

# Implementation and Resources

## Chapter 7



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**Getting Started**

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Communities are asking that motor vehicle speeds be reduced on their neighborhood streets, that streets be made accessible to persons with disabilities, and that streetscapes be improved to make them more inviting to pedestrians. Some of the most important issues to the public are safety, access, and aesthetics. This chapter discusses some of the issues related to setting priorities and implementing needed pedestrian improvements.



## GETTING STARTED

“Getting started” can be daunting—the needs are overwhelming, resources are scarce, and staff time is limited. Every community is faced with the questions of “Where do I start?” and “How do I get going?” While it is not the intent of this guide to provide an exhaustive discussion of implementation strategies, some direction is useful.

### PRIORITIES

Since all pedestrian needs will not be able to be addressed immediately, project priorities need to be established. To create priorities requires several program objectives:

- **Safety**— One objective should be to reduce the number and severity of crashes involving pedestrians. To accomplish this will require: (1) a good understanding of the types of crashes that are occurring in your community, and (2) application of appropriate countermeasures to address these crashes. The information provided in this guide is intended to help select the countermeasures that will be most effective in addressing selected types of crash problems.
- **Access**— A second objective should be to create an accessible community where all pedestrians, includ-

ing those with disabilities, can reach their desired destinations. Typically, this begins with being able to walk safely along streets (i.e., sidewalks) and across streets at intersections and other appropriate locations.

- **Aesthetics**— It is not enough to simply have a safe, accessible community—it should also be an aesthetically pleasing place to live and work. Landscaping, lighting, and other pedestrian amenities help create a “livable community” and should be considered when making pedestrian improvements.

### ONE STEP AT A TIME

To create a safe, walkable community, take one step at a time. Sidewalks, curb bulb-outs, and other pedestrian improvements are installed intersection by intersection, block by block. Individually, they do not create a safe, livable community. Collectively, they create the infrastructure needed for a great place to work, play, and do business. In other words, the whole pedestrian system is greater than the sum of its parts.

### COMMUNITY CONCERNS

Be very sensitive to community concerns. Public participation will build community pride and ownership that is essential to long-term success. Some of the problems identified in this guide will not be an issue in your community and some of the tools may be perceived as too expensive (at least initially). There probably will be measures that your community puts on hold for a few years until a community consensus is reached. Conversely, there probably will be measures that your community would like to pursue that are not even mentioned in this planning guide.



## CONSTRUCTION STRATEGIES

There are many ways to accomplish projects. Be creative; take advantage of opportunities as they present themselves. Here are some suggestions:

### REGULATION OF NEW DEVELOPMENT AND REDEVELOPMENT

Developers can be required to install public infrastructure such as sidewalks, curb ramps, and traffic signals. In addition, zoning requirements can be written to allow for or require narrower streets, shorter blocks, and mixed-use development. Encouraging developers and community leaders to focus on basic pedestrian needs will benefit the community and increase the attractiveness of the developments themselves.

### ANNUAL PROGRAMS

Consider expanding/initiating annual programs to make small, visible improvements. Examples include sidewalk replacement programs, curb-ramp programs, annual tree-planting programs, etc. This creates momentum and community support. Several considerations should be made when developing these programs:

- Give priority to locations that are used by school-children, the elderly, those with disabilities, and locations that provide access to transit.
- Consider giving preference to requests from neighborhood groups, especially those that meet other priorities, such as addressing a crash problem.
- Evaluate your construction options. Consider having city crews do work requested by citizens to provide fast customer service while bidding out some of the staff-generated projects.

