

Alameda Countywide Bicycle Plan

DRAFT Existing Conditions Chapter

September 2010

Table of contents

❶ Introduction	2	❻ Bicycle safety	24
❷ Key findings	3	Collisions, fatalities and injuries	24
❸ Who is bicycling in Alameda County?	5	Collision hotspots	25
By gender	5	Map of bicycle collisions	26
By age group	5	Bicyclists' share of fatalities	27
By income level	6	Personal security	28
Bicycling and social equity	7	By planning area	32
❹ How many people are bicycling?	8	By time of day	29
Bicycle trips	8	❼ Support facilities	30
Bicycle commuters to work	8	Bicycle parking	30
Bicycle counts	9	Showers and lockers	30
❺ Why are people bicycling?	10	Wayfinding signage	30
Trips by purpose	10	❽ Planning, programs and advocacy	31
Bicycling to transit	11	Local planning efforts	31
Physical barriers and connectivity gaps	13	Local support programs	31
Bicycling and health	13	Countywide support programs	33
❻ Where are people bicycling?	15	Advocacy efforts	33
By planning area	15	❾ Funding needs	34
Bicycling and the built environment	16	❿ Implementation of the 2006 plan	38
By jurisdiction	17	Capital projects	35
To BART stations	18	Countywide support programs	35
Duration of bicycling trips	21	Challenges encountered	35
Major pathways and trails	22		
Map of countywide bicycle network	23		

① Introduction

“Existing Conditions”—the opening chapter of the Alameda Countywide Bicycle Plan—sets the context for the rest of the plan by describing the current state of bicycling in Alameda County. The chapter tackles four questions that are central to understanding and planning for the needs of cyclists in the county:

- **Who is bicycling in Alameda County?** examines bicycling rates by key demographic characteristics.
- **How many people are bicycling?** looks at the number of bike trips and commuters in the county.
- **Why are people bicycling?** explores the purposes of trips made by bike.
- **Where are people bicycling?** analyzes numbers and rates of bicycling trips in specific areas of the county.

In addition, the chapter includes sections on bicycle safety; local bicycle planning efforts, support programs and advocacy efforts; and implementation of the 2006 Countywide Bicycle Plan.

The chapter incorporates the most recent data available for bicycle travel, obtained especially from the following sources:

- The 2000 Census and 2006-2008 American Community Survey (ACS), for statistics on the number of people who bike to work. The ACS is an annual survey, also administered by the U.S. Census, that replaced the “long form” of the census. This report uses ACS data for the combined years 2006-2008 instead of for 2008 because three-year data is much more accurate than one-year data. The ACS does not provide data for Albany, Emeryville and Piedmont because those jurisdictions have populations under 20,000.
- The year 2000 Bay Area Transportation Survey (BATS2000) from the Metropolitan Transportation Commission (MTC), for data on bicycle trips made for all purposes (2000 is the most recent year in which BATS was conducted). It is important to note that BATS significantly undercounts bicycling trips because it does not include trips to or from transit, many of which are made by bike.
- Station profile studies from 1998 and 2008 conducted by the Bay Area Rapid Transit District (BART) to determine, among other things, how passengers access BART stations.
- The California Highway Patrol’s Statewide Integrated Traffic Records System (SWITRS), a database of traffic collisions as reported to and collected by local police departments and other law enforcement agencies across the state.

① Key findings

This chapter contains more than 30 pages of data and other information about the state of bicycling in Alameda County. As a way of making this information easier to absorb, below are some of the key findings from the chapter:

Who is bicycling in Alameda County?

- Women make only one third of all bicycling trips, or just under half as many as men. Women's bike mode share is less than half that of men (0.9% against 2.1%).
- The bicycling rate is highest among people aged 18-29; excluding the 0-4 age group, the lowest rate is among those 65 years of age and older.
- People in the lowest income group have the highest bike mode share (1.8%) whereas those with the highest incomes bike the least.

How many people are bicycling?

- In 2000 (the latest year for which such data is available), approximately 593,000 bike trips were made every week in Alameda County, or almost 85,000 trips daily. This represented 2% of all trips.
- If biking trips to or from transit are included, the weekday number of bike trips in the county increases by almost 77,000; this includes 57,000 to AC Transit stops and 20,000 to BART stations.
- The bike mode share in Alameda County (2%) is double that of the Bay Area (1%).
- The number of bike commuters increased by 21% from 2000 to 2006-2008 (compared to an increase of only 2% for all commuters), while the bike mode share for commute trips rose from 1.2% to 1.5%.

Why are people bicycling?

- The breakdown of bike trips in Alameda County by trip purpose is as follows: social/recreational (34%), work (19%), shopping (19%) and school (9%). An additional 19% are "non home-based" trips—they begin and end someplace other than at home—of all purposes.
- The bike mode share was highest for social/recreational trips (3%) and lowest for shopping (1%).
- Significant physical barriers to bicycling in the county include auto and rail infrastructure such as highways, interchanges and railroads. Key gaps include missing segments along multi-jurisdictional paths and trails.

Where are people bicycling?

- A full three quarters of all bicycle trips in the county are in the North planning area, well over its population share of 42%. Very few people are bicycling in Central and South county; those areas account for almost 50% of the population but for only 13% of the county's bike trips.
- The North planning area has the highest bicycling mode share (3%), while the Central area has the lowest (0.5%). Berkeley has by far the highest percentage of commuters on bike (6.6%).
- The bike access share for BART stations in the county increased by almost a third from 1998 to 2008 (from 3% to 4%). In 1998, only one station had a bike access share higher of 5% or greater; in 2008, five did: Ashby, Fruitvale, North Berkeley, MacArthur and Lake Merritt.
- The seven top stations with the highest share of bike access trips in 2008 are in the North planning area. The three stations with the lowest bike access share include 12th Street and both of the stations in the South planning area.
- Nationally, almost 60% of bike trips are under 15 minutes (roughly 3 miles). Only 7% of bike trips are over an hour (12 miles) long.

Bicycle safety

- In 2000-2008, there was an average of 581 collisions per year in Alameda County involving bicyclists that resulted in at least serious or visible injuries, and an average of almost three fatalities.
- Most of the collisions occur along an arc from central Berkeley to downtown Oakland.
- Over the past eight years, bicyclists have made up 2.4% of all traffic fatalities in Alameda County; this is roughly consistent with the county's bike mode share (2%).
- The North planning area has a much lower share of the county's bike collisions than of bike trips. The Central area has a much higher share, the South has a somewhat higher share and the East has the same share.
- The North area has the fewest collisions per 100 bike commuters, while the South area has the most.
- The afternoon/evening period accounted for only 10% of the collisions but had, by far, the highest percentage of fatalities (64%).

Support facilities

- Four cities have bicycle parking ordinances: Oakland, Hayward, Pleasanton and Union City. Almost all jurisdictions have installed at least some bicycle racks or lockers.
- BART provides racks at all its stations in the county; lockers at all stations except 12th Street and 19th Street in Oakland and Downtown Berkeley; and bike stations at Downtown Berkeley and Fruitvale.
- Oakland and Emeryville have bike-route signage programs.

Planning, programs and advocacy

- Albany, Hayward, Oakland and Union City updated their bicycle or bicycle/pedestrian plan since 2006, while Dublin and Pleasanton adopted their first plan, as did the County (for the unincorporated areas). Other than Newark, which is in the process of developing a combined bicycle/pedestrian plan, only one city—Piedmont—remains without a bicycle plan.
- In addition to jurisdictions, the University of California at Berkeley has a campus bicycle plan.
- Almost every local jurisdiction administers one or more bicycle support programs in the areas of safety, law enforcement, education and encouragement. Nine cities and the County conduct safe routes to school activities, while five cities have a traffic calming program with dedicated funding.
- A key development in bicycle advocacy has been the formation of Walk Oakland, Bike Oakland.

Funding needs

- Almost every local jurisdiction cites lack of funding as a major barrier to making bicycle improvements. Jurisdictions have reported approximately \$145 million, combined, in funding needs.

Implementation of the 2006 plan

- Seven jurisdictions reported implementing projects on the countywide bicycle network: Albany, Fremont, Hayward, Livermore, Oakland, Pleasanton and Union City.
- Countywide support programs implemented since 2006 include the Safe Routes to Schools (SR2S) Alameda County Partnership; bicycle safety classes offered by the East Bay Bicycle Coalition and BikeAlameda; expanded Bike to Work Day (BTWD) events and the "Get Rolling" advertising campaign in support of BTWD.
- By far the challenges most commonly encountered by local jurisdictions in implementing the priorities in the 2006 plan are insufficient funding and staff time and right-of-way constraints.

② Who is bicycling in Alameda County?

To answer this question, it helps to examine some key demographic characteristics of bicyclists, namely gender, age group and income level. The data show, for example, that men ride bikes much more often than women, and young adults more often than other age groups.

By gender

In Alameda County, as in the U.S. as a whole, far fewer women ride bikes than men:

	Share of all biking trips	Share of the population	Bike mode share
Women	33%	51%	0.9%
Men	67%	49%	2.1%

Source: BATS2000

- Women make only one third of all bicycling trips, or just under half as many as men. This split is significantly different than the overall gender split in Alameda County (51% women, 49% men).
- Women's bike "mode share" (bicycling trips as a percentage of all trips) is less than half that of men (0.9% against 2.1%).

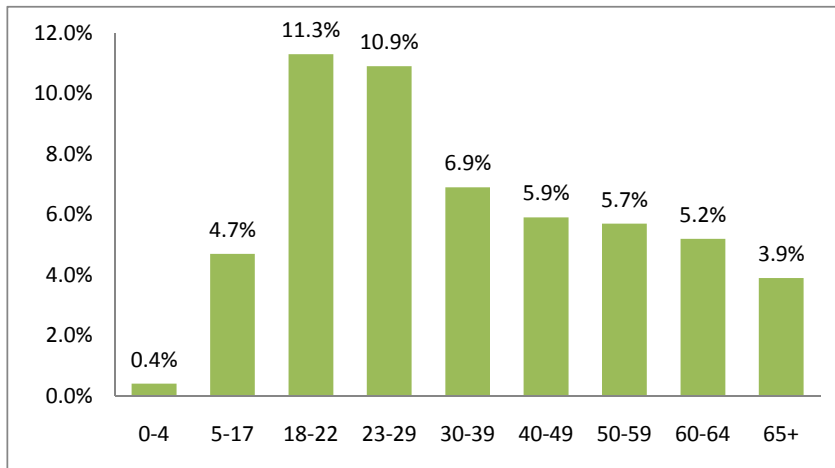
What is "mode share"?

The term "mode share" is used frequently in this chapter. The term, also known as "mode split," refers to the percentage of trips or people using a particular form of transportation, such as walking, driving, transit or bicycling. A bike mode share (or bike share) of 5%, for example, means that 1 out of 20 trips is made by bike, or that 1 out of every 20 people travels by bike.

By age group

Bicycling rates vary even more across age groups than across gender. The bicycling rate is highest among people aged 18-29 and—excluding the 0-4 age group—it is lowest among the oldest group, those 65 years of age and older.

