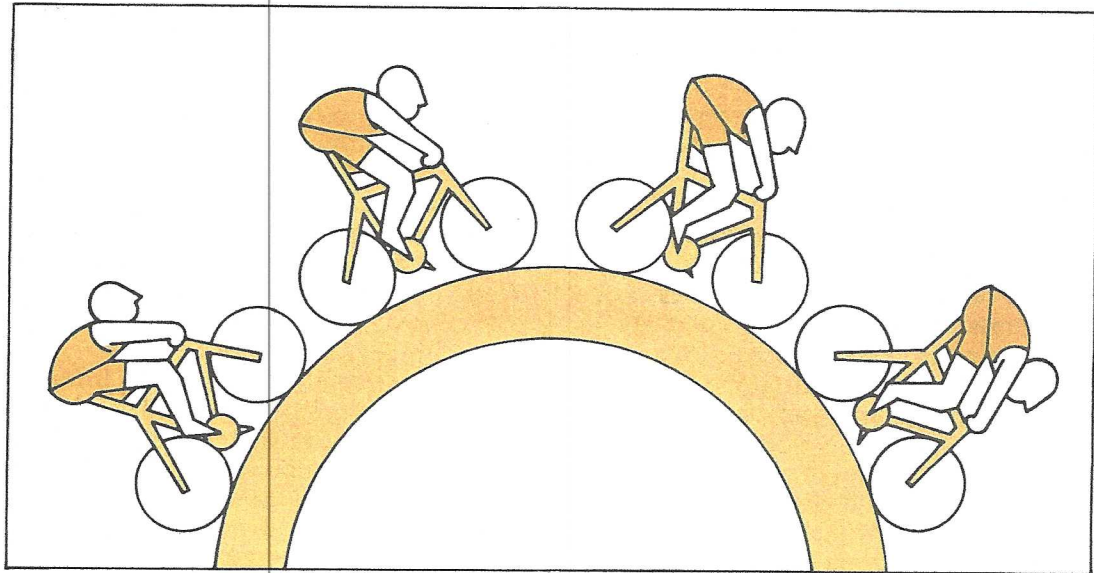


The DOT Bicycle Program



By Steven Charnovitz, Office of Environmental Affairs,
Department of Transportation

Always a popular form of recreation, bicycling has become a viable form of transportation, especially since the lightweight 10-speed bicycle has made speeds of 20 m.p.h. quite easy. With urban congestion showing few signs of improvement and the public being made conscious of the unnecessary use of the automobile, the bicycle becomes a practical way to travel short distances. Bicycles began to outsell automobiles in 1972 and are still doing so.

National Bicycle Conference

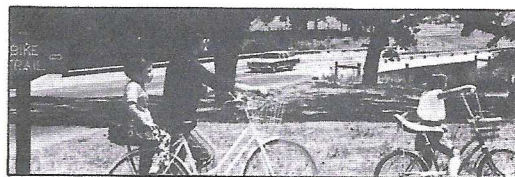
The Department of Transportation has been actively promoting the bicycle mode since 1971. In May 1973 it cosponsored, with the Department of Interior, a two-day national bicycle conference in Cambridge, Massachusetts. The conference brought together about 250 representatives of bicycle-related industry, officials of all levels of government, and members of bicycle-rider coalitions. From them the Department obtained a clear focus on

what its role in facilitating bicycle use should be.

Bicycle Safety

Perhaps the greatest public concern about bicycling is the problem of safety. Bicycle-related traffic deaths increased 30 percent in 1972 over the preceding year. Persons killed numbered 1,014, and thousands more were injured.

While the hazards are probably no deterrent to the ardent bicyclist, the necessity of fighting snarling traffic is a barrier to large numbers of persons who would otherwise use bicycles for commuting or for other short trips. Increased bicycle safety would not only reduce accidents but would also reduce the disincentives to biking.



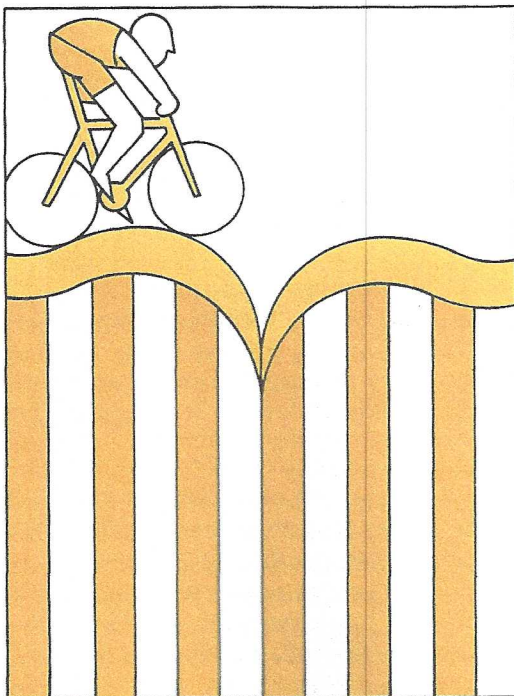
Bicycle trails, along with hiking trails and bridle paths, cross the foothills in San Mateo and Santa Clara Counties, California.