### CAPITAL PROJECTS

“Piggybacking” pedestrian improvements onto capital projects is one of the best ways to make major improvements in a community. Sidewalks, pedestrian ramps, landscaping, lighting, and other amenities can be included in road projects, utility projects, and private construction in public rights-of-way (e.g., cable television, high-speed fiber optics, etc.). To accomplish this, there are several things that can be done:

- Contact all State and regional agencies, and local public and private utilities that do work in public rights-of-way. Secure their 5-year project plans as well as their long-range plans. Then, work with them to make sure that the streets are restored in the way that works for your city.
- Look internally at all capital projects. Make sure that

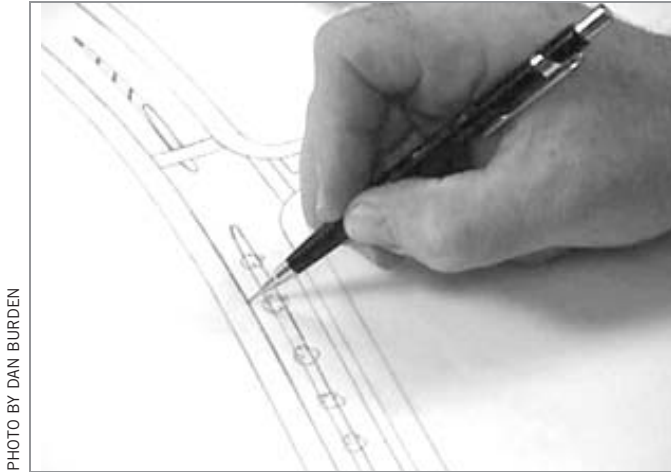


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### DELIVERABLES

It is very important to produce immediate deliverables that people can see. For example, a new section of sidewalk or a freshly painted crosswalk is visible, while a transportation plan is a paper document that may never be seen or appreciated by the public. To keep its momentum, a program needs some “quick wins.” They create the sense that something is happening and that government is responsive.

### ADDITIONAL RESOURCES

The Walkability Checklist can quickly identify some of the more obvious deficiencies in your community.

<http://www.rwjf.org/news/video/walkabilityTV.jhtml>

Another useful tool to get things started is to host a walkability audit in your community.

<http://www.walkable.org/services/wcaudit.htm>

Access issues: A good introduction to accessibility and universal design.

<http://www.fhwa.dot.gov/environment/bikeped/access-1.htm>

A more comprehensive set of guidelines for achieving full accessibility from the US Access Board:

<http://www.access-board.gov/news/proaac.htm>

Aesthetics: California’s Local Government Commission has some great resources on street design and livability.

<http://www.lgc.org/transportation/street.html>

<http://www.lgc.org/center/index.html>

every opportunity to make improvements is taken advantage of at the time of construction.

- Consider combining small projects with larger capital projects as a way of saving money. Generally, bid prices drop as quantities increase.

### **PUBLIC/PRIVATE PARTNERSHIPS**

Increasingly, public improvements are realized through public/private partnerships. These partnerships can take many forms. Examples include: Community Development Corporations, neighborhood organizations, grants from foundations, direct industry support, and involvement of individual citizens. In fact, many public projects, whether they are traffic-calming improvements, street trees, or the restoration of historic buildings, are the result of individual people getting involved and deciding to make a difference. This involvement doesn't just happen, it needs to be encouraged and supported by local governmental authorities.

### **ADDITIONAL RESOURCES**

Cities such as Seattle, WA, Portland, OR, and Cambridge, MA, have adopted plans and procedures to ensure that pedestrian improvements become a routine activity in new development projects, reconstruction work, and retrofits.

City of Cambridge

<http://www.ci.cambridge.ma.us/~CDD/enviro-trans/walking/index.html>

City of Portland

<http://www.trans.ci.portland.or.us/pedestrians/default.htm>

City of Seattle

<http://www.seattle.gov/transportation/pedestrian.htm>

## **FUNDING**

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Pedestrian projects and programs can be funded by federal, State, local, private, or any combination of sources. A summary of federal pedestrian funding opportunities can be viewed at <http://www.fhwa.dot.gov/environment/bikeped/bp-broch.htm#funding>. Communities that are most successful at securing funds often have the following ingredients of success:

- **Consensus on Priorities**— Community consensus on what should be accomplished increases the likelihood of successfully funding a project. A divided or uninvolved community will find it more difficult to raise funds than a community that gives

broad support to pedestrian improvement programs.