Bike mode share by age group in Alameda County (source: BATS2000)

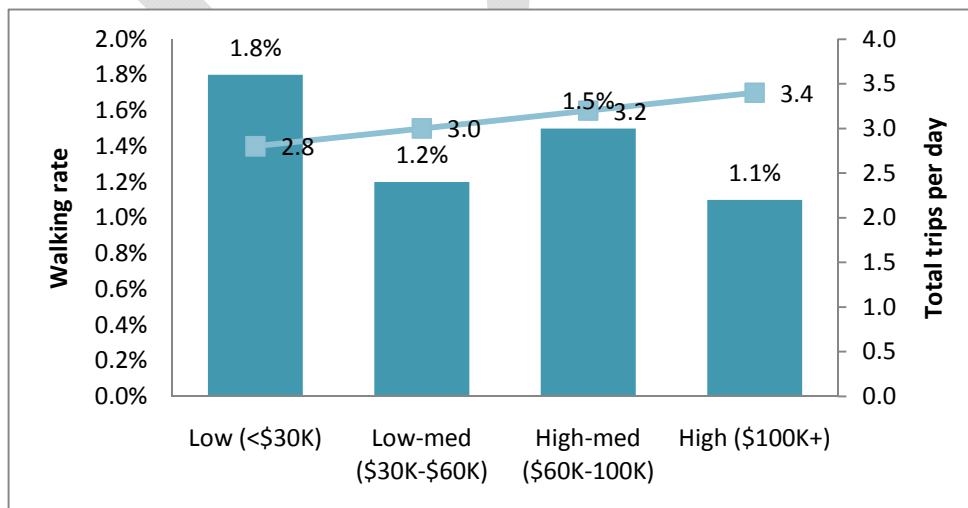


- The bicycling rate is highest among people aged 18-29 and lowest among both younger and older groups. The rate drops by more than one third between the 23-29 and 30-39 age groups, then declines steadily with each successive age group.
- Excluding the 0-4 age group, the lowest bicycling rate is found among the oldest cohort, those 65 years of age and older. Their bicycling rate is just about a third the rate of the 18-22 age group.

By income level

Bicycling rates are relatively consistent among people at different income levels. The chart below shows the bike mode share in Alameda County by income group (left axis; on the right axis are total trips made per person per day). It shows that as income goes up, total trips made per person per day increase steadily, while the bike mode share exhibits a general downward trend.

Bike mode share by income level in Alameda County (source: BATS2000)



- Of all the income quartiles, people in the lowest quartile have the highest bike mode share (1.8%); followed by those in the “high-med” range (1.5%). Those with the highest incomes bike the least.
- In absolute terms, the percentage of people in the lowest-income group who bike (1.8%) is only slightly higher than in the highest-income group (1.1%, or a difference of only 0.7%). In relative terms, though, it is significant: a person in the lowest-income group is more than 60% more likely to ride a bike than a person in the highest-income group (1.8% is 64% higher than 1.1%).

Bicycling and social equity

Low-income populations are particularly vulnerable with regard to transportation (see report referenced at the end of this write-up). Statistically, lower-income individuals are less likely to own cars and their finances are more likely to be stretched by transit costs. This limits their access, most critically to jobs but also to meeting other everyday needs. At the same time, low-income people tend to lack the time and money for activities that promote a healthy lifestyle, such as taking part in organized sports or joining a gym.

For low-income populations, bicycling may be a lifeline, since it is a particularly healthy and affordable transportation option. (As mentioned earlier, low-income individuals are slightly more reliant on biking for their trips.) For this reason, such populations have an especially urgent need for a dense network of safe on-street bike lanes and off-street trails and paths, and other bicycling facilities and amenities, and safe places to lock bicycles. Safety is a special concern, as individuals may face disproportionate risks, real or perceived, from traffic or crime (including theft). As local governments try to design bikeable communities, they will need to make extra effort to ensure that low-income populations have access to the same, if not greater, choices and opportunities for bicycling as the general population.

In an attempt to reduce transportation inequities, MTC has identified “communities of concern”—generally defined as having high concentrations of minority and low-income populations—throughout the Bay Area, for various planning purposes. There are seven such communities in Alameda County:

- Berkeley / Albany
- Central and East Alameda
- West / North Oakland
- Fruitvale / East Oakland
- Ashland / Cherryland / San Leandro
- Northwest Hayward / Union City
- Fremont / Newark

For further reading

“Active Living and Social Equity: Creating Healthy Communities for All Residents” (International City/County Management Association):

<http://bookstore.icma.org/freedocs/Active%20Living%20and%20Social%20Equity.pdf>

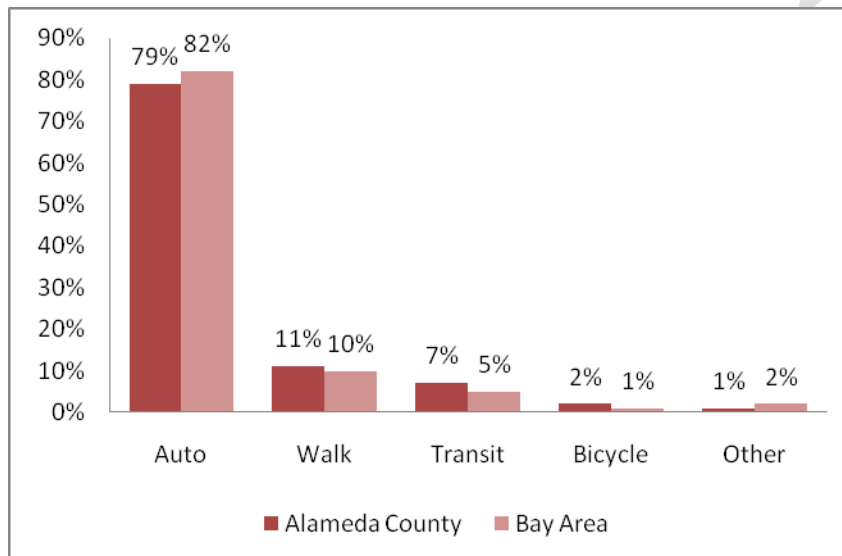
③ How many people are bicycling?

Bicycle trips

On average, Alameda County residents bicycle more than residents of the Bay Area as a whole, the state and even the nation. According to BATS2000, approximately 593,000 biking trips were made every week in Alameda County in 2000, or almost 85,000 trips every day. This represented 2% of all trips (see Appendix B for more detailed information).

It should be noted that these figures significantly undercount the number of bicycle trips. BATS does not include bicycling (or walking) trips to or from transit, since in those cases transit is considered the primary form of travel. If bicycle trips to/from transit are included, the weekday number of bike trips in Alameda County increases by almost 77,000. This includes nearly 57,000 daily bike trips to AC Transit bus stops (according to the agency's 2002 On-Board Transit Rider Survey) and approximately 20,000 to BART stations (2008 Station Profile Study).

Mode share for all trips (source: BATS2000)



- In Alameda County, as in the Bay Area as a whole, bicycling represents a small share of all trips (though growing, based on information from . However, , though growing, share of all trips.
- The bike mode share in Alameda County (2%) is double that of the Bay Area (1%).

Bicycle commuters to work

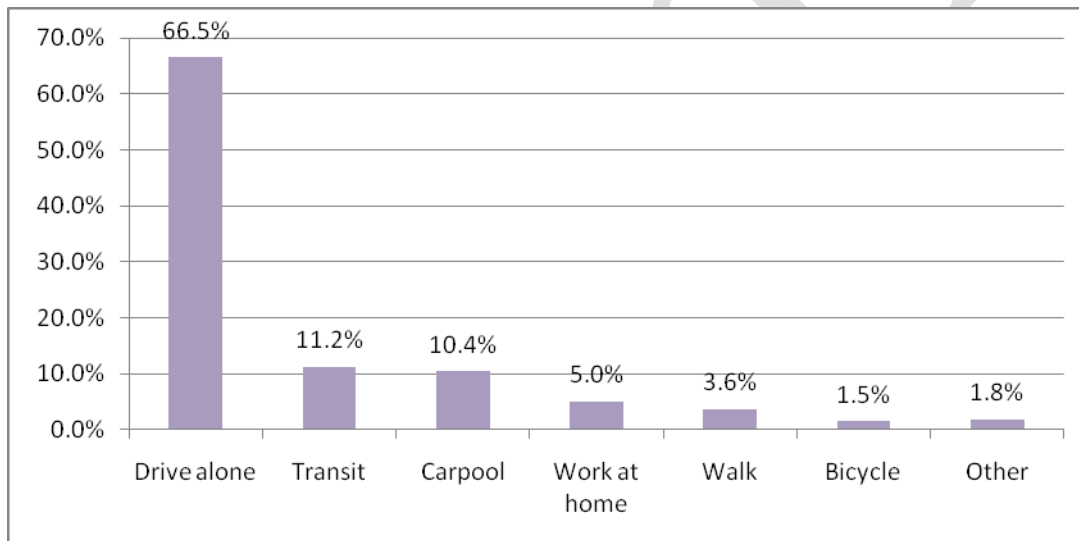
More recent U.S. Census data is available about commute trips, allowing the opportunity to see trends since 2000, albeit on a very small percentage of all bike trips. Work commute trips represent only a quarter to a fifth of all trips, and of these, very few are made by bike. According to the Census, approximately 1.5% of work commuters in Alameda County biked to work in 2006-2008, an increase of .3% from those that biked to work in 2000 (see Appendix C for more detailed information):

Journey-to-work mode share (sources: 2000 U.S. Census and 2006-2008 ACS)

	Alameda County 2000	Alameda County 2006-2008	Bay Area 2006-2008
Drive alone	66.4%	66.5%	67.8%
Carpool	13.8%	10.4%	10.4%
Transit	10.6%	11.2%	10.0%
Work at home	3.5%	5.0%	5.3%
Walk	3.2%	3.6%	3.6%
Bicycle	1.2%	1.5%	1.3%
	8,385	10,132	
Other	1.2%	1.8%	1.6%

- The bike mode share increased from 1.2% to 1.5% from 2000 to 2006-2008. While this is a modest uptick in mode share, it represents a significant increase of 21% in the number of bicycle commuters, from 8,385 to 10,132. (By comparison, the number of all commuters countywide increased by just 2% during the same period.)
- The bike mode share in Alameda County is somewhat higher than for the Bay Area as a whole (1.3%).

Journey-to-work mode share in Alameda County, 2006-2008 (source: 2006-2008 ACS)



Bicycle counts

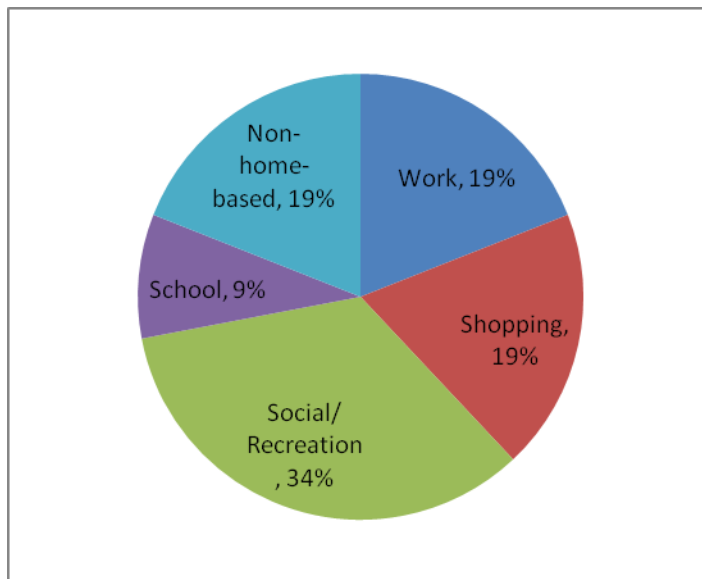
Routine bicycle counts are potentially useful in gauging changes in bicycling rates over time on particular facilities. The Alameda County CMA has been conducting bicycle counts every two years since 2002 at a dozen intersections around the county. While changes vary widely among locations, the numbers show a strong and consistent increase in the total number of bicyclists observed (the results of the counts are in Appendix E). In addition, the UC Berkeley Traffic Safety Center has begun conducting bicycle counts alongside its pedestrian counts; this will provide additional valuable data for determining trends in bicycle ridership.

