

# **Pedestrian & Bicycle Travel Policy**

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET

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OFFICE OF THE SECRETARY

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**PEDESTRIAN AND BICYCLE TRAVEL POLICY**

It is the Kentucky Transportation Cabinet's policy to enhance operational efficiency, promote program goals, and enrich the quality of work life through the development of a Bicycle and Pedestrian Travel program. The support of this program is based solely on the Public's and Cabinet's best interest. This policy is not a contract and is subject to amendment at any time.

The definition of Pedestrian/Bicycle Travel is as follows:

Pedestrian Travel is any person afoot or in a wheelchair. (KRS 189.010 Definitions for chapter.)

A bicycle shall be operated in the same manner as a motor vehicle except the following traffic conditions shall apply:

- (1) A bicycle may be operated on the shoulder of a highway;
- (2) If a highway lane is marked for the exclusive use of bicycles, the operator of a bicycle shall use the lane whenever feasible;
- (3) Not more than two (2) bicycles shall be operated abreast in a single highway lane. (601 KAR 14:020, Section 9)

Guidelines for Pedestrian and Bicycle Accommodations in Kentucky:

- Section 1 Introduction and Background
- Section 2 Recommended Policy Pedestrian Facilities
  - Urban Roadways
  - Rural Roadways
  - Choosing Types of Pedestrian Facilities
- Section 3 Recommended Policy Bicycle Facilities
  - Choosing Types of Bicycle Facilities
- Section 4 Recommended Policy Maintenance of Bicycle and Pedestrian Facilities
  - Sidewalks
  - Bicycle Lanes
  - Shared Use Paths
- Section 5 Recommended Policy Maintenance Roadway Projects and State-Force Projects
- Section 6 Shoulder Rumble Strips
- Section 7 Definitions
- Section 8 Appendix
- Section 9 References
- Section 10 Additional Reference Information

Signed this 16 day of July, 2002.

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KENTUCKY TRANSPORTATION CABINET  
"PROVIDE A SAFE, EFFICIENT, ENVIRONMENTALLY SOUND, AND FISCALLY RESPONSIBLE TRANSPORTATION SYSTEM  
WHICH PROMOTES ECONOMIC GROWTH AND ENHANCES THE QUALITY OF LIFE IN KENTUCKY."  
"AN EQUAL OPPORTUNITY EMPLOYER M/F/D"

# Kentucky Transportation Cabinet

## Guidelines for Pedestrian and Bicycle Accommodations in Kentucky

### Introduction and Background

In February 2000, the United States Department of Transportation (USDOT) issued the *Design Guidance, Accommodating Bicycle and Pedestrian Travel: A Recommended Approach*, as required by the federal highway authorization act, Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). The U.S. Congress included this requirement in the act because of increased public support and advocacy to improve the safety, comfort, and convenience of non-motorized travel. The Federal Highway Administration (FHWA) convened a task force comprising representatives of the FHWA, Institute for Transportation Engineers (ITE), American Association of State Highway and Transportation Officials (AASHTO), bicycle and pedestrian travel groups, state and local agencies, U.S. Access Board and disability organizations to seek advice on how to create policy and design guidelines to develop well-designed and context-sensitive multimodal facilities. The FHWA developed the *Design Guidance* to provide a recommended approach to the accommodation of bicyclists and pedestrians.

The USDOT's *Design Guidance* paved the way for establishing the Kentucky Pedestrian and Bicycle Task Force, a multidisciplinary group whose charge was to draft a set of recommended policies and guidance to improve accessibility and safety for non-motorized travel in Kentucky. The task force developed the following policy statements in accordance with the Kentucky Transportation Cabinet (KYTC) Strategic Plan's mission and goals of improving accessibility, mobility, and safety for travelers throughout the Commonwealth of Kentucky in an environmentally and fiscally sound manner.

### Recommended Policy

#### **Pedestrian Facilities**

The following guidance describes where and when it may necessary to include pedestrian facilities in roadway projects. It recommends pedestrian facilities the KYTC may use to increase the quality of pedestrian networks - networks that invite people to walk for both transportation and recreation.

## Urban Roadways

The Kentucky Transportation Cabinet (KYTC) will consider the incorporation of pedestrian facilities on all new or reconstructed state-maintained roadways in existing and planned urban and suburban areas. For purposes of this recommended policy, an urban or suburban area is any place designated as an urban area or census designated place (CDP), by the U.S. Bureau of Census. (See page 6 – Definitions)

KYTC will consider pedestrian facilities if the roadway project meets one or more of the following criteria:

- A pedestrian facility already exists on the current roadway.
- The recommended roadway cross section is urban (curb and gutter).
- Project limits are adjacent to an existing residential, commercial, industrial, institutional, public or semi-public use area or adjacent to an area planned to develop one of these uses within the next 20 years. Planned development may be determined by zoning designations, a local comprehensive plan, or the public-involvement process.
- A state locally, or regionally adopted pedestrian network or policy has designated pedestrian improvements in the area of the specific roadway project or for that classification of roadway.
- A KYTC Small Urban Transportation Study has specific pedestrian improvements recommended for the roadway project.
- Pedestrian traffic exists along the current roadway. This may be determined by the observation of pedestrian traffic or by the public-involvement process.
- Public interest in and demand for pedestrian facilities are determined at the planning and preliminary engineering public-involvement stages

### Other Considerations

- KYTC project-level decisions will complement local pedestrian plans to the maximum reasonable extent.
- KYTC project-level decisions will evaluate future connections to close gaps in parallel connectivity between projects and developed areas/community destinations or existing pedestrian facilities within 300 feet beyond normal project limits within existing publicly owned rights of way.
- KYTC project-level decisions will evaluate future connections to close gaps in perpendicular connectivity to developed areas/community destinations or existing pedestrian facilities within 100 feet of the roadway edge of pavement within existing publicly owned rights of way.
- KYTC project-level decisions will consider pedestrian access to existing and planned transit stops.