A National Problem

As a national problem, bicycle safety requires Federal assistance. Like automobile safety, it has three aspects: the bikeway, bicycle riding performance, and the design and performance of the vehicle.

The Bikeway—FHWA Role

Because riding a bicycle in a stream of comparatively massive automobiles will always be potentially dangerous, the most effective way to improve traffic conditions for bicycles is to provide them with a separate lane or path. The construction of bicycle trail systems is underway, but it will take many years for these facilities to catch up with the number of riders. In the meantime, work must also be done to make existing roads safe for bicyclists. Providing aid for this construction and improvement is the role of the Federal Highway Administration.



Riding Performance—NHTSA Role

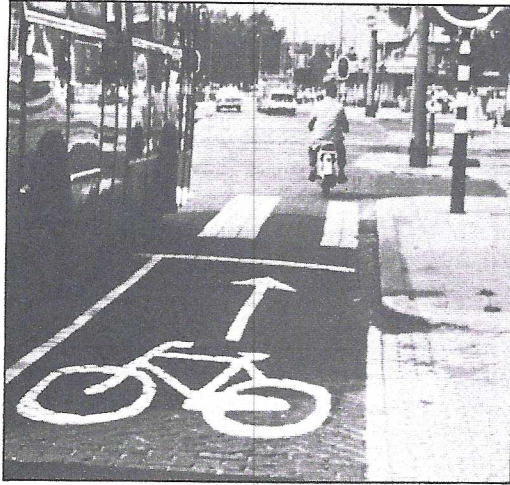
The bicyclist's riding performance is certainly as important to safety as adapting the roads to the needs of bicyclists. Bicyclists should ride skillfully and attentively, but they should also know and obey the bicycle rules of the road. As with automobile driving, learning how to ride safely should not be left up to the individual.

The Federal Government cannot teach bicycle safety, but it can aid State and community efforts to incorporate the bicycle into other highway safety programs and to institute special bicycle education programs by making available funding and technical assistance. This is the role of the National Highway Traffic Safety Administration.

Transit Planning—Joint UMTA-FHWA Role

As with any other mode of transportation, intelligent planning for the future must begin now. Transportation planners should consider the utility and benefits of nonmotorized transportation and incorporate it into transportation planning at an early stage.

Trains, subways, buses, and even cars cannot and should not go everywhere. The bicycle could be the ideal vehicle for traveling to and from the bus or subway stop or terminal. But it will never reach its full potential if facilities for it are just haphazardly added to the system. Both the research and development ends of this planning are the role of the Urban Mass Transportation and Federal Highway Administrations.



Bicycle lane in Rotterdam, Holland

Activities of FHWA

The Federal Highway Administration is moving on several fronts to increase the mobility and safety of bicycling. Its work includes financing bicycle trails with Federal-aid highway funds, investigating safety standards and location of the bicycle way, and helping to develop a set of design standards for bicycle ways.

Bicycle Trails

In March 1973, FHWA published its first Policy and Procedure Memorandum on bicycle routes along or crossing Federal-aid highways. PPM 21-23 sets forth the FHWA policy of encouraging the planning of bicycle trails as parts of Federal-aid highway projects.

According to this policy, bicycle trails may be approved when they are constructed in conjunction with and concurrently with Federal-aid highway improvements and when they are located within the highway right-of-way, provided they have accessible termini, do not reduce safety, and have the potential for sufficient use in relation to cost. In connection with the construction of bicycle trails, funding may be provided for traffic control devices, appurtenances, barriers,

