



The Center for Transportation and the Environment
North Carolina State University

NATIONAL TELECONFERENCE SERIES

Program No. TC-39:
Bicycle/Pedestrian
Planning Strategies:
From SAFETEA-LU to
Safe Routes to School

May 4, 2006
1:00 - 4:00 p.m., EDT

Broadcast Live From
Agency for Public Telecommunications
Raleigh, North Carolina

CTE is a USDOT university transportation center located at:

The Institute for Transportation Research and Education
North Carolina State University, Centennial Campus
Box 8601, Raleigh, NC 27695-8601
Phone: (919) 515-8899
Fax: (919) 515-8898
cte.ncsu.edu

TABLE OF CONTENTS

Final Agenda.....3

Panelist Profiles4

Panelist Address Information.....7

Question/Comment Sheet8

CTE Teleconference Evaluation.....9

Bibliography of Published Literature/Web Sites on
Bicycle/Pedestrian Planning Strategies: From
SAFETEA-LU to Safe Routes to School.....10

AGENDA

Bicycle/Pedestrian Planning Strategies: From SAFETEA-LU to Safe Routes to School

May 4, 2006 (1:00 - 4:00 p.m., EDT)

| TIME | TOPICS | PRESENTERS | AUDIOVISUALS |
|-------------|---|---|--|
| 1:00 - 1:05 | CTE Welcome/Introduction of Moderator | Katie McDermott, CTE | |
| 1:05 - 1:10 | Program Overview & Introduction of Cindy Burbank | Mary Meletiou, ITRE (Moderator) | |
| 1:10 – 1:13 | Welcome and Opening Remarks | Cindy Burbank, FHWA | Pre-recorded Video |
| 1:13 – 1:15 | Introduction of Panel (Hour One) | Mary Meletiou, ITRE | |
| 1:15 – 1:35 | Bike/Ped Provisions of SAFETEA-LU <ul style="list-style-type: none"> • General Overview • Planning-Oriented Provisions | John Fegan, FHWA Larry Anderson, FHWA | PowerPoint |
| 1:35 – 2:00 | Panel Discussion & Audience Q&A | Panel w/Audience | |
| 2:00 – 2:10 | Break! | | |
| 2:10 – 2:12 | Welcome Back, Panel Intro (Hour Two) | Mary Meletiou, ITRE | |
| 2:12 – 2:42 | Safe Routes to School (SRTS) <ul style="list-style-type: none"> • Overview of New Legislation, Implementation Guidelines for States • CDC Support of SRTS and Commitment to Children’s Physical Activity • SRTS Project Case Study: Keys to Success | Tim Arnade, FHWA Sarah Martin, CDC Lee Kokinakis, Michigan Fitness Foundation | PowerPoint PowerPoint PowerPoint |
| 2:42 – 3:00 | Panel Discussion & Audience Q&A | Panel w/Audience | |
| 3:00 – 3:10 | Break! | | |
| 3:10 – 3:12 | Welcome Back, Panel Intro (Hour Three) | Mary Meletiou, ITRE | |
| 3:12 – 3:32 | Bike/Ped Planning Initiatives <ul style="list-style-type: none"> • How to Develop a Pedestrian Safety Action Plan • North Carolina Bicycle/Pedestrian Planning Grant Initiative | Charlie Zegeer, HSRC Tom Norman, NCDOT | PowerPoint PowerPoint |
| 3:32 – 3:42 | Panel Discussion & Audience Q&A | Panel w/Audience | |
| 3:42 – 3:52 | National Bicycle and Walking Study: Ten-Year Status Report | John Fegan, FHWA | PowerPoint |
| 3:52 – 3:56 | Additional Resources, Next Steps | Mary Meletiou, ITRE | |
| 3:56 - 3:59 | CTE Wrap-Up & Credits | Katie McDermott, CTE | |
| 4:00 | Program Adjourns | | |

You can continue the discussion from this program in CTE’s “After The Program” discussion forum!
<http://cte.ncsu.edu/cte/techtransfer/teleconferences/forum.asp>

PANELIST PROFILES

Ms. Mary Meletiou (Moderator)

Bicycle/Pedestrian Program Manager, Institute for Transportation Research and Education, North Carolina State University (Raleigh, NC)

Mary Paul Meletiou is the bicycle and pedestrian program manager for the Institute for Transportation Research and Education, Public Transportation Group. She joined the staff in February 2003, having previously worked for the North Carolina Department of Transportation, Division of Bicycle and Pedestrian Transportation, since 1975. Ms. Meletiou is responsible for the development of many model programs and initiatives in the bicycle and pedestrian arena, and has a broad range of expertise and hands-on experience in bicycle and pedestrian policy, planning, education, design and technical assistance. She has been active both professionally and personally in promoting the planning and development of bicycle- and pedestrian-friendly communities. She has served on many local boards and committees, most notably as a member of the Capital Area Transit Authority for six years, serving as chair of the Marketing Committee for two years. She holds a B.A. in economics from the University of North Carolina at Greensboro

Ms. Cindy Burbank

Associate Administrator, Planning, Environment and Realty, Federal Highway Administration Headquarters, U.S. Department of Transportation (Washington, DC)

Cynthia J. Burbank has worked for the U.S. DOT for more than 30 years, at FAA, FTA, OST, and FHWA. A member of the Senior Executive Service since 1991, she currently serves as associate administrator for Planning, Environment, and Realty for FHWA. In this capacity, she supervises a staff of over 100, and oversees Federal policies, programs, and guidance for the acquisition of real property by all Federal agencies; FHWA's statewide, international, and metropolitan planning programs; and FHWA environmental programs and policies, including air quality conformity, wetlands, water quality, endangered species, livable communities, noise, historic preservation, environmental justice, NEPA, 4(f), CMAQ, Transportation Enhancements, TCSP, Scenic Byways, and Recreation Trails. She is a graduate of Georgetown University, with a degree in economics, Phi Beta Kappa, and Magna Cum Laude. She also attended Duke University and Boston University. At USDOT, Ms. Burbank has received over 20 awards, including the SES Meritorious Executive Award (twice, in 1997 and 2002), the DOT Silver Medal (twice), and the Eisenhower Medal.

