

# Appendix D1

## PEDESTRIAN EDUCATION AND OUTREACH

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Local and county governments can promote walking through a variety of means. Local and county governments can write general plans and design standards that emphasize interconnected streets and good sidewalks, reduce parking requirements for denser areas, and require more pedestrian-friendly facades and parking (for example, retail entrances should not be set back from the sidewalk through a large parking lot).

Pedestrian education has a wide potential audience, since even people who generally drive or travel by other modes are at least occasionally pedestrians. Public outreach campaigns could emphasize, for example, that walking one mile (generally a 15-minute walk) provides exercise, potential social interaction, and a less stressful means of travel at no cost and slightly more time than driving. Drivers, too, should be educated with respect to yielding to pedestrians at crosswalks, driving more slowly through areas with many pedestrians, and allowing pedestrians to cross at intersections before turning. While pedestrian outreach should be broadly targeted, schools and colleges are particularly good places for such programs. Younger students can develop a lifetime pedestrian habit, while college students can take advantage of the generally pedestrian-friendly orientation of most campuses.

The Oakland Pedestrian Safety Project is a good example of a local program focused on education and outreach. Oakland City Council Member Nate Miley initiated the project in 1995 in response to extensive media reporting on pedestrian fatalities within Oakland. The project began as a loose coalition of city staff, neighborhood groups, and health care providers, and focused on educating schoolchildren and the elderly about pedestrian safety. Over the last several years, it has evolved into a larger effort, which includes coordination with city traffic engineers and police to provide both traffic calming measures (mostly speed humps) and increased enforcement. The project has been largely grant-funded; the most recent is a two-year grant from the California Office of Traffic Safety, which pays the salaries of three staff. Office space and equipment is donated by the city. The project appears to be successful in achieving its goal of reduced pedestrian fatalities; while a direct link cannot be shown, fatalities have decreased from 24 in 1995 to 9 in 1999. Project staff are also developing a Pedestrian Master Plan, which will be adopted as part of the Transportation and Land Use element of the General Plan.

# Appendix D-2

## BICYCLE EDUCATION

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### ABOUT BICYCLE EDUCATION

The California Vehicle Code gives bicycle operators the same rights and duties as motor vehicle operators; in California as in all states, bicyclists are drivers. *Riding* a bicycle, something most people can learn by themselves, involves knowing bicycle handling characteristics and one's own capabilities. *Driving* a bicycle competently on streets requires, in addition, knowing how all traffic operates and how to become part of the traffic stream based on your speed and destination. Unlike balancing and braking, these skills do not come automatically - they must be taught. The payoff is potentially large: many cycling educators believe that because safe and legal bicycle driving follows the same "rules of the road" as motor vehicle driving, teaching children how to drive bicycles will make them better motor vehicle drivers when they are older.

Unfortunately, too many bicyclists in the United States lack the basic skills or knowledge to safely drive a bicycle in traffic. Many people are simply afraid of bicycling on streets because they do not grasp that the underlying principles are the same as for driving a car, except that bicycles are thinner and generally slower.

Bicycle education programs are designed to improve cyclists' ability to operate with traffic. The challenge of helping people develop this skill and knowledge stems from the wide range of age groups that require this training and the need to tailor programs to each one. Other cycling-related education and promotion is designed to raise awareness among motorists, parents and child care providers, law enforcement personnel, and the community at large. More details on the many types of target audiences are described on page D2-5.

### DELIVERY FORMATS

We classify bicycle safety education programs as *informational*, such as posters, brochures, videos, and classroom presentations, or *hands-on*, such as off-street practice and escorted on-street training rides. Informational programs are intended to develop awareness and provide knowledge. Hands-on programs are designed to change behavior and/or develop skills. *Comprehensive* programs employ both presentation and practice. Finally, there are *Promotion* programs which are intended more for encouragement than education.

### Informational Programs

**Classroom Presentations** - Although they must practice on a bicycle before becoming competent, children can learn the basic rules of the road in a classroom or assembly environment. In many cities this is the only "cycling education" offered, if any. Because school years are almost

entirely pre-allocated and because few districts have in-house personnel trained as bicycle driving educators, a one-hour presentation once every year or two is all that many children receive. In Alameda County we found that these presentations are often delivered by police officers, some of who are Police Cyclists (patrol officers trained in bicycle driving and law enforcement techniques).