- **Dedication**— Funding a project is hard work; usually, there are no shortcuts. It usually takes a great amount of effort by many people using multiple funding sources to complete a project successfully. Be aggressive; apply for many different community grants. While professional grant-writing specialists can help, they are no substitute for community involvement and one-on-one contact (the “people part” of fund raising).
- **Spark Plugs (Change Agents)**— Successful projects typically have one or more “can do” people in the right place at the right time, who provide the energy and vision to see a project through. Many successful “can do” politicians get their start as successful neighborhood activists.
- **Leveraging**— Funds, once secured, should always be used to leverage additional funds. For example, a grant from a local foundation could be used as the required match for a Transportation Equity Act for the 21st Century (TEA-21) Enhancement grant.

### **ADDITIONAL RESOURCES**

America Walks, a national coalition of pedestrian advocacy groups, has developed a variety of resources that focus on results and implementation.

<http://www.americawalks.org/resources/index.htm>

## WEB SITES

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There are dozens of web sites that contain information on pedestrian safety and mobility. The Pedestrian and Bicycle Information Center (PBIC) maintains an up-to-date list of national and international government agencies, state and local government agencies, professional organizations, advocacy groups, and other sites as listed in the following sections. Refer to <http://www.walkinginfo.org/links> for the latest information.

### GOVERNMENT AGENCIES AND OFFICES

Danish Road Directorate

<http://www.vejdirektoratet.dk/roaddirektorat.asp?page=dept&objno=1024>

Federal Highway Administration (FHWA)

<http://www.fhwa.dot.gov>

FHWA Office of Highway Safety

<http://safety.fhwa.dot.gov>

FHWA/NHTSA National Crash Analysis Center

<http://www.ncac.gwu.edu>

House Committee on Transportation and Infrastructure

<http://www.house.gov/transportation>

National Highway Traffic Safety Administration (NHTSA)

<http://www.nhtsa.dot.gov>

Transportation Association of Canada

<http://www.tac-atc.ca>

U.S. Architectural and Transportation Barriers Compliance Board (Access Board)

<http://www.access-board.gov>

U.S. Department of Transportation (U.S. DOT)

<http://www.dot.gov>

### GOVERNMENT PROGRAMS AND INITIATIVES

FHWA Bicycle and Pedestrian Program

<http://www.fhwa.dot.gov/environment/bikeped>

FHWA Pedestrian and Bicycle Safety Research Page

<http://www.tfhr.gov/safety/pedbike/pedbike.htm>

FHWA Pedestrian/Bicyclist Crash Analysis Tool (PBCAT)

<http://www.walkinginfo.org/pc/pbcats.htm>

NHTSA Fatality Analysis Reporting System (FARS)

<http://www-fars.nhtsa.dot.gov/main.cfm>

NHTSA Pedestrian Safety Toolkit Resource Catalog

<http://safety.fhwa.dot.gov/fourthlevel/pdf/G014-031ResourceCatalog.pdf>

NHTSA Pedestrians, Bicycles, and Motorcycles Pages

<http://www.nhtsa.dot.gov/people/injury/pedbimot/ped>

<http://www.nhtsa.dot.gov/people/injury/pedbimot/bike>

<http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle>

<http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle>

<http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle>

<http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle>

Office of Highway Safety Pedestrian/Bicyclist Safety Program

[http://safety.fhwa.dot.gov/programs/ped\\_bike.htm](http://safety.fhwa.dot.gov/programs/ped_bike.htm)

Pedestrian and Bicycle Information Center (PBIC)

Web Sites

<http://www.pedbikeinfo.org>

<http://www.walkinginfo.org>

<http://www.bicyclinginfo.org>

<http://www.pedbikeimages.org>

<http://www.iwalktoschool.org>

<http://www.walktoschool.org>

Pedestrian Safety Roadshow

<http://safety.fhwa.dot.gov/roadshow/walk>

Transportation Equity Act for the 21st Century (TEA-21)