Mr. John Fegan

Bicycle/Pedestrian Program Manager, FHWA Headquarters and Office of the Secretary, U.S. Department of Transportation (Washington, DC)

John Fegan is the bicycle and pedestrian program manager for FHWA and OST. He coordinates efforts of the various DOT and outside agencies relating to bicyclists and pedestrians as transportation users. He is responsible for implementing a number of the bicycle, pedestrian, and trails provisions of the new SAFETEA-LU legislation as they are administered by the States and metropolitan planning organizations (MPOs). Mr. Fegan has been with FHWA since 1972. After serving for 18 years in the Office of Research working on pedestrian and bicycle issues, he assumed his current position in 1991. Mr. Fegan is a member of the Human Factors Society and the Bicycle and the Pedestrian Committees of the Transportation Research Board. He is also a member of the ITE Bicycle and Pedestrian Council, and a member of the AASHTO Technical Committee on Non-Motorized Transportation. Mr. Fegan graduated with a bachelor of science degree from Georgetown University in 1971, and received a master's degree in human factors psychology from the Catholic University of America in 1972.

Mr. Larry Anderson

Planning Oversight and Stewardship Team Leader, Office of Planning, FHWA Headquarters, U.S. Department of Transportation (Washington, DC)

Larry Anderson has worked for FHWA since 1989 and assumed the duties of planning oversight and stewardship team leader in FHWA's Office of Planning in Washington, DC, on May 18, 2003. In this position, he leads a group responsible for developing and cascading program guidance to advance and support FHWA's stewardship and oversight of the statewide and metropolitan transportation planning processes, in collaboration with the Federal Transit Administration. In his career with FHWA, Mr. Anderson has also served as assistant division administrator in the FHWA Ohio Division Office (July 2000 to May 2003); planning and intermodal coordinator in the FHWA Florida Division Office (April 1995 to July 2000), where he led the group responsible for administering the transportation planning (statewide and metropolitan), intermodal, environment, and research portions of the Federal-aid Highway Program throughout Florida; regional air quality specialist in the FHWA Region IV Office in Atlanta, Georgia (January 1992 to April 1995), where he served as the key policy/technical advisor on the transportation/air quality planning provisions of the Federal-aid Highway Program (including the linkages to the 1990 Clean Air Act Amendments); and assistant planning and intermodal coordinator in the FHWA Florida Division Office (December 1990 to January 1992).

Mr. Tim Arnade

Program Manager, Safe Routes to School Program, Office of Safety, FHWA Headquarters, U.S. Department of Transportation (Washington, DC)

An avid cyclist turned runner, married to an avid walker, and with two young children that will walk to their neighborhood elementary and middle schools, Tim Arnade seems a natural fit to head up FHWA's new Safe Routes to School Program. Born and raised in Florida, he began his career in international development working for three years in the South Pacific. He has worked for over 20 years in Washington, DC, – first for the U.S. General Services Administration before transferring to FHWA. Prior to assuming his new Safe Routes to School duties, Mr. Arnade served as special assistant to the head of FHWA for seven years. He holds a bachelor's degree in geography from the University of South Florida and a master's degree in public administration from George Washington University. He resides in Arlington, VA with his wife and two young daughters.

Dr. Sarah Martin

Health Scientist, Physical Activity and Health Branch, Centers for Disease Control and Prevention (Atlanta, GA)

Dr. Sarah Levin Martin is a health scientist in the Physical Activity and Health Branch of the Centers for Disease Control and Prevention. In this capacity, she oversees the Kids Walk to School Program and is a member of the International Walk to School steering committee. Dr. Martin began her public health career in 1988 at the Pawtucket Heart Health Program as a school/community health educator. She was involved in the development and implementation of community-wide physical activity campaigns (such as Get Fit and Imagine Action). In the 1990s she lived and worked in New Mexico, working on federally-funded projects that included the promotion and measurement of physical activity among Native American youth. Dr. Martin earned her doctoral degree in epidemiology at the University of South Carolina School of Public Health in 1999. In January 2001, she joined the Physical Activity and Health Branch where she is now. To date, Dr. Martin has over 35 scientific publications on a variety of public health topics, specializing in physical activity, and including those addressing health disparities.

Dr. Lee Kokinakis

Director, Active School Environments and Safe Routes to School, Michigan Fitness Foundation, Governor's Council on Physical Fitness (Lansing, MI)

(Candance) Lee Kokinakis, Ph.D., is director of Active School Environments and Safe Routes to School (SRTS) at the Michigan Fitness Foundation, Governor's Council on Physical Fitness, in Lansing, Michigan. She oversaw the Michigan SRTS pilot project and was involved in the development of Michigan's *Safe Routes to School Handbook*. Prior to becoming involved in Safe Routes to School, Dr. Kokinakis directed the development of Michigan's Exemplary Physical Education Curriculum (EPEC) at the Foundation. The Michigan Fitness Foundation is a non-profit public charity foundation that carries out the policies and programs of the Governor's Council on Physical Fitness, working closely with the Michigan Department of Community Health. The Council and the Foundation are focused on preventing chronic disease and reversing the trend toward sedentary living by promoting the health benefits of physical activity and creating behavior-changing programs.

