Good Practices Guide

For Bicycle Safety Education

U.S. Department of Transportation
Federal Highway Administration

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HSA-4/30-02 (5M)QE

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Table of Contents

Background and Purpose

In 1998, the Federal Highway Administration (FHWA) convened a steering group of bicycle safety experts and developed the National Bicycle Safety Education Curriculum. This Curriculum lists several bicycle safety education topics and target audiences – cyclists of different ages and abilities, as well as motorists. A Resource Catalog was developed which identifies and describes bicycle safety education programs that address these curriculum topics and target audiences. This Resource Catalog has been converted to a searchable, online database that is available at the following internet address: www.bicyclinginfo.org/ee/fhwa.html .

The FHWA has determined that good practices can be drawn from some of the educational resources identified in the resource catalog/database. The FHWA conducted in-depth interviews with bicycle safety educators, developed case studies, and summarized the results as good practices. The *Good Practices Guide* will be useful to those who plan to develop bicycle safety education programs, as well as those who are looking for the ideal existing bicycle safety program to use in their community.

The purpose of the *Good Practices Guide* is to serve as an informational resource for educators and other interested professionals in planning and developing bicycle safety education programs. The *Guide* examines 15 existing bicycle safety education programs in the United States and one from Canada.

The FHWA would like to acknowledge the assistance of the National Highway Traffic Safety Administration (NHTSA) in the development of this document. FHWA and NHTSA developed a formal partnership in 1998 to produce and oversee implementation of an intermodal plan to improve pedestrian and bicyclist safety, promote bicycling and walking as alternative modes of transportation, and support ongoing livability initiatives.

Structure of the Good Practices Guide

The *Good Practices Guide* consists of three primary sections: Case Studies, Good Practices, and Conclusion.

- **Case Studies** – This section includes a brief introduction that describes the selection of case studies, the interview method, a case studies quick reference, and the case studies. The case studies provide specific examples of how educators have developed bicycle safety programs.

- **Planning Your Program** – This section describes lessons that can be learned from the bicycle safety education programs surveyed and provides a holistic view of the different strategies and issues that should be considered while developing a bicycle safety education program. The section is organized into six topic areas:
  - Funding Your Program
  - Bicycle Safety Education and Public Schools
  - Developing Partnerships
  - Alternative Venues and Subjects
  - Evaluation Methods
  - Publicity

- **Conclusion** – This section summarizes the major issues that should be considered when developing a bicycle safety education course.

Case Studies

A list of bicycle safety program sponsors was identified as potential interviewees. This list was developed with the assistance of FHWA, NHTSA, the League of American Bicyclists, and individual bicycle safety experts. Program sponsors were then contacted and interviewed using a pre-established set of questions. Sixteen interviews were developed into case studies.

Interview Method

During the interviews, various bicycle-related topics were emphasized. However, all interviews included the following questions:

- What is the program title?
- What is the target audience?
- When did the program begin?
- What is the time duration of instruction?
- What are the learning topics?
- What is the method of instruction?
- What learning materials or resources are provided to the participants?

- Are there evaluation methods? What are they?
- What is the funding method of the program?
- What are the elements of the program that make it successful?
- What are the elements of the program that prove challenging?
- What recruiting or publicity methods are used for the program?

Sixteen case studies of bicycle safety programs are organized under the following three headings:

- Elementary, Middle, and/or High School Age Programs
- Adult Programs
- Train-the-Trainer Programs

See the following two pages for quick reference to the sixteen bicycle safety program case studies in this *Good Practices Guide for Bicycle Safety Education*.

Case Studies Quick Reference

Elementary, Middle, and/or High School Age Programs

Program Title	Description	Page
BikEd Hawaii	One week (five 45-minute sessions) on-bike program for fourth grade students	**7**
Bicycle Safety Education Program (BSE)	One-hour classroom presentation for third through fifth grade students	**9**
BIPED	45-minute classroom presentation for kindergarten through fifth grade students	**12**
Bicycle Safety and Awareness Program	Seven- to ten-hour on-bike program for fourth through seventh grade students	**15**
Kids on Bikes	Two-hour classroom/on-bike program for elementary school-age children	**17**
After School Bike Club	Eight 90 minute on-bike sessions for middle school-age children	**19**
Bike Lesson and Safety Training Program (BLAST)	Two-hour classroom/on-bike program for elementary, middle school, and high school-age students	**22**
Earn a Bike **and** ***Ride Club***	18 hours working in program bicycle shop, six hours working on own bicycle, and 20 hours of safety instruction (ten weeks, two hours per week) for upper-elementary-age through high school-age youths	**26**
Sprockids	Flexible ten-week program (two one-hour sessions per week) for elementary through high school-age students	**29**

Adult Programs

Program Title	Description	Page
Effective Cycling/Road I	20 hours (five four-hour sessions) on-bike program for adults (primarily) and teenagers	**32**

Train-the-Trainer Programs

Program Title	Description	Page
Texas SuperCyclist Project (Instructor Training)	One-day workshop instructing bicycle safety for teachers of fourth and fifth grades	**34**
Florida Traffic and Bicycle Safety Education Program	One- to two-day workshops for school teachers and community trainers to serve as instructors for grades K-2, grades 3-5, grades 6-8, and driver's education students	**38**
Helmet Your Brain – Avoid the Pain© Helmet Education Program	90-minute program for teachers of primary, elementary, and middle school children	**41**
Nevada Elementary Traffic Safety Program Instructor Course	Two-day workshop for law enforcement officers, teachers, and other community volunteers who teach bicycle safety to children of any age	**44**
Teaching Safe Bicycling (TSB)	One-day workshop for bicycle safety instructors, including police officers, school teachers and others who instruct elementary and middle school students	**47**
Home to School Safe Travel for Children (Train-the-Trainer)	Two-day workshop for teachers, police officers, fire department staff, and other professionals who teach bicycle and pedestrian safety to children grades K-5	**50**

Elementary, Middle, and/or High School Age-Programs

Program title:	*BikeEd Hawaii*
Organization:	Hawaii Bicycling League (HBL)
Contact:	Andie Watt, Program Director
Contact information:	808-735-5756, bicycle@pixi.com
Web site:	www.hbl.org
Program start date:	1989
Target audience:	Fourth grade students
Program length:	One week (five 45-minute sessions)

Program summary:

BikeEd Hawaii is a one-week course consisting of five 45-minute sessions taught to fourth graders in elementary schools by instructors from the Hawaii Bicycling League. Seven to ten students are matched with each instructor. The program is free to schools and students. Bicycles and helmets are loaned to students for the course.

The first session takes place in the school playground or parking lot. It includes a bicycle check which determines if the tires, handlebars, seat, and brakes are functional and safe. It also includes a student group ride with stopping, starting, and turning drills. These drills help determine which children may not operate a bicycle safely in a group and are therefore ineligible to go on street rides. Such students may later be determined fit to participate in street rides during later sessions, or they may continue with the course on school grounds.

In the second and third sessions, the eligible students go on the road while the remaining students stay on school grounds. They learn and practice five biking skills:

- Driveway exit (entering traffic)
- Left and right turns
- Stop sign behavior
- U - turns
- Lane positioning

The fourth session is an on-road review of the five skills learned during the second and third sessions. The fifth session is a road test in which each student must demonstrate the five learned skills.

Instructors who are experienced cyclists are often the most effective because they bring with them enthusiasm for bicycling.

These lessons are based on the *Effective Cycling/ Road I* course available from the League of American Bicyclists (www.bikeleague.org).

Evaluation:

There is a written pre-test and post-test consisting of the same 20 questions. Generally, the student's post-test score improves an average of 15 percent over the pre-test score.

Funding:

Funding comes from a variety of sources. Startup funds for one year were provided in 1989 from Section 402 Traffic Safety Funds from the U.S. Department of Transportation through the Hawaii State DOT. To sustain the program after that, funding has been provided annually from the City and County of Honolulu. This support requires an annual written report of program results that includes the number of students reached, evaluation results, and a narrative summary program assessment. In addition to the grant funding, revenue from city bicycle licensing fees is contributed to the program.

Publicity:

Initially, schools were individually contacted but popularity of the program spread by word of mouth. This popularity has led to a busy program schedule, and schools must now make reservations about one year in advance.

Successes:

The program has been enthusiastically received by most schools and students. Student attendance rates are generally highest in a school during its *BikeEd* week. When students have success in *BikeEd*, their enthusiasm appears to carry over into other school topics. During the last two school years (1999-2000 and 2000-2001), two teams were teaching in the schools. This allowed 8,000 students to be reached each year. In previous years, only one team taught the program, resulting in 4,000 students reached per year.

Instructors who are experienced cyclists are often the most effective because they bring with them enthusiasm for bicycling. Also, instructors who communicate well with children often are successful because they are able to maintain the students' attention.

Challenges:

Bicycle rodeos previously conducted by the HBL were found not to be as effective as on-road activities. Bicycle-handling skills learned at the rodeos did not transfer to on-road behavior as readily as the skills learned in the *BikeEd* program.

Program title:	*Bicycle Safety Education Program (BSE)*
Organization:	Bicycle Coalition of Maine (BCM)
Contact:	Jeff Miller, Program Director
Contact information:	207- 623-4511, bcm@BikeMaine.org
Web site:	www.BikeMaine.org
Program start date:	2000
Target audience:	Third through fifth grade students
Program length:	One-hour presentation

Program summary:

In the Spring of 2000, the Maine Department of Transportation began funding the *Bicycle Safety Education Program (BSE)*, which is taught in elementary schools. During the 2000-2001 school year, over 15,000 fourth and fifth graders participated in bicycle safety classes at 108 schools statewide.

The program consists of a 45-minute to one-hour classroom presentation by an adult instructor trained by BCM's *Bicycle Safety Instructor* program. The instructor is equipped with a bicycle, helmet, and other safety props, and begins the presentation by asking questions like "What do you like about biking?" "Can you be hurt by biking?" and "Do you know all the rules for safely riding a bicycle?" The instructor proceeds to discuss the following four main topics:

- Correct bicycle helmet fit using the "Eyes, Ears, Mouth Test"
- Dressing for safety
- How to do the "ABC Quick Check" on your bicycle
- Rules, laws, and safe bicycle driving tips

Instructors try to put a positive spin on biking, stressing that its benefits far outweigh its risks. Instructors use cue cards developed for the *BSE*.

The students are also given the following handouts:

- Attractive small color poster, "Be a Safe Bike Driver," reinforcing the classroom presentation with tips on how to practice with their parents
- Copy of *A to Z by Bike* – a 30-page illustrated book covering all aspects of bicycle safety
- *Share the Road* brochure for parents with safety tips for both bicyclists and motorists

- Bright yellow "Share the Road" bicycle/helmet sticker
- Other BCM and AAA bicycle safety publications

Follow-up activities are also encouraged to increase retention of the safety lessons taught. Each school has a designated School Bicycle Safety Coordinator with whom instructors spend about a half hour of one-on-one time. Instructors discuss how discounted helmets can be ordered through the Maine Coalition for Safe Children. They provide instructions on proper helmet fitting as well as additional resources such as a bicycle events calendar and bicycle-related classroom activity suggestions that could be used in other curriculum topics. Suggestions for follow-up activities include a poster drawing, science fair projects, and writing assignments relating to bicycling.

Proper helmet fitting is a critical skill.

Evaluation:

School teachers and administrators complete evaluation feedback forms that describe the clarity of the lessons, how successful the learning appeared to be, and general reactions to the class.

Funding:

Funding is provided by a Federal Department of Transportation Section 402 grant through Maine's Department of Transportation.

Membership dues in the Bicycle Coalition of Maine also help pay for the programs, including the *BSE*.

Sufficient funding in future years for the program is not assured. Therefore, the Bicycle Coalition of Maine is training school physical education teachers (who are receiving professional development credit). These physical education teachers will then have the option of teaching the *BSE* program in their own classes.

Publicity:

Information about the *BSE* program is spread through teacher and school newsletters, as well as the BCM Web site. Schools must contact a State Department of Transportation coordinator to schedule a time for a *BSE* instructor visit. Public service announcements on television also publicize the various programs and events of the Bicycle Coalition of Maine.

In addition, the *BSE* program is announced in the e-mail newsletters and quarterly publication of the Bicycle Coalition of Maine, which are sent to its members. Membership information is included in the children's take-home materials from a *BSE* class. Many parents whose children attended the *BSE* class have joined the Coalition as a direct result of membership information material the children took home. Membership in the Coalition has recently expanded greatly.

Successes:

During the 2000-2001 school year, 108 elementary schools and over 15,000 students were reached by the *BSE* program.

The "Be a Safe Bike Driver" poster handout that focuses on five safety practices is very attractive and well received by the students. The students also generally respond enthusiastically to instructors who are devoted cyclists and bring their own bicycles to the classes.

Challenges:

Because of the number of students that must be taught, as well as logistical and resource limitations, there are no on-bike activities in the program.

