This report is the next generation of the Pedestrian Facilities User Guide – Providing Safety and Mobility. It includes an update of 47 engineering countermeasures or treatments, along with education and enforcement programs, that may be implemented to improve pedestrian safety and mobility. Included in this version are 71 case studies that illustrate these concepts applied in practice in a number of communities throughout the United States.

The most significant enhancement is the integration of the countermeasures and case studies into an expert system known as PEDSAFE. This system and the content of this guide are included on the enclosed CD and are available on-line at http://safety.fhwa.dot.gov/pedsafe and at www.walkinginfo.org/pedsafe. The system allows the user to refine their selection of treatments on the basis of site characteristics, such as geometric features and operating conditions, and the type of safety problem or desired behavioral change. The purpose of the system is to provide the most applicable information for identifying safety and mobility needs and improving conditions for pedestrians within the public right-of-way. PEDSAFE is intended primarily for engineers, planners, safety professionals, and decisionmakers, but it may also be used by citizens for identifying problems and recommending solutions for their communities.

Pedestrian Facilities User Guide – Providing Safety and Mobility was authored by Charles V. Zegeer, Cara Seiderman, Peter Lagerwey, Mike Cyneki, Michael Ronkin, and Robert Schneider.
## APPROXIMATE CONVERSIONS TO SI UNITS

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**NOTE:** volumes greater than 1000 mL shall be shown in m³

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## APPROXIMATE CONVERSIONS FROM SI UNITS

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*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380. (Revised March 2003)*
Acknowledgments

The authors of this report thank the many individuals who contributed to the production of the case studies included in Chapter 6. The specific persons are identified on the first page of each study. We also recognize the Association of Pedestrian and Bicycle Professionals for their efforts in soliciting many of these case studies.

We thank the panel of practitioners with whom we met at the outset of the project to define the goals and objectives for the PEDSAFE product, including:

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City of Phoenix
Street Transportation Department

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Seattle Department of Transportation

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Montgomery County, Maryland
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(formerly with Florida Department of Transportation)

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Community Development Department

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Public Works Department

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Feet First

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Bicycle Alliance of Washington

Rich Meredith
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Public Works Department

Mike Oriero
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Public Works Department

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Highways and Local Programs

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Seattle Department of Transportation
Bicycle and Pedestrian Program

We also express our appreciation to Barbara McMillen (FHWA Office of Civil Rights) and Lois Thibault (U.S. Access Board) for their reviews of the product.
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The recently published Pedestrian Facilities User Guide—Providing Safety and Mobility provided descriptions of 47 unique engineering countermeasures or treatments that may be implemented to improve pedestrian safety and mobility. Included for each of the 47 treatments were a general description, purpose or objective, considerations for implementation, and estimated costs. While that level of information alone is useful to engineers, planners, and other safety professionals, the guide also included two matrices that related the 47 treatments (plus two additional countermeasures of education and enforcement) to specific performance objectives and specific types of collisions. These matrices provide the practitioner with the ability to select the most appropriate treatment(s) if they have a well-defined crash problem or are trying to achieve a specific change in behavior.

This report is the next generation of the information just described. It includes an update of the content of the first version along with case studies that illustrate these concepts applied in practice in a number of communities throughout the United States. The most significant enhancement is the integration of the countermeasures and case studies into an expert system known as PEDSAFE. This system and the content of this guide are included on the enclosed CD and are available online at http://safety.fhwa.dot.gov/pedsafe and at www.walkinginfo.org/pedsafe. The system allows the user to refine their selection of treatments on the basis of site characteristics, such as geometric features and operating conditions, and the type of safety problem or desired behavioral change. The purpose of the system is to provide the most applicable information for identifying safety and mobility needs and improving conditions for pedestrians within the public right-of-way. PEDSAFE is intended primarily for engineers, planners, safety professionals, and decisionmakers, but it may also be used by citizens for identifying problems and recommending solutions for their communities.

Chapter 1: The Big Picture gives an overview on how to create a safe, walkable environment. Chapter 2: Pedestrian Crash Statistics describes basic pedestrian crash trends and statistics in the U.S. Chapter 3: Selecting Improvements for Pedestrians discusses the approaches to select the most appropriate countermeasures. One approach is based on the need to resolve a known safety problem, while the other is based on the desire to change behaviors of motorists and/or pedestrians.

Chapter 4: The Expert System describes the Web/CD application, including a description of the overall content and step-by-step instructions for use. Chapter 5: The Countermeasures contains the details of 49 engineering, education, and enforcement treatments for pedestrians. These improvements relate to pedestrian facility design, roadway design, intersection design, traffic calming, traffic management, signals and signs, and other measures. In Chapter 6: Case Studies are the 71 examples of implemented treatments in communities throughout the U.S.

Further resources are provided in Chapter 7: Implementation and Resources, including sections on community involvement in developing priorities, devising strategies for construction, and raising funds for pedestrian improvements. A list of useful web sites, guides, handbooks, and other references is also provided.

There are also several appendices with supporting materials. Appendix A includes an assessment form that can be used in the field to collect the information needed to effectively use the expert system. Appendix B provides a detailed matrix showing the specific countermeasures that are associated with each of the 71 case studies. The last two appendices provide recommended guidelines for the installation of sidewalks/walkways (Appendix C) and crosswalks (Appendix D).