## Rural Roadways

The Kentucky Transportation Cabinet (KYTC) will consider the incorporation of pedestrian facilities on all new or reconstructed state-maintained roadways in rural areas. A rural area is any place not designated as an urban area or census designated place (CDP) by the U.S. Bureau of Census. (See page 6 – Definitions)

KYTC will consider pedestrian facilities if the roadway project meets one or more of the following criteria:

- Pedestrian traffic exists along the current roadway: This may be determined by the observation of pedestrian traffic or by the public-involvement process.
- Project limits are adjacent to planned or anticipated development of residential subdivisions, commercial, industrial, institutional, public or semi-public use area, or other projects within the next 20 years necessitating pedestrian connectivity. Planned development may be determined by zoning designations from a local comprehensive land use plan, interviews with local political and economic leaders to gauge anticipated growth in the project area, or the public-involvement process.
- A state, locally or regionally adopted pedestrian network or policy has designated pedestrian improvements in the area of the specific roadway project or for that classification of roadway.
- Gaps in connectivity exist between two or more developed areas/community destinations currently separated by no more than 1.5 miles.
- Public interest in and demand for pedestrian facilities are determined at the planning and preliminary engineering public-involvement stages.

## Choosing Types of Pedestrian Facilities

After determining that a pedestrian facility is necessary, the design team will refer to the appropriate Design Memorandum which will be developed by the Division of Highway Design. The Division of Highway Design will develop the Design Memorandum for Accommodating Pedestrians and Bicycles from the information and guidelines researched and presented by the Pedestrian and Bicycle Task Force.

## Recommended Policy

### **Bicycle Facilities**

In the Commonwealth of Kentucky bicycles are considered, by statute, to be legal vehicles and as such are permitted on all roadways within the state, except on those where they are specifically prohibited (e.g., parkways, interstate highways)<sup>1</sup>. Bicycles, unlike pedestrian transportation, can safely share the roadways with motor vehicles when appropriate consideration is made during the design and construction of new or reconstructed roadways. Bicycle traffic may be expected on all roadways except interstate highways and other fully controlled access highways, but each location merits a different type of accommodation. Accommodation is any improvement intended to assist bicyclists and can include a range of measures from signage, rumble-strip design, and wide curb lanes, to bicycle lanes and shared-use paths. The following guidance is intended for use in urban and rural situations.

The Kentucky Transportation Cabinet (KYTC) will consider the accommodation of bicycles on all new or reconstructed state-maintained roadways. KYTC will also consider accommodating bicycle transportation when planning the resurfacing of roadways, including shoulders.

KYTC will consider bicycle accommodations if the roadway project meets one or more of the following criteria:

- A bicycle facility already exists on the current roadway.
- The recommended roadway cross section is urban (curb and gutter). In urban roadway cross sections (curb and gutter), accommodations to assist bicyclists include a range of measures from signage, bicycle-friendly grates, and wide curb lanes, to bicycle lanes.
- Project limits are adjacent to an existing residential, commercial, office, industrial, institutional, public or semi-public use area or adjacent to an area planned to develop into one of these uses within the next 20 years. Planned development may be determined by a local comprehensive plan or the public-involvement process.
- A state, locally, or regionally adopted bicycle plan has designated bicycle improvements or a bikeway in the area of the specific roadway project or for that classification of roadway.
- A KYTC Small Urban Transportation Study has specific bicycle improvements recommended for the roadway project.
- Bicycle traffic exists along the current roadway: This may be determined by the observation of bicycle traffic or by the public-involvement process.
- Public interest in and demand for bicycle accommodations are determined at the planning and preliminary engineering public-involvement stages.

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<sup>1</sup> Bicycle access across interstate bridges is an issue that needs further examination.

## **Other Considerations**

- KYTC project-level decisions will complement local bicycle plans to the maximum reasonable extent.
- KYTC project level decisions will evaluate future connections to close gaps in parallel connectivity between projects and developed areas/community destinations or existing bicycle facilities within 300 feet beyond normal project limits within existing publicly owned rights of way.
- KYTC project level decisions will evaluate future connections to close gaps in perpendicular connectivity to developed areas/community destinations or existing bicycle facilities within 100 feet of the roadway edge of pavement within existing publicly owned rights of way.

## **Choosing Types of Bicycle Facilities**

After determining that a bicycle facility is necessary, the designer will refer to the appropriate Design Memorandum which will be developed by the Division of Highway Design. The Division of Highway Design will develop the Design Memorandum for Accommodating Pedestrians and Bicycles from the information and guidelines researched and presented by the Pedestrian and Bicycle Task Force.

### **Recommended Policy**

## **Maintenance of Bicycle and Pedestrian Facilities**

### **Sidewalks**

Maintenance of sidewalks within city limits is the responsibility of the city. Maintenance of sidewalks outside city limits is the responsibility of the Kentucky Transportation Cabinet (KYTC) if the KYTC constructed the facility. Maintenance of facilities constructed by the fiscal court or city is the responsibility of that entity.

Maintenance by the KYTC is limited to repairing the surface, mowing, and clearing vegetation. This maintenance is on the same schedule as normal roadway maintenance.

### **Bicycle Lanes**

Maintenance of bicycle lanes is considered incidental to normal KYTC roadway maintenance.

Maintenance by the KYTC is limited to repairing the surface, resurfacing, removing snow, striping, signing, and sweeping if the KYTC normally sweeps the roadway. This maintenance is on the same schedule as normal roadway maintenance.

### **Shared Use Paths**

Maintenance of shared-use paths is the responsibility of the local government.

## Recommended Policy

### **Maintenance Roadway Projects and State-Force Projects**

Maintenance roadway projects and state-force projects are usually projects which are not extensive projects. However, these projects can improve accessibility and safety for non-motorized travel in Kentucky. Whether a traffic signal is redesigned, sight distance corrected, or an intersection improved, pedestrian and bicycle accommodations are considered. The Division of Multimodal Programs will continue to offer an annual workshop in Pedestrian and Bicycle Design. In addition, District Maintenance, Traffic Engineers, and the Road Scholar Course will receive pertinent information concerning the most effective approved crosswalk striping designs, bicycle-friendly grates, and ADA Guidelines.