It has been discovered that stressing the dangers of biking may motivate children to ride bicycles more safely, but it should be balanced with a positive approach that focuses on the benefits of biking.

"Driving" a bicycle as opposed to "riding" one is discussed. It's stressed that a bicycle is a vehicle, not a toy, and that driving a bicycle carries the same responsibility as driving a car.

Program title:	*BIPED*
Organization:	White Clay Bicycle Club, Wilmington, Delaware
Contact:	Don Carbaugh, Program Director
Contact information:	302-529-7929, dcarbaugh@home.com
Program start date:	1988
Target audience:	Kindergarten through fifth grade students
Program length:	45 minutes

Program summary:

The White Clay Bicycle Club developed *BIPED* in collaboration with the 4-H Cooperative Extension Service (CES), a 4-H organization that is part of the University of Delaware's Department of Agriculture. 4-H CES acquired funding for the development of the program from a variety of private sources and also handles the publicity and scheduling logistics of the classroom presentations within elementary schools throughout the state of Delaware.

BIPED is a one-hour classroom presentation given by volunteer instructors, most of whom are certified by the League of American Bicyclists Instructor Certification program. The White Clay Bicycle Club provides the instructors with a teaching kit that includes an outline, a videotape, and handout print materials. The program is brief and is strictly classroom based, but it serves as an introduction to the basics of bicycle safety principles.

The instructor wears bicycle clothing and a helmet and brings his or her bicycle. This generally impresses upon the children that the instructor is an expert and also helps elicit questions about the bicycle and biking. Answers are usually related to bicycle safety.

The concept of *"driving"* a bicycle as opposed to "*riding*" one is discussed. It's stressed that a bicycle is a vehicle, not a toy, and that driving a bicycle carries the same responsibility as driving a car. The videotape *Bicycle Safety Camp*, is shown and discussed.

Ten safe bicycling tips are discussed:

- Always ride on the right side of the road
- Wear a helmet every time you ride
- Obey all traffic laws – stop for all STOP signs and traffic signals
- Signal when making a turn
- Be seen, wear bright clothes, and get a bright helmet

- Don't ride too close to parked cars and watch for opening vehicle doors
- Stop at the end of the driveway
- Don't clown around
- Yield the right-of-way and call to other riders when approaching or passing
- Be predictable: no surprises to other bicycles or cars

Wearing helmets and wearing them correctly is a key focus in this program. Questions and answers are used to illustrate the importance of helmet use. For example: "What are delicate things like computers and TVs packaged in for protection?" (styrofoam) "What is a bicycle helmet made of?" "How many of you have a helmet?" "How many of you wear your helmet?" "What other professional athletes use helmets?" (baseball, football, hockey, auto racing, etc.).

The instructor emphasizes that bicycle helmets reduce the risk of head injuries by 85 percent and head injuries don't heal like broken bones. The various features on a helmet are shown. Helmet fitting is demonstrated: chin strap always fastened and adjusted (one finger between chin and strap), snug (proper sizing pads), and level on head (one or two finger widths between brow and helmet).

The class talks about how to handle peer pressure and the faulty rationale for *not* wearing helmets, as well as the misconception that helmets are heavy, hot, and "nerdy" (brain damage is more "nerdy").

Included in the program materials are a presentation outline, the videotape *Bicycle Safety Camp*, and printed bicycle safety educational handout literature, such as *Best Bicyclist on Earth* or *Timmy the Dinosaur*. *Bicycle Zone* and *Get the Big Picture* (AAA Traffic Foundation, Washington, DC) are other videotapes that have been used and are recommended for grades six through eight.

Funding:

The development of *BIPED* was funded through grants obtained by the 4-H CES from various private grant sources.

Publicity:

Every year, 4-H CES sends a letter to all elementary schools in the vicinity of Wilmington, Delaware. It provides information about the program and asks school administrators to schedule a *BIPED* class. Many schools consider the class an annual event and schedule it every spring.

The class talks about how to handle peer pressure and the misconception that helmets are heavy, hot, and "nerdy" (brain damage is more "nerdy").

4-H had already established credibility and good working relationships with schools through its other programs. BIPED benefited from its association with 4-H and was immediately embraced by schools.

Successes:

The biggest success has been the partnership between the White Clay Bicycle Club and 4-H CES. 4-H CES had already established credibility and good working relationships with schools through its other programs. *BIPED* benefited from its association with 4-H CES and was immediately embraced by schools. 4-H CES handles all promotional and logistical aspects of the program, including sending announcement letters to schools, scheduling classes, and pre-class site visits to distribute materials.

This program is strictly a classroom presentation. Because of its simplicity of delivery (only a 45-minute classroom presentation), many students can be taught. This method also is least disruptive to standard school routines and therefore is easier for schools to accommodate. Building partnerships with other organizations in the community can provide different resources, expertise, existing relationships with target audiences, and funding opportunities.

Challenges:

As stated above, many students can be reached because this program is strictly a classroom presentation. However, students would retain more knowledge and skills and have a more complete educational experience if they were given actual bicycle riding practice.

Program title:	*Bicycle Safety and Awareness Program*
Organization:	Bicycle Transportation Alliance, Portland, Oregon
Contact:	Scott Bricker, Program Director
Contact information:	503-226-0676, scott@bta4bikes.org
Web site:	www.bta4bikes.org
Program start date:	1998
Target audience:	Fourth through seventh (primarily sixth) grade students
Program length:	Seven to ten hours

Program Summary:

The *Bicycle Safety and Awareness* program is a comprehensive, on-bike, ten-hour curriculum that teaches middle school students the fundamentals of bicycle safety. Children learn to obey traffic laws and signs, ride with traffic, hand turn signals, road positioning, right-of-way rules, hazard identification, defensive cycling, proper helmet fitting, and bicycle maintenance. The goal is to maintain an on-bike focus, spending six of the ten hours riding and culminating with an on-street community ride. *Bicycle Safety and Awareness* instructors are certified by completing a twelve-hour teacher-training class. Certified instructors spend two weeks at a school during which they teach five or six different classes. Each class is visited by an instructor seven to ten times, depending on how much time the school has made available.

The program is divided into two parts – four hours in the classroom and six hours on bicycle. The course consists of ten one-hour sessions. The first four days consist of the following topics: Day 1, Understanding bicycle traffic laws and signs, which includes a 21-minute videotape, *First Gear*; Day 2, Fitting helmets; Day 3, Maintaining and repairing bicycle; and Day 4, Bike safety checks and traffic simulation. The second four days of the curriculum take place outside: Day 5 includes bicycle riding activities that teach skills like braking, turning, road positioning, and riding with one hand. Days 6, 7, and 8 introduce children to riding on the street and focus on road position, right-of-way, intersections, and interactions with other vehicles. Days 9 and 10 consist of well-supervised on-street community rides.

Bike rodeos are a safe way to teach bike handling skills.

Materials in the program include an instructor manual, the videotape *First Gear* (covering traffic laws in depth), helmet fitting brochure, *Guide to Biking in the City* brochure and booklet, bicycle maintenance/repair tools, traffic cones, reflective vests, helmets (for borrowing or buying), and 25 loan bicycles.

Surveys in schools where the course was conducted showed that approximately four percent of the children rode to school before they attended the program and ten percent rode to school afterwards.

Evaluation:

There is a written 20-question pre-test and post-test (true/false and multiple choice) on lesson topics. The average improvement of the post-test score over the pre-test score has been 40 to 60 percent.

In addition, surveys in schools where the course was conducted showed that approximately four percent of the children rode to school before they attended the program and ten percent rode to school afterwards.

Funding:

The program is funded by Federal TEA-21, Section 402 (three years) funding through the Oregon Department of Transportation. Successful grant writing for funding from local, regional, and national organizations and corporations has also provided a good fund base. (Refer to the list of sponsors on the Bicycle Transportation Alliance Web site: www.bta4bikes.org).

Publicity:

Schools that choose to include the program have been recruited by contacting school administrators and teachers. News of the program is then spread informally by word-of-mouth and interested teachers call the Bicycle Transportation Alliance for more information.

Successes:

On-bike practice has been a key to the enthusiasm of the students and their willingness to demonstrate and retain the safe biking skills. In addition, its widespread popularity has been a measure of its success. Communities all over the state have chosen to implement the program.

Challenges:

While fundraising has been successful, there is always a shortage of money to accomplish the ultimate program goal – teaching every sixth grader in Oregon.

The program is still fairly new. Generating attention and interest is always a challenge. But bicycle safety education does address a variety interests for the public schools in Oregon:

- Active healthy lifestyle
- Teamwork
- Independence
- Consumer product safety
- Traffic safety
- Environmental cleanliness and awareness

Program title:	*Kids on Bikes*
Organization:	Kids on Bikes International, Inc., Reno, Nevada
Contact:	Nat McKay, Program Director
Contact information:	775-856-2250, bikes@reno.quik.com
Program start date:	1999
Target audience:	Elementary school-age children
Program length:	Two hours

Program summary:

The *Kids on Bikes* program is held at community centers, recreation centers, and public events such as the "Child's Fair," which was first held in April 2000. Currently, *Kids on Bikes* is not in public schools.

The *Kids on Bikes* program targets upper-elementary age children. However, the standard topics can be replaced by more basic bicycle handling skills and pedestrian safety techniques to be age-appropriate for younger elementary school-age children.

The standard program consists of one hour indoors and one hour of on-bike activities outdoors. The indoors presentation includes a discussion about crashes and head injuries, and the importance of wearing helmets and fitting them correctly. The "egg-drop" demonstration in a box of styrofoam illustrates how helmets can protect the head. The videotape *Jello in a Jar* is shown and discussed. Helmets are then provided to children who do not have them. They are sold at wholesale cost and given to underprivileged participants. Proper helmet fitting and bicycle fitting are taught. Loan bicycles are provided (new or refurbished from donations) to children who do not have them. Underprivileged participants are given bicycles.

The outside session is a bicycle rodeo that consists of nine skills stations, as follows:

- Left turn, right turn, and stop
- Quick stop
- Controlled straight line through cones
- Controlled slalom weaving maneuvers through cones
- Look over left shoulder for traffic
- Emergency obstacle dodge
- Maneuver through congested traffic conditions (other bicycles, children, cones, etc.) and figure eight turning in limited space

Kids on Bikes *has been able to refurbish and place bicycles with dozens of economically-disadvantaged youths who otherwise would not have the opportunity to ride a bicycle.*

- Multiple bicyclists maneuvering in figure eight
- Slow race (balancing) – the winner is the last child to finish without feet touching ground

Next, the children complete a handout, "Find the Missing 12 Hazards," in which they identify hidden bicycle hazards on a drawing of a street scene. Free bicycling-related handouts are given to the children, such as water bottles, bicycle safety workbooks, and coloring books.

Evaluation:

A 15-question written multiple choice, true/false test is given to the children at the end of the two-hour session. Students generally score an average of 80 percent correct.

Funding:

Funding has come from Federal Section 402 money through the Nevada Department of Transportation. In addition, other funding has come from small grants from organizations such as hospitals, as well as private donations. The U.S. Environmental Protection Agency has also provided funding based on the program's bicycle parts recycling activities.

Publicity:

Kids on Bikes events are announced on radio public service announcements and via flyers and notifications posted in hospitals and other public places. Local television and newspaper stories have been done on *Kids on Bikes*.

The challenges are to educate more children to wear helmets as well as to convince adults to wear helmets so they are good role models for the children.

Children need helmet-wearing adults as role models.

Successes:

Kids on Bikes has been able to refurbish and place bicycles with dozens of economically-disadvantaged youths who otherwise would not have the opportunity to own a bicycle. During 2001, *Kids on Bikes* has placed almost 200 bicycles and trained 975 children in seven months – April through October.

Challenges:

The challenges are to educate more children to wear helmets as well as to convince adults to wear helmets so they are good role models for the children. The *Kids on Bikes* program has not yet been incorporated in public schools.

Program title:	*After School Bike Club*
Organization:	City of Madison, Wisconsin
Contact:	Arthur Ross, Program Director Ellen Pillsbury, Lead Instructor
Contact information:	608-266-6225, Aross@ci.madison.wi.us 608-266-4474, epillsbury@ci.madison.wi.us
Program start date:	Pilot launched in summer of 2001
Target audience:	Middle school-age children
Program length:	Eight 1.5-hour sessions

Program summary:

The *After School Bike Club* was developed to teach safe bicycling skills as well as to promote bicycling as a fun and lifelong activity. The title *After School Bike Club* was selected over a title such as "Bike Safety Course", since middle school-age children generally consider having fun to be more important than personal safety. Nonetheless, the main orientation of this program is to learn bicycle safety while having fun riding bicycles. The bicycle safety skills taught in this program are based on those of the *Effective Cycling* course from the League of American Bicyclists (www.bikeleague.org). The *After School Bike Club* pilot was introduced during the summer of 2001 by veteran bicycle safety educator Arthur Ross and League Cycling Instructor Ellen Pillsbury in middle schools and public recreation centers.