Dr. Charles Zegeer, P.E.

Associate Director, University of North Carolina Highway Safety Research Center, and Program Manager, HSRC Pedestrian and Bicycle Information Center (Chapel Hill, NC)

Dr. Charlie Zegeer's extensive experience studying bicycle and pedestrian safety led to his position as project manager of HSRC's new Pedestrian and Bicycle Information Center. Funded by a five-year, \$3 million grant from the U.S. Department of Transportation, the information center's goal is to connect communities with the resources they need to create safe places for walking and bicycling. At the heart of the new center are its two Web sites, www.walkinginfo.org and www.bicyclinginfo.org, which serve as integral resources for creating a world-wide information exchange. Recently, Dr. Zegeer was the principal investigator for a \$5.7 million research project funded by FHWA, which evaluated bicycle and pedestrian traffic designs and analyzed injuries to bicyclists and pedestrians. On staff at the HSRC since 1986, Dr. Zegeer has studied different areas of roadway safety and design, including evaluating locations with high-crash incidences, examining issues affecting large truck safety, and gauging the effectiveness of various traffic control devices. An active instructor in the field of highway safety, Dr. Zegeer has taught FHWA training courses in more than 20 states, instructed graduate-level courses at UNC-Chapel Hill, and made research presentations throughout the United States, Europe, and Canada. Before joining HSRC, Dr. Zegeer was a vice president at Goodell Grivas, Inc., a Michigan consulting firm, and previously worked with the Kentucky Department of Transportation. He is a registered professional engineer in Kentucky and Michigan.

Mr. Tom Norman

Director, Division of Bicycle and Pedestrian Transportation, North Carolina Department of Transportation (Raleigh, NC)

Tom Norman is the director of NCDOT's Division of Bicycle and Pedestrian Transportation, one of the oldest state DOT bike programs in the country and the most comprehensive in scope. The division is organized in three sections: Engineering, Planning, and Mapping/Safety Education. The division was recently recognized as the winner of FHWA's 2005 Environmental Excellence Award for Non-Motorized Transportation. Mr. Norman began working for NCDOT in 1986. In 1993 he became program manager for facilities. Mr. Norman was promoted to his current position in 2003. He has served on NCDOT task forces that developed *Traditional Neighborhood Development Street Guidelines* and *Bridge Policy*. He oversaw the development of the *North Carolina Bicycle Facilities Planning and Design Guidelines* and chaired a task force working to mainstream bicycling and walking in the planning, design, and operations activities of NCDOT. In 2003 Mr. Norman developed a funding opportunity through the N.C. General Assembly to begin a new bicycle and pedestrian planning grant program for municipalities. Prior to coming to NCDOT, Mr. Norman worked as an intern in a United Nations research institute located in Mexico. He obtained a bachelor's degree from UNC-Chapel Hill and a master's degree from NC State University. He has bicycle toured throughout the USA.

ADDRESS INFORMATION

Ms. Mary Meletiou (Moderator)
Program Manager, Bicycle and Pedestrian
Program, Institute for Transportation Research and
Education
North Carolina State University
Box 8601
Raleigh, NC 27695-8601
(919) 515-8771
mpmeleti@ncsu.edu

Ms. Cindy Burbank
Associate Administrator for Planning,
Environment, and Realty
Federal Highway Administration
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, DC 20590
(202) 366-6221
Cindy.Burbank@fhwa.dot.gov

Mr. John C. Fegan
Bicycle and Pedestrian Program Manager
Federal Highway Administration
HEPN-50, Room 3240
400 Seventh Street, S.W.
Washington DC 20590
(202) 366-5007
John.Fegan@fhwa.dot.gov

Mr. Larry D. Anderson
Planning Oversight and Stewardship
Team Leader, Office of Planning
Federal Highway Administration
400 Seventh Street, S.W.
Washington DC 20590
(202) 366-2374
Larry.D.Anderson@fhwa.dot.gov

Mr. Tim Arnade
Program Manager, Safe Routes to School
Office of Safety
Federal Highway Administration
400 Seventh Street, SW
Washington, DC 20590
(202) 366-2205
Tim.Arnade@fhwa.dot.gov

Dr. Sarah Martin
Health Scientist, Physical Activity and
Health Branch
Centers for Disease Control and Prevention
4770 Buford Highway, N.E. (MS-K-46)
Atlanta, GA 30341
(770) 488-5413
sjl2@cdc.gov

Dr. Lee Kokinakis
Director, Active School Environments and
Safe Routes to School
Governor's Council on Physical Fitness, Health
and Sports/Michigan Fitness Foundation
P.O. Box 27187
Lansing, MI 48909
(517) 347-7891
ckokinakis@michiganfitness.org

Dr. Charlie Zegeer, P.E.
Associate Director, Engineering and Planning;
Director, Pedestrian/Bicycle Information Center
University of North Carolina
Highway Safety Research Center
730 Airport Road, Suite 300
Campus Box 3430
Chapel Hill, NC 27599-3430
(919) 962-7801
zegeer@hsrc.unc.edu

Mr. Tom Norman
Director, Division of Bicycle and Pedestrian
Transportation
North Carolina Department of Transportation
1552 Mail Service Center
Raleigh, NC 27699-1552
(919) 715-2342
tnorman@dot.state.nc.us

QUESTION / COMMENT SHEET

Phone: 1-888-228-6736 (Toll Free)

Fax: 1-919-715-3569

Or you can email your questions/comments to: cte_email@ncsu.edu (please type "TC-39" in subject header)

Please check whether this is a comment or a question for the panelist(s).