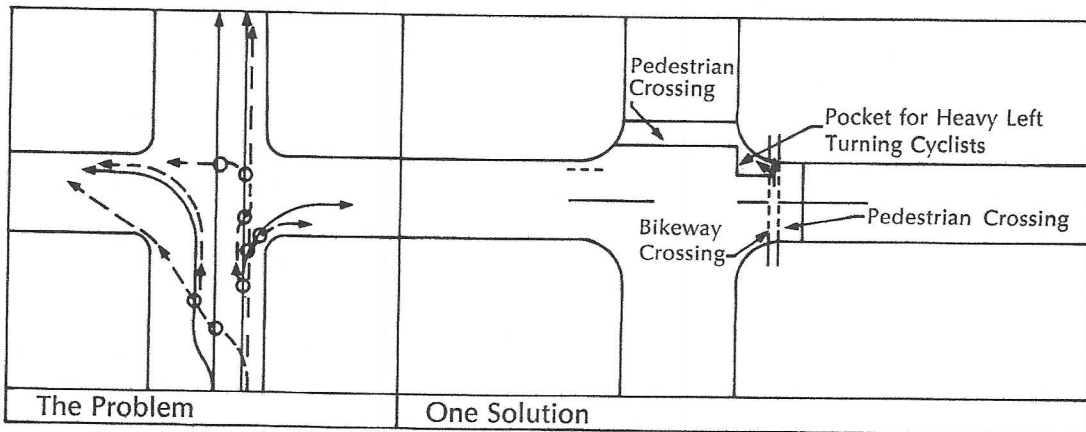


Bikeway separated from automobile traffic lanes by planter boxes, Sausalito, California

landscaping, railings, additional width or length of bridges, and in some cases, highway-trail grade separations.

With the passage of the 1973 Federal-Aid Highway Act in August of 1973, highway funds also became available for the construction of separate bikeways and pedestrian walkways built in connection with the Federal-aid highway projects. Federal funding for these separate projects is limited to \$2 million for each State.

Over 21 States have recently constructed bicycle facilities or have proposed that they be built. The projects vary in size from short-term improvements under the Traffic Operations Program to Increase Capacity and Safety to such large systems as the 334-mile system proposed for Florida. Over \$4 million has been spent for the construction of about 113 miles of bikeway, and \$29 million has been proposed for the construction of an additional 634 miles.



--> Possible cyclists' trajectories
 —> Automobile trajectories
 ○ Conflict points

Intersection design with queue pocket for left turning cyclists

Automobile-Bicycle Traffic Conflict at Intersections

Adapted from Bikeway Planning and Guidelines, prepared by the Institute of Transportation and Traffic Engineering for the California Division of Highways.

AASHTO Guide

FHWA has two main research efforts underway. First, with the American Association of State Highway and Transportation Officials, it is developing a guide to provide the basic information necessary for highway planners to consider in planning bicycle facilities. The guide will present a set of geometric design standards for bikeways, and it will discuss the legal status of bicycle facilities, traffic control devices and markings, and such collateral facilities as parking.

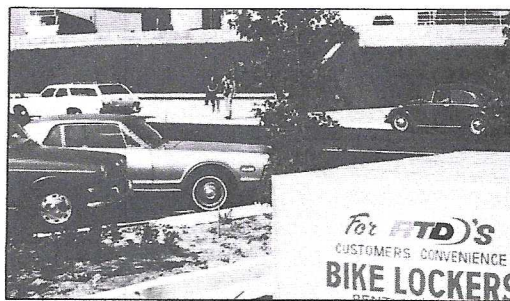
Safety Strategies

The second FHWA project is a two-year \$283,000 research contract to develop strategies to assure the safe movement of bicycles, motor vehicles, and pedestrians on shared facilities, and through points of mutual conflict such as intersections. A second phase of the project will determine warrants for the location of bicycle routes and a reliable

method of predicting future usage of bicycle facilities.

Activities of NHTSA

While FHWA is trying to make the roads safe for bicycles, the National Highway Traffic Safety Administration is trying to eliminate driver or rider errors that can lead to collisions. Because its authority to prescribe standards applies only to motorized vehicles, NHTSA's jurisdiction in bicycle safety does not extend to the vehicle itself. But the Consumer Product Safety Commission does have that jurisdiction and already has design and performance standards in the rulemaking stage.



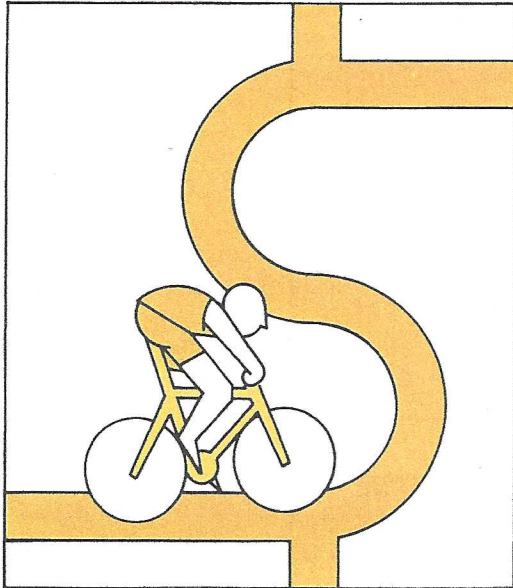
El Monte Terminal and fringe parking for the San Bernardino Busway

Study of Accident Causes

NHTSA's program begins with basic research into the causes of bicycle accidents. A \$178,000 research contract is now in process to collect and analyze bicycle and pedestrian accident information. After being classified according to cause, this information will be used to assess the effectiveness of appropriate countermeasures in preventing accidents.