### **Shoulder Rumble Strips**

A separate task force whose members will be drawn from the Pedestrian and Bicycle Task Force and members from the Divisions of Highway Design, Construction, Multimodal Programs, and Operations will study and recommend guidelines concerning shoulder rumble strips. The Federal Highway Administration (FHWA) released a technical advisory about rumble strip design in December 2001.

## **Definitions**

Source: U.S. Census Bureau

### *Census designated place (CDP)*

A statistical entity, defined for each decennial census according to Census Bureau Guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau Guidelines. Beginning with Census 2000 there are no size limits.

### *Urban Clusters (UCs) New Census Bureau terminology.*

All territory, population and housing units in urbanized areas and in places of more than 2,500 persons outside of urbanized areas. "Urban" classification cuts across other hierarchies and can be in metropolitan or non-metropolitan areas.

### *Rural*

Territory, population, and housing units not classified as urban. "Rural" classification cuts across other hierarchies and can be in metropolitan or non-metropolitan areas.

## Appendix

Source: HPMS Manual list

Because of terminology and definitions concerning reconstructed roadways, the Task Force wanted this HPMS Manual list added to the appendix.

Source: HPMS Manual

10 NEW ROUTE: Newly constructed roadway.

20 RELOCATION: Construction of a facility on new location that replaces an existing route to the extent that the old route is abandoned.

30 RECONSTRUCTION: Construction on approximate alignment of an existing route where the pavement structure is substantially removed and replaced. Such reconstruction may include widening to provide additional through lanes, adding grade separations, and replacing other highway elements. Adjustment to existing horizontal and vertical alignment can be made.

31 RECONSTRUCTION TO FREEWAY: Complete reconstruction to freeway design standards on substantially existing alignment. This improvement type always includes the addition of full control of access. It may include the addition of through lanes, dualism, addition of interchanges or grade separations, or widening of through lanes, depending on what was required to bring the facility to freeway standards.

32 RECONSTRUCTION WITH MORE LANES: Complete reconstruction on substantially the same alignment with the addition of through lanes to the existing section. Alignment, shoulder, and drainage deficiencies are corrected.

33 RECONSTRUCTION TO WIDER LANES: Complete reconstruction on substantially the same alignment with through lanes at least 0.3 meters (1 foot) wider than the existing section. Alignment, shoulder, and drainage deficiencies are corrected.

34 PAVEMENT RECONSTRUCTION WITH ALIGNMENT IMPROVEMENTS: Reconstruction of the highway section to correct a pavement deficiency. Specific horizontal or vertical alignment deficiencies are also corrected.

35 PAVEMENT RECONSTRUCTION: Complete reconstruction on substantially the same alignment without widening the pavement structure. Drainage deficiencies and minor alignment deficiencies are corrected.

40 MAJOR WIDENING: The addition of through lanes or dualism of an existing facility where the existing pavement is salvaged. Also included, where necessary, is the resurfacing of existing pavement and other incidental improvements such as drainage and shoulder improvements.

50 MINOR WIDENING: The addition of more width per through lane to the roadway of an existing facility without adding through lanes. The existing pavement is salvaged. In many cases, the improvement will include resurfacing the existing pavement, where necessary, and other incidental improvements, such as shoulder and drainage improvements.

60 RESTORATION AND REHABILITATION: Work required to return an existing pavement (including shoulders) to a condition of adequate structural support or to a condition adequate for an additional stage of construction. There may be some upgrading of unsafe features or other incidental work in conjunction with restoration and rehabilitation. Typical improvements would include replacing spalled or malfunctioning joints; substantial pavement stabilization prior to resurfacing; grinding/grooving of rigid pavements; replacing deteriorated materials; reworking or

strengthening bases or subbases, adding underdrains, subsealing, diamond grinding, milling, inlays, etc.

**71 RESURFACING WITH SHOULDER IMPROVEMENTS AND PORTLAND CEMENT**

**CONCRETE PAVEMENT RESTORATION:** Shoulders are widened or reconstructed to provide additional strength. Placement of additional Portland cement concrete material over the existing roadway to improve serviceability or to provide additional strength. There may be some upgrading of unsafe features and other incidental work. May also include concrete restoration includes techniques such as subsealing, joint repair, diamond grinding, etc. Where surfacing is constructed by a separate project as a final stage of construction, the type of improvement should be the same as that of the preceding stage--relocation, reconstruction, minor widening, etc.

**72 RESURFACING WITH SHOULDER IMPROVEMENTS AND BITUMINOUS PAVEMENT**

**RESTORATION:** Shoulders are widened or reconstructed to provide additional strength. Placement of at least 25 millimeters (1 inch) of compacted bituminous material over the existing roadway to improve serviceability or to provide additional strength. There may be some upgrading of unsafe features and other incidental work. Where surfacing is constructed by a separate project as a final stage of construction, the type of improvement should be the same as that of the preceding stage--relocation, reconstruction, minor widening, etc.

**77 RESURFACING WITH PORTLAND CEMENT CONCRETE PAVEMENT RESTORATION:**

Placement of additional Portland cement concrete material over the existing roadway to improve serviceability or to provide additional strength. There may be some upgrading of unsafe features and other incidental work in conjunction with resurfacing. This should also be used when concrete restoration includes techniques such as subsealing, joint repair, diamond grinding, etc. Where surfacing is constructed by a separate project as a final stage of construction, the type of improvement should be the same as that of the preceding stage -- relocation, reconstruction, minor widening, etc.

**78 RESURFACING WITH BITUMINOUS PAVEMENT RESTORATION:**

Placement of at least 25 millimeters (1 inch) of compacted bituminous material over the existing roadway to improve serviceability or to provide additional strength. There may be some upgrading of unsafe features and other incidental work in conjunction with resurfacing. Where surfacing is constructed by a separate project as a final stage of construction, the type of improvement should be the same as that of the preceding stage--relocation, reconstruction, minor widening, etc.