Some “bike safety” presentations teach only helmet use, which is insufficient (helmets mitigate crashes, sound bicycle driver education prevents them.)

**Youth “Diversion” Programs** – City police departments often offer remedial classes for youths stopped for illegal cycling (typically wrong-way or stop sign/signal violations). These are often taught on a Saturday by police personnel, sometimes by a bicycle-mounted patrol officer.

**Warning Stops** – Police officers may stop cyclists who are behaving improperly or whose bicycle lacks required equipment such as lights. If an officer is properly prepared, these stops are opportunities for behavior-targeted education. Violation-specific handouts, ideally available in each language spoken in a jurisdiction, can help to reinforce each message. Bike shops sometimes work with law enforcement to add coupons to these handouts, good for discounts on helmets, lights, locks, and accessories.

**“Good Driving” Stops and Rewards** – Some police departments make “good bicycle driving” stops of youths, rewarding proper bicycle driver behavior with coupons for attractions and restaurants. Such programs are usually preannounced to the community and coupled with other educational outreach and promotion.

**Videos** – Hundreds of general-audience bicycling videos are available but most feature races, athletic training, off-road biking, or bicycle maintenance. Some, often produced by alternative-transportation programs, combine bicycle commuting information with a bit of education. Only a few bike videos teach bicycle driving, and not all do so competently. (These are described in Appendix C.)

**Bike Maps** – A bicycle route map is one of the items most frequently requested by commuter and recreational cyclists. The purpose of a bike map is to show cyclists routes they would otherwise have to discover by trial and error or by driving, with information as to facility type (e.g. bike lane, route, or path) and traffic level. Many city and county bicycle route maps include detailed bicycle driver information, typically on the back.

Several Alameda County cities publish bike route maps. The East Bay Bicycle Coalition publishes two maps, “West of the Hills” and “East of the Hills,” which together cover the county. Krebs Cycle Touring, based in Santa Cruz, offers touring and trail maps which cover the entire county.

The Bay Trail Project produces nine printed maps showing the Bay Trail route. The maps are available for purchase from ABAG (510-464-7900) and on the Bay Trail website

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(<http://baytrail.abag.ca.gov>). The Bay Trail website also provides the maps for viewing and printing as well as a virtual tour of completed Bay Trail segments with photographs and text.

The San Francisco Bay Shoreline Guide produced by the State Coastal Conservancy provides a comprehensive guide to the entire San Francisco Bay shoreline. It includes Bay Trail route maps, information about recreational opportunities along the Bay, Bay Area history, and environmental education.

Some cities have gone beyond the traditional folding paper map. San Francisco and San Jose have both published their maps in the Pacific Bell telephone book. Sunnyvale and Santa Clara County's maps are available on the Internet. Cities such as Cupertino have defrayed the publishing costs of their bike maps by having them published by their Chamber of Commerce, which incorporates advertising for local businesses.

## Hands-on Programs

**Physical Education and After-school Events** – The class-time-availability obstacle can be avoided if cycling is made part of the curriculum - often as part of physical education or sports. Programs offered this way often depend on the initiative of a particular teacher who is also a cyclist; this is the case in Berkeley. Children leaving campus for instructional purposes during school hours are typically required to be under the supervision of a certified teacher, which limits the use of volunteer cycling instructors. Liability concerns in some districts may prohibit off-campus travel even for instructional purposes.

**Bike Rodeos** – A bicycle rodeo is an outdoor, on-bike event, which may be offered during school or on a weekend day. Rodeos are usually set up in a parking lot and typically include helmet fitting, equipment safety checks, and several on-bike "skill stations" such as slaloms, spiral courses, and "slowest finisher wins" races. Most of these on-bike activities test handling skills but not driving skills; if any driving material is included it may be as a short video (see Videos in Appendix C).

**"Roadshow" Setups** – Some school districts, counties, and states bring fully equipped youth cycling setups to their schools and cities. Trained instructors arrive with a trailer stocked with helmets and fully-maintained children's bicycles, which means that parents need not have purchased these items nor ensured that their child's bike is in working order. Such setups can of course be used as the basis for off-street-only or on-street education. One example is Hawaii "OBEEP" (Oahu Bicycle Education and Encouragement Program), which also has an excellent 10-minute promotional video for parents.