4 Why are people bicycling?

Trips by purpose

MTC's BATS2000 provides information on the purpose of bike trips made by Alameda County residents (see Appendix B for more detailed information). The survey broke down all trips into those that start or end at home (called "home-based") and those that start and end somewhere else; for example, a lunch-time errand from the office (called "non-home-based"). Home based trips were further broken down into trips to or from work, shopping, social/recreation, or school (again, BATS does not include biking trips to or from transit).

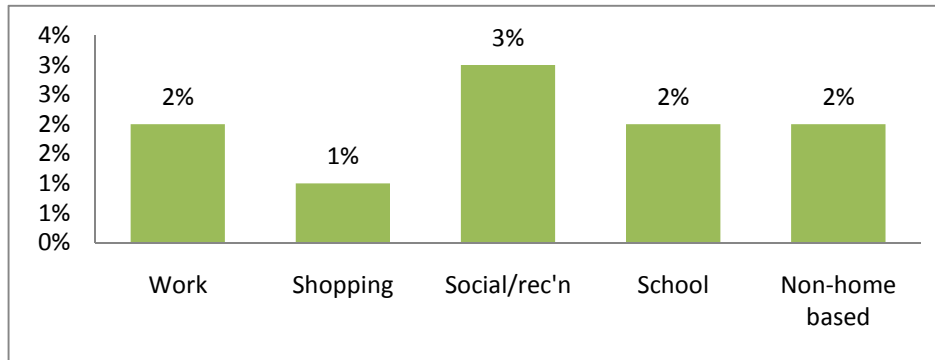
Bike trips by purpose in Alameda County (source: BATS2000)



- The most common purpose of bike trips in Alameda County, by a wide margin, was social/recreational (34%). The least common purpose was going to school (9%). Trips to work, shopping trips and non-home-based trips were all equally common (19%).
- Home-based bike trips were more than four times as common as non-home-based trips (81% against 19%).

Another way to look at the same numbers is by examining the percentage of people who rode bikes for each trip purpose:

Bike mode share by trip purpose in Alameda County (source: BATS2000)



- The bike mode share was highest for social/recreational trips (3%), not surprising given the number of people who enjoy going on recreational bike rides; it was lowest for shopping trips (1%), perhaps because shopping by bike requires panniers, or other means for carrying items, which some people do not have on their bikes.
- The bike mode share was approximately the same for work, school and non-home-based trips (2%).

Bicycling and transit

Transit allows bicyclists to travel beyond their typical range, enabling them to make trips that might be impractical by bike alone. The East Bay is fortunate to have relatively extensive transit service, provided by a number of agencies, or “operators,” shown in the table below. As recently as 15 years ago, bicycle parking at transit stations and on-board bike access was still a rarity in the Bay Area. Today, however, every operator in Alameda County accommodates bikes on board their vehicles and just about every major transit station in the county has dozens of bicycle racks and lockers

Bike access on transit

Operator	Service area	Stops or stations in the county	Daily ridership	Bicycle access on vehicles
Alameda-Contra Costa Transit District (AC Transit)	Alameda County (with the exception of the Tri-Valley), Contra Costa County and San Francisco	6,500 (both counties)	236,000	<ul style="list-style-type: none"> • Bike racks on buses (by 2011, some racks will hold 3-bikes) • On Transbay buses, bikes may be stored in the cargo bays • Folding bikes allowed inside at all times; other bikes, at the driver's discretion
Altamont Commuter Express (ACE)	Tri-Valley and Fremont to the San Joaquin Valley and San Jose	1	3,700	Each train has a bike car, with additional space provided on regular coach cars
Amtrak’s Capitol Corridor	Berkeley, Emeryville, Oakland, Hayward, Fremont to Sacramento and San Jose	6	4,400	Bike racks on most coach cars; bikes may also be stowed in the undercarriage

Bay Area Rapid Transit (BART)	Berkeley, Oakland, San Leandro, Hayward, Union City, Fremont, Castro Valley, and Dublin/Pleasanton to San Francisco and Contra Costa and San Mateo counties	19	350,000	Bikes allowed on trains in off-peak times and directions
Dumbarton Express	Union City, Fremont and Newark to San Mateo County	4	873	Bike racks on buses; bikes also permitted inside at the driver's discretion
Emery Go Round	Emeryville	25	n/a	Bike racks on buses; bikes also permitted inside at the driver's discretion
LAVTA (Wheels)	Dublin, Pleasanton and Livermore	500	4,500	Bike racks on buses; bikes also permitted inside at the driver's discretion
Union City Transit	Union City	165	1,637	Bike racks on buses
WETA (Alameda Harbor Bay Ferry)	Alameda (city) to San Francisco	1	625	Bike racks on board
WETA (Alameda/Oakland Ferry)	Oakland and Alameda (city) to San Francisco	2	1,500	Bike racks on board

There have been several significant developments related to bicycling and transit since 2006:

- In 2009, AC Transit published a bicycle parking study identifying its bus stops that have a high latent demand for bicycle parking and including guidelines for local jurisdictions on the design and installation of secure and accessible parking at those locations.
- BART has installed a bike station (attended bicycle parking service that provides additional services and amenities for cyclists, including bike repair) at the Fruitvale station. The bike station at the Downtown Berkeley station was moved above ground and expanded in 2010.
- Oakland installed electronic lockers, or e-lockers—which are rented on an hourly basis—at the 12th Street and 19th Street stations in Oakland. BART installed e-lockers at all its other stations in Alameda County except Downtown Berkeley.

On the other hand, operators are struggling in the face of funding shortfalls as a result of the ongoing economic downturn. The region's two largest operators have instituted recent service cuts and fare increases. AC Transit raised fares 15-25 cents last year and this year instituted two rounds of service cuts, with a third one still possible. Last year, BART reduced service at night and on weekends, raised fares and began a parking charge at eight more station lots in the East Bay. Cutbacks in transit service are likely to result in fewer people taking fewer rides. Given that many bike trips are to AC Transit stops and BART stations, this could also result in fewer daily bike trips being made in Alameda County.

Physical barriers and connectivity gaps

A different way to look at this section is, “Why aren’t more people bicycling?” Some of the most common reasons—including lack of facilities, concerns about traffic safety and long distances—are at least partly related to the existence of physical barriers or connectivity gaps. Below is a list of significant barriers in Alameda County mentioned by local jurisdictions in the 2010 questionnaire. The majority of them are automobile and rail infrastructure—highways, railroads and interchanges:

North planning area

- Interstates 80, 580 and 880
- State Routes 24 and 13
- Railroad tracks in Albany, Berkeley, Emeryville and Oakland
- Freeway and railroad crossings (Albany specified the Gilman Street interchange)

Central planning area

- Interstates 580 and 880
- Railroad tracks
- San Leandro specified the I-880 interchanges at Davis Street, Marina Boulevard and

Washington Avenue; and the Union Pacific Railroad Oakland Subdivision underpasses on Washington Avenue and San Leandro Boulevard

South planning area

- Interstates 880 and State Route 84
- Union Pacific railroad tracks

East Planning Area

- Interstates 580 and 680

Connectivity gaps refer to missing bicycle connections or segments along bicycle routes, such as multi-use paths. Major connectivity gaps in Alameda County cited by local jurisdictions include:

North planning area

- San Francisco-Oakland Bay Bridge
- Lake Merritt channel (Oakland)
- Oakland Estuary waterfront (Oakland)

Central planning area

- Bay Trail gap between south Fremont Boulevard and Dixon Landing Road (Fremont)

South planning area

- Creeks and canals

East Planning Area

- Along the Iron Horse Trail crossing Santa Rita Road, the intersection of Stanley Boulevard at Valley and Bernal avenues (Pleasanton)
- Arroyo Mocho Creek at Stoneridge Drive (Pleasanton)
- Intersection of the Alamo Canal and Tassajara Creek trails and I-580 (Dublin)

Bicycling and health

Our society is in the midst of a public health epidemic caused by physical inactivity. According to California Active Communities, “In California, physical inactivity is by a large margin the most prevalent chronic disease risk factor with more than 50% of adults reporting a sedentary lifestyle, contributing to an estimated 30,000 deaths each year.” According to the Alameda County Public

Health Department, over half the county's population (52%) is considered overweight or obese, while 22% of children are clinically obese.

Bicycling, as an enjoyable form of physical activity, promises multiple public health benefits. Physical activity helps prevent or control chronic diseases such as high blood pressure, heart disease, stroke, diabetes and certain cancers; helps maintain a healthy weight; and improves mood, lowers stress level and reduces depression. The study referenced at the end of this write-up found that states and cities with higher rates of walking and cycling had a higher percentage of adults who achieved recommended levels of physical activity and a lower percentage of obese or diabetic adults.

Unfortunately, many communities are generally not conducive to bicycling. Too often they have been designed primarily with car drivers in mind. An important strategy for improving bikeability is to provide a safe and interconnected network of on-street bike lanes, bike boulevards, and off-street paths and trails that connect homes to jobs, shops, schools, transit, parks and other key destinations. Other measures to improve bikeability include:

- Abundant and well-designed bicycle parking at destinations favored by cyclists.
- Convenient access to transit stations and stops, as well as onto buses, trains and ferries.
- Traffic calming in residential neighborhoods and reductions in traffic speeds.
- Compact, mixed-use neighborhoods, to reduce distances for cyclists.

For further reading

"Want a slimmer, healthier community? Try building more sidewalks, crosswalks and bike paths"
(ScienceDaily): <http://www.sciencedaily.com/releases/2010/08/100819162633.htm>

5 Where are people bicycling?

This section looks at the number of bicyclists and bike trips in terms by specific areas of the county, including the county’s four planning areas, its 15 jurisdictions and its 19 BART stations.