**80 BRIDGE REPLACEMENT**

**81 BRIDGE REHAB**

**82 MINOR BRIDGE REHAB**

**90 SAFETY**

**91 TRAFFIC CONTROL SYS**

**92 ENVIRONMENTAL ENHANC**

## References

Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach A US DOT Policy Statement on Integrating Bicycling and Walking into Transportation February 2000  
<http://wwwcf.fhwa.dot.gov/environment/bikeped/design.htm> - U.S. Department of Transportation

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HUMAN

ENVIRONMENT

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### Design Guidance

## Accommodating Bicycle and Pedestrian Travel: A Recommended Approach A US DOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure

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### Purpose

**Accommodating Bicycle and Pedestrian Travel: A Recommended Approach** is a policy statement adopted by the United States Department of Transportation. USDOT hopes that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream.

The Design Guidance incorporates three key principles:

- a) a policy statement that **bicycling and walking facilities will be incorporated into all transportation projects** unless exceptional circumstances exist;
- b) an approach to achieving this policy that has already worked in State and local agencies; and
- c) a series of action items that a public agency, professional association, or advocacy group can take to achieve the overriding goal of improving conditions for bicycling and walking.

The Policy Statement was drafted by the U.S. Department of Transportation in response to Section 1202 (b) of the Transportation Equity Act for the 21st Century (TEA-21) with the input and assistance of public agencies, professional associations and advocacy groups.

## Introduction

Bicycling and walking issues have grown in significance throughout the 1990s. As the new millennium dawns public agencies and public interest groups alike are striving to define the most appropriate way in which to accommodate the two modes within the overall transportation system so that those who walk or ride bicycles can safely, conveniently, and comfortably access every destination within a community.

Public support and advocacy for improved conditions for bicycling and walking has created a widespread acceptance that more should be done to enhance the safety, comfort, and convenience of the nonmotorized traveler. Public opinion surveys throughout the 1990s have demonstrated strong support for increased planning, funding and implementation of shared use paths, sidewalks and on-street facilities.

At the same time, public agencies have become considerably better equipped to respond to this demand. Research and practical experience in designing facilities for bicyclists and pedestrians has generated numerous national, State and local design manuals and resources. An increasing number of professional planners and engineers are familiar with this material and are applying this knowledge in towns and cities across the country.

The 1990 Americans with Disabilities Act, building on an earlier law requiring curb ramps in new, altered, and existing sidewalks, added impetus to improving conditions for sidewalk users. People with disabilities rely on the pedestrian and transit infrastructure, and the links between them, for access and mobility.

Congress and many State legislatures have made it considerably easier in recent years to fund nonmotorized projects and programs (for example, the Intermodal Surface Transportation Efficiency Act and the Transportation Equity Act for the 21st Century), and a number of laws and regulations now mandate certain planning activities and design standards to guarantee the inclusion of bicyclists and pedestrians.

Despite these many advances, injury and fatality numbers for bicyclists and pedestrians remain stubbornly high, levels of bicycling and walking remain frustratingly low, and most communities continue to grow in ways that make travel by means other than the private automobile quite challenging. Failure to provide an accessible pedestrian network for people with disabilities often requires the provision of costly paratransit service. Ongoing investment in the Nation's transportation infrastructure is still more likely to overlook rather than integrate bicyclists and pedestrians.

In response to demands from user groups that every transportation project include a bicycle and pedestrian element, Congress asked the Federal Highway Administration (FHWA) to study various approaches to accommodating the two modes. The Transportation Equity Act for the 21st Century (TEA-21) instructs the Secretary to work with professional groups such as AASHTO, ITE, and other interested parties to recommend policies and standards that might achieve the overall goal of fully integrating bicyclists and pedestrians into the transportation system.

TEA-21 also says that, "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation projects, except where bicycle and pedestrian use are not permitted." (Section 1202)

In August 1998, FHWA convened a Task Force comprising representatives from FHWA, AASHTO, ITE, bicycle and pedestrian user groups, State and local agencies, the U.S. Access Board and representatives of disability organizations to seek advice on how to proceed with developing this guidance. The Task Force reviewed existing and proposed information on the planning and technical design of facilities for bicyclists and pedestrians and concluded that these made creation of another design manual unnecessary. For example, AASHTO published a bicycle design manual in 1999 and is working on a pedestrian facility manual.

The area where information and guidance was most lacking was in determining when to include designated or special facilities for bicyclists and pedestrians in transportation projects. There can also be uncertainty about the type of facility to provide, and the design elements that are required to ensure accessibility. For example, when a new suburban arterial road is planned and designed, what facilities for bicyclists and pedestrians should be provided? The task force felt that once the decision to provide a particular facility was made, the specific information on designing that facility is generally available. However, the decision on whether to provide sidewalks on neither, one or both sides of the road, or a shoulder, striped bike lane, wide outside lane or separate trail for bicyclists is usually made with little guidance or help.

After a second meeting with the Task Force in January 1999, FHWA agreed to develop a **Policy Statement on Accommodating Bicyclists and Pedestrians in Transportation Projects** to guide State and local agencies in answering these questions. Task Force members recommended against trying to create specific warrants for different facilities (warrants leave little room for engineering judgement and have often been used to avoid providing facilities for bicycling and walking). Instead, the purpose of the Policy Statement is to provide a recommended approach to the accommodation of bicyclists and pedestrians that can be adopted by State and local agencies (as well as professional societies and associations, advocacy groups, and Federal agencies) as a commitment to developing a transportation infrastructure that is safe, convenient, accessible, and attractive to motorized AND nonmotorized users alike. The Policy Statement has four elements:

- a) an acknowledgment of the issues associated with balancing the competing interests of motorized and nonmotorized users;
- b) a recommended policy approach to accommodating bicyclists and pedestrians (including people with disabilities) that can be adopted by an agency or organizations as a statement of policy to be implemented or a target to be reached in the future;
- c) a list of recommended actions that can be taken to implement the solutions and approaches described above; and
- d) further information and resources on the planning, design, operation, and maintenance of facilities for bicyclists and pedestrians.