The students bring their bicycles to the *After School Bike Club* and the lead instructor works with the students aided by adult volunteers. The Club consists of eight 1.5-hour sessions. The sessions consist primarily of bicycle rides, some pre-ride discussion, and frequent stop-and-talk teaching opportunities. The program is flexible enough to accommodate students with varying skill levels.

Day 1 is a preparation day consisting of a discussion/demonstration, a bicycle safety inspection (using a checklist), proper helmet fitting, and basic rules of the road. It also includes a brief ride on quiet residential streets during which three safety skills are emphasized: entering traffic from a driveway and right and left turns. The remaining days consist of bicycle rides to increasingly distant destinations, while frequently stopping to discuss situations encountered.

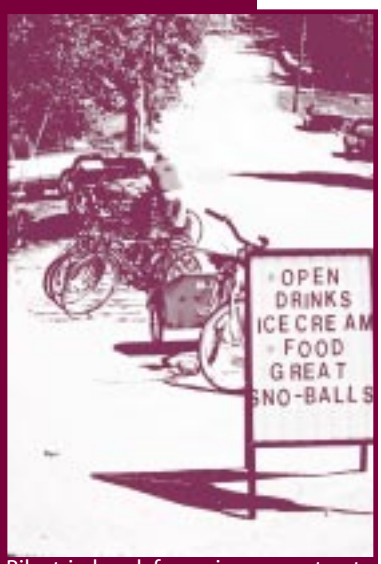
Day 2 consists of a longer ride with braking and lane positioning introduced. The ride includes traffic situations like parked cars, stop signs, and traffic signals, plus plenty of turns to practice lane positioning. In addition, the previous day's skills are practiced.

A long, fun trip is taken on the last day of the program, and more adult volunteers are invited. It may consist of a 12-mile trip around a lake ending at an ice-cream store.

Day 3 consists of a hazard identification exercise before getting on the bicycles, then an on-bike team scavenger hunt identifying hazards: (1) moving (cars, bicycles, dogs), (2) stationary (trees, fences, parked cars), (3) surfaces (pot holes, grass, wet or oily pavement, sand), and (4) visibility (sunlight, darkness, rain, fog, objects). An optional lesson in emergency maneuvers, like the quick turn and quick stop, is sometimes introduced. But because of the high level of bicycle handling skill needed, this lesson is not recommended for all groups. The point is to identify hazards in advance to make the use of emergency evasive maneuvers unnecessary.

Day 4 consists of operational procedures such as shifting, braking, maintaining cadence, planning when to stop, and shifting in advance. In addition, the previous day's skills are practiced.

Days 5 to 8 consist of longer distance rides and riding in more complex traffic patterns. During a rainy day or riding break, students are taught to fix a flat tire, plan routes, and read maps. A long, fun trip is taken on the last day, and more adult volunteers are invited. For example, it may consist of a 12-mile trip around a lake, ending at an ice cream store.



Bike trip break for an ice cream treat.

Arrangements are often made with a local bicycle store to borrow rental bicycles or helmets, as needed. The store may send an employee to help supervise. Traffic Enforcement Officers are also good resources. They are sometimes invited to ride with the club and talk about traffic laws. Also included in the course are promotional flyers, bicycle inspection checklists, and an instructor lesson plan.

Middle school-age children have been selected as the target audience for this program. The intent is that the *After School Bike Club* will encourage students to continue their frequent riding habits during high school years and beyond. Middle school-age children tend to use bicycles more frequently than children in other age groups. Middle school children are also more independent than elementary-age children and more likely to use bicycles to commute to school. In addition, bicycle riding tends to decrease with high school students.

Evaluation:

No formal success measuring methods were undertaken for this program. However, the lead instructor observes the students' on-bike behavior and generally notes skill improvements. Several of the students were observed using their bicycles throughout the city over the course of the summer of 2001, indicating a greater comfort level on the part of both the participants and their parents in their bicycling skills and abilities.

Funding:

Federal Highway Administration Section 402 funds were furnished through the Wisconsin Department of Transportation. These funds covered instructor costs and material development.

Publicity:

Flyers were posted in schools and other public places, and summer recreational programs were contacted.

YES sponsors a bicycle recycling program in which children are taught repair skills and then earn a bicycle by fixing up one that has been donated.

Program title:	*Bike Lesson and Safety Training Program (BLAST)*
Organization:	Youth Educational Sports Foundation (YES), Los Angeles, California
Contact:	Tana Ball, Executive Director
Contact information:	818-292-0779, info@yesports.org
Web site:	www.yesports.org
Program start date:	1995
Target audience:	Elementary, middle school, and high school–age students
Program length:	Two hours (two class periods)

Program summary:

YES is a nonprofit organization that works both in and outside of schools and introduces nontraditional school sports such as bicycling to students from kindergarten to college and to youth organizations. Bicycle safety, recreational, and competition programs are taught during school hours, during after–school cycling club programs, and during youth organizations' planned events.

The *Bike Lesson and Safety Training (BLAST)* is a bicycle safety program that was first developed by YES in March 1995. *BLAST* is a free, comprehensive, self-contained package containing a video and tutorial available to schools in Los Angeles County for free. *BLAST* is taught in school physical education classes. Loan bicycles, helmets, and other equipment are also available to schools. The program has three objectives:

- Reduce the number of bicycle riders killed, disabled, or injured by decreasing bicycle–related collisions
- Increase bicycle helmet use
- Increase the use of bicycles as part of a healthy life style for transportation, recreation, and sport

While each of the three programs emphasize different age-appropriate information, all cover the following nine topics:

- Bicycle-handling skills
- Traffic proximity
- Bicycling as an environmental solution
- Biking for physical health
- Traffic survival skills

- Bicycling as sport
- Bicycling as recreation and transportation
- Helmet safety
- Bicycle maintenance

The elementary school *BLAST* program (ages 5 to 10) focuses on pedestrian skills and beginning bicycle-handling skills. The middle school *BLAST* program (ages 11-13) focuses on residential bicycling and beginning traffic skills. The high school *BLAST* program (ages 14-18) focuses on biking in traffic skills and bicycling as a life skill. Each program consists of two sessions. A manual with instructions on how to conduct both sessions is included in the *BLAST* package.

In the first session, the 28-minute videotape *The Bike Channel* is shown and then discussed. The videotape covers three topics:

- Road survival skills
- Smart bicycling skills
- Interesting bicycling facts

Also included in this discussion are proper nutrition and exercise. During the first day, the students are given permission forms for signature by parents allowing students to participate in the second day bicycle rodeo.

The bicycle rodeo gives the students hands-on bicycle practice. Bicycles and helmets are available for students who do not have their own equipment. Students record their scores for each skill covered in the rodeo (for example, merging into traffic or helmet check).

YES sponsors other bicycle education programs that promote a variety of community-based values and also target lower social-economic populations. These programs include bicycle clubs that sponsor bicycle field trips and other special events as well as continuous education in safety and advanced riding skills. Other programs include a bicycle recycling program in which children are taught repair skills and then earn a bicycle by fixing one that has been donated.

Evaluation:

Surveys have been conducted at participating schools one month before and one month after the program. In general, there has been an increase in bicycle use and a major decrease in the bicycle-related injuries among students. To date, no known bicycle-related deaths have occurred among students after participating in the program.

Funding:

The *BLAST* program applied for and received three grants:

- Three-year startup funding from the U.S. Department of Transportation Section 402 funds via the Los Angeles County Metropolitan Transportation Authority
- After the three-year startup grant from the Los Angeles County Metropolitan Transportation Authority, the California State Office of Traffic Safety provided funding that was crucial to sustaining the program for five more years.
- The California State Department of Health Services has provided funding that has helped sustain the program.

YES also helps schools organize fundraising events for their own bicycle programs.

Publicity:

BLAST is integrated into the Los Angeles Unified School District. Notices for the program are sent to teachers through the internal school mail system. Fortunately, the California Department of Education requires bicycle safety and injury prevention education in the schools. *BLAST* is currently well supported by teachers and administrators because it addresses this requirement.

Successes:

BLAST reaches approximately 350,000 students annually.

Since the development of *BLAST* and other YES bicycle programs, Los Angeles County youths have shown a general increase in bicycle use and decrease in bicycle-related injuries.

Approximately 75 percent of middle school and high school students who want to join the bicycle clubs do not have bicycles. YES has been successful in making bicycles available for loan, thus ensuring that students will be able to stay in practice, maintain interest, and ride safely through their high school years.

Challenges:

Initially, it was difficult to convince school administrators that bicycle safety education was important and should be included in schools. The arguments used to convince administrators were:

- Even though most students don't ride bicycles, some do, and they need bicycle safety training.
- Bicycling is important as a healthy lifestyle activity.
- California passed a helmet law in 1994, requiring children to wear helmets while bicycling. Children need to be trained on their proper use.

In addition, since many children ride the bus to school, they have no way to bring their bicycles to school for the program. The *BLAST* program now has bicycle trailers and loan bicycles.

Approximately 75 percent of middle school and high school students who want to join the bicycle clubs do not have bicycles. YES makes bicycles available for loan.

The Recycle a Bike program is one of 100 organizations across the United States that are part of the Youth Bicycle Education Network, an organization that promotes Earn a Bike programs.

Program title:	*Earn a Bike* and *Ride Club*
Organization:	Recycle a Bike, New York, New York
Contact:	Karen Overton, Director
Contact information:	212-260-7055 or 212-475-1655, ko@recycleabicycle.org
Web site:	www.recycleabicycle.org
Program start date:	1994
Target audience:	Upper-elementary age through high school
Program length:	Participants spend 18 hours working in the program bicycle shop and six hours working on their own bicycle. They also receive 20 hours of instruction (ten weeks, two hours per week)

Program summary:

Recycle a Bike includes the *Earn a Bike* program and *Bike Club*. The *Earn a Bike* program is part of a larger effort by Recycle a Bike to develop a culture in the community in which bicycles and biking are a focus. Its goals are to:

- Increase the number of children (and adults) who ride bicycles
- Increase safe biking practices
- Educate children about bicycle repair, running a business, recycling, and the health benefits of bicycling

The *Earn a Bike* program has three requirements. The first requirement is for the participant to spend 18 hours assisting in the program's commercial/educational Recycle a Bike store. This is a fully functional retail store that repairs donated bicycles and sells them to the public. The participant learns bicycle repair and business skills. The participant may also spend six out of the 18 hours doing a pre-approved outside community service.

The second requirement is for the participant to spend six hours repairing the recycled bicycle that will be given to him or her. The repaired bicycle must pass a safety inspection by the staff.

The third requirement is for the participant to take a 20-hour course (ten weeks, two hours per week) that consists of the following four lesson topics:

- An hour-long discussion of bicycle safety that includes a 28-minute videotape, *The Bike Channel*, produced by the *BLAST* program (referred to in previous case study)
- Environmental recycling
- Bicycle mechanics
- Health benefits of bicycling

The participant takes ownership of the bicycle after completing the above four requirements.

Another component of the Recycle a Bike program is *Ride Club*. *Ride Club* consists of eight weekly organized bicycle rides, usually during the summer. Often, the bicycle ride destinations are community service centers that provide opportunities for discussion about community service. For example, after a ride to a sculpture park that recycles objects, a discussion is held about recycling. The first session is spent inspecting bikes for safety, followed up with a short ride on a green way (not on streets) – five miles for pre-teens and eight miles for teens. During each ride, breaks are taken to talk about and demonstrate educational lessons, such as bicycle safety practices. The last ride is a longer one to a "special" destination, such as the beach. The rides are led by paid staff and assisted by volunteers.

At some point during *Ride Club*, a bicycle rodeo is set up where the children must demonstrate the safe biking skills they have learned, such as riding in a straight line, turning, following directions in a group ride, and balancing (during a slow bicycle "race"). In addition, a written true/false quiz must be passed. (Note that this is not always used because some of the immigrant population lack English reading skills.) After successful completion of the *Ride Club*, the children receive a laminated *Ride Club* license that is honored at local bicycle stores for discounted purchases of bicycle-related equipment.


Children demonstrate safe biking skills in a bike rodeo course.

The Recycle a Bike program in New York City is one of 100 organizations across the United States that are part of the Youth Bicycle Education Network, an organization dedicated to promoting *Earn a Bike* programs. To learn more about the Youth Bicycle Education Network, contact Charles Hammond at: e-mail chammond@iupui.edu or telephone 317-253-3632.

Other benefits for participants are community service education and skills in operating a business, repairing bicycles, overcoming the psychological barriers of geography, and riding a bike safely.

Volunteers are not expected to be fully accountable for all aspects of the program. Events should be led by paid, fully accountable staff, then supplemented with volunteers.

Evaluation:

The only measure of success is completion of the programs by the participants. As of the summer of 2001, nearly 4,000 youths had completed the program.

Funding:

First-year funding was $25,000 from the New York City Department of Sanitation (because of the recycling component). Additional monies are received through donations from cycling organizations, as well as grants from small foundations. In addition, funding is provided through bicycle sales and repairs from the Recycle a Bike store.