**Off-school Class Rides** – During the 1980's a Palo Alto middle school offered a multi-week 10-15 hour class which included supervised practice rides on neighborhood streets in the school's vicinity. Diana Lewiston, an Effective Cycling instructor (see Effective Cycling in Appendix C), conducted these classes.

**Bike Club Rides and Classes** – Most recreational bicycle clubs have scheduled rides. Adult and teen cyclists can gain on-street experience in a group setting on these rides, though there is no guarantee that the ride leader or participants understand the principles of safe and legal bicycle driving. Several ride leaders of local clubs have, however, taken Effective Cycling or other classes.

Some recreational bicycle clubs also offer touring-cyclist training classes. One is the Almaden Cycle Touring Club (ACTC), based in San Jose. ACTC Academy is a multi-week series that brings novice recreational cyclists up to touring-ready. ACTC coordinator Esther Snively has taken Effective Cycling.

Youth "Earn A Bike" and bike repair programs - Many organizations around the country have created programs which offer disadvantaged youths the opportunity to "earn a bike" by learning repair skills and using them to fix up donated or abandoned bicycles. These programs help give kids an alternative to gang activity and petty crime, and an opportunity to learn useful work skills. They do not typically include bicycle driver education instruction, but are a potential channel for it. Related options include after-school and drop-in bike repair clinics. The Youth Bicycle Education Network (YBEN) is a national resource group for such operations. Examples of "Earn-a-Bike" programs in Alameda County include Oakland-based Cycles Of Change, and the Oakland Parks Department program managed by Jose Ortiz.

**"Trips for Kids" Programs** – Organized rides for children, usually of middle school age or above, can provide a teaching opportunity. Marin County-based Trips For Kids conducts such rides for inner-city youth.

**Police Cyclist Training** – Bicycle-mounted patrol forces now number in the hundreds across the country; Alameda, Albany, Berkeley, Dublin, Livermore, Palo Alto, and San Jose are but a few local cities which have them. Police Cyclist training is offered by two organizations; one is IPMBA, the International Police Mountain Bike Association. Such training may encompass an entire week, and is equivalent to an Effective Cycling course combined with high-performance maneuvering and police techniques such as pursuit, rapid dismounting, situation control, and disarming of offenders. Sergeant Joe Martin of the Hayward Police Department is a police cycling instructor and offers an informational video addressing police and legal issues for cities considering bicycle-mounted patrols.

**Safe Moves "Safety Town"** – Safe Moves, a company based in southern California with client cities throughout the state, takes the rodeo concept further with their "Safety Town." This is an elaborate set of props, which simulate a street intersection complete with lanes, sidewalks, driveways, signs, signals, and movable "car" shapes. Young children are taught pedestrian skills such as driveway awareness and use of pedestrian signals. Older kids use the "street" and "intersection" to practice stopping, looking, yielding, starting, and proper position for their intended destination.

“Safe Moves” contracts with cities and schools to provide bicycle education and rodeos  
Executive Director: Pat Hines  
15500 Erwin Street, Unit 1121  
Van Nuys, CA 91411  
818 908-5341 or fax 818 908-5337  
Bay Area Phone 408 374-8991

## Promotions

**Helmet Giveaways** – Many public health agencies and city police departments offer free or discounted helmets to children and parents, often at bicycle rodeos. Another strategy is to offer free helmets as an incentive to sit through a bicycle safety presentation. The City of Berkeley offers a monthly one-hour bike safety workshop for low-income families, and at the end the children receive a free fitted helmet.

**National Bike Month / Bike To Work [School] Day** – The month of May is National Bike Month, during which Americans are encouraged to ride a bike at least once. The third week is typically when cities and other jurisdictions hold Bike To Work Day promotions, often on Tuesday. In recent years this promotion has been expanded to Bike To School Day as well.

California's statewide Bike To Work Day promotion is coordinated by the California Bicycle Coalition (CBC), based in Sacramento ([www.calbike.org](http://www.calbike.org)). Bay Area Bike To Work Week events are coordinated by RIDES For Bay Area Commuters (RIDES, Inc.), based in Oakland ([www.rides.org](http://www.rides.org)).