**SEC. 1202. BICYCLE TRANSPORTATION AND PEDESTRIAN WALKWAYS.**

(b) Design Guidance—

(1) In general.—In implementing section 217(g) of title 23, United States Code, the Secretary, in cooperation with the American Association of State Highway and Transportation Officials, the Institute of Transportation Engineers, and other interested organizations, shall develop guidance on the various approaches to accommodating bicycles and pedestrian travel.

(2) Issues to be addressed. —The guidance shall address issues such as the level and nature of the demand, volume, and speed of motor vehicle traffic, safety, terrain, cost, and sight distance.

(3) Recommendations. —The guidance shall include recommendations on amending and updating the policies of the American Association of State Highway and Transportation Officials relating to highway and street design standards to accommodate bicyclists and pedestrians.

(4) Time period for development. —The guidance shall be developed within 18 months after the date of enactment of this Act.

**The Challenge: Balancing Competing Interests**

For most of the second half of the 20th Century, the transportation, traffic engineering and highway professions in the United States were synonymous. They shared a singular purpose: building a transportation system that promoted the safety, convenience and comfort of motor vehicles. The post-war boom in car and home ownership, the growth of suburban America, the challenge of completing the Interstate System, and the continued availability of cheap gasoline all fueled the development of a transportation infrastructure focused almost exclusively on the private motor car and commercial truck.

Initially, there were few constraints on the traffic engineer and highway designer. Starting at the centerline, highways were developed according to the number of motor vehicle travel lanes that were needed well into the future, as well as

providing space for breakdowns. Beyond that, facilities for bicyclists and pedestrians, environmental mitigation, accessibility, community preservation, and aesthetics were at best an afterthought, often simply overlooked, and, at worst, rejected as unnecessary, costly, and regressive. Many States passed laws preventing the use of State gas tax funds on anything other than motor vehicle lanes and facilities. The resulting highway environment discourages bicycling and walking and has made the two modes more dangerous. Further, the ability of pedestrians with disabilities to travel independently and safely has been compromised, especially for those with vision impairments.

Over time, the task of designing and building highways has become more complex and challenging. Traffic engineers now have to integrate accessibility, utilities, landscaping, community preservation, wetland mitigation, historic preservation, and a host of other concerns into their plans and designs - and yet they often have less space and resources within which to operate and traffic volumes continue to grow.

The additional "burden" of having to find space for pedestrians and bicyclists was rejected as impossible in many communities because of space and funding constraints and a perceived lack of demand. There was also anxiety about encouraging an activity that many felt to be dangerous and fraught with liability issues. Designers continued to design from the centerline out and often simply ran out of space before bike lanes, paved shoulders, sidewalks and other "amenities" could be included.

By contrast, bicycle and pedestrian user groups argue the roadway designer should design highways from the right-of-way limits in, rather than the centerline out. They advocate beginning the design of a highway with the sidewalk and/or trail, including a buffer before the paved shoulder or bike lane, and then allocating the remaining space for motor vehicles. Through this approach, walking and bicycling are positively encouraged, made safer, and included as a critical element in every transportation project rather than as an afterthought in a handful of unconnected and arbitrary locations within a community.

Retrofitting the built environment often provides even more challenges than building new roads and communities: space is at a premium and there is a perception that providing better conditions for bicyclists and pedestrians will necessarily take away space or convenience from motor vehicles.

During the 1990s, Congress spearheaded a movement towards a transportation system that favors people and goods over motor vehicles with passage of the Intermodal Surface Transportation Efficiency Act (1991) and the Transportation Equity Act for the 21st Century (1998). The call for more walkable, liveable, and accessible communities, has seen bicycling and walking emerge as an "indicator species" for the health and well-being of a community. People want to live and work in places where they can safely and conveniently walk and/or bicycle and not always have to deal with worsening traffic congestion, road rage and the fight for a parking space. Vice President Gore launched a Livability Initiative in 1999 with the ironic statement that "a gallon of gas can be used up just driving to get a gallon of milk."

**The challenge for transportation planners, highway engineers and bicycle and pedestrian user groups, therefore, is to balance their competing interest in a limited amount of right-of-way, and to develop a transportation infrastructure that provides access for all, a real choice of modes, and safety in equal measure for each mode of travel.**

This task is made more challenging by the widely divergent character of our nation's highways and byways. Traffic speeds and volumes, topography, land use, the mix of road users, and many other factors mean that a four-lane highway in rural North Carolina cannot be designed in the same way as a four-lane highway in New York City, a dirt road in Utah or an Interstate highway in Southern California. In addition, many different agencies are responsible for the development, management, and operation of the transportation system.

In a recent memorandum transmitting Program Guidance on bicycle and pedestrian issues to FHWA Division Offices, the Federal Highway Administrator wrote that "We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities." The Program Guidance itself makes a number of clear statements of intent:

- Congress clearly intends for bicyclists and pedestrians to have safe, convenient access to the transportation system and sees every transportation improvement as an opportunity to enhance the safety and convenience of the two modes.
- "Due consideration" of bicycle and pedestrian needs should include, at a minimum, a presumption that bicyclists and pedestrians will be accommodated in the design of new and improved transportation facilities.
- To varying extents, bicyclists and pedestrians will be present on all highways and transportation facilities where they are permitted and it is clearly the intent of TEA-21 that all new and improved transportation facilities be planned, designed and constructed with this fact in mind.
- The decision not to accommodate [bicyclists and pedestrians] should be the exception rather than the rule. There must be exceptional circumstances for denying bicycle and pedestrian access either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling.

The Program Guidance defers a suggested definition of what constitutes "exceptional circumstances" until this Policy Statement is completed. However, it does offer interim guidance that includes controlled access highways and projects where the cost of accommodating bicyclists and pedestrians is high in relation to the overall project costs and likely level of use by nonmotorized travelers.