Publicity:

Many participants learn about the program through the Web site (www.recycleabike.org). In addition, word-of-mouth networking has been effective through bicycle shops. Public access TV has also been used, as well as the distribution of promotional T-shirts.

Successes:

This program is based on experiential learning through hands-on activities: repairing and riding bicycles. Its philosophy is to have children participate in a fun activity, through which a variety of skills are learned. Other benefits for participants are community service education and skills in operating a business, repairing bicycles, overcoming the psychological barriers of geography, and riding bicycle safely. The program trains approximately 500 children annually.

Challenges:

There has not been enough money to staff all events. Volunteers are not expected to be fully accountable for all aspects of the program. Events should be led by paid staff who can be fully accountable, then supplemented with volunteers.

Liability is always an issue. Parental waivers should be included. Nonetheless, this will not keep a parent from suing in case of an accident.

Safe bicycles are not always brought to *Ride Club* by participants. Staff must be sure that any bicycle used in an activity is inspected and determined to be safe to ride. Having a fleet of safe bicycles available for participants to use is one solution to this problem.

Program title:	*Sprockids*
Organization:	International Mountain Biking Association(IMBA)/Sprockids
Contact:	Judd de Vall, IMBA/*Sprockids* Coordinator
Contact information:	1-888-442-4622, judd@imba.com
Web site:	www.imba.com, www.sprockids.com
Program start date:	1990
Target audience:	Elementary through high school-age students
Program length:	Flexible ten-week program (two one-hour sessions per week)

Program summary:

Sprockids is a comprehensive educational program started in British Columbia, Canada, that brings the sport of mountain biking into the educational curriculum. It was developed by an elementary school teacher in response to a need for promoting a sports activity in schools that is inclusive to all students who want to participate. Its overall goals are to promote self-esteem and teamwork while retaining individuality, and develop healthy, physical, lifelong activity among all youths. The *Sprockids* program accomplishes these goals though numerous lessons and activities that focus primarily on bicycle maintenance and safe riding skills.

Additional activities include lessons on fitting bicycles, designing mountain biking courses on playgrounds, fitness/nutrition/dehydration, racing skills, designing team logos and T-shirts, starting bicycle clubs, trail etiquette, and trail building and maintenance. It is a flexible, organized collection of resources that teachers, coaches, and others can use to set up their own programs and tailor to the appropriate age level. Teachers create mountain biking clubs that form the basis of these activities. Most of the activities are outdoors, but some are indoors.

Though flexible in scope, the full-scale program typically spans ten weeks, with two hour-long sessions per week. Optional cross-curricular activities have also been incorporated into the lessons that address subjects like math, language arts, science, social studies, and art. In addition, the *Sprockids* program includes after-school bicycle club activities such as trail maintenance and building, teaching riding skills, weekly rides, maintenance clinics, group rides, and participation in mountain biking races.

Sprockids' overall goals are to promote self-esteem and teamwork while retaining overall individuality, and develop healthy, physical, lifelong activity among all youths.

The most recent large event organized by *Sprockids* was "Trail Fest 2001" which brought together the Back Country Horsemen Association and the British Columbia Ministry of Forests to build forest trails for recreational use. Over 1,000 students from eight elementary and two high schools were involved. After the trail work was complete, a large barbecue and prize giveaway for participants was held. Over the years, many of the bike companies and component manufacturers such as Norco, RaceFace, SRAM, Manitou, Rock Shox, Santa Cruz, Chris King, TruVativ, Bell Sports USA, Sun/Ringle, FinishLine, Park Toos, OGC, Shimano, and others have been very generous in providing products for the various events that *Sprockids* hosts.

Evaluation:

In 1999, a survey was sent to 100 different educators who have used the program. It provided qualitative information that was useful in improving the course. Formal evaluation is planned for 2002.

Funding:

Initial funding was contributed strictly by the developer, Doug Detwiller. However, as popularity of the program spread, funding from small organizations allowed Detwiller to develop the standard print materials. The International Mountain Biking Association (IMBA) of Boulder, Colorado and *Sprockids* have partnered to further develop and promote the program in the U.S., Canada, and eventually, internationally. One of the first tasks was to expand and revise the instructional package. The new manual and supporting documentation should be printed by the end of 2001. The partnering with IMBA has brought visibility that has led to sponsorship from Ben and Jerry's Ice Cream and Pearl Izumi Clothing.

Publicity:

Sprockids has no advertising budget but has been very fortunate in receiving media coverage from mountain biking magazines, newspaper articles, and from television stations like ESPN, OLN, and CBC. Even with this kind of attention, the greatest publicity has nonetheless been from word-of-mouth.

Successes:

The program was developed initially to target the developer's immediate students. Over time, news spread slowly about the program and its popularity has greatly increased. Nonetheless, success of the program has primarily been measured in its ability to help children enhance their self-esteem, and in the personal satisfaction of teachers when the program benefits the children.

Challenges:

Nontraditional sports such as biking are not easily accepted as part of a sports system in the schools. For the developers of *Sprockids*, the definition of sports in the schools needs to be changed. A sport like biking can offer a great deal to child development. It is an inclusive sport in which anyone at just about any level of physical ability can participate. "Not making the team" is not an issue.

Many people think that they know all they need to know about bicycle safety. As a result, it is difficult to motivate adults to take a bicycle safety course.

Adult Programs

Program title:	*Effective Cycling/Road I*
Organization:	Massachusetts Bicycle Coalition
Contact:	John S. Allen, Instructor
Contact information:	781-891-9307, jsallen@bikexprt.com
Web site:	www.bikexprt.com
Program start date:	1989
Target audience:	Adults (primarily) and teenagers
Program length:	20 hours (five four-hour sessions)

Program summary:

John Allen is a certified instructor of the League of American Bicyclists (www.bikeleague.org) *BikeEd* program. The League has revised *BikeEd* into several age-appropriate and skill-level programs, including *Road I* and *Road II*. The Massachusetts Bicycle Coalition organizes several *Road I* classes a year. John Allen, one of the Coalition instructors, currently teaches the *Road I* course and supplements it with elements from the *Road II* course.

The course is generally held at a community or recreation center. The activities during the first day are conducted in a wide-open, safe parking lot. As an opening "attention grabber," the instructor demonstrates bicycle-handling techniques that are not commonly known; for example, quick stops using front/back braking, emergency turning techniques to avoid obstacles, and quick starts. The techniques demonstrated are for maneuvering and crash avoidance, not athletic display. They are described in John Forester's book, *Effective Cycling*.

Adults collecting for a group ride.

Other topics are proper bicycle fitting, helmet fitting, maintenance procedures, and performing a pre-ride safety check. Also covered are bicycle mounting and dismounting techniques, starting and stopping in traffic, maintaining a straight line when riding, steering smoothly, looking over the shoulder for traffic while steering straight, and using proper hand signals. Traffic laws and road positioning are also taught. Everyday the group goes for a ride and stops frequently to discuss the situations encountered.

The first day's ride is short, and the daily rides get progressively longer and venture into higher traffic volume areas as the participants are able to demonstrate their new skills.

The instructor also supplements the course topics with information from the *Road II* course, such as the bicyclist's nutrition, hydration, physical conditioning, comfort, clothing, and bicycling equipment.

Evaluation:

On the last day, the participants take the standard *Road I* test in which they demonstrate their newly learned on-bicycle skills. Almost all students pass the demonstration test.

In addition, the participants take a 20-question multiple choice, true/false test on the last day. Students generally get between 75 and 85 percent correct on this written test.

Funding:

The students pay a $60 fee that covers all costs for conducting the course.

Publicity:

The course is publicized in the Massachusetts Bicycle Coalition newsletter and in various adult education notices. Sometimes newspaper articles are written about the course and public television public service announcements are aired.

Successes:

When the participants see the emergency techniques, they realize that safe bicycling is a skill that needs to be learned. The opening segment of the course demonstrates this dramatically.

Challenges:

Many people think that because they learned how to ride when they were children, they know all they need to know about bicycle safety. As a result, it is difficult to motivate adults to take a bicycle safety course.

Train-the-Trainer Programs

Program title:	*Texas SuperCyclist Project (Instructor Training)*
Organization:	Texas Bicycle Coalition Education Fund
Contact:	Preston Tyree, Program Director
Contact information:	512-476-7433, preston@biketexas.org
Web site:	www.SuperCyclist.org
Program start date:	Piloted 1996-1998 statewide (Texas); delivery began August 1999
Target audience:	Teachers of fourth and fifth grades
Program length:	Approximately five hours (five lessons)

Program summary:

The *Texas SuperCyclist Project* is a teacher certification program that provides free in-service training for Health and Physical Education teachers leading to a six-hour certificate from the Texas Association of Health, Physical Education, Recreation and Dance. This program is designed to prepare teachers to teach basic bicycle safety practices to fourth and fifth grade children in schools across Texas. One trainer instructs approximately 20 to 25 teachers during each one-day session. Teachers are then qualified to teach the six-hour student course, consisting of five modules. Each module takes between 45 minutes to an hour to complete. Modules 1 through 4 are conducted in a classroom and Module 5 is conducted outdoors, usually in a parking lot or playground. The modules consist of the following topics:

Module 1: Safety Rules – discusses seven bicycle traffic laws that are part of the Texas transportation code. It also discusses safety practices for bicyclists entering traffic and turning.

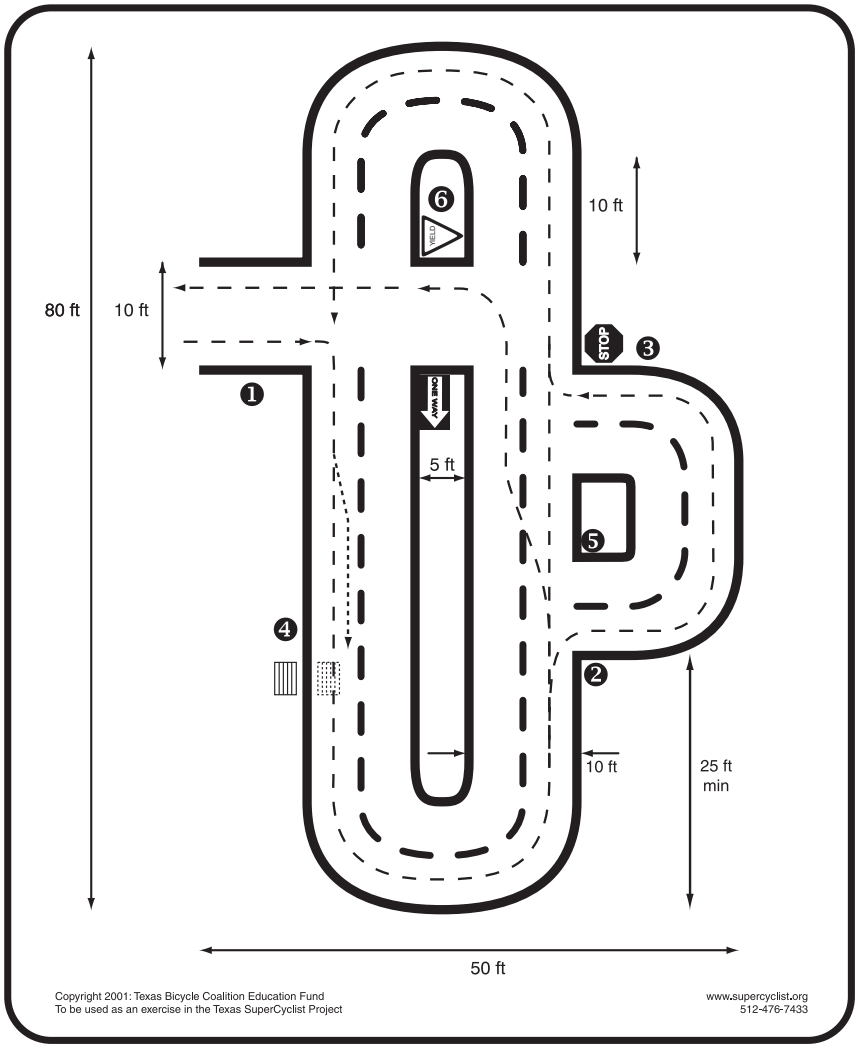
Module 2: Vehicle Safety – discusses bicycle maintenance and how to do safety inspections. It includes an inspection checklist.

Module 3: Safe Choices – consists of a discussion about identifying safety hazards and making good choices in traffic. It includes a game called "Cycle Jeopardy" in which the student identifies 15 potential bicycle hazards on a poster-size, artist rendition of a city street. (Refer to www.SuperCyclist.org/safechoices.html .)

Module 4: Operator Safety – discusses bicycle operator safety practices and focuses on proper use of the helmet, but also discusses dress, hydration, and other safe operator practices.