**Walk Our Children To School Day** – The growing movement to restore and improve pedestrian safety and "walkability" in neighborhoods and cities has spawned a worldwide event devoted to encouraging parents to walk with their children to school. International Walk To School Day will occur on October 4<sup>th</sup> this year. This is another opportunity to promote cycling to school, and October is just after the start of the school year, unlike May's Bike To School Day.

**Street Fairs with Attended Bike Parking** – Several bicycle transportation advocacy groups in the Bay Area work with event promoters to offer free guarded bicycle parking at street fairs and athletic events. These groups usually offer informational pamphlets about bicycle driving and safety at their tables.

**"Charity" Rides** – Many charity campaigns have organized walking and cycling events to raise funds through mileage-based pledges. These events are so far untapped as opportunities for street cycling education, but could provide an opportunity if pamphlets or other materials were supplied to the organizers.

## TARGET AUDIENCES

Target audiences are divided into cyclists and non-cyclists, and subdivide cyclists by age level because of the diverse readiness levels involved.

### Audiences: Cyclists

Children begin to bicycle by learning *handling skills*: balancing, steering, braking, turning, safe starting and stopping. Many kids quickly become competent bicycle *riders*, but until about third grade (age 9 or 10) they are not ready to become independent bicycle *drivers* on the street; they lack the attention span, peripheral vision, and understanding of consequences required to operate in traffic. They can, however, learn essential "pre-driving" skills such as checking over each shoulder while steering straight. They can also experience cycling on the street with parents in well-controlled situations.

By third grade most children are ready to learn to bicycle on two-lane residential streets on preselected routes to and from school. They should be taught the basic rules of the road in conjunction with hands-on (on-bike) instruction. By the end of fifth grade they are typically ready to learn the skills required for longer trips to middle school, involving distances up to two miles, four lane streets with moderate traffic, and busier intersections. The middle school transition provides a "teachable moment" for this knowledge. By seventh grade, most children can be taught to safely handle most streets and traffic flows.

Programs directed at children are best handled by schools or day care centers, but are often compromised by the time constraints of school curriculum and the unfamiliarity of instructors with sound bicycle driving principles. "Citation alternative" classes provide an "after the fact" way to reach youths who are using bicycles but not following the rules of the road.

Adult cyclists benefit most from a program designed to impart the responsibilities of bicycle operation, demonstrate how to safely share the road with motor vehicle traffic, and provide tips on the benefits and methods of bicycle commuting. However, programs aimed at adults typically only reach those that are interested in learning about bicycling. Motorist-oriented programs generally reach their intended audience at specific points, i.e. during driver's training courses, driver's licensing exams and traffic school courses for violators.

Audience	Relevant Bicycling Knowledge and Skills
Child cyclists, Grades K-2	Pedestrian skills: stopping, looking, crossing, waiting, alertness Helmet use and promotion (all ages) Basic bicycle control and handling (mounting, dismounting, balancing, starting, stopping, turning, braking) "Pre-driving" skills: Shoulder checks, driveway "rideout" hazard, eye contact
Child cyclists, Grades 3-5	<i>Opportunity: Start of 3<sup>rd</sup> grade, when most children can be taught to safely bike to elementary school along quiet neighborhood streets.</i> Rules of the Road: Riding on the right, yielding, stop signs and signals, shoulder checks, lateral position changes, safe turns at intersections. Conspicuity, hand signals. School commutes on prearranged routes

Child cyclists, Grades 6-8	<i>Opportunity: Summer transition between 5<sup>th</sup> and 6<sup>th</sup> grade, when most children are ready to learn the additional skills for commuting to middle school on routes that involve somewhat busier streets.</i> Intermediate Rules of the Road: Positioning at intersections by destination, where to ride on busier streets. Emergency braking and obstacle avoidance. Compliance with Vehicle Code regulations
Child cyclists, High school	Compliance with Vehicle Code regulations including equipment Encouragement of bicycle use as a practical transport mode for work and errand-running trips
Adult cyclists	Compliance with Vehicle Code regulations including equipment Knowledge of real and perceived safety hazards and how to reduce risk Human performance and practical and enjoyable cycling Where and how to ride on various types of streets and lane widths. Local route and bike/transit options