Providing access for people with disabilities is a civil rights mandate that is not subject to limitation by project costs, levels of use, or "exceptional circumstances". While the Americans with Disabilities Act doesn't require pedestrian facilities in the absence of a pedestrian route, it does require that pedestrian facilities, when newly constructed or altered, be accessible.

## Policy Statement

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.
- where sparsity of population or other factors indicate an absence of need. For example, the Portland Pedestrian Guide requires "all construction of new public streets" to include sidewalk improvements on both sides, unless the street is a cul-de-sac with four or fewer dwellings or the street has severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as in States such as Wisconsin. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate. Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.

3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.

4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- planning projects for the long-term. Transportation facilities are long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case.
- addressing the need for bicyclists and pedestrians to cross corridors as well as travel along them. Even where bicyclists and pedestrians may not commonly use a particular travel corridor that is being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.
- getting exceptions approved at a senior level. Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- designing facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards that are commonly used, such as the AASHTO *Guide for the Development of Bicycle Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets*, and the ITE Recommended Practice "*Design and Safety of Pedestrian Facilities*".

## Policy Approach

### "Rewrite the Manuals" Approach

Manuals that are commonly used by highway designers covering roadway geometrics, roadside safety, and bridges should incorporate design information that integrates safe and convenient facilities for bicyclists and pedestrians -- including people with disabilities - into all new highway construction and reconstruction projects.

In addition to incorporating detailed design information - such as the installation of safe and accessible crossing facilities for pedestrians, or intersections that are safe and convenient for bicyclists - these manuals should also be amended to provide flexibility to the highway designer to develop facilities that are in keeping with transportation needs, accessibility, community values, and aesthetics. For example, the Portland Pedestrian Design Guide (June 1998) applies to every project that is designed and built in the city, but the Guide also notes that:

"Site conditions and circumstances often make applying a specific solution difficult. The Pedestrian Design Guide should reduce the need for ad hoc decision by providing a published set of guidelines that are applicable to most situations. Throughout the guidelines, however, care has been taken to provide flexibility to the designer so she or he can tailor the standards to unique circumstances. Even when the specific guideline cannot be met, the designer should attempt to find the solution that best meets the pedestrian design principles described [on the previous page]"

In the interim, these manuals may be supplemented by stand-alone bicycle and pedestrian facility manuals that provide detailed design information addressing on-street bicycle facilities, fully accessible sidewalks, crosswalks, and shared use paths, and other improvements.

Examples: Florida DOT has integrated bicycle and pedestrian facility design information into its standard highway design manuals and New Jersey DOT is in the process of doing so. Many States and localities have developed their own bicycle and pedestrian facility design manuals, some of which are listed in the final section of this document.

### Applying Engineering Judgement to Roadway Design

In rewriting manuals and developing standards for the accommodation of bicyclists and pedestrians, there is a temptation to adopt "typical sections" that are applied to roadways without regard to travel speeds, lane widths, vehicle mix, adjacent land uses, traffic volumes and other critical factors. This approach can lead to inadequate provision on major roads (e.g. a four foot bike lane or four foot sidewalk on a six lane high-speed urban arterial) and the over-design of local and neighborhood streets (e.g. striping bike lanes on low volume residential roads) , and leaves little room for engineering judgement.

After adopting the policy that bicyclists and pedestrians (including people with disabilities) will be fully integrated into the transportation system, State and local governments should encourage engineering judgement in the application of the range of available treatments.

For example:

- Collector and arterial streets shall typically have a minimum of a four foot wide striped bicycle lane, however wider lanes are often necessary in locations with parking, curb and gutter, heavier and/or faster traffic.
- Collector and arterial streets shall typically have a minimum of a five foot sidewalk on both sides of the street, however wider sidewalks and landscaped buffers are necessary in locations with higher pedestrian or traffic volumes, and/or higher vehicle speeds. At intersections, sidewalks may need to be wider to accommodate accessible curb ramps.
- Rural arterials shall typically have a minimum of a four foot paved shoulder, however wider shoulders (or marked bike lanes) and accessible sidewalks and crosswalks are necessary within rural communities and where traffic volumes and speeds increase.

This approach also allows the highway engineer to achieve the performance goal of providing safe, convenient, and comfortable travel for bicyclists and pedestrians by other means. For example, if it would be inappropriate to add width to an existing roadway to stripe a bike lane or widen a sidewalk, traffic calming measures can be employed to reduce motor vehicle speeds to levels more compatible with bicycling and walking.

## Actions

The United States Department of Transportation encourages States, local governments, professional associations, other government agencies, and community organizations to adopt this Policy Statement as an indication of their commitment to accommodating bicyclists and pedestrians as an integral element of the transportation system. By so

doing, the organization or agency should explicitly adopt one, all, or a combination of the various approaches described above AND should be committed to taking some or all of the actions listed below as appropriate for their situation.

- a) Define the exceptional circumstances in which facilities for bicyclists and pedestrians will NOT be required in all transportation projects.
- b) Adopt new manuals, or amend existing manuals, covering the geometric design of streets, the development of roadside safety facilities, and design of bridges and their approaches so that they comprehensively address the development of bicycle and pedestrian facilities as an integral element of the design of all new and reconstructed roadways.
- c) Adopt stand-alone bicycle and pedestrian facility design manuals as an interim step towards the adoption of new typical sections or manuals covering the design of streets and highways.
- d) Initiate an intensive re-tooling and re-education of transportation planners and engineers to make them conversant with the new information required to accommodate bicyclists and pedestrians. Training should be made available for, if not required of, agency traffic engineers and consultants who perform work in this field.

## Conclusion

There is no question that conditions for bicycling and walking need to be improved in every community in the United States; it is no longer acceptable that 6,000 bicyclists and pedestrians are killed in traffic every year, that people with disabilities cannot travel without encountering barriers, and that two desirable and efficient modes of travel have been made difficult and uncomfortable.