Module 5: Safety in Action – instructs how to build two types of outdoor road courses: Course A—Basic Skills, and Course B—Road Simulation. (Diagrams for both can be downloaded from www.SuperCyclist.org/ttraining.html.) Course A is used to give participants practice in basic handling skills and to determine who is ready for Course B. Course B consists of setting up a simulated road course. After the road course is set up, a group of teacher trainees is brought in and taught by the course instructor while the other teacher trainees observe and assist.

Course B: Road Simulation for the SuperCyclist Project©



This diagram is the layout for the Course B: Road Simulation developed for the SuperCyclist Project by the Texas Bicycle Coalition (all contents © 2001). It is designed to reinforce on-road skills for bicyclists that have already completed Course A: Basic Skills. Course B has six stations. The optimal number of simultaneous bicyclists on it is six. For more information on both courses and links to instructions for their use, refer to www.supercyclist.org/ttraining.html .

Simulated road courses are a safe way to introduce bicyclists to the skills required for riding in traffic.

The following skills are taught in Module 5:

- Signaling
- Lane positioning
- Left and right turns
- Stopping
- Crossing traffic
- Avoiding obstacles
- Entering/crossing traffic

For more information on the five modules, visit www.SuperCyclist.org/ttraining.html .

Each module includes homework. For example, Module 1 includes a document on Texas cycling laws and Module 2 includes the bicycle safety inspection list and instructions on how to use it.

Also included in the course are two videos (one for children and one for adults), a brochure on safe choices, four posters, four overheads, and a teachers manual.

Most of these materials can be downloaded from www.SuperCyclist.org .

Evaluation:

There are three evaluation methods for the *SuperCyclist* course: a pre-test, a post-test, and a helmet usage survey. The pre-test and post-test consist of 15 questions (same questions for each) on topics covered in the course. An average of 62 percent correct has been scored on the pre-test and 86 percent correct on the post-test.

The survey on whether students are wearing helmets is given before the course, then again three months and six months later. Results have shown that an average of 12 percent of students who haven't taken the course wear helmets and an average of 46 percent of students who have taken the course wear helmets after both three months and six months following course completion. It is hoped that these helmet use survey results indicate a change of the other behaviors taught in the course as well.

Survey results have shown that an average of 12 percent of students who haven't taken the course wear helmets and an average of 46 percent of students who have taken the course wear helmets.

Funding:

The seed money came from a grant from Subaru of America, Inc., which provided two cars and salary for one full-time employee for three years. This provided time to apply for the three-year federal grant, Section 402 Traffic Safety Funds from the U.S. Department of Transportation. The Texas Department of Transportation assisted in acquiring this funding. The Section 402 funding has totaled approximately $800,000.

Publicity:

School district coordinators and organizations such as the PTA and the Texas Association of Health, Physical Education, Recreation and Dance have been contacted. These organizations must be convinced that a non-academic program like the *SuperCyclist* program is needed in the Texas schools. The Texas Medical Association and the Texas Hospital Association have been supportive of this program.

Successes:

The program has been promoted to the 80 largest school districts (out of 1,600 districts statewide), representing approximately 50 percent of the school population. Of these, over half have held training programs resulting in over 2,200 teachers trained in less than two years. This should result in over 200,000 students trained each year.

Because there are so many potential *SuperCyclist* students – over 1,600 school districts with more than 3,600 physical education teachers in the state of Texas – partnerships have been built with several organizations, for example, local PTAs and the Texas Medical Association. These partnerships have helped the program's popularity and credibility among Texas schools.

Challenges:

Over 1,600 school districts must be convinced that they need the *SuperCyclist* program. This is not easy when there is competition for teachers' time in other high visibility subjects like math and English.

Teachers and/or school administrators must make sure that the school insurance covers "on school ground" student activities. In addition, waivers for each student must be signed by parents. Schools need to treat this program just as they would a field trip.

Teachers have a tendency to stray from the curriculum topics. There should be follow-up contact with the instructors to ensure that they are sticking to the curriculum information.

Partnerships have been built with several organizations, for example, local PTAs and the Texas Medical Association. These partnerships have helped the program's popularity and credibility among Texas schools.

The Florida State government has deemed the program worthy enough to fund as a part of its annual budget.

Program title:	*Florida Traffic and Bicycle Safety Education Program*
Organization:	Florida Department of Transportation and University of Florida
Contact:	Linda Crider, Program Director
Contact information:	352-392-8192, LBCrider@aol.com
Web site:	www.dcp.ufl.edu/centers/trafficsafetyed/
Program start date:	1982
Target audience:	School teachers and community trainers to serve as instructors for grades K-2, grades 3-5, grades 6-8, and driver's education students
Program lengths:	Ten-hour workshop for school teachers; eight-hour work shop for community trainers (three to five hours classroom instruction each year in grades K-5 and three to five hours of on-bike training each year in grades 3-5); and two-hour driver's education course (piloted in 2001)

Program summary:

The *Florida Traffic and Bicycle Safety Education Program* consists primarily of four courses: (1) ten-hour teacher (elementary and middle) workshop, *Pre-Driver's Ed – Thinking Ahead;* (2) eight-hour *Community Workshop;* (3) nine-hour *Road I* Adult Bicycling (developed by League of American Bicyclists, refer to www.bikeleague.org); and (4) two-hour *Driver Ed for Bike and Ped* (piloted in 2001). These courses teach bicycle safety skills and encourage walking and bicycling as healthy and environmentally responsible transportation choices.

The ten-hour teacher workshop *Pre-Driver's Ed – Thinking Ahead* prepares Physical Education and Health teachers at the elementary and middle school levels at one-and-half day training sessions. The *Traffic Safety Education Guide* is used to conduct the workshop and focuses on development of pedestrian and bicycle skills appropriate for physical education classes. These are provided at no cost to teachers by a grant from the Florida Department of Transportation Safety Office. Education for grades K-2 focuses on pedestrian safety while the grades 3-5 program focuses on bicycle safety. The middle school (grades 6-8) program deals with environment-friendly transportation, nutrition and cycling, bike maintenance and repair and "pre-driver" skills of crash avoidance and rules of the road. Teachers learn how to train students in progressive, age-appropriate acquisition of bicycle and traffic safety skills, decision-making skills, balance development, awareness of

surroundings and environmental/conservation issues, independence mobility, and physical exercise and health. Lessons include classroom instruction involving viewing and discussing a videotape and completing game activity sheets. On-bike practice lessons include learning traffic skills such as signaling, avoiding hazards, scanning left/right and to the rear, stopping at the edge, and proper helmet fitting.

Equipment is also provided by the program. This includes specially-designed 14-foot trailers that house bicycles, helmets, traffic cones, tool kits, videotapes, classroom materials, and everything else needed to conduct the program. These trailers circulate from school to school during the year and are periodically rotated for bike maintenance.

The eight-hour *Community Workshop* provides community law enforcement officials, youth group leaders, community safety specialists and school resource officers with bicycle safety procedures and rules of the road appropriate for the elementary level. Participants learn to conduct successful bicycle safety rodeos and present bicycle safety information to the public. For a small fee, participants also receive a copy of *Guide to Bicycle Rodeos* by John Williams and Dan Burden.

The *Driver's Ed for Bicycle and Ped Program* fulfills the need for bicycle safety education in driver education programs. Driver's education instructors are prepared to teach bicycle and pedestrian laws, common crash types, and responsible sharing of the road through classroom activities, homework, and evaluation tools. In 2001, this course was in the pilot stage.

All courses and workshops are conducted by members of the Florida Regional Training Team and are certified by the League of American Bicyclists.

Evaluation:

A study was conducted on elementary schools participating in the *Florida Traffic and Bicycle Safety Education Program* from 1996 through 1998 in Duval County, Florida. The following was found: an increase in helmet use from 19 percent in 1996 to 47 percent in 1997; an 80 percent decrease in bicycle-related mortality and a 68 percent decrease in bicycle-related injury between 1996 and 1997.

Funding:

In 1982, the *Florida Traffic and Bicycle Safety Education Program* was developed with assistance from the U.S. Department of Transportation (DOT) Section 402 funding through the Florida DOT (FDOT). This was a three-year grant that funded one developer/instructor position. When that funding ceased, the program became inactive. A team of bicycle safety experts developed a more comprehensive train-the-trainer curriculum, and Polk County, Florida, obtained Section 402 funding for three years to train a group of physical education teachers who would then teach the curriculum. In 1991 the University of Florida (UF) under

the direction of Linda Crider, contracted for the program administration where it remains today. In 1996 it was bought under the FDOT regular training budget on a three-year renewable contract to UF. The program is supported through a non-profit organization, Bike Florida, which supplements training with warehouse space for equipment storage and provides mini-grants to school districts. U.S. DOT 402 funds are also provided to school districts for purchasing bikes, trailers, and other equipment.

Publicity:

Because there is no budget for advertising, publicity for the program is gained primarily by word-of-mouth and newspaper coverage. It is important that parents learn about the program so that they can apply pressure to school principals to bring the program into their schools. Contacts are made through School District Supervisors for Health and P.E., Health Department Injury Prevention Specialists, Bike/Ped Supervisors, Community Traffic Safety Specialists, Law Enforcement Agencies and Safe Kids Coalitions. At present, there is no statewide curriculum requirement for traffic safety education. However, the program is still supported and conducted in over 55 percent of the school districts in Florida.

Successes:

The greatest success of the program is that it has not only survived since 1982 but has also evolved and expanded. The Florida State government has deemed the program worthy to fund as a part of its annual budget. This is due in part to its ability to (1) consistently reach hundreds of thousands of children across the state and (2) successfully acquire Section 402 funding repeatedly during the late 1980s and early 1990s. The program's continued appeal to schools is partially a result of its growth and evolution, a resistance to stagnancy, the ongoing training of new teachers, and a state children's bicycle helmet law implemented in 1997.

Challenges:

As teachers leave the field, there is constant turnover and a need to train new teachers. Also, the maintenance and security of equipment trailers requires continuous attention. It competes for time in an already constrained school day and requires significant effort and commitment to teach the program and keep equipment in good working order. The large number of students per class also creates great challenges.

Program title:	*Helmet Your Brain – Avoid the Pain*© *Helmet Education Program*
Organization:	Bicycle Safety Partnership, Safe Kids Coalition of Maricopa County and Phoenix Children's Hospital, Injury Prevention Center, Phoenix, Arizona
Contact:	Susan Bookspan, Program Director
Contact information:	602-239-3320, sbookspan@phxchildrens.com helmets@phxchildrens.com
Web site:	www.phxchildrens.com
Program start date:	1999
Target audience:	Teachers for primary, elementary, and middle school age
Program length:	90 minutes (one single unit, or may be divided into smaller units)

Program summary:

Helmets should be worn while biking, rollerblading, and scootering.

The goal of *Helmet Your Brain – Avoid the Pain*© program is to encourage the use of helmets by children biking, roller blading, or riding scooters. Based on research conducted by Phoenix Children's Hospital, only 21 to 22 percent of the children in Phoenix wore helmets while doing these activities. Also, surveys showed that children were more likely to wear helmets if their friends did. Group dynamics and social pressures are important factors for consistent helmet use among children. The program offers the students information about the brain and what can occur if the brain is injured. It also provides information about how the brain can be protected by the use of a helmet. Most importantly, the program offers the students an opportunity to discuss and role-play various ways to encourage helmet use among peers. This train-the-trainer program is taught by teachers, youth organization leaders, health professionals, and parents.

The interactive *Helmet Your Brain – Avoid the Pain*© program materials are contained in a box and include everything a presenter needs to prepare for and conduct a class. The program consists of the curriculum and work sheets, a brain gelatin mold, a model of a skull, two safety videos, a bicycle helmet, program stickers, Phoenix Children's Hospital Bike Safety brochures, and a brain book reference guide. There is also a Spanish language version and an abridged version.

A helmet design contest has been an effective publicity method and has served to counter the idea among children that helmets are not "cool" among their peers.

Currently, the program is distributed through a lending program to schools and organizations in Maricopa County, Arizona (Phoenix metropolitan area). It also can be purchased by interested educators (contact Susan Bookspan for more information). All funds are used to add materials to the program.

Evaluation:

The Injury Prevention Center at Phoenix Children's Hospital began a bicycle helmet use observational study in January of 1998 and has conducted it annually since then. During the Fall of 2001, schools that conduct the *Helmet Your Brain*© program will also answer pre- and post-class surveys to measure the effectiveness of the program in changing the practice of helmet use. In past surveys conducted in the Phoenix area, helmet use by children has generally increased during the last four years: 1998 – 16 percent, 1999 – 14 percent, 2000 – 22 percent, and 2001 – 21 percent. It is believed that this increase is due primarily to an overall increase in awareness about the importance of helmets.

Funding:

The original funding was from the Safe Children Coalition of Maricopa County, Arizona. This group hosts many activities that raise funds for various projects. The funding goes to the Bicycle Safety Partnership, which in turn created the *Helmet Your Brain*© program as one of its projects. The program now is primarily funded by proceeds from sales of the program materials.

