

## **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 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 smaller and generally slower.

Bicycle education programs are designed to improve cyclists' ability to operate with traffic. The challenges of helping people develop these skills and knowledge stems from the wide range of age groups that require 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.

## **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 pre-announced 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 educational information. Only a few bike videos teach bicycle driving, and not all do so competently.

### 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 six printed maps showing the Bay Trail route. The maps are available for purchase from ABAG (510-464-7900) and on the Bay Trail website (<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 Access Guide produced by the San Francisco Bay Conservation and Development Commission 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.

### **"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.

## **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.

## **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 City of Oakland Recreation Department program.

## **"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.

## **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.

## 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.

### 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 pre-selected 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	<ul style="list-style-type: none"> <li>▪ Pedestrian skills: stopping, looking, crossing, waiting, alertness</li> <li>▪ Helmet use and promotion (all ages)</li> <li>▪ Basic bicycle control and handling (mounting, dismounting, balancing, starting, stopping, turning, braking)</li> <li>▪ "Pre-driving" skills: Shoulder checks, driveway "rideout" hazard, eye contact</li> </ul>
Child cyclists, Grades 3-5	<p data-bbox="467 814 1419 882"><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></p> <ul style="list-style-type: none"> <li>▪ Rules of the Road: Riding on the right, yielding, stop signs and signals, shoulder checks, lateral position changes, safe turns at intersections.</li> <li>▪ Conspicuity, hand signals.</li> <li>▪ School commutes on prearranged routes</li> </ul>
Child cyclists, Grades 6-8	<p data-bbox="467 1052 1419 1161"><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></p> <ul style="list-style-type: none"> <li>▪ Intermediate Rules of the Road: Positioning at intersections by destination, where to ride on busier streets. Emergency braking and obstacle avoidance.</li> <li>▪ Compliance with Vehicle Code regulations</li> </ul>
Child cyclists, High school	<ul style="list-style-type: none"> <li>▪ Compliance with Vehicle Code regulations including equipment</li> <li>▪ Encouragement of bicycle use as a practical transport mode for work and errand-running trips</li> </ul>
Adult cyclists	<ul style="list-style-type: none"> <li>▪ Compliance with Vehicle Code regulations including equipment</li> <li>▪ Knowledge of real and perceived safety hazards and how to reduce risk</li> <li>▪ Human performance and practical and enjoyable cycling</li> <li>▪ Where and how to ride on various types of streets and lane widths.</li> <li>▪ Local route and bike/transit options</li> </ul>

## Others

Audience	Relevant Bicycling Knowledge and Skills, or Messages
Parents and child-care providers	<ul style="list-style-type: none"> <li>• Helmet fitting and adjustment</li> <li>• Basic bicycle fit and safety check</li> <li>• Knowledge of common child cyclist errors, on and off streets</li> <li>• Knowledge of children's' limitations in perception, attention, and ability to understand situations</li> </ul>
Motorists	<ul style="list-style-type: none"> <li>• Recognition of cyclists' right to use the road as drivers</li> <li>• Understanding, anticipation and avoidance of common cyclist mistakes</li> <li>• Understanding and avoidance of common motorist mistakes</li> </ul>
Law Enforcement personnel	<ul style="list-style-type: none"> <li>• Recognition of cyclists' right to use the road as drivers</li> <li>• 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</li> <li>• Knowledge of common motorist errors and violations which obstruct and endanger cyclists, especially right-of-way violations</li> <li>• Knowledge of non-moving-violation issues related to cyclist safety, such as improper car parking, and obstruction of bike lanes</li> </ul>
Community	<ul style="list-style-type: none"> <li>• Promotion of cycling as healthy and clean transportation.</li> <li>• Acknowledgement of cycling as a first-class transportation mode, and of cyclists as bona-fide users of the public streets.</li> </ul>

## 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 the above 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 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.

## **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

- Regional Rideshare Program – [www.511.org](http://www.511.org)
- East Bay Bicycle Coalition – [www.ebbc.org](http://www.ebbc.org)
- Pedestrian and Bicycling Information Center – [www.bicyclinginfo.org](http://www.bicyclinginfo.org)
- The National Center for Bicycling and Walking – [www.bikewalk.org](http://www.bikewalk.org)
- League of American Bicyclists – [www.bikeleague.org](http://www.bikeleague.org)
- International Bicycle Fund – [www.ibike.org](http://www.ibike.org)
- Bay Area Bicycle Coalition - [www.bayareabikes.org](http://www.bayareabikes.org)
- California Bicycle Coalition – [www.calbikes.org](http://www.calbikes.org)
- Transportation and Land Use Coalition – [www.transcoalition.org](http://www.transcoalition.org)
- Safe Moves – [www.safemoves.org](http://www.safemoves.org)
- California Office of Traffic Safety – [www.ots.ca.gov](http://www.ots.ca.gov)