<http://www.fhwa.dot.gov/tea21>

Walkability Checklist

<http://www.rwjf.org/news/video/walkabilityTV.jhtml>

<http://www.rwjf.org/news/video/walkabilityTV.jhtml>

### PROFESSIONAL ORGANIZATIONS

American Association of State Highway and Transportation Officials (AASHTO)

<http://www.transportation.org/aashto/home.nsf/FrontPage>

<http://www.transportation.org/aashto/home.nsf/FrontPage>

American Planning Association (APA)

<http://www.planning.org/>

American Public Works Association

<http://www.apwa.net/>

American Traffic Safety Services Association

<http://www.atssa.com/>

Association of Pedestrian and Bicycle Professionals (APBP)

<http://www.apbp.org/>

Bicycle Federation of America/National Center for Bicycling and Walking

<http://www.bikewalk.org/>

Human-Powered Transportation Committee of the American Society of Civil Engineers

<http://www.ascehpt.homestead.com/>

Institute of Transportation Engineers

<http://www.ite.org/>

League of American Bicyclists  
<http://www.bikeleague.org/>

National Center for Bicycling and Walking  
<http://www.bikewalk.org/>

National Safety Council  
<http://www.nsc.org/>

Partnership for a Walkable America  
<http://www.walkableamerica.org>

Transportation Research Board  
<http://www.trb.org/>

### **OTHER ORGANIZATIONS (INCLUDING ADVOCACY ORGANIZATIONS)**

AAA Foundation for Traffic Safety  
<http://www.aaafoundation.org/home/>

America Walks  
<http://www.americawalks.org>

American Council of the Blind — Pedestrian Safety-  
<http://www.acb.org/pedestrian>

Bicycle Helmet Safety Institute  
<http://www.bhsi.org>

Better Environmentally Sound Transportation  
<http://www.best.bc.ca>

Chainguard — Bicycle Advocacy Online  
<http://probicycle.com/>

Conservation Law Foundation  
<http://www.clf.org>

Massachusetts Bicycle Coalition  
<http://www.massbike.org>

National Transportation Enhancements Clearinghouse  
<http://www.enhancements.org>

Partnership for a Walkable America  
<http://www.walkableamerica.org>

Pedestrians Educating Drivers on Safety, Inc. (PEDS)  
<http://www.peds.org>

Rails to Trails Conservancy  
<http://www.railtrails.org>

Surface Transportation Policy Project  
<http://www.transact.org>

Transportation Alternatives Citizens Group (New York City Area)  
<http://www.transalt.org>

Travis County (Austin, TX) SuperCyclist Project  
<http://www.ci.austin.tx.us/bicycle/super.htm>

Tri-State Transportation Campaign (New York/New Jersey/Connecticut)  
<http://www.tstc.org>

Vermont Bicycle and Pedestrian Coalition  
<http://www.vtbikeped.org>

Victoria Policy Institute  
<http://www.vtppi.org>

WALK Austin  
<http://www.io.com/~snm/walk>

Walkable Communities, Inc.  
<http://www.walkable.org/>

### **LOCAL/STATE SITES**

City of Boulder, CO, Transportation Planning  
<http://www3.ci.boulder.co.us/publicworks/depts/transportation.html>

City of Cambridge, MA, Environmental and Transportation Division  
<http://www.cambridgema.gov/~CDD/envirotrans>

City of Portland, OR, Pedestrian Transportation Program  
<http://www.trans.ci.portland.or.us>

City of Tallahassee, FL, Bicycle and Pedestrian Program  
<http://talgov.com/citytlh/planning/trans/bikeped/transbp.html>

Florida Department of Transportation Pedestrian and Bicycle Safety Program  
[http://www.dot.state.fl.us/Safety/ped\\_bike/ped\\_bike.htm](http://www.dot.state.fl.us/Safety/ped_bike/ped_bike.htm)