Publicity:

Program information is sent semi–annually to school principals, nurses, librarians and physical education teachers in Maricopa County, Arizona. These postcards give a brief overview of the program and a number to call to reserve the program for free. Initially, requests for the program filtered in slowly but ultimately the program became in high demand. The largest users are schools, fire departments, police departments and other Safe Kids Coalitions.

A helmet design contest has also been an effective publicity method for the program and has served to counter the idea among children that helmets are not "cool" among their peers. The contest is co-sponsored by the 2001 World Series-winning Arizona Diamondbacks baseball team. Contest packets are sent to school principals, nurses, art and physical education teachers in Maricopa County on Diamondbacks letterhead announcing the contest with instructions to distribute the materials to fourth through sixth grade classes. The packets include information about the *Helmet Your Brain* © program and how to reserve it. Also included are blank drawings of a bicycle helmet. Students are instructed to draw their favorite bicycle helmet design using the official Diamondbacks colors.

A panel of judges selects five finalists and at a Diamondbacks baseball game, fans vote for their favorite helmet artwork based on the designs viewed on the jumbo screen. A public service announcement for helmet use is also made at the game and during the months before and after the contest. The winning design is made into custom-made decals, which are applied to helmets. The helmets with the winning design are given to the winner's classmates and teacher, and the four finalists. During the next baseball game, the winner and finalists bicycle into the ballpark and participate in a pre-game on-field ceremony wearing winning design helmets and T-shirts, and the winner is presented with a trophy. For each of the past two years, thousands of entries have been received.

Successes:

The most important aspect of this program is that everyone involved is giving students the same consistent helmet message. It is an all-inclusive interactive format that the teachers and other users found easy to use. The program creates "helmet experts" who spread the helmet safety message.

To date, the program boxes are in constant use and the reputation of the program has continued to grow. Program requests come in from all over the country. The Bicycle Safety Partnership sells the program boxes to users outside of Maricopa County but continues to provide them free to any school or group within Maricopa County. All receipts are used to provide more program boxes. *The Helmet Your Brain – Avoid the Pain*© program is available in Spanish, as an abridged version, and as a primary program as well as an adult program.

Challenges:

One limitation of the program is not having enough "brain boxes" available for all requests. The current goal is to get enough funding to have a box in every school, library and parks and recreation department in Maricopa County.

The most important aspect of this program is that everyone involved is giving students the same consistent message about helmets. The program creates "helmet experts" who spread the helmet safety message.

Trail sign in Alaska – bicycle helmet awareness is spreading across the nation.

Program title:	*Nevada Elementary Traffic Safety Program Instructor Course*
Organization:	Department of Highway Safety, Carson City, Nevada
Contact:	Bruce MacKey, Program Director
Contact information:	775-687-4229 spinwin@govmail.state.nv.us
Program start date:	1993
Target audience:	Law enforcement officers, teachers, and other community volunteers who teach children of any age
Program length:	16 hours (two days)

Program summary:

The *Nevada Elementary Traffic Safety Program Instructor Course* is a comprehensive two-day workshop that provides participants with the informational resources needed to develop and teach bicycle and pedestrian safety courses. This program also includes information on how to apply for grants to fund programs. The course fee is $50.

The course covers the following topics:

- Causes of Crashes
- Principles and Laws
- Bicycle Rodeos
- The Grant Process: How to Get Organized and Funded
- The Bicycle (Inside and Outside)
- Pedestrian Outdoor Skills
- Practical Examination Ride and Walk

In Causes of Crashes, statistics are provided on the type of behaviors and causal conditions for pedestrian and bicycle injuries and fatalities for both adults and children. This information reveals the dangerous traffic-related behaviors that children most commonly display and identifies which behaviors should be addressed in bicycle and pedestrian safety education. The 13-minute American Automobile Association video, *How Children are Different* is shown. This video examines how children physiologically and behaviorally are more vulnerable than adults to accidents. For example, children's peripheral vision is only two-thirds that of adults. Education, as well as enforcement and engineering are stressed as ways to prevent crashes.

In *Principles and Laws*, principles of riding in traffic and Nevada state laws for operating bicycles in traffic are discussed, as are rules for riding and walking on shared-use paths and trails. A pedestrian skills lesson for kindergarten through second grade and a bicycle skills lesson for third through fifth grade are provided. This section of the course examines age-appropriate safety skills respectively for third, fourth, and fifth grades. It is based on those developed in the *Effective Cycling/Road I* course, which is available from the League of American Bicyclists (www.bikeleague.org). This section also suggests bicycle-related activities that could be covered in other school subjects, such as English, art, science, and geography. Bicycle-related head injuries are discussed and proper helmet fitting methods are demonstrated.

In *Bicycle Rodeos*, the purposes and methods of bicycle rodeos are discussed, including methods for setting up small and large rodeos, their layouts, and how to conduct them.

In *The Grant Process: How to Get Organized and Funded*, a step-by-step method to apply for grants for bicycle safety education programs is discussed. The process includes collecting data, writing problem statements and solutions, specifying goals, objectives, activities, qualifications, evaluation methods, and preparing a budget.

The Bicycle (Inside and Outside) examines the different types of bicycles, bicycle parts, bicycle repair and safety-check methods, and equipment. *Pedestrian Outdoor Skills* teaches safe pedestrian behavior.

Practical Examination Ride and Walk is a two-hour ride and walk that reviews all of the bicycle and pedestrian safety skills covered in the course. A guest speaker (police officers or representatives of an organization such as Safe Kids) speaks to the class. For successful completion of the course, law enforcement officers receive in-service credit and teachers receive in-service credit or one graduate school credit.

Evaluation:

There is a written (true/false and fill-in-the-blank) 25-question pre-test and 50-question post-test. Students typically improve an average of 20 percent between the pre-test and the post-test.

In addition, there is an evaluation form about the course for the participants to complete.

Funding:

Funding for the *Nevada Elementary Traffic Safety Program Instructor Course* is derived partially from various grants while 50 cents is contributed to the program from every new state vehicle drivers license fee.

Funding for the course is derived partially from various grants while 50 cents is contributed to the program from every new state vehicle driver's license fee.

Publicity:

Various methods have been used to promote the *Nevada Elementary Traffic Safety Program Instructor Course*:

- Handouts at information booths at fairs and public events
- Bulletins sent to police officers by their departments
- Notices sent to teachers by school district in-service training coordinators

Program title:	*Teaching Safe Bicycling (TSB)*
Organization:	Wisconsin Department of Transportation
Contact:	JoAnne Pruitt Thunder, Wisconsin Department of Transportation
	Peter Flucke, President of WE BIKE
Contact information:	JoAnne Pruitt Thunder: 608-267-3154 joanne.pruitt, thunder@dot.state.wi.us
	Peter Flucke: 920-497-3196, webike@aol.com
Program start date:	1991
Target audience:	Bicycle safety instructors, including police officers, school teachers, and others who instruct elementary and middle school students
Program length:	Eight hours (one day)

Program summary:

The *Teaching Safe Bicycling* program is a one-day instructor's course for people who want to teach bicycle safety to elementary and middle school-age children. It is offered three times per year and sponsored by the Wisconsin Department of Transportation (DOT). This free course is taught by two instructors and divided into two parts. In the morning, participants learn about the mental and physical development stages of children and how "just being a kid" can put them at risk. The 13-minute AAA video *Children In Traffic* is shown. This video examines how children are physiologically and behaviorally more vulnerable than adults to bicycle crashes. For example, children have less discriminating hearing, poor depth perception, and a poor sense of danger. The leading causes of bicycle crashes are reviewed and actual crashes from police reports are diagrammed on a "crash board" (2' x 4' hinged metal sheet painted to look like neighborhood streets with small movable magnetic toy cars).

In the afternoon, participants learn how to set up a bicycle rodeo. Six children, ages nine through 11, are run through the course while the participants first observe and then participate in the instruction of the children. Emphasis is placed on teaching children how to avoid the greatest risks. Proper helmet fitting and bicycle safety checks are covered prior to on-bike instruction. The following skills are taught to the children:

- Braking
- Scanning over the shoulder for traffic
- Signaling

Participants ride through the community, stopping frequently to discuss different types of crashes and where and why they happen. The trainees experience first hand the dangers children encounter on the streets.

- Riding out of driveways
- Stopping at a stop sign
- Avoiding obstacles
- Entering, exiting and re-entering the flow of traffic

Next, the participants do a group ride through the community, stopping frequently to discuss different types of crashes and where and why they happen. The three E's of traffic safety – engineering, education, and enforcement – are discussed. On the bicycle ride, instructor trainees experience first-hand the dangers children encounter on the streets. The bicycle ride also gives riding practice to instructors who might otherwise be out of practice.

The workshop ends with a group discussion about how community policing can help make children safer and what participants can do to work for a safer bicycling environment.

A course outline and other supplemental literature are provided for the participants to use in preparing their bicycle safety courses.

Funding:

Funding to create the course was provided from a Section 402 Federal Highway Administration grant through the Wisconsin DOT. This limited funding allows the course to be offered only three times annually.

Publicity:

The course is promoted by the Wisconsin DOT via a newsletter that is mailed to numerous people on their mailing list. However, the majority of participants learn about the course through word-of-mouth.

Successes:

Approximately 60 instructors are trained in this course per year. Verbal and written participant feedback has shown that the course has been very well received. In addition, many successful bicycle rodeos have been conducted by *TSB* course participants.

Instructor trainees should bike and discuss different types of crash scenarios.

Challenges:

Because of limited time and resources, it is difficult to teach enough classes. Currently, the Wisconsin DOT is only funding three courses annually. In addition, there is no budget for publicity for the courses. Therefore, notifying the public to fill the classes can be difficult. Finding appropriate venues in which to hold the course can sometimes be challenging as well.

The course focuses on developing children's decision-making skills to become more predictable and competent bicyclists in traffic.

Program title:	*Home to School Safe Travel for Children (Train-the-Trainer course)*
Organization:	Colorado Department of Transportation
Contact:	Gay Page, CDOT Bicycle/Pedestrian Program Manager
Contact information:	303-757-9982, gay.page@dot.state.co.us
Program start date:	1995
Target audience:	Teachers, police officers, fire department staff, and other professionals who teach bicycle and pedestrian safety to children, grades K-5
Program length:	Two days

Program summary:

This two-day course teaches bicycle and pedestrian safety instructors how to design their own bicycle and/or pedestrian safety program for children in kindergarten through fifth grade. Pedestrian safety is emphasized for earlier ages and bicycle safety is emphasized for the older children. The course focuses on developing children's decision-making skills to become more predictable and competent bicyclists in traffic. The objective is for each participant to be able to design a traffic safety program that fits his or her needs. Day One consists of lecture and hands-on activities, while Day Two consists of showing how to teach individual exercises. Methods include problem-solving exercises, peer training, role-playing, simulations, and demonstrations. Each participant receives a training binder that contains all of the curriculum materials, including the teacher's guide and exercises.

The course starts with a written quiz to determine each participant's level of knowledge. Topics consist of the following: children as pedestrians, why bicycles crash, bicycle riding, training events, visibility, helmet fitting, Colorado bicycle and pedestrian laws, bicycle safety games, and local resources available.

Evaluation:

No money has been available to do follow-up evaluation studies. However, a course evaluation feedback form has provided useful information for improving the course.

Funding:

A combination of U.S. Department of Transportation and State funds have been used to fund this program through the Colorado Department of Transportation.

Publicity:

Initially, police departments, fire departments, and other community organizations were contacted by mail, telephone and in person. Afterwards, availability of this course has spread by word-of-mouth. Currently, the program is very popular.

Successes:

Instructors have found that participants typically are enthusiastic and highly responsive, and they learn the most during the hands-on and simulation activities.

Challenges:

For the *Home to School Safe Travel for Children Train-the-Trainer* course, the most challenging aspect is adapting to the diversity of agendas among the numerous participants. Some participants want to focus on a specific age group, or some have limitations regarding the class time available with the students. For example, one participant may want to develop a one-hour course and another may want to develop a six-hour course. Some participants want canned, ready-made course materials given to them instead of a variety of tools that allow them to design their own classes. The solution to this diversity of agendas is for the instructor to prompt the participants to define and state their goals and time restrictions up front. The instructor can attempt to customize the lecture and activities as much as possible to meet each participant's needs. This will at least minimize hidden agendas that could become a problem. Also, with numerous different agendas, in order to minimize disruption it is important that the number of participants in the class not exceed 20.

Instructors have found that participants typically are most enthusiatic, highly responsive, and learn the most during the hands-on and simulation activities.

Planning Your Program

This section describes lessons that can be learned from the bicycle safety education programs surveyed in the previous section. The Planning Your Program section is divided into subsections that cover the following topics:

- **Funding Your Program** – This subsection describes Federal Section 402 funding, as well as the other types of funding sources that programs have used. In addition, this subsection includes basic tips for finding alternative funding sources as well as preparing and organizing information for writing grant proposals.
- **Bicycle Safety Education in the Public Schools** – This subsection discusses how programs have been accepted into public schools and the rationale for their acceptance.
- **Developing Partnerships** – This subsection provides examples of partnerships and offers ideas for partnering that might enhance a bicycle program.
- **Alternative Venues and Subjects** – This subsection examines programs surveyed, including educational goals and methods that include and extend beyond those in a conventional bicycle safety curriculum.