Comment

Question for: _____

Would you like to state your question or comment on the air? ___YES ___NO

(If "YES," please write your phone number below and CTE will attempt to include you in the broadcast.)

Provide the following information.

Name: _____ Title: _____

Agency: _____

Site (City/State): _____ Phone (Current Location): _____

Fax: _____ Email: _____

*Please write your question or comment in **bold, legible print** in the box below.*

Trouble Line for C-Band Sites:
(919) 850-4565 or (919) 850-4563
(Please reference "CTE Teleconference" for proper assistance.)

CTE TELECONFERENCE EVALUATION

Please take a moment to complete this evaluation and return it to your downlink site coordinator. Your comments and suggestions are important to us. [NOTE: If you participated in this program *via the Internet*, please use the electronic evaluation form located on the CTE Web site at <http://www.itre.ncsu.edu/cte/TechTransfer/Teleconferences/evaluation.asp>] Thank you for your cooperation!

Downlink Site Location: (City) _____ (State) _____

Select the category which best describes your current place of work:

- a. Federal b. State c. Local/MPO d. University e. Private f. Other

Circle the letter(s) that apply and provide additional comments when possible.

1. Did the program content meet your expectations? (If you select C or D, please explain.)

- a. Excellent b. Good c. Fair d. Poor

2. Was the information presented well organized? (If you select C or D, please explain.)

- a. Excellent b. Good c. Fair d. Poor

3. The information I received from the teleconference will be:

- a. Extremely useful in my current job b. Somewhat useful c. Not useful at all

4. The best part(s) of this teleconference was:

- a. Panelist(s)' knowledge, experience, delivery
b. Printed materials and handouts
c. Visual aids
d. Interaction between panel and national audience
e. Use of real-world examples, case studies

5. The most needed improvement(s) to this teleconference are:

- a. Panelist(s)' knowledge, experience, delivery
b. Printed materials and handouts (Explain: _____)
c. Visual aids
d. Interaction between panel and national audience
e. Use of real-world examples, case studies

6. Was the downlink facility appropriate/comfortable for the teleconference?

- a. Excellent b. Good c. Fair d. Poor

7. What topics would you like to see developed for future teleconferences?

8. What overall suggestion(s) or comment(s) can you provide about this teleconference?

BIBLIOGRAPHY:
CTE National Teleconference (TC-39):
Bicycle/Pedestrian Planning Strategies: From SAFETEA-LU to
Safe Routes to Schools

The following bibliography represents a sampling of the published literature and/or Web sites relating to the program topic. The bibliographic references and abstracts were identified through a keyword search of several online databases and through a survey of the panelists. We hope you find these resources helpful. Publication source and ordering information are provided where available.

PUBLICATIONS

Planning and Design Resources

American's Attitudes Toward Walking and Creating Better Walking Communities. April 2003. A survey for the Surface Transportation Policy Project conducted by Belden Russonello & Stewart Research and Communications. 1320 19th Street, NW, Suite 700, Washington, DC 20036. Phone: 202.822.6090. Email: brs@brspoll.com.

In October 2002 Belden Russonello & Stewart conducted a random sample telephone survey of 800 adults, age 18 and older. The survey results document public support for better walking communities and specific policies such as designing streets for slower traffic speeds; using more federal dollars to make walking safer from traffic; and creating walking-friendly routes to school for children.

AASHTO, *Guide for the Development of Bicycle Facilities, 3rd Edition*, American Association of State Highway and Transportation Officials (Washington DC; 888-227-4860; www.aashto.org), 1999. Provides information on the development of new facilities to enhance and encourage safe bicycle travel. Planning considerations, design and construction guidelines, and operations and maintenance recommendations are included.

Barnes, Gary; Krizek, Kevin. 2005. *Tools for Predicting Usage and Benefits of Urban Bicycle Network Improvements*. Minnesota Department of Transportation, Report No. MN/RC-2005-50; 92p. This report gives a brief overview of four related small research projects. The full papers resulting from the projects are included as appendices. The four projects were related by the theme of bicycling preferences and behavior with regard to bicycling facilities. The studies were also connected by the fact that they were all based on information from the Twin Cities of Minneapolis and St. Paul, Minnesota. The four reports are: (1) Effect of Trails on Cycling, (2) Value of Bicycle Facilities to Commuters, (3) Effect of Facilities on Commute Mode Share, (4) Cycling Behavior Near Facilities. Generally speaking, the results support the notion that people value bicycle facilities, in that they are willing to incur additional time costs in order to use higher quality facilities. The presence of facilities also appears to be associated with higher amounts of riding, although the precise nature of the impact is still unclear.
<http://www.lrrb.org/PDF/200550.pdf>

Bicycle and Pedestrian Facility Design Courses. Developed by the Federal Highway Administration, U.S. Department of Transportation.

Pedestrian Facility Course:

<http://www.nhi.fhwa.dot.gov/coursedes.asp?coursernum=1066>

Bicycle Facility Course:

<http://www.nhi.fhwa.dot.gov/coursedes.asp?coursernum=1065>

Boroski, John; Seskin, Samuel N; Sweeney, Patrick. 2005. *Improving the Pedestrian Environment through Innovative Transportation Design*. Institute of Transportation Engineers, Publication No. IR-118. 58p. This report illustrates the rich and varied state of the practice in planning, designing and enhancing pedestrian infrastructure. The report contains a small sample of the ways transportation professionals and citizens have brought walking back into focus, not only in the capital budgets of government agencies but also in the lives of citizens, in communities large and small, across North America. The report has four

sections: Pedestrian Safety Awareness Programs; Pedestrian and Bicycle Bridges and Tunnels; Pedestrian and Bicycle Corridors; and Policies, Plans, Guidelines and Design Standards.