Missouri Department of Transportation Bicycle/Pedestrian Program  
<http://www.modot.state.mo.us/othertransportation/bicyclepedestriangeneralinformation.htm>

Montgomery County, MD, Residential Traffic-Calm-ing Program  
<http://www.dpwt.com/TraffPkgDiv/triage.htm>

New York City Department of Transportation Pedestrian Information  
<http://www.nyc.gov/html/dot/home.html>

Oregon Department of Transportation Bicycle and Pedestrian Program  
<http://www.odot.state.or.us/techserv/bikewalk/>

Wisconsin Department of Transportation Bicycle and Pedestrian Information  
<http://www.dot.wisconsin.gov/modes/pedestrian.htm>

### **PEDESTRIAN AND BICYCLE LINK PAGES**

Bicycle advocacy websites provided by Chainguard-  
<http://probicycle.com/mainnet.html>

Bicycle education and safety sites provided by Chainguard  
<http://probicycle.com/mainedu.html>

Bicycling sites provided by Cyber Cyclery  
<http://www.cyclery.com/directories>

Pedestrian and bicycle sites provided by TransAct  
[http://www.transact.org/issues/intro\\_hss.asp](http://www.transact.org/issues/intro_hss.asp)

Pedestrian issues and organization provided by PEDS  
<http://www.peds.org/links.htm>

State bicycle laws provided by Bicycle Coalition of Massachusetts  
<http://www.massbike.org/bikelaw>

## PEDESTRIAN AND BICYCLE STUDIES AND STATISTICS

Bike Plan Source Hot Topics provided by Tracy-Williams Consulting  
<http://www.bikeplan.com/traxq.htm>

BTS National Transportation Library Links to Bike/Pedestrian Transportation Research  
[http://www.transtats.bts.gov/Databases.asp?Mode\\_ID=7&Mode\\_Desc=Bike/Pedestrian&Subject\\_ID2=0](http://www.transtats.bts.gov/Databases.asp?Mode_ID=7&Mode_Desc=Bike/Pedestrian&Subject_ID2=0)

Bureau of Transportation Statistics  
<http://www.bts.gov>

Consumer Product Safety Commission Recreational Safety Publications  
[http://www.cpsc.gov/cpscpub/pubs/rec\\_sfy.html](http://www.cpsc.gov/cpscpub/pubs/rec_sfy.html)

National Bicycling and Walking Study Five-Year Status Report  
<http://www.fhwa.dot.gov/environment/bikeped/study.htm>

Nationwide Personal Transportation Survey  
<http://www.fhwa.dot.gov/policy/ohpi/nhts/index.htm>

Northwestern University Traffic Institute  
<http://server.traffic.northwestern.edu/>

PedSMART — Application ITS Technology to Pedestrian Safety  
<http://www.walkinginfo.org/pedsmart/home.htm>

University of Michigan Transportation Research Institute  
<http://www.umich.edu/~industry/pedvis.html>

University of North Carolina Highway Safety Research Center  
<http://www.hsrc.unc.edu/>

## GUIDES, HANDBOOKS AND REFERENCES

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There are a significant number additional resources related to the topic of pedestrian safety and mobility. Provided in this section are many of the national and international guides, practitioner handbooks, research reports, and other general references.

### DOMESTIC GUIDES AND HANDBOOKS

American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, Washington, DC, 2001.

American Association of State Highway and Transportation Officials, *Guide for the Development of Bicycle Facilities*, Washington, DC, 1999.

American Association of State Highway and Transportation Officials, *Guide Specifications for Bridge Railings*, Washington, DC, 1989.

American Association of State Highway and Transportation Officials, *Roadway Design Guide*, 3<sup>rd</sup> Edition, Washington, DC, 2002.

American Association of State Highway and Transportation Officials, *Standard Specifications for Highway Bridges*, 17<sup>th</sup> Edition, Washington, DC, 2002.

American Planning Association, *Bicycle Facility Planning*, Planning Advisory Service Report 459, Chicago, IL, 1995.