Adults should encourage safe–bicycling practices.

- **Evaluation Methods** – This subsection describes the purpose of evaluation in educational programs and the various evaluation methods that may be appropriate in bicycle safety education.
- **Publicity** – This subsection describes effective examples of how organizations have gained publicity for their program and for safe bicycling practices in general.

Detailed information about each topic is presented in the following subsections.

Funding Your Program

Funding is the lifeblood of a bicycle safety education program. The more dependent a program is on outside funding sources, the less likely the program will be sustained during the long term. Unfortunately, most bicycle safety programs are dependent upon outside sources of funding. This being the case, program staff must be creative about obtaining funding for development purposes, and must dedicate themselves to obtaining additional funding on a regular basis to sustain the program over succeeding years.

The U.S. Department of Transportation (DOT) Section 402 Highway Safety funds are usually available through the State Department of Transportation or the State Governor's Highway Safety Representative. The pedestrian/bicycle safety coordinator for each state has information on how to apply for Section 402 funds. (To locate the pedestrian/bicycle safety coordinator for your state, refer to www.fhwa.dot.gov/environment/bikeped/bipedcor.htm .) These U.S. DOT funds are made available to states for traffic safety projects. (For more information on U.S. DOT bicycle and pedestrian funding programs, refer to Bicycle and Pedestrian Provisions of Federal Transportation Legislation on the internet at www.fhwa.dot.gov/environment/bikeped/BP-Guid.htm .) Generally, these funds are available for the first one to three years of a program's life and can be used for development costs and possibly for equipment purchasing costs. Often, Section 402 funds are not sufficient to fully implement the program, depending upon its budgetary needs. Therefore, depending on the size of the program, additional funding may be required, even for developmental purposes.

Funding is also available from the Federal Transportation Enhancements Program for the provision of safety and educational activities for the pedestrians and bicyclists. The State Department of Transportation bicycle/pedestrian coordinators can be contacted for more information.

Ten of the sixteen programs surveyed obtained start-up grants from the Section 402 program. All of the programs surveyed, whether or not they obtained Section 402 funds, have required or will require additional funding sources. (The exception is the *Effective Cycling/ Road I* course run by the Massachusetts Bicycle Council, which is self-sustaining. The $60 student fee covers all instructor costs.)

Of the rest of the programs surveyed, only the Florida Traffic and Bicycle Safety Education Program has obtained stable funding that is not dependent on outside sources. After several years of temporary Section 402 funds that had to be reapplied for annually, the Florida Department of Transportation instituted funding for the program as part of its standard annual training budget. The Director's position was also created as a University of Florida faculty position. However, the Florida program is the exception; the vast majority of bicycle safety programs must look to outside sources for funding.

Program staff must be creative about obtaining funding and must dedicate themselves to obtaining it on a regular basis to sustain the program over succeeding years.

Sample Funding Sources

Below is a sample list of the funding sources that some of the surveyed bicycle safety education programs have acquired:

- *BikeEd*, Hawaii: grants from Honolulu city and county; revenue from city bicycle licensing fees
- *Bicycle Safety Education Program*, Maine: membership dues to the Bicycle Coalition of Maine
- *Recycle a Bike*, New York: New York City Department of Sanitation (based on bicycle recycling activity); revenue from participant-run retail bicycle shops (repairs and sales)
- *SuperCyclist*, Texas: Subaru of America, Inc. (funding and two cars)
- *BIPED*, Wilmington, Delaware: 4-H Cooperative Extension Service (served as an agent for acquiring grants from numerous small organizations)
- *Helmet Your Brain – Avoid the Pain*, Phoenix Children's Hospital: community fund-raising events; sales of this educational program
- *Bike Lesson And Safety Training (BLAST)*, Los Angeles, California: California State Department of Health Services; membership dues to Youth Educational Sports (YES) Foundation
- *Kids on Bikes*, Reno, Nevada: U.S. Environmental Protection Agency (based on bicycle recycling program)

This variety of sources illustrates how important creativity is when identifying potential funding sources.

Tips for Finding and Preparing Grants

Below are some general tips on how to locate potential grant source organizations and prepare for the grant application process.

1. Identify key topic or program areas related to your program (for example, transportation, sports, recreation, child injury prevention). Then identify organizations that serve those program areas (for example, state department of transportation, auto manufacturers, bicycle manufacturers, bicycle stores, sports organizations, hospitals, and insurance companies).

2. Prepare information that will be used in a proposal or presentation.

   A. State the problem. Prepare a description of the problem that your bicycle safety program will address. Use real, quantitative data. For example, cite numbers of bicycle-related injuries and deaths. (National fatality and injury data is available at www-fars.nhtsa.dot.gov .)

   B. Describe specifically how your program relates to the program areas and interests of each organization that you identified in Step A.

   C. State your solution to the problem. Describe the bicycle safety education program, its overall goal, and write a list of objectives. Use the "SMART" rule of thumb to write objectives. Objectives should be:

      Specific
      Measurable
      Attainable
      Realistic
      Time-bound

   D. State specifically how the program will meet each objective.

   E. Describe the evaluation methods for measuring how successful the program is at attaining the stated objectives. The methods should be designed to produce quantitative data. Most funding organizations prefer that quantitative data be included in grant proposals.

   F. Describe why the proposed program staff are qualified to carry out the program. Prepare staff resumes.

   G. Develop the program budget in detail.

3. Contact the potential funding source organizations that you identified in Step A. Many organizations will have public relations staff that oversee grant programs. Even a small organization that generally does not have a grant program may be a potential funding source. If you have prepared your information, as described in Step B above, you may be able to convince such an organization that your program and its mission are a worthwhile investment.

Even a small organization that generally does not have a grant program may be a potential funding source.

4. Sustain the program over the long term – this can be challenging. A key to getting continued support is "reinventing" the program as new funding cycles approach. In other words, over time, the program should evolve in phases. All the ideas for the program should not be stated in the same grant proposal. Be prepared to shift the focus of your program or expand it to involve other partner organizations.

A common theme is that bicycle safety education should be incorporated into the public school curriculum from early elementary grades through high school as a continuous educational experience that promotes biking and walking as healthy, safe, lifelong activities.

Bicycle Safety Education in Public Schools

A common theme among most bicycle safety education programs surveyed for this guide is that they target youths in schools. For example, of the sixteen programs surveyed, twelve programs target youths at schools or, through instructor training, prepare instructors who will teach youths at schools. Of the thirteen programs targeting school youths, twelve contain lessons for elementary school children, six contain lessons for middle-school children, and four contain materials for high school youths. (Most of these programs have more than one audience.) Keep in mind that bicycle safety curricula should be developmentally appropriate. Because schools have the organizational infrastructure in place, many bicycle safety educators believe that public schools are a natural venue for bicycle safety education. Two of the sixteen programs surveyed are not school-based, but have age-appropriate lessons for elementary, middle, and high school age youths.

A second common theme is that bicycle (and pedestrian) safety education should be incorporated into the public school curriculum from early elementary grades through high school as a continuous educational experience that promotes biking and walking as healthy, safe, lifelong activities.

However, competition for the time and attention of teachers overburdened by requirements of other high-visibility academic curricula (like math, English, and science) makes it difficult to convince some school administrators of the need for bicycle safety in schools. This provides the rationale for creating programs like bicycle riding clubs and after-school clubs, such as the *After School Bike Club* in the City of Madison, Wisconsin and the *Ride Club* that's part of the Recycle a Bike program in New York City. These non-school-based programs can also be advantageous because they are not restricted to narrow curriculum topics, methods, or time limitations of a typical school. (Refer to **Alternative Venues and Subjects** on page 60).

Many programs have been successful in convincing school administrators that they need to implement a bicycle safety program. Following are some reasons that various program staff have successfully offered as rationale for bringing bicycle safety into public schools:

- **A public health and safety issue** – Bicycle safety is a major public health and safety issue. In 2000, bicyclists under age 16 accounted for 28 percent of all bicyclists killed and 40 percent of those injured in traffic-related bicycle crashes in the United States. (This and other bicycle injury-related data can be downloaded on an Adobe PDF document on NHTSA Web site: www-fars.nhtsa.dot.gov/pubs/9.pdf .) Even though some students don't ride bicycles, many do and bicycle safety education can modify the bicycle riding behaviors that lead to crashes. For a comprehensive list of Web site links to data on bicycle-related injuries and fatalities, refer to the following Harbor View Medical Center Injury and Research Center Web sites: depts.washington.edu/hiprc/links/transportation.htm and depts.washington.edu/hiprc/childinjury/topic/bicycles/ .

- **Helmet use education can reduce head injuries and fatalities** – Most children do not wear helmets while riding bicycles, however wearing helmets and doing so properly is critical for their safety. The Insurance Institute for Highway Safety has reported that 90 percent of bicyclists killed in year 2000 were not wearing helmets (www.hwysafety.org/safety_facts/bikes.htm). NHTSA has reported that bicycle helmets are 85 to 88 percent effective in mitigating head and brain injuries in all types of bicycle incidents, making the use of helmets the single most effective countermeasure available to reduce head injuries and fatalities resulting from bicycle crashes (www-fars.nhtsa.dot.gov/pubs/3.pdf). The Centers for Disease Control has reported that 140,000 children are treated each year in emergency departments for head injuries sustained while bicycling. This and other related data is available at: www.cdc.gov/ncipc/factsheets/bikehel.htm . Also on Harbor View Medical Center Injury and Research Center Web sites: http://depts.washington.edu/hiprc/childinjury/topic/bicycles/helmeteffect.html and http://depts.washington.edu/hiprc/childinjury/topic/bicycles/helmeteduc.html . An increasing number of states (such as California and Florida) have enacted or are planning to enact child bicycle helmets laws. Therefore, bicycle safety education that emphasizes proper helmet fitting and use should be taught in schools, where the information can reach the greatest number of youths. (For state bicycle helmet law information, refer to: www.hwysafety.org/safety_facts/state_laws/helmet_use.htm .)

Proper helmet use is always included in bike safety education.

- **A healthy, lifelong, inclusive sport** – Bicycling is an athletic activity, a sport that can be taught in schools just like other traditional sports. Bicycling is an inclusive, non-competitive sport in which all students, regardless of athletic ability or body type, can participate. It is also a lifelong health-promoting activity.
- **Part of a physical education curriculum** – Because of its injury prevention and physical sport and health aspects, bicycle safety education fits comfortably into health and physical education curricula.
- **An environmentally responsible alternative transportation** – Children should be encouraged from a young age to ride bicycles as a preferable form of transportation whenever possible. Riding bicycles as an alternative method of transportation to motorized vehicles enhances community aesthetics and is advantageous for several reasons:
    - Reduces air and sound pollution
    - Reduces traffic congestion
    - Is a fun, safe (when practicing safe bicycling), and healthy social activity

Refer to **Alternative Venues and Subjects** on page 60 for examples of progressive bicycle education programs that promote educational lessons beyond traditional bicycle safety.

Developing Partnerships

Developing partnerships with other organizations has proved useful for promoting, among other things, the acceptance of bicycle safety programs into public schools. For example, an elementary school bicycle safety program called *BIPED* was developed in 1988 as a successful collaboration between two organizations. The White Clay Bicycle Club in Wilmington, Delaware, created *BIPED*, then approached the Cooperative Extension Service (CES) 4-H organization to help implement it. (CES is part of the University of Delaware's Department of Agriculture.) CES had already instituted school programs locally and had established comfortable and trusting working relationships with several local public schools. BIPED benefited from CES's credibility in the school community and was immediately embraced by schools.

CES handles all promotional and logistical aspects of the program, including sending announcement letters to schools, scheduling classes, and pre-class site visits to distribute materials. Also, CES has had numerous years of experience in fundraising and was able to secure grant money for *BIPED* from several sources.

Partnering with other school-affiliated organizations such as parent teacher associations (PTAs) will help a program's visibility and credibility with schools as well as attract attention from students' parents. Parental support of the *SuperCyclist* program in Texas is, in large part, due to its affiliation with PTAs and other credible organizations such as the Texas Medical Association. This has helped its acceptance into many school districts across Texas. As a result of these relationships, vast student populations are becoming available for participation in the *SuperCyclist* program.