Alameda County planning areas

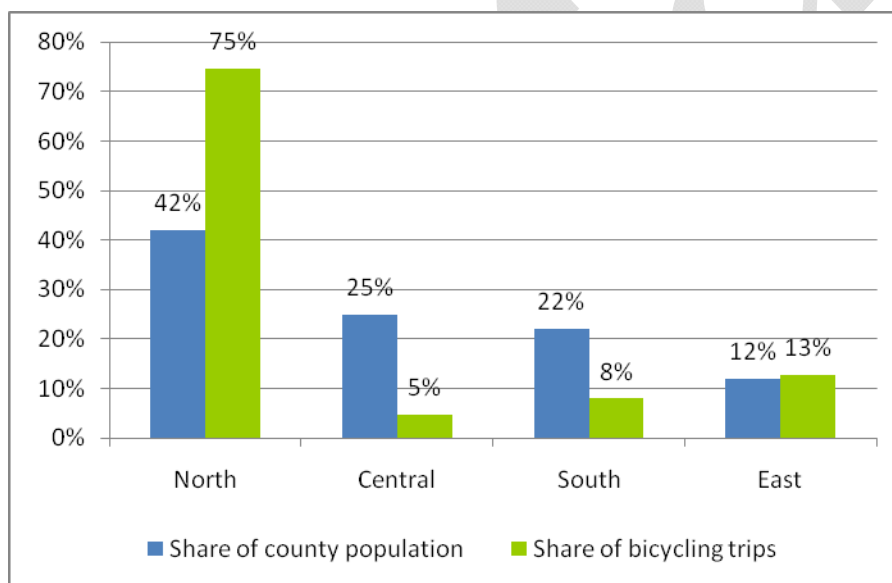
For planning purposes, the Alameda County Transportation Commission divides the county into four planning areas, as follows:

- **North County:** Alameda (city), Albany, Berkeley, Emeryville, Oakland and Piedmont
- **Central County:** Hayward and San Leandro, and surrounding unincorporated areas of the county
- **South County:** Fremont, Newark and Union City
- **East County:** Dublin, Livermore and Pleasanton, and surrounding unincorporated areas

By planning area

The chart below shows the percentage of bike trips that were made in each planning area. For comparison purposes, the chart also shows each planning area’s share of the county’s population:

Share of county population and bicycling trips by planning area (sources: BATS2000, 2000 Census)



- A full three quarters of all bicycle trips in the county are in the North planning area (75%), well over its population share of 42%.
- The East planning area is the only other area with a higher share of the county's bicycling trips (13%) than its share of the population (12%).
- Very few people are bicycling in Central and South county. While almost 50% of the county's population lives in these two areas, only 13% of all of the county's bicycle trips take place here.
- Additional analysis is necessary to determine why the reason for the large changes in Pleasanton and Newark WHY is this true, especially for Central County which is slightly less suburban than the south and east and poorer?

Bicycling and the Built Environment

There are many factors that affect how often and how much people bicycle, from their age and health conditions to hills and the weather. In addition, many aspects of the built environment have a strong effect on people's decision to bike. The following characteristics are associated with higher bicycling rates and help explain some of the difference in the bicycling rates of the four county planning areas:

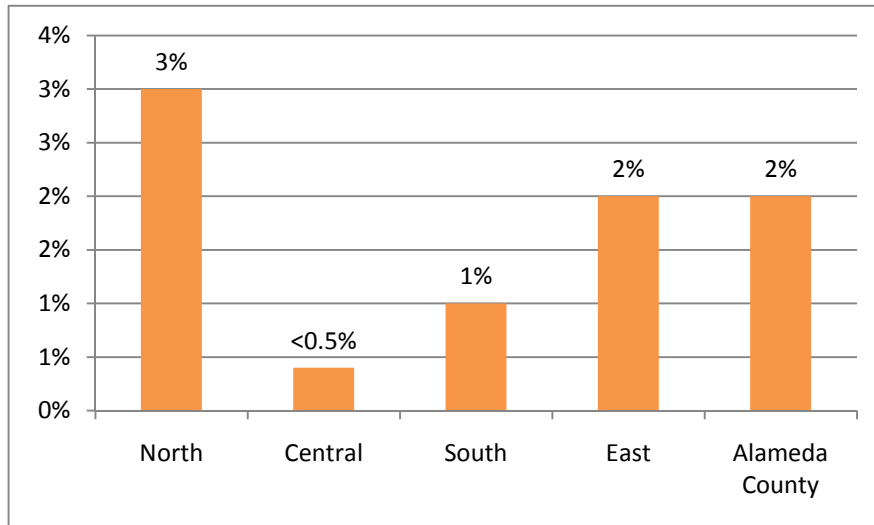
- Interconnected bicycle facilities such as on-street bike lanes, bike boulevards, and off-street paths and trails
- Safe parking racks at destination
- A grid street system, short blocks and narrower streets, with lower-speed traffic
- Higher-density neighborhoods, especially ones that integrate different activities (homes, jobs, shops and parks, for example); in these neighborhoods, distances between destinations are shorter

Related reading

"The Built Environment and Walking" (The Heart Foundation):

http://www.heartfoundation.org.au/SiteCollectionDocuments/Built_environment_position_statement_FINAL_LR%20for%20web.pdf

Another way of looking at the data is the bike mode share in each planning area:

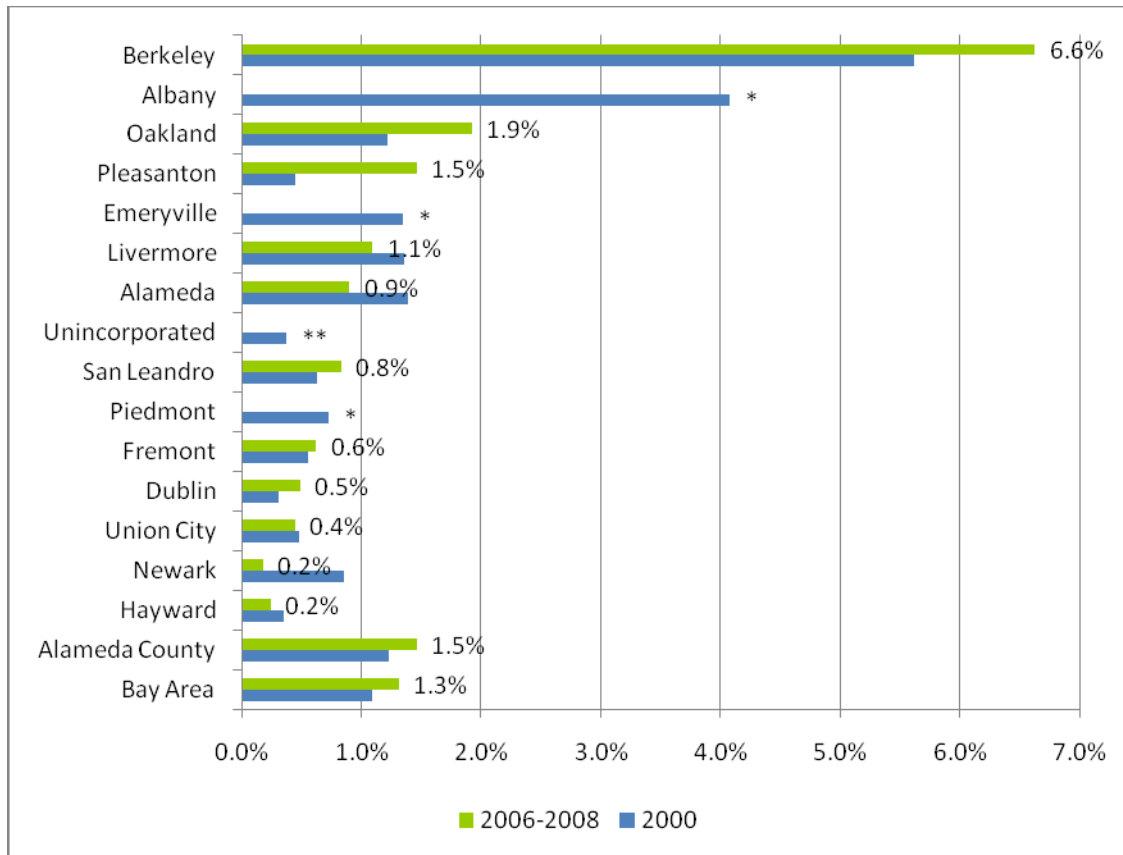
Bike mode share by planning area (source: BATS2000)

- The North planning area has the highest bicycling mode share (3%), while the Central area has the lowest (0.5%). In absolute terms, this range is small (2.5%); however, in relative terms, it is significant: the bike mode share in the North area is six times greater than in Central county.
- The North planning area has a higher bicycling mode share than Alameda County's as a whole, while the East planning area's mode share is comparable to the county's. The mode share in the South planning area is approximately half the county's, while that in the Central planning area is less than a quarter.
- The high rate of bicycling in the North planning area can be attributed to several factors, including older, compact communities with street grids, short blocks and more integrated land uses, as well as a large student population at UC Berkeley.
- Additional analysis is needed to determine why the rate of bicycling is so much lower in the Central planning area than in the South and especially the East. The three areas have similar weather and topography. Moreover, there are several factors to suggest that the biking rate should be higher in the Central area: it is slightly less suburban than the other two areas, for example, and has a lower median household income.

By jurisdiction

The U.S. Census provides data on the mode share of commute-to-work trips for each of the 15 local jurisdictions in the county (14 cities and the County, for the unincorporated areas). The chart below shows the bike mode share in each jurisdiction (the numbers next to the bars reflect the change in percentage points, where available, in the mode share from 2000 to 2006-2008; see Appendix G for more detailed information).

Commute-to-work bike mode share (sources: 2000 Census and 2006-2008 ACS)



* The 2006-2008 ACS does not provide data for Emeryville, Albany or Piedmont. Figures for these cities are from 2000 only.

** The 2006-2008 figure cannot be determined without data from all the jurisdictions.

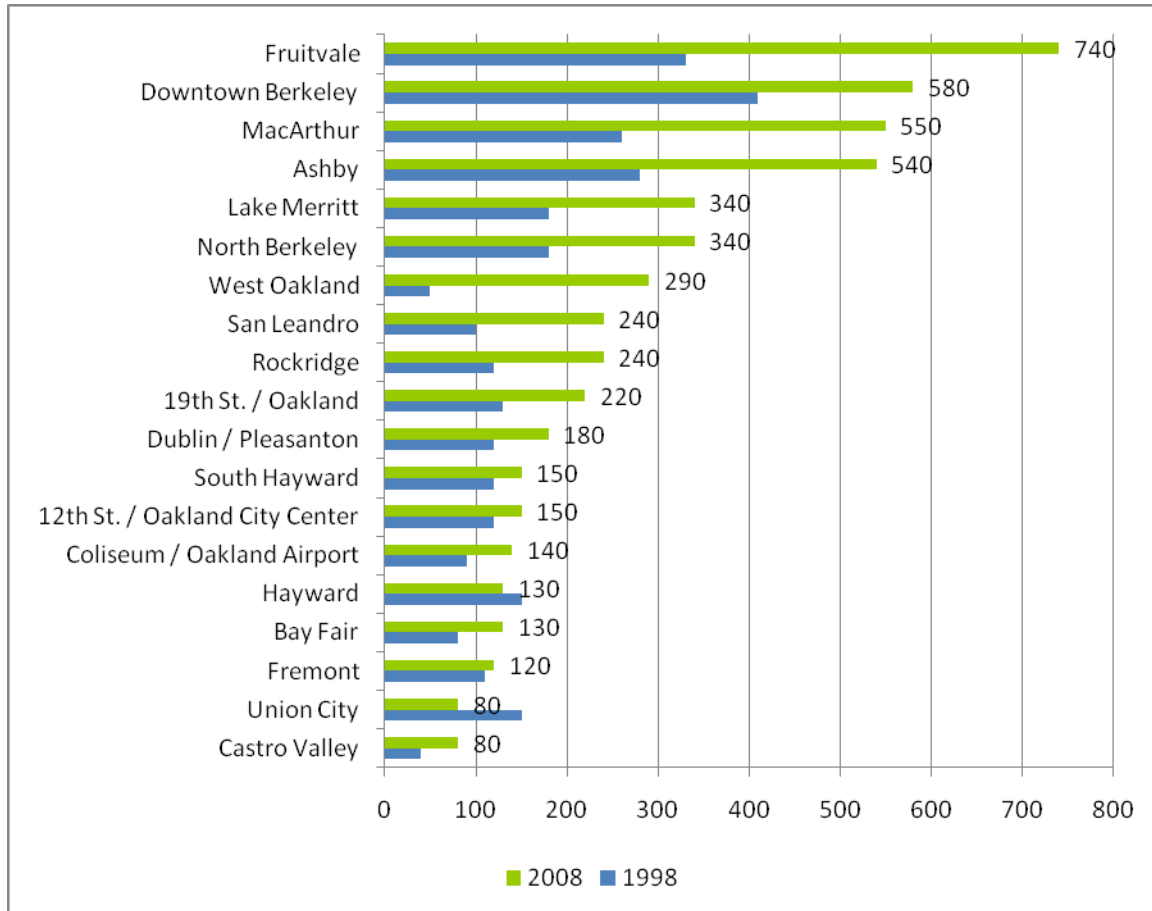
- Alameda County’s bike mode share of commute-to-work trips is slightly higher than Bay Area’s as a whole (1.5% against 1.3%). While the county share increased by 0.3 percentage points from 2000 to 2006-2008, seven of the 15 jurisdictions saw no increase or a drop in the percentage of bike commuters .
- The North planning area has four of the five jurisdictions in the county with the highest bike share: Berkeley, Albany, Oakland and Emeryville.
- Berkeley has by far the highest percentage of commuters on bike (6.6%), while Hayward and Newark have the lowest (0.2%).
- The biggest increase in the bike mode share occurred in Berkeley (up by 18%, from 5.5% to 6.5%) and Pleasanton (up by 200%, from 0.5% to 1.5%). Five jurisdictions saw declines, with the largest occurring in Newark (-0.7%). Additional analysis is necessary to determine the reason for the large changes in Pleasanton and Newark.