<http://www.ite.org/activeliving/ImprovingPedestrian.pdf>

Cottrell, Wayne D. and Dharminder Pal. 2003. "Evaluation of Pedestrian Data Needs and Collection Efforts." *Proceedings, 82nd Annual Meeting of the Transportation Research Board*.

One purpose of this paper is to evaluate the extent to which the pedestrian data collection efforts of transportation agencies in the U.S. are addressing pedestrian safety factors. A second purpose is to suggest how pedestrian data collection can be improved to facilitate the monitoring of these factors. Fifteen pedestrian safety issues are identified based on a literature review and examination of pedestrian vehicle crashes in Utah. A year 2001 survey of U.S. transportation agencies indicated that 45 (75%) of the 60 respondents were counting pedestrians at various locations. Hand counting, the recording of pushbutton usage, and video cameras were being used to collect data. Automated systems, such as position sensors and image processing, were not being used to count pedestrians. The usage of advanced data collection technologies is not critical to the resolution of pedestrian safety concerns, although permanent counting installations might increase data collection efficiency. Only four of the 15 pedestrian safety issues were specifically being addressed by the agencies' data collection efforts. The agencies' existing methods could, however, be used to target seven additional safety factors. The development of a pedestrian data monitoring guide is recommended; an outline is proposed. Several agencies admitted that pedestrian volumes did not affect the resultant treatments. Evidently, some transportation agencies could benefit from direction on how to relate pedestrian demand and behavior data to safety improvements.

http://www.ltrc.lsu.edu/TRB_82/TRB2003-000863.pdf

David L. Harkey, Donald W. Reinfurt, J. Richard Stewart, Matthew Knuiman and Alex Sorton, *The Bicycle Compatibility Index: A Level of Service Concept*, Federal Highway Administration. 1998. (www.hsrc.unc.edu/research/pedbike/bci)

The Economic Impact of Investments in Bicycle Facilities: A Case Study. North Carolina Department of Transportation, Division of Bicycle and Pedestrian Transportation. April 2004.

The Division of Bicycle and Pedestrian Transportation commissioned a study to examine the value of public investment in bicycle facilities. The northern Outer Banks region was selected because of the high levels of bicycling activities and the extensive system of bicycling facilities already in place. The results of the study showed bicycling activities have a substantial economic benefit on the area.

http://www.ncdot.org/transit/bicycle/safety/safety_economicimpact.html

Flexibility in Highway Design, 1997. Federal Highway Administration, U.S. Department of Transportation. HEPH 10, 400 Seventh Street, S.W., Washington, DC 20590. www.fhwa.dot.gov/environment/flex/index.htm

Hagelin, Christopher A. 2005. *A Return on Investment Analysis of Bikes-on-Bus Programs*. The National Center for Transit Research (NCTR) at the University of South Florida, Report No. NCTR 576-05; FDOT BD549-04: 96p.

As bikes-on-bus (BOB) programs become popular and demand increases, the typical rack capacity of only two bicycles per bus can limit the integration of bicycles and transit. The purpose of this project was to conduct a return on investment analysis of BOB programs, and to develop recommendations on how transit agencies can overcome rack capacity limitations. Fifteen transit agencies and over 200 BOB users were surveyed. Missing data, specifically the number of BOB boardings, made a rigorous return on investment analysis impracticable. However, the findings showed that transit agencies generally view the initial investment and operational costs of BOB programs to be minimal compared to the return on the investment. The BOB user survey results showed that BOB programs attract new patrons, encourage increased use of transit, and expand the transit service area. When faced with rack capacity limitations, the transit agencies have added three-bike capacity racks or have experimented with allowing bicycles in the bus. While added rack capacity and an effective bikes-in-bus (BIB) policy can improve the integration of bicycles and transit, it is recommended that transit agencies invest in a bike-to-transit strategy. The survey results showed that BOB users tend to bicycle a greater distance from their residence to the bus stop than between the bus stop and the work site. Therefore, this strategy is centered on the provision of bicycle parking at bus stops and transfer centers to accommodate BOB users that need their bicycle on only one

side of their transit trip. Bicycle parking at bus stops, specifically in residential areas, can ease the impact of rack capacity limitations and maximize the potential of the bicycle as a means to access transit.

<http://www.nctr.usf.edu/pdf/576-05.pdf>

Healthy Community Design: Success Stories from State and Local Leaders. December 2004. Active Living Leadership, San Diego State University.

This Active Living Leadership report profiles the notable efforts of elected and appointed government leaders who are supporting healthy community design across the nation.

<http://www.activelivingleadership.org/index.htm>

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.

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

Increasing Physical Activity Through Community Design: A Guide for Public Health Practitioners.

National Center for Bicycling and Walking. Washington, DC 20036. May 2002.

www.bikewalk.org/PubHealth.htm

Jones, E.G. 2004. *Final Report: Development of Rural Bicycle Compatibility Index*. Transportation Research Studies. NDOR Research Project Number SPR-PL-1(038) P533.