While partnering with other organizations can help a program increase its visibility and credibility, it can also help gain access to many other resources. Partnering with various community organizations can make available knowledge about fundraising, publicity opportunities, equipment loans or donations, and other useful information, expertise, and resources. Here are some additional organizations to consider when seeking partnerships:

- Highway safety and injury prevention of organizations
- Local business associations
- Bicycle riding clubs
- Bicycle retail stores
- Bicycle manufacturers
- Radio stations and the local media
- American Red Cross
- Service organizations
- Health associations, hospitals, and HMOs
- Individual businesses
- Professional/semi-professional sport teams

For more information on establishing partnerships, obtain a copy of the *Ride Like a Pro Community Handbook* (October 1999) available free from NHTSA. Refer to:
www.nhtsa.dot.gov/people/outreach/media/catalog/index.cfm .
(Under Topics, select Bicycle and Helmet Safety, then select 6P0145, *Ride Like a Pro Community Handbook.*)

While partnering with other organizations can help a program increase its visibility and credibility, it can also help gain access to many other resources.

Non-school-based programs are not restricted to narrow curriculum topics, fixed instructional methods, or time limitations of a typical school.

Alternative Venues and Subjects

While not benefiting from a ready-made venue, student population, or organizational infrastructure, non-school-based programs can have advantages. Non-school-based programs are not restricted to narrow curriculum topics, fixed instructional methods, or time limitations of a typical school.

Off-Campus Programs

Schools are obviously not the only venues for bicycle safety education. Community centers and park and recreation centers are common locations for bicycle safety classes for both youths and adults. For example, the Massachusetts Bicycle Coalition conducts its adult bicycle safety program, based on the League of American Bicyclists' *Effective Cycling/Road I* course, at local community centers several times a year.

The *After School Bike Club*, piloted during the summer of 2001 by the City of Madison, Wisconsin, is also a program for middle school-age children. It has the explicit goal of having fun bicycle field trips, while "sneaking in" the less attractive (to children) and implicit goal of teaching bicycle safety education along the way.

The *Kids on Bikes* program in Reno, Nevada, has traditional bicycle safety and bicycle rodeo components, but also has nontraditional activities, such as refurbishing and giving bicycles as well as helmets to underprivileged youths. *Kids on Bikes* activities are not currently being conducted in schools, but are being held at community centers, recreation centers, and public events, including a "Child's Fair" (in April 2000).

Progressive Bicycle Education Programs

Having the freedom to develop a youth program that is not part of a school can be advantageous. Such a program is not restricted to public school curriculum requirements, time frames, or geographical radius limitations during bicycle rides. Innovative, progressive educational programs that have bicycle safety at their core but also address broader community values can and do succeed, and provide excellent opportunities for partnering with other groups that have compatible aims.

The *Earn a Bike* program and the *Ride Club*, both developed by Recycle a Bike in New York City, have several educational goals in addition to bicycle safety. They teach environmental values, recycling, bicycle mechanics, retail business operation, and bicycling as a healthy, fun activity. This is done through the program's ride clubs, bicycle recycling, and bicycle repair and sales shop. The *Earn a Bike* program also provides economically disadvantaged youths opportunities to earn bicycles. This program is headquartered in its bicycle repair and retail shop.

The Youth Educational Sports Foundation (YES) in Los Angeles supplements its *Bicycle Lessons and Safety Transportation (BLAST)* elementary, middle and high school programs with summer activities that resemble the *Recycle a Bike* program in New York City. Used, broken bicycles are

donated to YES and youths learn how to repair the bicycles. A child earns the bicycle when it passes a safety inspection. YES makes sure that the bicycle earning program is available to economically underprivileged youths. These various activities usually take place in schools, but some of the riding activities also occur in parks where the youths can safely practice.

The Hawaii Bicycling League (HBL), which was started in 1989 and sponsors the *BikeEd Hawaii* bicycle safety program, offers an excellent example of an organization whose educational goals include but extend beyond traditional bicycle safety. The efforts of HBL are driven by a holistic, integrated vision of healthy livable communities in which safe bicycling practice is one of many goals relating to quality of life. Its Web site (www.hbl.org) states:

> "HBL envisions Hawaii's neighborhoods as truly livable communities, where people of all ages can safely and comfortably arrive at their destinations no matter which transportation mode they may choose. HBL believes that cooperation among cyclists, pedestrians, and motorists is fundamental not only to increase transportation safety but also improve the quality of life for all of Hawaii's residents."

The HBL sponsors several events and programs in areas such as:

- Pedestrian safety for first graders
- Non-competitive family cycling events
- Mountain biking competitions
- Mountain biking trail maintenance
- Technical assistance for decision–makers in the policy areas of bicycle facility planning, transportation, and livable communities
- Political advocacy in transportation, planning, and bicycle and helmet legislation

For information on opportunities to plan and develop bicycle- and pedestrian-friendly facilities in the community, refer to the FHWA Web site: www.fhwa.dot.gov/environment/bikeped/ . In addition, for information on creating livable neighborhoods that are designed in a manner that address the needs of all residents, including bicyclists and pedestrians, refer to the Web site of the Local Government Commission at.www.lgc.org .

Innovative, progressive educational programs that have bicycle safety at their core but also address broader community values can and do succeed. They may also provide excellent opportunities for partnering with other groups that have compatible aims.

Evaluation Methods

Measuring the effectiveness of a bicycle safety education program provides information that is useful in two ways: (1) it can help in making decisions about how to improve the program, and (2) it can be used to demonstrate success in achieving stated objectives, which also supports further funding. Program sponsors are often very interested in this data because it underscores the success of the program and may identify the areas that need improvement and expansion. Some sponsors may not require evaluation methods beyond basic program participant counts and narrative summaries of the course. But the more rigorous the evaluation methods are in measuring results, the more credible the program will be. This can increase the ability to improve the program and benefit future funding activities. Two general types of evaluations are discussed below: (1) evaluation of students' knowledge and skills retention, and (2) program evaluation.

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Evaluation of Students' Knowledge and Skills Retention

Most of the programs surveyed use written post-tests or a combination of written pre-tests and post-tests, usually in multiple-choice, true/false, and fill in the blank formats. When the pre-tests and post-tests are used together, each student's attainment of knowledge during the course can be measured. Also common among the programs surveyed are questionnaires completed by students and/or teachers. They provide feedback about how effective the program is and how it can be improved. Another method for evaluating effectiveness is a student on-bike skills demonstration test, which can usually be done at a bicycle rodeo.

Program Evaluation

Observations of bicycle operation, helmet use, and following rules of the road can be objectively documented. Observers can be posted at high congestion areas near the school, such as the parking lot and playground. Ideally, the data is collected before training and at different post-training intervals – for example, immediate, one month, and three months – to indicate the degree to which the skills, knowledge, and abilities are retained over time. Finally, pre- and post-training information about bicycle-related injury and death rates can be collected for a given training population that may indicate the degree to which safety skills are being practiced. However, this data requires a vast population for the results to be statistically significant, and the methodological difficulties of this data collection can be a challenge.

Publicity

Publicity is often critical to the success of a bicycle safety education program. However, program budgets rarely include advertising. Therefore, publicity for a bicycle safety education program requires creative approaches. Word-of-mouth, especially after a program is established, can be powerful publicity. Newly developed programs usually require more proactive efforts in getting publicity because the general public's knowledge of the program and word-of-mouth networks do not yet exist. Calling and visiting schools and potentially interested organizations is a good starting point. For example, *BikeEd* in Hawaii had to contact schools and make presentations during its formative years in the late 1980s and early 1990s. Currently, the program is so popular among schools that schools must reserve the program one year in advance. Its broad popularity is largely due to the word-of-mouth networks that have developed over the years.

Following is a list of publicity methods used by the various programs surveyed. Except for the time spent to develop them, most of these methods are free or very inexpensive.

- Contact organizations by phone
- Make presentations in person
- Send information through the school internal mail system or teacher newsletters
- Enlist the service of television and radio stations to make public service broadcasts
- Publicize program activities in member organizations newsletters, e-mail newsletters, and events calendars
- Create and display posters and flyers in public places
- Create and sell or give away promotional T-shirts (advertising the program and its Web site)
- Send press releases to and/or call newspapers, magazines (bicycle and other), television, radio and other news agencies so that program events may be covered
- Design bumper stickers and flyers and give them out during events
- Enlist sports arenas, fields, or stadiums to make public service announcements (for example, baseball game intercom announcements)

Partnerships with other organizations, as mentioned previously, can lead to excellent publicity opportunities. For example, the Safe Children Coalition of Maricopa County, Arizona, in cooperation with county schools and the Diamondbacks professional baseball organization, conduct an annual helmet design contest among fourth through

Newly developed programs usually require more proactive efforts in getting publicity because the general public knowledge of the program and word-of-mouth networks do not yet exist.

sixth graders across the county. Letters are sent to school principals and art and physical education teachers that contain information about the *Helmet Your Brain–Avoid the Pain*© program and a blank drawing of a bicycle helmet. Students draw a helmet design using Diamondback colors. Thousands of entries are received and a panel of judges selects five finalists.

At a Diamondbacks baseball game, fans vote for their favorite helmet artwork based on the five designs viewed on the jumbo screen. A public service announcement encouraging helmet use and a promotion of the *Helmet Your Brain–Avoid the Pain*© program is also made by the announcer during the game and at other baseball games for months before and after the contest. The winning design is made into custom-helmet decals by a graphics company that donates its services. Helmets adorned with the winning design are given to the winner's classmates and teacher, and the four other finalists. During the next baseball game, the winner and finalists bicycle into the ballpark and participate in a pre-game on-field ceremony wearing the winning design helmets and T-shirts, and the winner is presented with a trophy.

In this case, a fun activity (the helmet design contest) was created as a way to generate publicity about the program to deliver a valuable public service message (wear bicycle helmets). The Diamondbacks baseball organization readily cooperates by spreading the public service message about helmets and the educational program, lending their high visibility name and the use of the jumbo screen to broadcast the message. This effort has greatly increased demand for the program in schools throughout the region. It also helps counter the negative stigma among children about wearing helmets and spreads the message that helmets really are "cool."

Conclusion

Starting a bicycle safety education program should be a team effort. Recruiting supporters, such as program staff members, public schools, or funding organizations, can be one of the biggest challenges in the early stages of development. A key to gaining the attention of potential supporters is to develop a solid rationale for the program's existence. Your grant proposals, presentations, or other startup documentation should include the reasons for the existence of the program. Specifically state what problem (or problems) in the community the program addresses, for example, bicycle-related injuries. Use statistics or other data available to illuminate and quantify the problem. Then state how the implementation of your program may improve the stated problem through demonstrably attainable goals and objectives. This information will provide the foundation for why your program should be implemented and what you intend to accomplish.

Funding is critical to the life of a program. A major concern for educators is how to sustain funding for a program after it has been created. Federal "Section 402" money was used for startup costs for most of the programs surveyed. Your program may be eligible for Federal Section 402 funding, but only for developmental costs in the program's initial stages. (The pedestrian/bicycle safety coordinator for each state has information on how to apply for Section 402 funds.) Other sources of funding will be required to sustain the program, so your team will need to be creative about obtaining funding in succeeding years.

Partnering with schools obviously can benefit a bicycle safety education program. Schools provide the ready-made venue, student population, organizational infrastructure, and human and other critical resources. Partnering with other organizations that have mutual interests can also help a bicycle safety program succeed. For instance, partnerships can help increase a program's visibility and credibility, as well as gain access to equipment, knowledge, funding, publicity, and other resources. A majority of the programs surveyed are based in public schools. However, some educators may have difficulty convincing school administrators to incorporate bicycle education into their school curricula. When approaching school administrators, be prepared to point out how a bicycle education program can be beneficial to both the school and the students.

An innovative educational program that takes a nontraditional approach to bicycling can generate a great deal of excitement and interest among educators, participants, parents, and other community members. Some of the programs surveyed include educational goals and methods that extend beyond a conventional bicycle safety curriculum. These programs use bicycling as an educational vehicle for addressing other areas like health and physical fitness, business skills, mechanical skills,

Checklist: Developing a Bicycle Safety Education Program*

- Establish the need for the program
- Demonstrate how the program addresses this need to potential supporters, partici pants, and institutions
- Develop program goals, objectives, and evaluation methods
- Develop grant proposals or other funding requests and obtain funding
- Prepare program content
- Obtain equipment and use of facilities
- Hire staff
- Publicize program activities
- Schedule programs/register participants
- Conduct the course
- Conduct follow-up participant activities
- Conduct evaluation activities

*This checklist is not all-inclusive and the steps are not necessarily sequential.

and environment/recycling issues. In addition, some programs seek to legitimize bicycling as a sport that should be taught in schools just like other traditional sports.

Program evaluation may serve different purposes. It can provide information about how well the lessons are understood, demonstrated, and retained by the participants. Evaluation data can measure the degree to which the learning objectives are attained. This data may be useful in improving a program and for justifying its existence and continuation to sponsors.

Finally, a program's visibility in the community is often critical to its continuation and success. Many parents, youths, school administrators, and members of the community in general are not aware of the importance of bicycle safety education. The public needs to be educated about the importance of bicycle safety in their neighborhoods so that demand and support can be generated. Most programs do not have an advertising budget, so an organization needs to be creative in how it publicizes its activities.

Good luck in your efforts to help build a bicycle-safe community!

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