Axelson, P.W., D.A. Chesney, D.V. Galvan, J.B. Kirschbaum, P.E. Longmuir, C. Lyons, and K.M. Wong, *Designing Sidewalks and Trails for Access, Part I of II: Review of Existing Guidelines and Practices*, Federal Highway Administration, Washington, DC, 1999, available online at <http://www.fhwa.dot.gov/environment/bikeped/access-1.htm>, accessed June 10, 2004.

Bowman, B.L., J.J. Fruin, and C.V. Zegeer, *Handbook on Planning, Design, and Maintenance of Pedestrian Facilities*, Report No. FHWA-IP-88-019, Federal Highway Administration, Washington, DC, March 1989.

Federal Highway Administration, *Implementing Pedestrian Improvements at the Local Level*, Washington, DC, 1998.

Federal Highway Administration, *Manual on Uniform Traffic Control Devices for Streets and Highways*, Washington, DC, 2003, available online at <http://mutcd.fhwa.dot.gov>, accessed August 2, 2004.

- Federal Highway Administration, *Pedestrian/Bicyclist Safety Resource Set* (CD-ROM), Report No. FHWA-SA-00-005, U.S. Department of Transportation, 2000, available online at <http://safety.fhwa.dot.gov/fourthlevel/newprod.htm#set>, accessed April 24, 2004.
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- Florida Department of Transportation, *Florida School Crossing Guard Training Guidelines*, available online at [http://www.dot.state.fl.us/Safety/ped\\_bike/brochures/pdf/xingguard.pdf](http://www.dot.state.fl.us/Safety/ped_bike/brochures/pdf/xingguard.pdf).
- Harkey, D., J. Mekemson, M. Chen, and K. Krull, *Pedestrian and Bicycle Crash Analysis Tool (PBCAT) User's Manual*, Report No. FHWA-RD-99-192, Federal Highway Administration, Washington, DC, June 2000.
- Hawley, L., C. Henson, A. Hulse, and R. Brindle, *Towards Traffic Calming: A Practitioners' Manual of Implemented Local Area Traffic Management and Blackspot Devices*, Report No. CR 126, Federal Office of Road Safety, Canberra, Australian Capital Territory, Australia, 1992.
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- Institute of Transportation Engineers, *Guidelines for Urban Major Street Design: An ITE Recommended Practice*, Washington, DC, 1984.
- Institute of Transportation Engineers, *The Traffic Safety ToolBox: A Primer on Traffic Safety*, Washington, DC, 1994.
- Institute of Transportation Engineers, *Traditional Neighborhood Development Street Design Guidelines: Recommended Practice*, Washington, DC, 1999.
- Institute of Transportation Engineers, *Traffic Engineering Handbook*, Prentice Hall, Englewood Cliffs, NJ, 1999 (draft).
- Institute of Transportation Engineers, *Transportation and Traffic Engineering Handbook*, Washington, DC, 1990.
- Karplus, K., *Guidelines for Choosing a Safe Bicycle Route to School*, available online at <http://www.cse.ucsc.edu/~karplus/bike/safe-route-to-school.html>, accessed April 06, 2004.
- Kirschbaum, J.B., P.W. Axelson, P.E. Longmuir, K.M. Mispagel, J.A. Stein, and D.A. Yamada, *Designing Sidewalks and Trails for Access, Part II of II: Review of Existing Guidelines and Practices*, Federal Highway Administration, Washington, DC, 2001, available online at <http://www.fhwa.dot.gov/environment/sidewalk2/>, accessed June 10, 2004.
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- Oregon Department of Transportation, *Oregon Bicycle and Pedestrian Plan*, 1995.
- Planning Division, *Median Handbook*, Florida Department of Transportation, Tallahassee, FL, 1997, available online at [http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/mhb\\_2.pdf](http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/mhb_2.pdf), accessed April 23, 2004.
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- <http://www.walkinginfo.org/aps>, accessed August 2, 2004.
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