Every transportation agency has the responsibility and the opportunity to make a difference to the bicycle-friendliness and walkability of our communities. The design information to accommodate bicyclists and pedestrians is available, as is the funding. The United States Department of Transportation is committed to doing all it can to improve conditions for bicycling and walking and to make them safer ways to travel.

## Further Information and Resources

### General Design Resources

*A Policy on Geometric Design of Highways and Streets*, 1994 (The Green Book). American Association of State Highway and Transportation Officials (AASHTO), P.O. Box 96716, Washington, DC, 20090-6716, Phone: (888) 227-4860.

*Highway Capacity Manual, Special Report 209*, 1994. Transportation Research Board, Box 289, Washington, DC 20055, Phone: (202) 334-3214. Next Edition: FHWA Research Program project has identified changes to HCM related to bicycle and pedestrian design.

*Manual on Uniform Traffic Control Devices*, 1988. Federal Highway Administration (FHWA), Superintendent of Documents. P.O. Box 371954, Pittsburgh, PA 15250-7954. Next Edition: 2000, will incorporate changes to Part IX that will soon be subject of Notice of Proposed Rulemaking.

*Flexibility in Highway Design*, 1997. FHWA. HEP 30, 400 Seventh Street SW, Washington, DC 20590.

### Pedestrian Facility Design Resources

*Design and Safety of Pedestrian Facilities, A Recommended Practice*, 1998. Institute of Transportation Engineers, 525 School Street, S.W, Suite 410, Washington, DC 20024-2729, Phone: (202) 554-8050.

*Pedestrian Compatible Roadways-Planning and Design Guidelines*, 1995. Bicycle / Pedestrian Transportation Master Plan, Bicycle and Pedestrian Advocate, New Jersey Department of Transportation, 1035 Parkway Avenue, Trenton, NJ 08625, Phone: (609) 530-4578.

*Improving Pedestrian Access to Transit: An Advocacy Handbook*, 1998. Federal Transit Administration / WalkBoston. NTIS, 5285 Port Royal Road, Springfield, VA 22161.

*Planning and Implementing Pedestrian Facilities in Suburban and Developing Rural Areas, Report No. 294A*, Transportation Research Board, Box 289, Washington, DC 20055, Phone: (202) 334-3214.

*Pedestrian Facilities Guidebook*, 1997. Washington State Department of Transportation, Bicycle and Pedestrian Program, P.O. Box 47393, Olympia, WA 98504.

*Portland Pedestrian Design Guide*, 1998. Portland Pedestrian Program, 1120 SW Fifth Ave, Room 802; Portland, OR 97210. (503) 823-7004.

\* *Implementing Pedestrian Improvements at the Local Level*, 1999. FHWA, HSR 20, 6300 Georgetown Pike, McLean, VA .

\* AASHTO *Guide to the Development of Pedestrian Facilities*, 2000. AASHTO. (currently under discussion)

### **Bicycle Facility Design Resources**

*Guide for the Development of Bicycle Facilities*, 1999., American Association of State Highway and Transportation Officials (AASHTO), P.O. Box 96716, Washington, DC, 20090-6716, Phone: (888) 227-4860.  
*Implementing Bicycle Improvements at the Local Level*, (1998), FHWA, HSR 20, 6300 Georgetown Pike, McLean, VA .

*Bicycle Facility Design Standards*, 1998. City of Philadelphia Streets Department, 1401 JFK Boulevard, Philadelphia, PA 19103.

*Selecting Roadway Design Treatments to Accommodate Bicyclists*, 1993. FHWA, R&T Report Center, 9701 Philadelphia Ct, Unit Q; Lanham, MD 20706. (301) 577-1421 (fax only)

*North Carolina Bicycle Facilities Planning and Design Guidelines*, 1994. North Carolina DOT, P.O. Box 25201, Raleigh, NC 27611. (919) 733-2804.

*Bicycle Facility Planning*, 1995. Pinsof & Musser. American Planning Association, Planning Advisory Service Report # 459. American Planning Association, 122 S. Michigan Ave, Suite 1600; Chicago, IL 60603.

*Florida Bicycle Facilities Planning and Design Manual*, 1994. Florida DOT, Pedestrian and Bicycle Safety Office, 605 Suwannee Street, Tallahassee, FL 32399.

*Evaluation of Shared-use Facilities for Bicycles and Motor Vehicles*, 1996. Florida DOT, Pedestrian and Bicycle Safety Office, 605 Suwannee Street, Tallahassee, FL 32399.

### **Bicycle and Pedestrian Design Resources**

*Oregon Bicycle and Pedestrian Plan*, 1995. Oregon Department of Transportation, Bicycle and Pedestrian Program, Room 210, Transportation Building, Salem, OR 97310, Phone: (503) 986-3555

*Improving Conditions for Bicyclists and Pedestrians, A Best Practices Report*, 1998. FHWA, HEP 10, 400 Seventh Street SW, Washington, DC 20590.

#### *Traffic Calming Design Resources*

*Traffic Calming: State of the Practice*. 1999. Institute of Transportation Engineers, 525 School Street, SW, Suite 410; Washington, DC 20024.

*Florida Department of Transportation's Roundabout Guide*. Florida Department of Transportation, 605 Suwannee St., MS-82, Tallahassee, FL 23299-0450.

*National Bicycling and Walking Study. Case Study # 19, Traffic Calming and Auto-Restricted Zones and other Traffic Management Techniques-Their Effects on Bicycling and Pedestrians*, Federal Highway Administration (FHWA).

*Traffic Calming* (1995), American Planning Association, 122 South Michigan Avenue, Chicago, IL 60603

*Traditional Neighborhood Development Street Design Guidelines*, 1997. Proposed Recommended Practice, Institute of Transportation Engineers, 525 School Street, SW, Suite 410; Washington, DC 20024.

*Making Streets that Work*, City of Seattle, 600 Fourth Ave., 12th Floor, Seattle, WA 98104-1873, Phone: (206) 684-4000, Fax: (206) 684-5360.

*Traffic Control Manual for In-Street Work*, 1994. Seattle Engineering Department, City of Seattle, 600 4th Avenue, Seattle, WA 98104-6967, Phone: (206) 684-5108.