To BART stations

BART periodically conducts station profile studies to obtain information on, among other things, the way that passengers reach its stations. The chart below shows the number of daily bicycle trips to

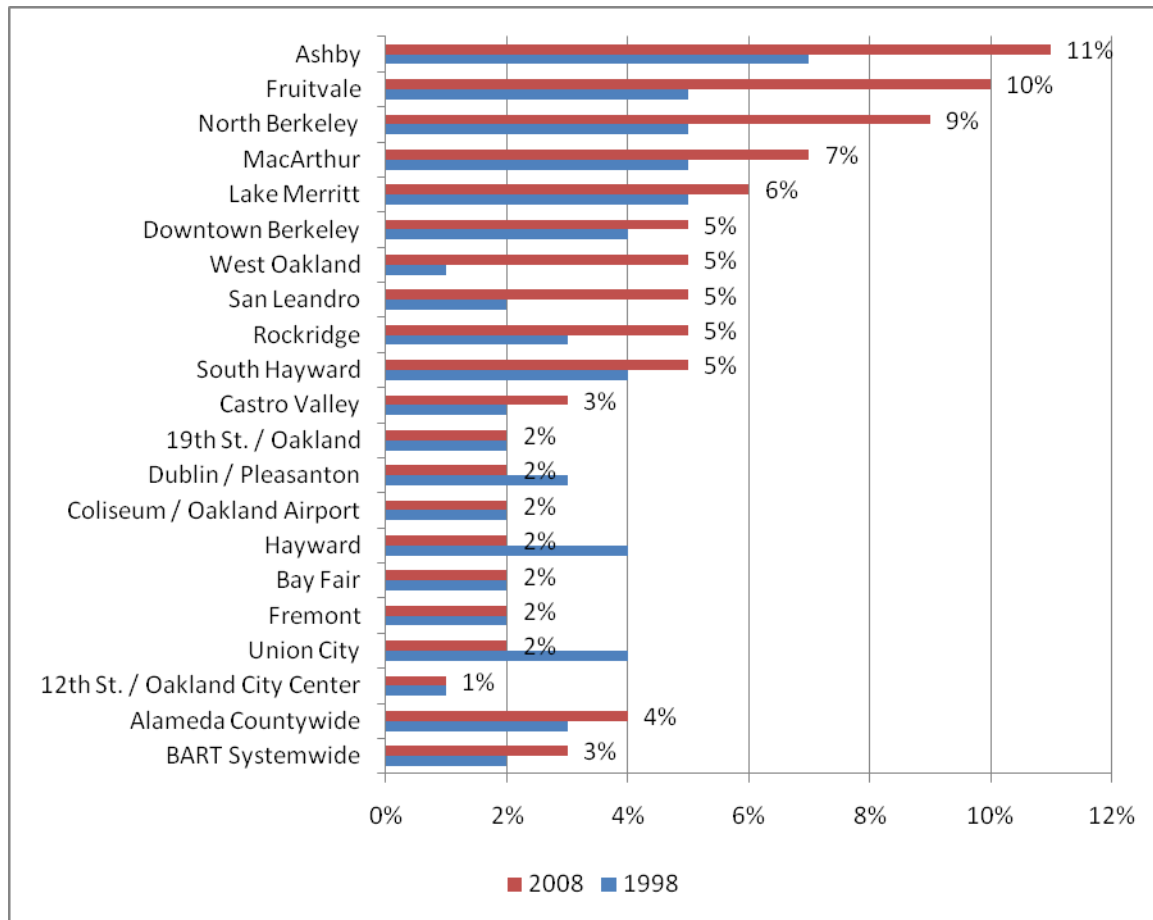
stations in Alameda County according to BART’s latest study, conducted in 2008 (see Appendix I for more detailed information; trips numbers have been rounded to the nearest 10):

Daily bike trips to BART stations in Alameda County (source: BART’s 1998 and 2008 Station Profile Study)



- The top seven stations with the most bike trips to BART are in the North planning area.
- The five stations with the fewest bike access trips include three out of the five stations in the Central planning area and both of the stations in the South planning area.

The following chart looks at the bike access data in a different way. The bars shows the bike access share of all trips to each station:

Bike access share to BART stations in Alameda County (sources: BART's 1998 and 2008 Station Profile Study)

- The bike access share for stations in Alameda County increased by almost a third from 1998 to 2008 (3% to 4%).
- In 2008 the bike access share for stations in Alameda County was a third higher than for the BART system as a whole (4% against 3%).
- The seven top stations with the highest share of bike access trips in 2008 are in the North planning area. The three stations with the lowest bike access share include 12th Street/Oakland City Center and both of the stations in the South planning area.
- In 1998, only one station (Ashby) had a bike access share higher of 5% or greater; in 2008, five did: Ashby, Fruitvale, North Berkeley, MacArthur and Lake Merritt.
- Between 1998 and 2008, the bike access share increased in eleven of the nineteen stations, remained constant in five and decreased in three (Dublin/Pleasanton, Hayward and Union City). In terms of percentage points, the greatest increases in bike access share were at the Fruitvale station (up by five points), followed by the Ashby, North Berkeley and West Oakland stations (four points).
- In relative terms, the most dramatic increase in bike access share was at the West Oakland station, where it quintupled, from 1% to 5%; the biggest decrease was at the Hayward and Union City stations, where it dropped by half (2% to 1%).

Duration of bicycle trips

Bicycle trips tend to be relatively short, in terms of both time and distance. According to the 2009 National Household Travel Survey—a project of the Federal Highway Administration—almost 40% of bike trips nationally last ten minutes or less; assuming an average bicycling speed of 12 miles per hour, this translates to two miles or less. Almost 60% of bike trips are under 15 minutes (3 miles), while 85% are under 30 minutes (6 miles). Only 7% of bike trips are over an hour (12 miles) long. This data underscores the feasibility of bicycle trips for distances of under 5-10 miles, and the potential of bicycling to replace short car trips.

Duration of bicycle trips (source: National Household Travel Survey, 2009)

Minutes	Approx. distance (miles)	Percent of trips
0-5	0-0.25	10.50%
5.1-10	0.25-0.5	26.90%
10.1-15	0.5-0.75	21.10%
15.1-20	0.75-1	12.20%
20.1-25	1-1.25	2.50%
25.1-30	1.25-1.5	12.50%
30.1-45	1.5-2.25	7.80%
45.1-60	2.25-3	1.60%
> 60	> 3	4.90%

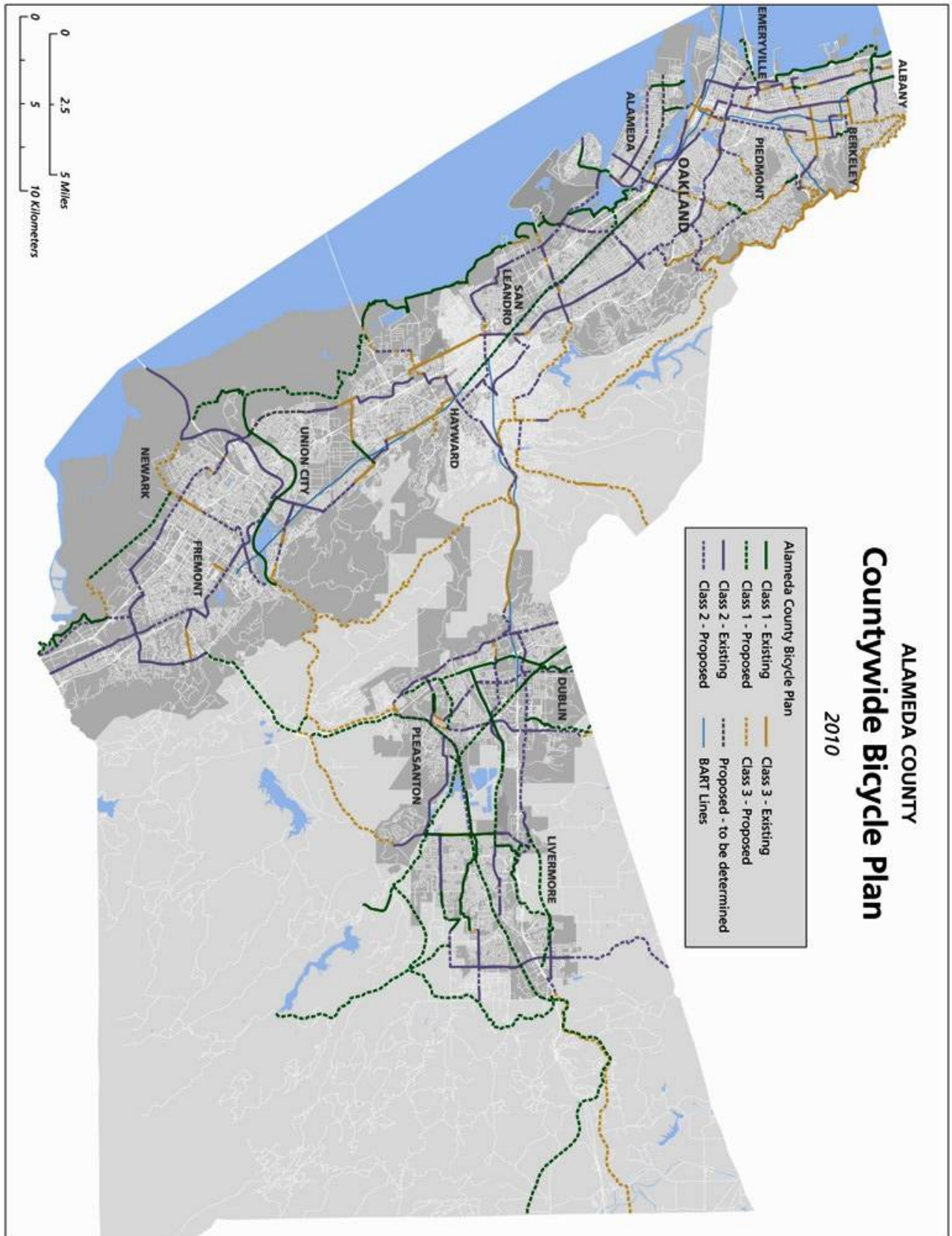
Major pathways and trails

Many bike trips, whether for recreation or transportation, take place on multi-use pathways. Alameda County is fortunate to have hundreds of miles of paved multi-use paths and trails, which serve both recreational and transportation purposes (see map of the countywide bicycle network on the next page). In addition to local facilities, the county has a growing network of inter-jurisdictional and countywide multi-use pathways, of which the most significant ones are:

- East Bay Greenway:** This was originally envisioned as a multi-use path underneath BART's elevated structure running southeast for 12 miles from 18th Avenue in Oakland to the Hayward BART station. However, a larger vision emerged from the East Bay Regional Park District's most recent Master Plan update (2007), which showed the path connecting north to the Ohlone Greenway in Berkeley and Albany (and further north in Contra Costa County), and to the south along the UPRR right-of-way in Fremont. The total length from county line to county line is estimated to be about 37 miles, with only the northern portions along the Ohlone Greenway completed.
- Iron Horse Trail:** Existing multi-use path between the cities of Concord, in Contra Costa County, and Dublin that follows an abandoned Southern Pacific Railroad right-of-way. When complete, it will extend from Suisun Bay (Contra Costa County) to Livermore and the San Joaquin county border, a distance of approximately 53 miles, connecting 12 cities. The alignment length through Alameda County is 25.5 miles, of which 5.8 miles is existing and 19.7 miles is proposed (see Appendix J for mileage information).

- San Francisco Bay Trail: 500-mile trail system that, when complete, will ring San Francisco and San Pablo bays. The system includes 119 miles along the Alameda County shoreline and another 64 miles connecting this “spine” to other pathways, trails and points of interest. Of this ultimate 183-mile alignment, approximately 122 miles is in place, including 11 miles completed since the 2006 plan (see Appendix K for mileage information). Long continuous segments exist in Albany, Berkeley, Emeryville, Oakland, Alameda, San Leandro and Hayward.

DRAFT



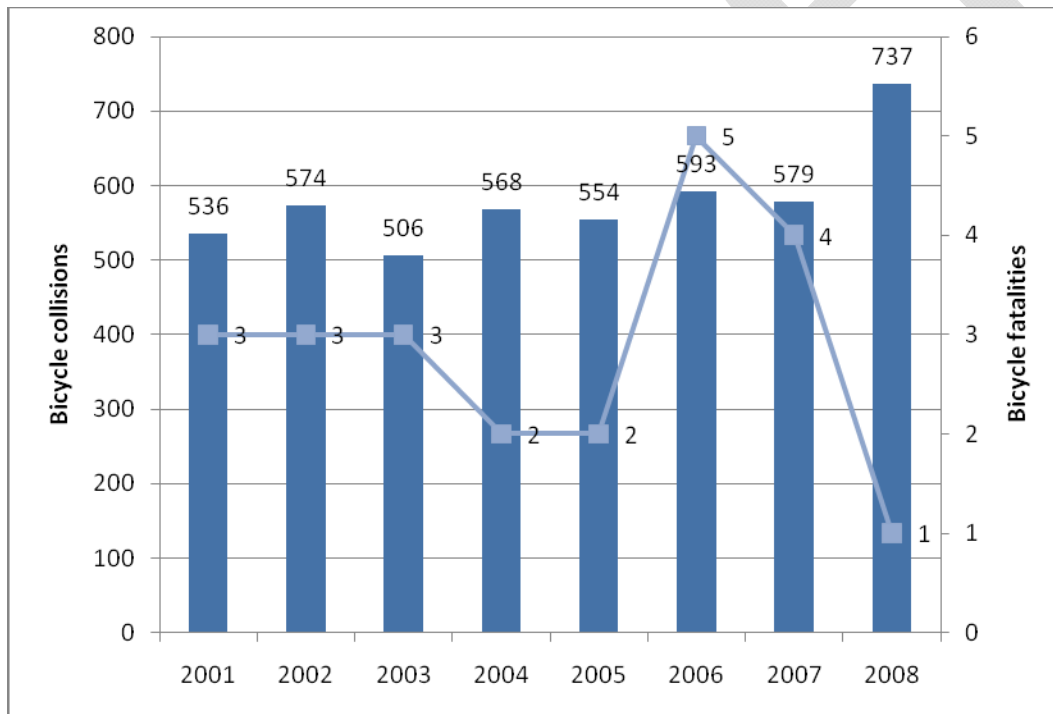
6 Bicycle safety

Collisions, fatalities and injuries

Over the past eight years, an average of 581 bicyclists injured or killed per year in traffic collisions in Alameda County, including an average of just under three fatalities per year (see Appendix N for more detailed information).

Yearly average, 2000-2008	
Bicycle-vehicle collisions	581
Bicycle fatalities	3

Bicycle collisions and fatalities in Alameda County (source: SWITRS)



- Since 2001, between one and five people have been killed per year while riding bicycles in Alameda County. In 2008, there was only fatality, even as injuries spiked to an eight-year high.
- With the exception of a dip in 2003, the number of bicycle injuries remained relatively stable between 2001 and 2007, fluctuating within a narrow range of 536-593. The number increased sharply in the latest year, so far without explanation, by 27% (579 to 737).

Collision numbers versus rates

When considering bicycle collisions (or fatalities), it is important to remember that absolute numbers do not tell the whole story. If over time more people biked while the number of collisions remained the same, then the *rate* of collisions (as measured per bicyclist or per bike trip) would decrease.

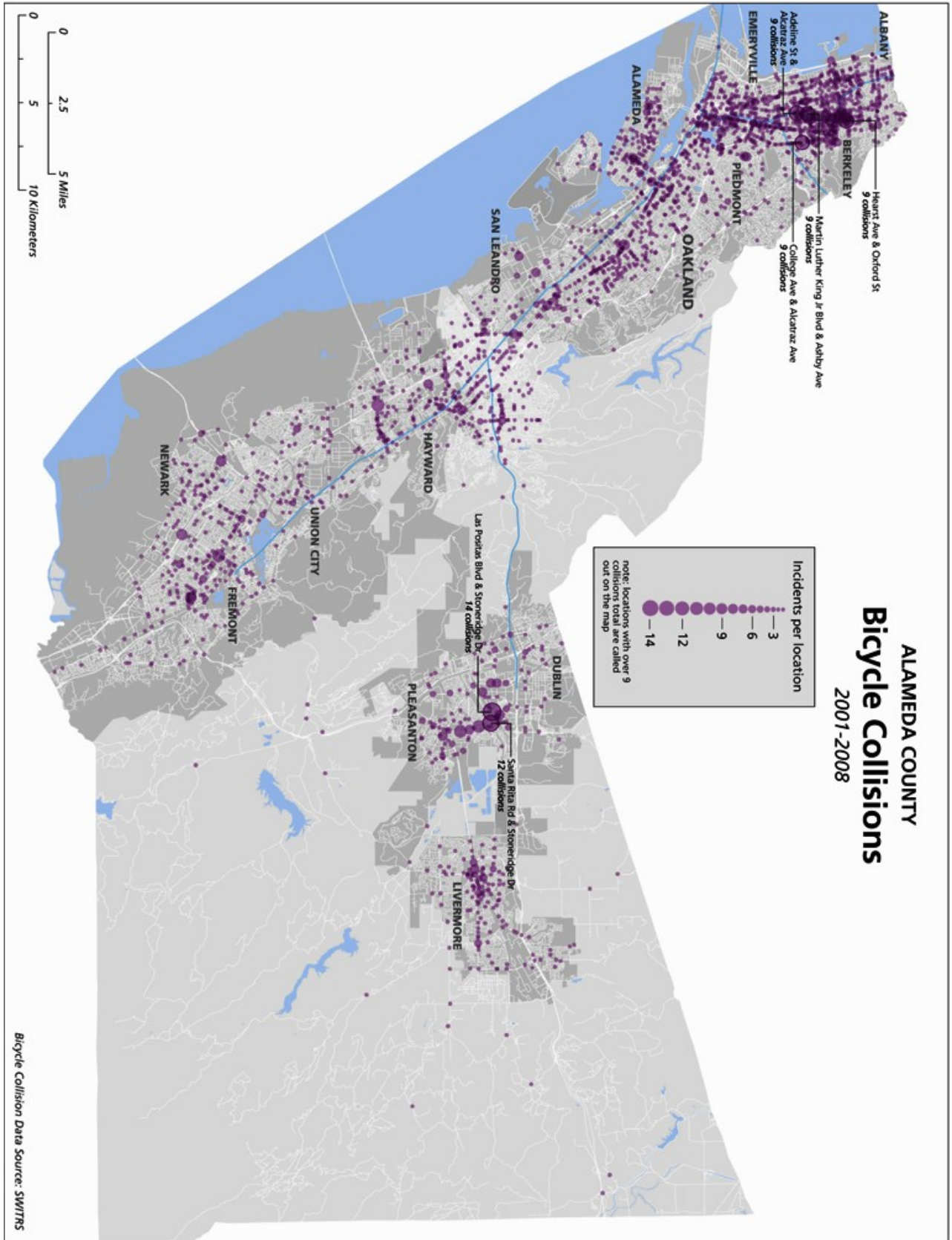
Collision hotspots

The map on the next page shows the location of all traffic collisions involving bicyclists in Alameda County from 2001 to 2008. As shown on the map, most of the collisions occur along an arc from central Berkeley to downtown Oakland. There are smaller concentrations of collisions in Albany, eastern Alameda (city), along International Boulevard in Oakland, central Pleasanton and downtown Livermore.

The information on the map is confirmed by the table below, which lists the thoroughfares that have experienced 30 or more collisions. Of the seven roads on the list, the four with the most collisions extend from Berkeley to Oakland.