### Audiences: Others

<b>Audience</b>	<b>Relevant Bicycling Knowledge and Skills, or Messages</b>
Parents and child-care providers	Helmet fitting and adjustment Basic bicycle fit and safety check Knowledge of common child cyclist errors, on and off streets Knowledge of children's limitations in perception, attention, and ability to understand situations
Motorists	Recognition of cyclists' right to use the road as drivers Understanding, anticipation and avoidance of common cyclist mistakes Understanding and avoidance of common motorist mistakes
Law Enforcement personnel	Recognition of cyclists' right to use the road as drivers Knowledge of Vehicle Code sections regarding cyclists, including often-misinterpreted provisions such as "as far to the right as practicable", legality of occupying a traffic lane, and vehicular left turns Knowledge of common motorist errors and violations which obstruct and endanger cyclists, especially right-of-way violations Knowledge of non-moving-violation issues related to cyclist safety, such as improper car parking, and obstruction of bike lanes
Community	Promotion of cycling as healthy and clean transportation. Acknowledgement of cycling as a first-class transportation mode, and of cyclists as bona-fide users of the public streets.

## BICYCLE EDUCATION VIDEOS

### Effective Cycling (TRT 45 minutes, for adults and older teens)

This is the Effective Cycling Road I class video, a.k.a. "The Effective Cycling Movie." The running time of 45 minutes is divided into short segments suitable for a multi-session class or self-instruction program. These include getting ready to ride; basic handling and emergency maneuvers; the five traffic principles; bike lanes and bike paths; night riding; riding in the rain; hills, and group riding.



**Getting There By Bike (TRT 20 minutes, for adults and older-teens)****Pedal Smarts (TRT 15 minutes, for middle-school age)****The Bicycle Zone (TRT 12 minutes, for elementary age)**

Jeanne LePage, a professional videographer who was formerly the bicycle coordinator at the University of California, Santa Cruz, created these three videos. The videos each present bicycle driving principles and helmet use, with running times and themes tailored for their respective age groups. All three are notable for their multicultural casts and a "What if Cars Didn't Follow Any Rules" cartoon segment. "Getting There" features actors of diverse ages including an older woman motorist character who offers both cyclist and motorist perspectives.

**Trucks and Bicycles: Sharing The Road (TRT 20 minutes, for adults, older teens, and professional drivers)**

The American Trucking Association (ATA) created this excellent (but unfortunately out-of-print) video. Its narrator and main actor is a real-life bicycle racer and professional truck driver. The running time is split evenly into cyclist and trucker viewpoints; both segments offer technically sound driving, handling and passing tips.

**EFFECTIVE CYCLING**

John Forester's original Effective Cycling class covered all aspects of cycling from bicycle driving skills to handling, maintenance, nutrition and physiology. Knowledge of its bicycle driving material was tested on a multiple-choice written test, a parking-lot maneuvering test, and an on-street road examination. Because of its encyclopedic scope, a full EC class was a 33-hour multi-week production which understandably attracted only the most dedicated instructors and students due to the time commitment. EC in this format probably reached several thousand cyclists; several hundred individuals took the time to not only pass the course but to become Effective Cycling Instructors (ECIs), certified by earlier ECIs back to ECI #1, Forester himself.

John Forester also developed and taught youth cycling classes; here is a fairly recent email posting of his on this topic:

*Date: Wed, 18 Aug. 1999 20:45:17 -0700*  
*From: John Forester [forester@johnforester.com](mailto:forester@johnforester.com)*  
*Subject: Cycling training for children*

*Twenty years ago I worked out the sequence and method for teaching children their first lessons in traffic operation, as if they had no knowledge at the start. The method worked out taught children of grades 3, 5 and 7 to cycle appropriately on roads and in traffic appropriate for their ages. Grade 3 children qualified for 2-lane residential roads, grade 5 children qualified for 4-lane roads with medium-speed traffic,*

*while grade 7 children qualified for almost any reasonable road and traffic condition. The proof was, in each case, passing the normal EC test on roads of the specified character. My class average scores were about 95%, on a test with 70% minimum passing, and on which the local populations of adult cyclists riding to work scored flunking scores of 55% to 60%. There's no mystery to this. See my web site <http://www.johnforester.com> and go to education.*