Level of Service (LOS) is a qualitative measure that describes the operation of motor vehicle traffic. LOS is defined using traffic characteristics such as speed, travel time, freedom to maneuver, and safety. A standard system for measuring LOS has been in use for many years in the description of motor vehicle traffic. In the area of bicycle transportation, no such standard currently exists. Many attempts at developing a LOS standard have been made for describing urban traffic, but no research has specifically focused on describing rural bicycle traffic. The development of a rural bicycle compatibility index (RBCI) is described. A recent Federal Highway Administration (FHWA) research project developed a BCI. This index was developed for urban and suburban roadway segments and incorporated those variables that bicyclists typically use to assess how compatible a roadway segment is for travel by bicycle. The FHWA BCI can be used by bicycle coordinators, transportation planners, traffic engineers, and others to evaluate existing facilities to determine what improvements may be required, as well as the geometric and operational requirements for new facilities to achieve the desired level of bicycle service. The objective of this thesis is to develop a rural equivalent of the BCI. Roadways in rural Nebraska were used to develop the RBCI. Although the specific results of this work are clearly applicable to Nebraska and other similar rural areas, the general methodology and concepts could easily be used to develop a more general RBCI that would have national applicability. An RBCI will provide bicycle coordinators, transportation planners, traffic engineers, and others the capability to better plan and design bicycle compatible roadways. Specifically, an RBCI model can be used for operational evaluation, design, and planning.

http://ntl.bts.gov/lib/24000/24800/24817/NDOR_Final_Report-RBCI.pdf

Lee, C.; Moudon, A.V. 2004. "Physical activity and environment research in the health field: Implications for urban and transportation planning practice and research." *Journal of Planning Literature*, Vol. 19, No. 2: 147-181.

Literature of concern to urban and transportation planning audiences that originated from the public health field is reviewed in this article. This literature addresses the environmental characteristics that influence physical activity, including walking and biking. It shows that physical activity is associated with objective and subjective measures of accessibility to recreational facilities and local destinations, as well as with neighborhood safety and visual quality. Walking and biking occur primarily in neighborhood streets and public facilities, suggesting that building walkable and bikable communities can address health as well as transportation concerns. The studies identify behavioral and environmental determinants of physical activity and employ rigorous data collection methods and theoretical frameworks that are new to the planning field. The article concludes that multidisciplinary research will likely yield promising results in identifying the aspects of environments that can be modified to encourage physical activity and physically active travel.

Litman, T. 2004. *Whose Roads? Defining Bicyclists' and Pedestrians' Right to Use Public Roadways*. Victoria Transport Policy Institute, 15p.

Drivers often assume that nonmotorized transportation users (pedestrians and cyclists) have less of a right to use public roads than motor vehicle drivers. This reflects the belief that roads are financed by motor vehicle drivers, and that motor vehicles are more important to society than nonmotorized transportation modes. This paper examines these assumptions. The paper finds that cyclists and pedestrians pay a significant amount of road costs; nonmotorized transportation modes have a legal right to use public roads; and walking and bicycling provide important transportation benefits. Although vehicle registration and fuel taxes (driver user fees) finance most highway expenses, the financing for local roads (the roads cyclists and pedestrians use most often) comes mainly from general taxes. Since walking and bicycling incur lower road costs than motorized transportation modes, people who primarily use nonmotorized modes often subsidize motorists and overpay their fair share of road costs.

<http://www.vtppi.org/whoserd.pdf>

Litman, Todd; Blair, Robin; Demopoulos, Bill et al. *Pedestrian and Bicycle Planning: A Guide to Best Practices*. April 1, 2003. Victoria Transport Policy Institute. 1250 Rudlin Street, Victoria, BC, V8V 3R7, CANADA. www.vtppi.org.

This guide covers all aspects of pedestrian and bicycle planning. It is intended for policy makers, planners, and advocates who want the best current information on ways to make their communities better places for walking and cycling. It provides basic information on various planning and design concepts, and offers extensive references to help implement them.

Manual on Uniform Traffic Control Devices, 1988. Federal Highway Administration (FHWA), Superintendent of Documents. P.O. Box 371954, Pittsburgh, PA 15250-7954. Includes standards for signing and marking both on-road and off-road bicycle facilities. Year 2000 edition will incorporate more bicycle and pedestrian standards.

Milazzo II, Joseph S. "Walkability, Level-of-Service, and the New Highway Capacity Manual". Transportation Research Board 80th Annual Meeting, Washington, DC, January 10, 2001. www.itre.ncsu.edu/highways/download/Walkability-2001.pdf

Moudon, Anne Vernez; Lee, Chanam; Cheadle, Allen D; Collier, Cheza W; Johnson, Donna; Schmid, Thomas L; Weather, Robert D. 2005. "Cycling and the Built Environment, a U.S. Perspective". *Transportation Research. Part D: Transport and Environment*, Vol. 10, No. 3: 245-261.

This paper examines the relationship between cycling and the built environment. This disaggregate cross-sectional study uses primary data on the cycling behavior of 608 randomly sampled respondents in urbanized King County, Washington, and objective parcel-level GIS measures of land use and infrastructure conditions. Binary logit model findings provide new insights on who bicycles, and on perceived and actual built environmental conditions associated with the likelihood of cycling in neighborhoods, controlling for sociodemographic variables. Findings show that 21% of the respondents report cycling at least once a week in their neighborhood, more often for recreation or exercise than for transportation. Cycling is more popular among male, younger adults, transit users, and those who are physically active and in good health. Both perceived and objective environmental conditions contribute to the likelihood of cycling. Proximity to trails and the presence of agglomerations of offices, clinics/hospitals, and fast food restaurants, measured objectively, are significant environmental variables. Previously researched correlates of cycling, such as the presence of bicycle lanes, traffic speed and volume, slope, block size, and the presence of parks, are found insignificant when objectively measured. A non-linear relationship is found between the odds of cycling and the perception of traffic problems and automobile-oriented facilities. Overall, results suggest that cycling is an individual choice that is independent from environmental support and is only moderately associated with the neighborhood environment. This finding likely reflects the limited bicycle infrastructure in the sample frame.