Bicycle collisions by primary road (source: SWITRS)

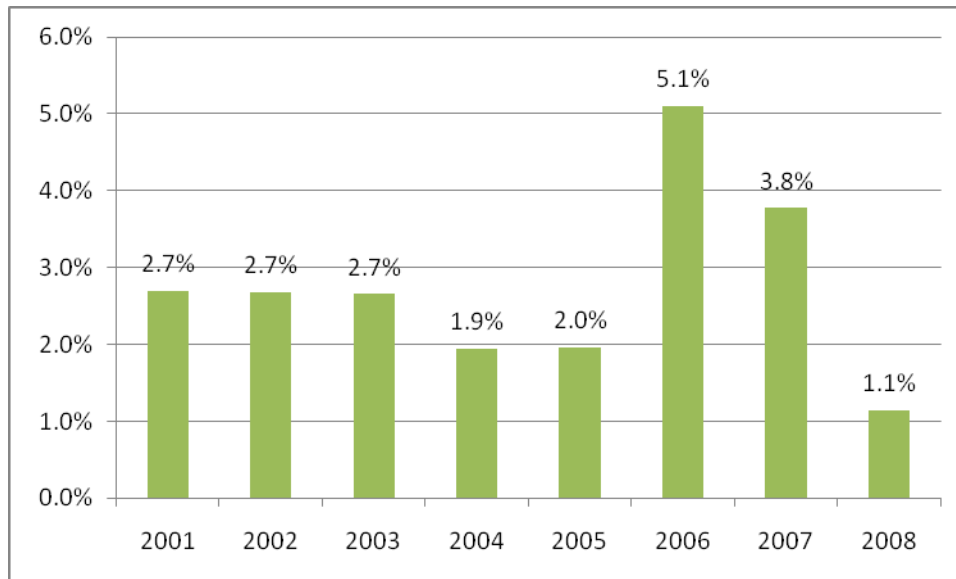
Road	Jurisdiction(s)	Number of collisions
Telegraph Avenue	Berkeley, Oakland	59
Shattuck Avenue	Berkeley, Oakland	57
College Avenue	Berkeley, Oakland	56
Martin Luther King Jr. Way	Berkeley, Oakland	44
Fremont Boulevard	Fremont	41
International Boulevard	Oakland	38
State Route 185 (East 14 th Street)	San Leandro, Hayward, unincorporated county	31



Bicyclists' share of fatalities

The chart below shows bicyclists' share of all traffic fatalities in the county (again, see Appendix N):

Bicyclists as percentage of all traffic fatalities in Alameda County (source: SWITRS)



- Over the past eight years, bicyclists have made up 2.4% of all traffic fatalities in Alameda County; this is roughly consistent with the county's bike mode share (2%).
- Between 2000 and 2004, bicyclists' share of fatalities remained within a narrow range of 1.9-2.7%. Similar to the absolute fatality numbers, the percentage increased substantially in 2006, to 5.1%, but in 2008 dropped to its lowest level in eight years (1.1%).

Personal security

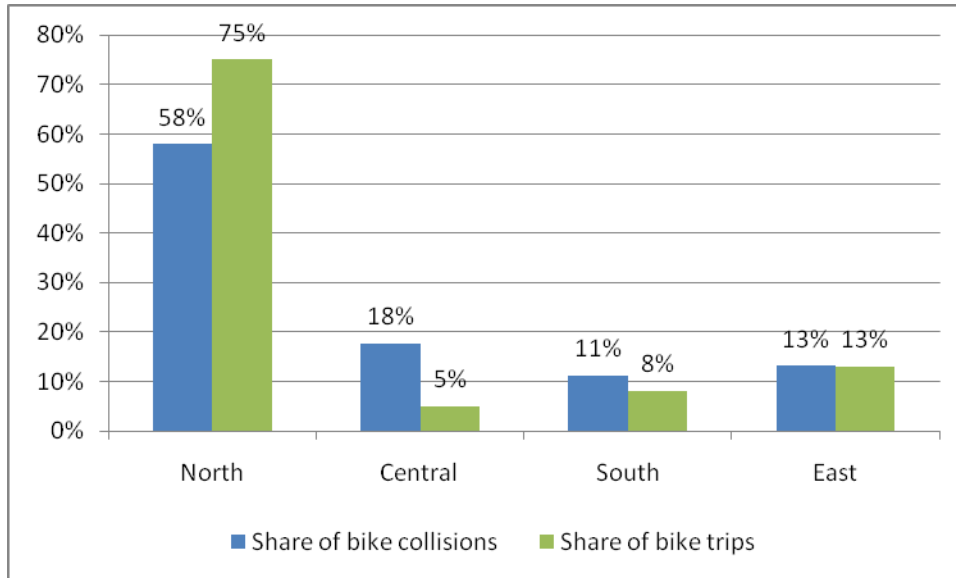
In the discussion of traffic collisions, it is easy to overlook a related issue: the effect on bicycling of real or perceived threats to personal security. Crime is a powerful deterrent against bicycling, particularly at night or in isolated areas and in areas with high crime rates. Like concerns about traffic safety, crime can lead to a vicious cycle of fewer cyclists on the street making riders feel less safe and resulting in even fewer people biking. Design and maintenance solutions—including better lighting, landscaping that is low to the ground, paths and trails located near other activities and a well-maintained environment—can go a long way toward alleviating fears.

Unfortunately, data on crime against bicyclists is difficult to obtain and compile. Such statistics are collected by nearly 20 individual police departments in Alameda County and there is no reporting standard or central repository for this information.

Collisions by planning area

Examining collisions by planning area provides interesting insights (see Appendix O for more detailed information). The following table shows the share of each of the four planning areas of bicycle collisions from 2004 to 2008 and bike trips:

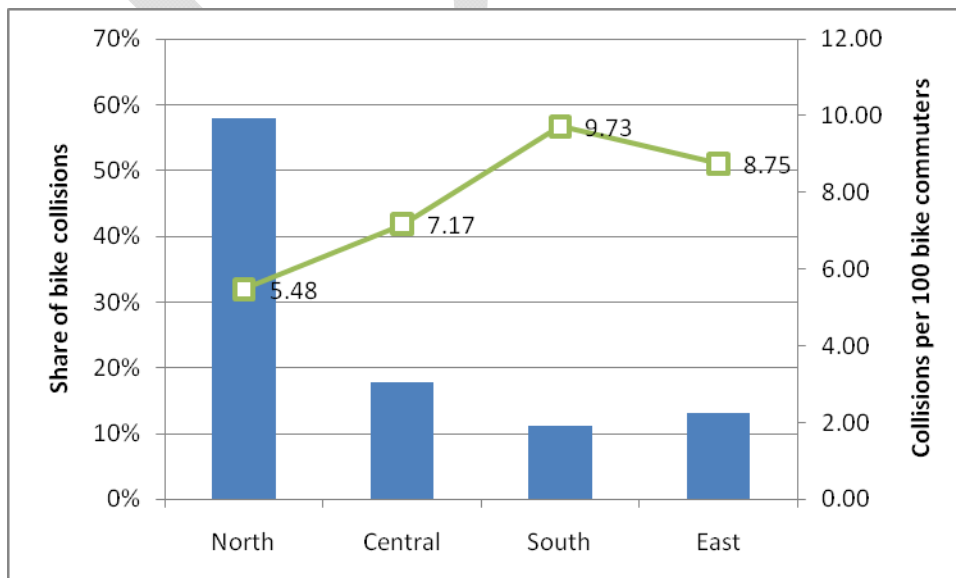
Share of bicycle collisions, population and bike trips by planning area (sources; SWITRS, 2000 Census, 2006-2008 ACS)



- The North planning area has a much lower share of the county’s collisions than of bike trips (58% to 75%). The Central area has a much higher share, the South has a somewhat higher share and the East has the same share. This could be seen as indicating that the North planning area is the safest for cyclists, and that it proves the “safety in numbers” theory – that the higher the number of bicyclists, the safer they will be (generally because motorists are expecting them on the road and know how to safely share the road).

Yet another picture appears when charting collisions per 100 bike commuters against each planning area’s share of collisions:

Share of bicycle collisions and collisions per 100 bike commuters (sources; SWITRS, 2000 Census, 2006-2008 ACS)



- The North planning area, while having by far the highest share of bicycle collisions, also has the fewest collisions per 100 bike commuters. This indicates that from the perspective of an individual bicyclist, the area is the safest in the county, at least as far as traffic conditions.
- The South planning area has the most collisions per 100 bike commuters, and a collision rate significantly higher than in the North planning area (9.73 against 5.48).

By time of day

Time of day provide another lens through which to view bicycle collisions and fatalities. In the 2004-2008 period, more than 40% of collisions, but only 7% of fatalities, occurred at night. Most strikingly, the afternoon/evening period saw the fewest collisions (10%), yet it also saw by far the highest percentage of fatalities (64%). Additional analysis is necessary to determine the reason for this discrepancy.

TIME OF DAY (2004-2008)	Collisions	Percent of total	Fatalities	Percent of total
Morning (6-10 am)	585	19%	4	29%
Midday (10 am-3 pm)	816	27%	0	0%
Afternoon/evening (4-8 pm)	311	10%	9	64%
Night (8 pm-6 am)	1,305	43%	1	7%
Total	3,017		14	

7 Support facilities

While bikeways are the central element of a bicycle network, they are not the only component. There are several kinds of support facilities—namely bicycle parking, showers and lockers, and signage—that increase the utility of a bicycle network and promote the viability of bicycling as a transportation mode.

Bicycle parking

- Four cities have bicycle parking ordinances: Oakland, Hayward, Pleasanton and Union City. Several other jurisdictions have imposed parking conditions for certain projects as part of the development-approval process.
- Only one city—Oakland—has a bicycle-rack installation program, although most other jurisdictions have installed racks in public places on a case-by-case basis. In addition, Oakland provides technical support to businesses that wish to install bicycle parking on their property.
- Almost all jurisdictions have installed at least some bicycle racks; seven have single-use bicycle lockers; Oakland and Fremont have shared-use electronic lockers (eLockers); Oakland, Emeryville and San Leandro have secured bike-parking cages; and Emeryville has an indoor bike room.
- Oakland’s bike parking ordinance requires attended bike parking at certain large events.
- BART provides racks at all its stations in Alameda County and lockers at all stations except 12th Street/Oakland City Center, 19th Street/Oakland and Downtown Berkeley. In addition, there are two bike stations, one at Downtown Berkeley, with 268 spaces, and the other at Fruitvale (250 spaces).

Showers and lockers

- Only one city—Oakland—has an ordinance requiring shower and locker facilities as part of certain new development projects. Pleasanton and San Leandro have occasionally required these facilities on a case-by-case basis, as part of the development-approval process, while UC Berkeley has a policy to include them in all new buildings beyond a certain size.

Wayfinding signage

- Oakland and Emeryville have bike-route signage programs. Several other cities are considering adopting comprehensive wayfinding signage guidelines, based on those developed by Oakland in 2009.
- Berkeley and Emeryville install bicycle boulevards signage with wayfinding and mileage information.
- Local agencies and the East Bay Regional Park District also place signage along inter-jurisdictional trails, such as the Bay Trail and Iron Horse Trail.

8 Planning, support programs and advocacy

Local planning efforts

Bicycle plans at the local level are important because it is local jurisdictions that are responsible for planning, designing, constructing and maintaining bicycle facilities. As of the adoption of the 2006 Countywide Bicycle Plan, 10 of the 15 jurisdictions in the county had adopted bicycle plans. In 2010, the number rose to 14 of the 15 jurisdictions with a completed bicycle plan or one underway. Below are the main developments since 2006 in this area (see Appendix R for more information):

- Dublin and Pleasanton adopted their first (combined) bicycle/pedestrian plans, while the County adopted a stand-alone bicycle plan for the unincorporated areas.
- Several cities updated their bicycle or bicycle/pedestrian plans: Albany, Hayward, Oakland and Union City.
- Other than Newark, which is in the process of developing a combined bicycle/pedestrian plan, only one city—Piedmont—remains without a bicycle plan.
- In addition to jurisdictions, the University of California at Berkeley has a campus bicycle plan.