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7585 Church St., Lemon Grove CA 91945-2306  
619-644-5481 [forester@johnforester.com](mailto:forester@johnforester.com)*

In the mid-1990s the League's Education Committee modularized Effective Cycling to attract more students and instructors, while endeavoring to preserve the essential bicycle driving material. A national-level instructor certification team was created to "train the trainers" at regional seminars, and several hundred more ECIs have been certified in the ensuing years (the author of this chapter is one). There are several active ECIs in Alameda County and the greater Bay Area; EC information and an instructor directory are available on the League's website: <http://www.bikeleague.org> (follow links to Education).

The new EC's core 10-hour "Road I" module teaches adults and older teens how to drive a bicycle safely and confidently on the public streets, and is typically offered in a two-day weekend or two-weeknight-plus-Saturday format. It includes five or more hours of off- and on-street practice, plus written, handling, and on-street examinations like the original course. Other EC modules include Road II and Road III, Commuting, Kids I (a short parent-orientation class), Kids II (elementary age, 7-10 hours), Kids III (middle school), and EC Motorist Education.

(In a dispute with LAB over content, John Forester recently revoked that organization's rights to use his trademarked program name. The League will continue its curriculum under a new name to be announced relatively soon; Forester plans to return Effective Cycling to its roots as a comprehensive seminar.)

## **CURRICULUM AND PROGRAMS TO BUY**

**The Basics Of Bicycling** – The Bicycle Federation of America (BFA) created a curriculum called "The Basics of Bicycling," which includes in-class and on-bike/off-street practice. Many school districts base their efforts on this material, which includes a comprehensive instructor guide and lesson plans. Information is available at <http://www.bfa.org>.

**Effective Cycling™** – Effective Cycling™ ("EC") is a standardized bicycle driver education curriculum for adults and children. It was created in the 1970s by John Forester, a cyclist, bicycle racer, transportation engineer, and past president of the League of American Bicyclists (LAB), the U.S. national cycling advocacy organization.

The new EC's core 10-hour "Road I" module teaches adults and older teens how to drive a bicycle safely and confidently on the public streets, and is typically offered in a two-day weekend or two-weeknight-plus-Saturday format. It includes five or more hours of off- and on-street practice, plus written, handling, and on-street examinations like the original course. Other EC modules include Road II and Road III, Commuting, Kids I (a short parent-orientation class), Kids II (elementary age, 7-10 hours), Kids III (middle school), and EC Motorist Education.

School districts and recreation programs seeking some sort of certification for potential instructors of youth cycling classes might consider requiring successful completion of an EC Road I class, whatever its new name may be.

**Can-Bike (Canada)** – The Canadian national cycling organization offers its own bicycle driver education curriculum called Can-Bike ("Can" for "Canada"), roughly comparable to Effective Cycling.

## CONTACTS

- International Bicycle Fund – web site at [www.ibike.org](http://www.ibike.org)
- Bicycle Federation of America 1506 21<sup>st</sup> Street, NW, Suite 200  
Washington DC, 20036-1008  
[bfa@igc.org](mailto:bfa@igc.org) or [bikefed@aol.com](mailto:bikefed@aol.com) or [www.bikefed.org](http://www.bikefed.org)
- Association for Commuter Transportation 1518 K Street, NW, Suite 503  
Washington DC, 20005
- “Developing Successful Bicycle/Pedestrian Commuter Programs”  
Florida Institute for Marketing Alternative Transportation, February 1998  
Florida State University, Tallahassee, Florida 323-06-3037  
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Washington DC, 20006  
[bikeleague@aol.com](mailto:bikeleague@aol.com) or [www.bikeleague.org](http://www.bikeleague.org)
- Web Sites  
[www.nwlink.com/~mcw/nowbike/31ways.html](http://www.nwlink.com/~mcw/nowbike/31ways.html)  
[www.self-propelled-city.com](http://www.self-propelled-city.com)  
[www.cycling.com](http://www.cycling.com) provides links to most of the good bicycle-related sites  
[www.bikelane.com](http://www.bikelane.com)  
[www.cascade.org](http://www.cascade.org)  
[www.rides.org](http://www.rides.org) to get info on bike information in the Bay Area