Moudon, Anne Vernez and Chanam Lee. 2003. "Walking and bicycling: An evaluation of environmental and audit instruments." *American Journal of Health Promotion*, Vol. 18, No. 1; 21-37.

This paper reviews existing environmental audit instruments used to capture the walkability and bikability of environments. The review inventories and evaluates individual measures of environmental factors used

in these instruments. It synthesizes the current state of knowledge in quantifying the built environment. The paper provides health promotion professionals an understanding of the essential aspects of environments influencing walking and bicycling for both recreational and transportation purposes. It serves as a basis to develop valid and efficient tools to create activity friendly communities.

<http://www.americantrails.org/resources/health/docs/AJHPWalkBikeAudit.pdf>

Nabti, Jumana; Ridgway, Matthew; and the ITE Pedestrian and Bicycle Council. *Innovative Bicycle Treatments: An Informational Report*. May 2002. Publication No. IR-114. 1000/AC/VG/0902. Institute of Transportation Engineers. www.ite.org.

National Bicycling and Walking Study (1994) FHWA-PD-94-023. FHWA developed a national plan of action to increase the use and safety of bicycling and walking in the United States.

Five Year Status Report – 1999

Presents the progress made in the first five years in implementing the Federal action plan of this national study.

www.fhwa.dot.gov/environment/bikeped/study.htm

Ten-Year Status Report – 2004

Presents progress report on the Federal action plan from 1999 to 2004.

www.fhwa.dot.gov/environment/bikeped/study/index.htm

Planning and Zoning News. Vol 24 No. 4, February 2006. Published by the Planning and Zoning Center, Michigan State University. This issue contains an in-depth article on Safe Routes to School in Michigan

Porter, Christopher; John Suhrbier, and William L. Schwartz. 1999. "Forecasting bicycle and pedestrian travel: State of the practice and research needs." *Transportation Research Record* 1674.

A review has been implemented on the state of the practice and research needs have been identified on methods for forecasting bicycle and pedestrian travel. The focus is on methods that forecast how many people will use a new bicycle or pedestrian facility or how many additional people will walk or bicycle in response to facility or network improvements. Overall, there appears to be a shortage of methods that practitioners with limited technical resources can use but are nonetheless accurate enough for planning purposes. In addition, existing research on the factors influencing the decision to walk or bicycle often has not been translated into usable forecasting methods. Three major recommendations are made. First, in the short term, a sketch-planning manual for bicycle and pedestrian forecasting is needed to give planners access to the basic data, tools, and methods required to estimate future demand. Second, further research is needed into specific factors influencing bicycle and pedestrian travel behavior, with an emphasis on identifying key factors that can be included in forecasting models. Third, bicycle and pedestrian considerations should be integrated into mainstream transportation models that traditionally have focused on vehicle travel. Inclusion of nonmotorized modes in travel models will improve capabilities for forecasting both motorized and nonmotorized travel and will help place bicycles and pedestrians on a "level playing field" with motorized modes in transportation planning.

<http://www.enhancements.org/trb%5C1674-013.pdf>

Rails to Trails Conservancy, *Improving Conditions for Bicycling and Walking; A Best Practices Report*, FHWA and Rails to Trails Conservancy, 1999. (FHWA 000011)

Rails-with-Trails: Lessons Learned – Literature Review, Current Practice, Conclusions. August 2002. Report No. FTA-MA-26-0052-04-1. Published by the U.S. Department of Transportation, Federal Highway Administration, Federal Railroad Administration, National Highway Traffic Safety Administration, and Federal Transit Administration. Available through Christopher Douwes, FHWA, 202.366.5013 or Christopher.douwes@fhwa.dot.gov.

Review of Planning Guidelines and Design Standards for Bicycle Facilities. 1997. An Informational Report of the Institute of Transportation Engineers. Publication No. IR-089. 500/GP/0397. ITE, 525 School Street, SW, Suite 410, Washington, DC 20024-2797. Phone 202.554.8050. The goals of this report are to define planning guidelines and design standards being used by states and localities to develop

bicycle facilities and to identify state-of-the-art practices that can be used as models by other communities to successfully develop these facilities.

Schneider, Robert James; Toole, Jennifer L.; Dunbar, Lakesha C.; Flink, Charles FASLA. 2006. *Avoiding Biased Interpretation of Bicycle Surveys: Comparing Results from Four Distribution Methods in Winston-Salem, North Carolina*. Transportation Research Board 85th Annual Meeting, 23p.

This paper describes how surveys are a common technique used by transportation agencies to gather information about the socioeconomic characteristics, behavior, and preferences of the traveling public. The purpose of this paper is to help agencies and researchers understand differences in bicycle survey results when different distribution techniques are used. This study analyzes a bicycle survey that was implemented by the City of Winston-Salem, NC in early 2005. The City distributed identical survey questions in four different ways. Comparative statistics are used to show that there were significant differences in responses by survey distribution method. Using four different methods of survey distribution allowed the City of Winston-Salem to: (1) gather feedback from a greater variety of citizens than using a single survey method; (2) target several key constituencies (people with significant interest in bicycle issues, bicyclists with less experience, and potential bicyclists); and (3) understand potential differences in the responses to certain survey questions based on the survey method used. Practitioners can use the results of this study to help select survey distribution methods that will gather the most credible and useful data for meeting their objectives. It will also help agencies draw more informed conclusions from bicycle survey results.