### **ADA-related Design Resources**

*Accessible Pedestrian Signals*, 1998. U.S. Access Board 1331 F Street NW, Suite 1000; Washington, DC 20004. (800) 872-2253.

*Accessible Rights of Way: A Design Manual*, 1999. U.S. Access Board, 1331 F Street NW, Suite 1000; Washington, DC 20004. (800) 872-2253.

*Designing Sidewalks and Trails for Access, Part One*. 1999. FHWA, HEPH-30, 400 Seventh Street SW, Washington, DC 20590.

*ADA Accessibility Guidelines for Buildings and Facilities*, 1998 (ADAAG). U.S. Access Board, 1331 F Street NW, Suite 1000; Washington, DC 20004. (800) 872-2253.

*Uniform Federal Accessibility Standards*, 1984 (UFAS), available from the U.S. Access Board, 1331 F Street NW, Suite 1000; Washington, DC 20004. (800) 872-2253

*Universal Access to Outdoor Recreation: A Design Guide*, 1993. PLAE, Inc, MIG Communications, 1802 Fifth Street, Berkeley, CA 94710. (510) 845-0953.

Recommended Street Design Guidelines for People Who Are Blind or Visually Impaired. American Council of the Blind, 1155 15th Street NW, Suite 720; Washington, DC 20005. (202) 467-5081.

### **Trail Design Resources**

*Trails for the 21st Century*, 1993. Rails to Trails Conservancy, 1100 17th Street NW, 10th Floor, Washington DC 20036. (202) 331-9696.

*Greenways: A Guide to Planning, Design, and Development*, 1993. The Conservation Fund. Island Press, 1718 Connecticut Ave NW, Suite 300; Washington, DC 20009.

*Trail Intersection Design Guidelines*, 1996. Florida Department of Transportation, 605 Suwannee St., MS-82, Tallahassee, FL 23299-0450.

\* Indicates publication not yet available

This page last modified on March 27, 2000

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## **Supplementary Design Guidance - Bicycle and Pedestrian Projects - FHWA Memorandum U.S. Department of Transportation Federal Highway Administration**

*Subject: INFORMATION: Supplementary Design Guidance for Bicycle and Pedestrian Projects*

*Date: August 30, 2000*

*From: (Original signed by) Cynthia J. Burbank  
Program Manager, Planning and Environment*

*Reply to*

*Attn. of: HEPH-30*

*To: RC Directors of Field Services Division Administrators*

*On February 28 of this year, Administrator Kenneth Wykle issued the Bicycle and Pedestrian Design Guidance as required by TEA-21. Since that time, two particular issues have arisen that require additional clarification.*

*The first item is one of the three exceptions for providing bicycle and pedestrian facilities in urban areas shown on page 12 of the original document. Specifically, the exclusion reads "the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding 20 percent of the cost of the larger transportation project." This 20 percent figure should be used in an advisory rather than an absolute sense.*

*The second issue as stated on page 13 of the Design Guidance is that "In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as in States such as Wisconsin." The particular vehicle volume used to justify the provision of paved shoulders may vary from State to State. Nevertheless, paved shoulders provide clear safety and operational benefits for both motorized and nonmotorized users.*

*As with any guidance, flexibility and judgement will have to be used in its application to particular projects. Nevertheless, Mr. Wykle's memorandum states that our nation's transportation system must be balanced, accessible, and safe for all Americans, and that Federal Highway Administration (FHWA) must take a leadership role in working with States, localities, and our other partners to make this happen. The clarification of these two items in no way diminishes FHWA's leadership role in providing facilities for bicyclists and pedestrians through the Federal-aid process.*

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*United States Department of Transportation - Federal Highway Administration*

## Additional Reference Information

***Building a True Community (BTC):*** This publication was developed by the Public Rights-of-Way Access Advisory Committee of the Access Board, an independent federal agency responsible for developing accessibility guidelines under the Americans with Disabilities Act (ADA) to ensure that new construction and alterations covered by Titles II and III of the ADA are readily accessible to and usable by individuals with disabilities. January 2001. This publication is available for download at:

[www.access-board.gov/prowac/commrept/index.htm](http://www.access-board.gov/prowac/commrept/index.htm)

***Designing Sidewalks and Trails for Access:*** This publication, developed by the Federal Highway Administration, provides best practices and design guidelines for sidewalks and trails. It presents more detail and background than *BTC*. July 1999. Federal Highway Administration, U. S. Department of Transportation, 400 Seventh Street S W, Washington, DC 20590, (202)- 366-0106, Report # FHWA-HEP-99-006,

[www.fhwa.dot.gov](http://www.fhwa.dot.gov)

***Guide for the Development of Bicycle Facilities:*** This publication, developed by American Association of State and Highway Transportation Officials (AASHTO), provides information on the design of shared-use paths, bike lanes, paved shoulders, and shared roadways. 1999 American Association of State and Highway Transportation Officials, 444 North Capitol Street NW, Suite 249, Washington, DC 20001, (202)-624-5800, Publication # GBF-3, ISBN 1-56051-102-8, [www.aashto.org](http://www.aashto.org)

***Pedestrian/Bicycle Safety Resource Set:*** This CD, published by FHWA, contains a library of information on how to improve pedestrian/bicyclist safety in communities. Included is information on facility design, planning, guidelines, good practices, and tools to aid in problem identification and countermeasures development. # FHWA A-SA-00-005 This product can be obtained by e-mailing your request to

[leverson.boodlal@fhwa.dot.gov](mailto:leverson.boodlal@fhwa.dot.gov).

***Traffic Calming:*** This CD, published by the Institute of Transportation Engineers (ITE), is a compilation of the most-effective traffic calming measures used to improve pedestrian safety. 1999, Institute of Transportation Engineers, 1099 Fourteenth Street NW, Suite 300W, Washington DC 20005, (202)-289-0222, extension 130 – publications, Item # CD-007, [www.ite.org](http://www.ite.org)