Traffic Safety Programs

Paralleling the development of a bicycle-accident data base is the work now being done in traffic safety programs. The greatest needs for bicycle safety are enforcement, safety information, and means of making cyclists more conspicuous.



Education for Safety

Plans are being made to help States and communities include bicycles in the curriculum of driver education programs and to offer more bicycle safety education to children in elementary and junior high schools. Many States have used highway safety funds for pedestrian and bicycle

safety. In New York, for example, with the aid of NHTSA funding, a new method has been developed for using an audio-visual package featuring cartoons, songs, and games to teach pedestrian and bicycle safety to kindergarten and first-grade children.

Bicycle Traffic Regulations

NHTSA is attempting to get the States and localities to revise and standardize their bicycle traffic laws. Also under consideration is greater rider regulation. This could include requirements for a bicycle rider's license, restrictions on who can ride at night, and mandatory vehicle inspection. But the major efforts will be in the areas of education, enforcement, and making cyclists more conspicuous.

Activities of UMTA

The Urban Mass Transportation Administration has provided aid for the planning of transit-related aspects of bicycle systems. Technical study grants to consider bicycle access to transit have been given to the Metropolitan Atlanta Rapid Transit Authority and to the Honolulu Rapid Transit System, and such grants have been requested by other systems.

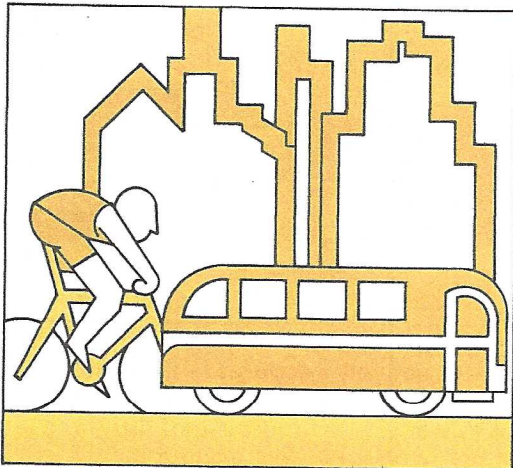
Perhaps the major obstacle to bicycle-transit transfer is the lack of a way to park a bicycle securely. UMTA has recognized this problem and is providing funds for bicycle racks at rapid transit stations. But the problem of bicycle parking at bus stops is being left to the local bus systems, many of which do not think the funds are available for an unsure investment for bicycles.

Research into the general use of bicycles for transportation in urban areas is also being aided by UMTA's university research program. The transportation students at the University of California, Los Angeles, and the University of Colorado are studying bicycles in mixed-mode travel and the potential of the bicycle for urban transportation.

Related Urban Activities of FHWA

Recognizing the need for careful planning, if a bicycle network is to be successful, FHWA encourages the planning of individual trails as part of a larger system. It also fosters the integration of the bicycle mode into urban transportation system planning.

Arizona was the first State to plan a statewide bicycle system. Its study, completed in June 1973, received \$77,000 of Federal highway planning



and research (HPR) funds. The proposed Arizona plan consists of specific bicycle routes and trail systems in 8 cities and several possible intercity bicycle routes. Besides mapping these out, the study projected local bicycling needs, presented bicycle route geometric design standards, analyzed and computed construction and maintenance costs, discussed

funding alternatives, and developed guidelines for bikeway design selection.

Another leader in bicycle affairs is California, which is planning to spend \$302,000 of HPR funds for several projects for nonmotorized transportation, including a statewide bicycle route plan and the selection of bicycle route projects to be financed by Federal and/or State funds.

The California Division of Highways funded a study last year to develop bikeway planning criteria and guidelines. The report, prepared by the UCLA Institute of Transportation and Traffic Engineering, has been reprinted by the Federal Highway Administration and is available from the Environmental Design and Control Division, Office of Research, Federal Highway Administration 20590.

Highway & Urban Mass Transportation

U.S. Department of Transportation

September 1974

FHWA and UMTA Contribute to the National Energy Conservation Action Plan	2
The Emergency Highway Energy Conservation Act	4
Higher Vehicle Occupancy Softens the Traffic Crunch	5
Mobility for the Disadvantaged	8
Contract Awarded for Prototype of Advanced Concept Train	13
Visual Quality of Highways	14
Historic Environment: New Procedures Issued	17
Photographic Contest and Exhibit Feature the Highway and Its Environment	18
Prevention Is Better than Pickup	19
DOT Adopts Johnny Horizon	23
The DOT Bicycle Program	24
Bikeways and Walkways Can Be Financed from Federal-Aid Highway Funds	30
How Federal-Aid Highways Are Financed	31
Accident Investigation in 1972	33