Status of local bicycle plans

Jurisdiction	2006	2010
North Planning Area		
Alameda (City of)	✓	✓
Albany	✓	Update Underway
Berkeley	✓	✓
Oakland	✓	Updated Since 2006
Piedmont		
Emeryville	✓	Update Underway
Central Planning Area		
San Leandro	✓	Update Underway
Hayward	✓	Updated Since 2006
Unincorporated	Underway	Update Underway
South Planning Area		
Fremont	✓	Update Underway
Newark		Underway
Union City	✓	Update Underway
East Planning Area		
Pleasanton		✓
Dublin		✓
Livermore	✓	Update Underway
Total	10	12

Local support programs

The focus in bicycle planning is often on building capital projects. However, support programs are also important because they increase the safety and utility of those projects. Local jurisdictions in Alameda County administer a broad range of bicycle support programs to complement their infrastructure-building efforts. These programs may be grouped under the categories of safety, law enforcement, education, promotion or encouragement, safe routes to school and traffic-calming. Below is a summary

of jurisdictions now sponsoring various types of programs (based on responses received from 14 jurisdictions):

Safety

- **Bicycle Audit:** San Leandro (newly implemented, since 2006).
- **Bicycle Safety Education Campaign:** Albany (new), Dublin, Fremont, Pleasanton (new) and San Leandro.

Law enforcement

- **Bicycle/pedestrian traffic safety officers:** Alameda County.
- **Pedestrian/bicycle enforcement activities:** Eight jurisdictions, including San Leandro and Emeryville, where the programs are new.

Education

- **Inform motorists on bicycle/pedestrian laws:** Albany, Dublin (new) and San Leandro.
- **Traffic curriculum (schools, community centers):** Albany (new), Fremont, Dublin (new) and San Leandro.

Promotion/encouragement

- **Bike to Work Day:** Eleven jurisdictions, including Dublin and Livermore, where the programs are new.
- **Bicycle races:** Alameda County, Albany, Emeryville (new) and Fremont.
- **Giveaways:** More than half of jurisdictions (including Oakland and Dublin since 2006) give away bicycle-related items such as helmets, lights, reflectors and water bottles.
- **Bike maps:** All except Alameda County, Newark, Piedmont and Union City. The map programs in Dublin, Livermore and Pleasanton are new since 2006.

Safe Routes to School (SR2S)

- Emeryville, Fremont, Hayward, Oakland and San Leandro have applied for and received grant funding for SR2S programs; Pleasanton, Livermore and Union City applied for funding but did not receive it.
- Alameda County, Albany, Hayward, Livermore, Oakland, Piedmont and San Leandro participate in the countywide SR2S program through Transform.
- Newark and Emeryville do not have SR2S programs in their schools.

Traffic calming

- Four jurisdictions (Berkeley, Emeryville, Newark, Pleasanton and San Leandro) have a substantial traffic-calming program, with a dedicated funding source.
- Five jurisdictions (Alameda County, Albany, Fremont, Livermore and Oakland) have a traffic-calming program but with no dedicated funding source.
- Five jurisdictions (Dublin, Hayward, Piedmont and Union City) do not have a traffic-calming program.

Countywide support programs

In addition to the local programs, there are two multi-jurisdictional support programs of note:

- Safe Routes to Schools (SR2S) Alameda County Partnership (www.transformca.org/sr2s). This program reaches students at more than 60 public elementary schools. It is led by TransForm, a local non-profit dedicated to improving transit and creating walkable communities.
- Bicycle safety classes for all ages, offered on a regular basis by both the East Bay Bicycle Coalition and BikeAlameda.
- Bike to Work Day has grown significantly in recent years. In 2008-2010, it was supported by a “lifestyle” advertising campaign under the tagline, “Get Rolling.”

Advocacy efforts

Bicycle advocacy seeks to encourage government to improve the bicycling environment and to encourage more people to bike more often. Bicycle advocacy has surged nationwide in the past 10 years, particularly in the Bay Area.

Alameda County has five bicycle advocacy groups, including one, the East Bay Bicycle Coalition (www.ebbc.org), that works in all parts of the county. The main change in advocacy since 2006 is the formation of Walk Oakland, Bike Oakland (www.walkoaklandbikeoakland.org), a new advocacy group focused solely on the largest city in the county. In 2010, the group organized Oaklavia (<http://oaklavia.org>), the closure to car traffic of several blocks in downtown Oakland for strolling, bicycling and other recreational activities. The event, which occurred on Sunday, June 27, from 10 a.m. to 2 p.m., is the first example of a “ciclovía” or “Sunday Streets” event to occur in Alameda County.

Three other advocacy groups active in the county include:

- Bicycle-Friendly Berkeley Coalition (www.bfbc.org)
- BikeAlameda (www.bikealameda.org)
- Albany Strollers and Rollers (www.bfbc.org)

In addition, bicycle or bicycle/pedestrian advisory committees advise government agencies on bicycling and walking issues, and exist in several cities (Berkeley, Oakland, Emeryville and Fremont) and at Alameda CTC and BART.

9 Funding needs

As described in the next section, on implementation of the 2006 Bicycle Plan, almost every local jurisdiction cites lack of funding as a major barrier to making bicycle improvements. In that context, funding needs for bicycle projects is an important existing condition that will help determine the countywide priorities.

As part of updating the Countywide Bicycle Plan, we asked local jurisdictions to estimate their *foreseeable* funding need for bicycle projects. Roughly half the jurisdictions responded, and their answers varied widely:

- **Dublin:** \$4.2 million for projects in the Bikeways Master Plan.
- **Fremont:** \$42 million, for both bicycle and pedestrian projects.
- **Newark:** Approximately \$4 million for both bicycle and pedestrian projects.
- **Oakland:** \$27 million for projects in the Bicycle Master Plan and \$8 million for a bicycle/pedestrian bridge over Lake Merritt Channel.
- **Pleasanton:** \$29.7 million for bicycle projects in the Pedestrian and Bicycle Master Plan.
- **San Leandro:** \$23.2 million for both bicycle and pedestrian projects in the Bicycle and Pedestrian Master Plan.
- **Union City:** \$6 million (for lane reconfiguration on Union City Boulevard)

⑩ Implementation of the 2006 plan

Capital projects

As part of updating the Countywide Bicycle Plan, jurisdictions were surveyed on projects they have completed since 2006 on the countywide bicycle network (see Appendix Q for the list of projects):

- Seven jurisdictions reported implementing projects: Albany, Fremont, Hayward, Livermore, Oakland, Pleasanton and Union City.
- Albany and Oakland reported four projects each; Livermore, three projects; Fremont, Pleasanton and Union City, two projects; and Hayward, one project.
- Alameda, Berkeley, Dublin, Emeryville, Newark, Piedmont and San Leandro did not report any projects on the countywide network.

Countywide support programs

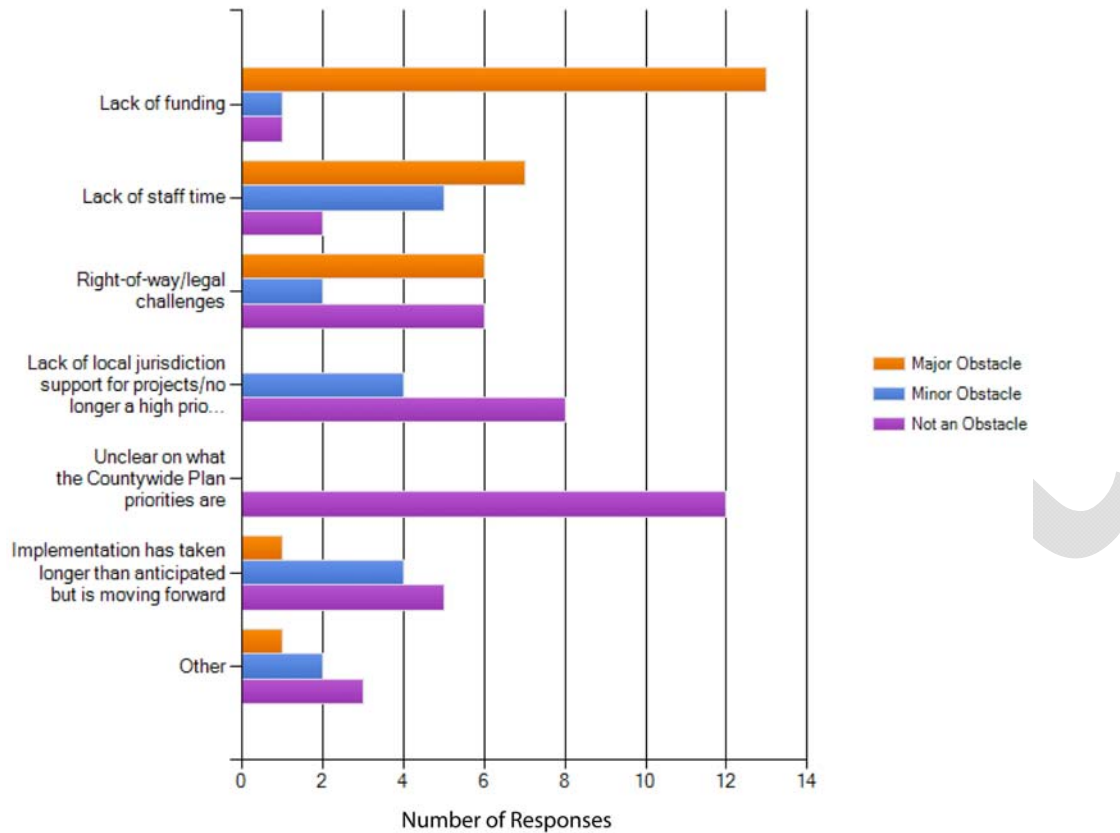
The previous section identified safety, law enforcement, education, promotion and other support programs at the local level for bicycling, and pointed out which ones have been instituted since the adoption of the 2006 Bicycle Plan. In addition, the previous section highlighted countywide support programs that have been put in place since 2006:

- Safe Routes to Schools (SR2S) Alameda County Partnership: began as a pilot project in Oakland in 2006 before expanding countywide as a partnership between TransForm, the Alameda County Public Health Department and many other local agencies and organizations. The program is funded in large part with a grant from Measure B.
- Bicycle safety classes for all ages, offered on a regular basis by both the East Bay Bicycle Coalition and BikeAlameda.
- While Bike to Work Day is not a new program, it has grown significantly in recent years. In 2008-2010, it was supported by a “lifestyle” advertising campaign under the tagline, “Get Rolling.” Ads appeared at BART stations, on the back of AC Transit buses, in bus shelters, on street pole banners, at kiosks and in the East Bay Express (weekly newspaper).

Challenges encountered

In the 2010 local agency questionnaire (to which 14 jurisdictions have responded to date), local jurisdictions were asked to identify challenges they have encountered in implementing the priorities identified in the 2006 Bicycle Plan. The most commonly cited implementation challenges by far were insufficient funding and staff time and right-of-way constraints:

Implementation challenges encountered by local jurisdictions



- Perhaps not surprisingly, every jurisdiction (except Dublin) cited inadequate funding for projects as major challenges.
- The following jurisdictions identified inadequate staff time, and lack of staff resources in general, as major obstacles to implementation: Oakland, San Leandro, Hayward, Newark and Pleasanton.
- Significant right-of-way challenges were reported by San Leandro, Fremont, Pleasanton and Dublin.
- Additionally, Oakland suggested the need for better coordination with resurfacing projects; Pleasanton—which is dealing with projects adjacent to waterways—mentioned lack of interagency coordination as a significant challenge; and San Leandro, Hayward and Newark cited lack of community or jurisdictional support as minor challenges.