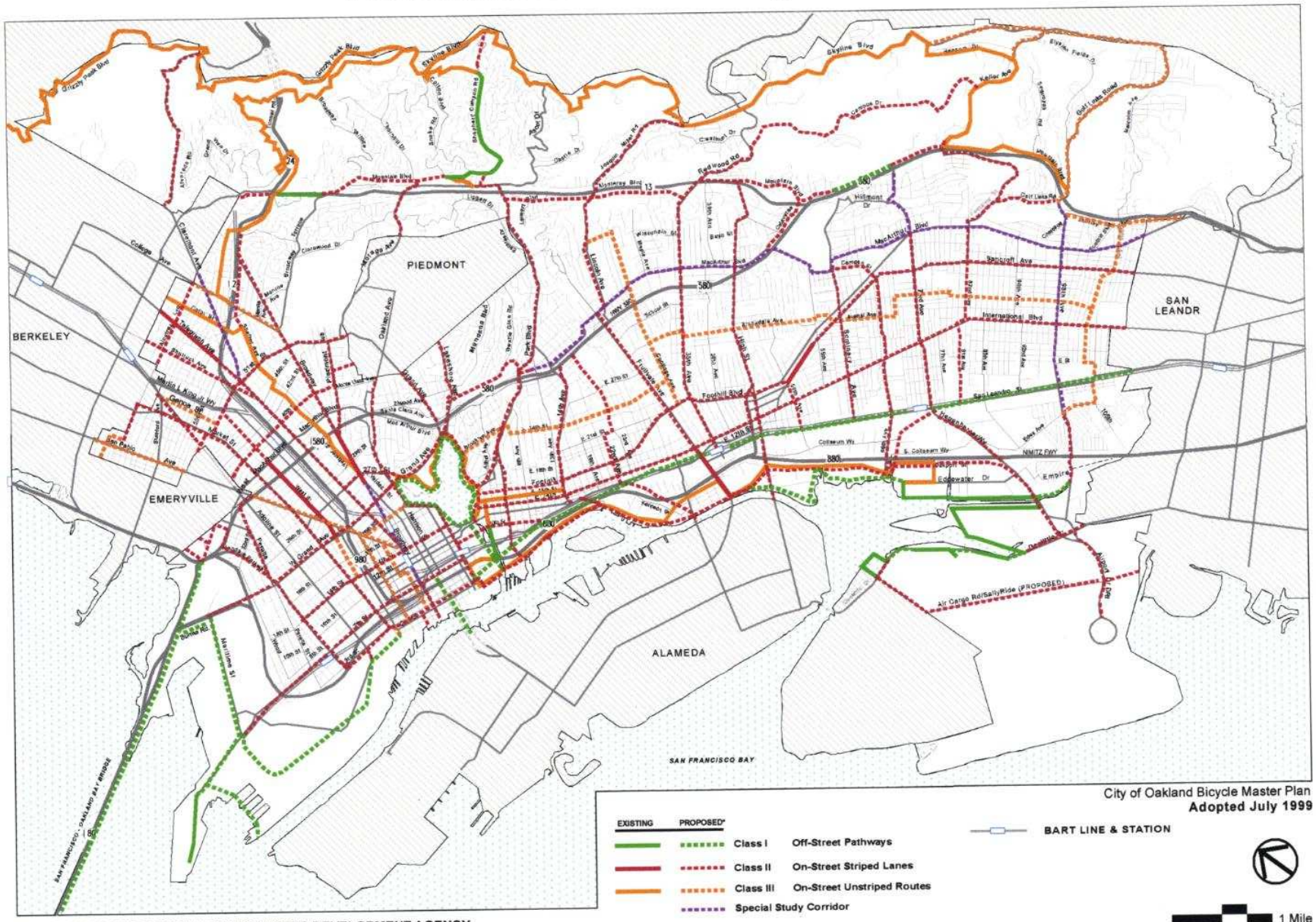
City of Oakland
Existing Bikeways



City of Oakland Bicycle Master Plan
July 1999

CITY OF OAKLAND COMMUNITY & ECONOMIC DEVELOPMENT AGENCY

City of Oakland
Recommended Bikeway Network



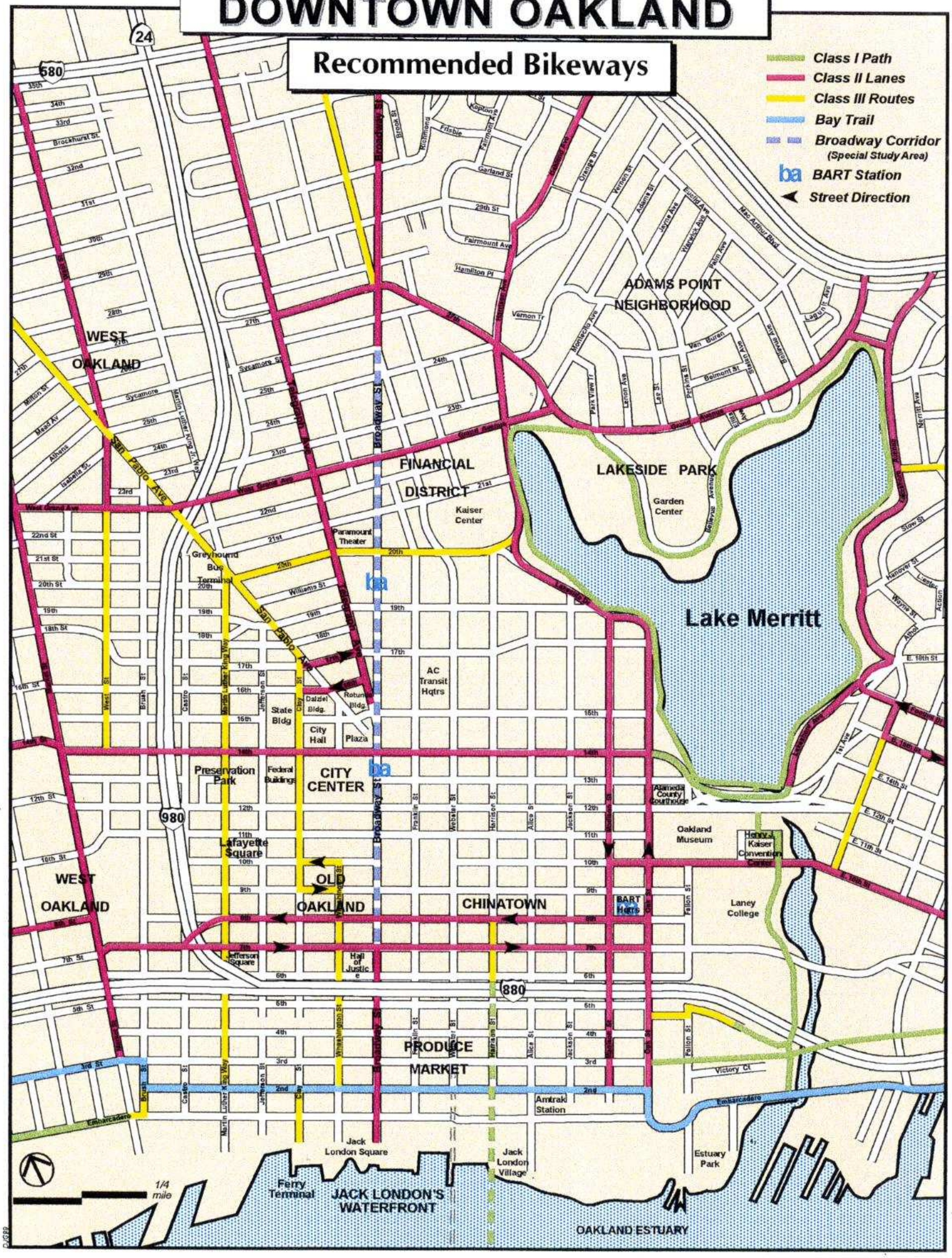
City of Oakland Bicycle Master Plan
Adopted July 1999

CITY OF OAKLAND COMMUNITY & ECONOMIC DEVELOPMENT AGENCY

** Indicates Preferred Bikeway Class and Alignments. Final Determinations Will Require Feasibility Analysis.*

DOWNTOWN OAKLAND

Recommended Bikeways



Note on the PDF Version of the 1999 Bicycle Master Plan

This copy of the 1999 Bicycle Master Plan was created in portable document format (PDF) in May 2005. It was assembled from the best available versions of the original document. Some pages were not available in electronic format and were included here as scanned images. Consequently, there are minor formatting differences and some pages do not match the quality of the original. Please note that the PDF version does not include the appendices.

The 1999 Bicycle Master Plan is available, in its entirety, in paper format. For information on obtaining a paper copy, contact the Planning and Zoning Division, Community and Economic Development Agency, at 510-238-3941.