<http://policy.rutgers.edu/njbikeped/docslib/Avoiding%20Biased%20Interpretation%20of%20Bicycle%20Surveys-Comparing%20Results%20from%20Four%20Distribution%20Methods%20in%20NC.pdf>

Southworth, Michael. 2005. Designing the Walkable City. *Journal of Urban Planning and Development*, Vol. 131, No. 4; 246-257.

With federal policy beginning to shift from auto-centric planning, provision for pedestrian and bicycle access is now mandated in federally supported projects. However, the field of transportation planning has little in the way of theory and methods to guide design and planning for walkable cities. Walkability is increasingly valued for a variety of reasons. Not only does pedestrian transportation reduce congestion and have low environmental impact, it has social and recreational value. Recent research suggests that walking also promotes mental and physical health. The quality of the pedestrian environment is key to encouraging people to choose walking over driving. Six criteria are presented for design of a successful pedestrian network: (1) connectivity; (2) linkage with other modes; (3) fine grained land use patterns; (4) safety; (5) quality of path; and (6) path context. To achieve walkable cities in the United States it will be necessary to assess current walkability conditions, revise standards and regulations, research walking behavior in varied settings, promote public education and participation in pedestrian planning, and encourage collaboration and interdisciplinary education between transportation engineers and the design professions.

University of North Carolina, *A Compendium of Available Bicycle and Pedestrian Trip Generation Data in the United States*, Supplement to the National Bicycling and Walking Study, FHWA, USDOT, 1994.

Zegeer, Charles V. (Chair). *Design and Safety of Pedestrian Facilities, A Recommended Practice*, Institute of Transportation Engineers, Traffic Engineering Council Committee TENC-5A-5. March 1998. (202-554-8050; www.ite.org)

Zegeer, Charles V.; Seiderman, Cara; Lagerwey, Peter; et al. *Pedestrian Facilities Users Guide: Providing Safety and Mobility*. March 2002. Report No. FHWA-RD-01-102. U.S. Department of Transportation, Federal Highway Administration.

This report is part of a larger study for FHWA entitled "Evaluation of Pedestrian Facilities." The purpose of the users guide is to provide useful information on how to identify the safety and mobility needs of pedestrians within roadway rights-of-way. This guide is intended primarily for engineers, planners, safety professionals, and decision-makers, but it may also be used by citizens for identifying pedestrian tools to improve the safety and mobility of those who walk.

Safe Routes to School (SRTS) Resources

An Analysis of North Carolina Guidelines and Criteria for Establishing School Walk Zones. November 2001. Prepared for the North Carolina Department of Transportation, Division of Bicycle and Pedestrian

Transportation. Prepared by the Institute for Transportation Research and Education at North Carolina State University and the Highway Safety Research Center, University of North Carolina.
www.ncdot.org/transit/bicycle

Anderson, Craig; Marlon Boarnet; Tracy McMillan; Mariela Alfonzo; Kristen Day. 2002. *Walking and automobile traffic near schools: Data to support an evaluation of school pedestrian safety programs*. Report UCI-ITS-WP-02-17. Institute of Transportation Studies.

Pedestrian injuries among children are an important transportation issue. Several recent policy initiatives have focused on reducing childhood pedestrian injuries in the United States, yet those efforts exist within a context of limited and often insufficient data. This paper describes new data that can give much more detailed information on the determinants of pedestrian safety near schools. The data were developed to support an ongoing evaluation of a major childhood pedestrian safety program – the California Safe Routes to School construction program.

<http://www.its.uci.edu/its/publications/papers/WP-02-17.pdf>

Appleyard, Bruce S. 2003. Planning Safe Routes to School; "How Will My Child Get to and from School?" *Planning*, Vol. 69.

How do my kids get to school? That's one of the most fundamental transportation questions parents face. In 1969, according to the Federal Highway Administration, about half of all children ages five to 18 either walked or biked to school. By 2001, 85 percent of all children between five and 15 were chauffeured to school by either a parent or a bus driver. This change has had a disastrous effect on the morning commute and on the sense of community around schools. In Marin County, California, for example, it is estimated that 21 percent to 27 percent of peak morning traffic is school-related.

Boarnet, Marlon G; Day, Kristen; Anderson, Craig; McMillan, Tracy; Alfonzo, Mariela. 2005. "California's Safe Routes to School Program." *Journal of the American Planning Association*, Vol. 71, No. 3; 301-317.

In 1999, California implemented the first statewide Safe Routes to School (SR2S) construction program in the United States. The program funds traffic improvement projects designed to improve children's safety while walking and bicycling to school. This paper evaluates the impacts of 10 traffic improvement projects funded through the California SR2S program. Parent surveys and observations of vehicle and pedestrian traffic before and after project construction were used in the evaluation. The authors measured changes in perceived safety and safety-related behaviors associated with children's trips to school. Changes in the number of children walking and bicycling following these improvements were also measured. The results showed that 5 of the 10 traffic improvement projects demonstrated a near-term, observable, measurable impact. Sidewalk gap closures and replacement of four-way stop signs with traffic signals appeared to have the highest potential for success.

Boarnet, MG; Anderson, CL; Day, K; McMillan, T; Alfonzo, M. 2005. "Evaluation of the California safe routes to school legislation: Urban form changes and children's active transportation to school." *American Journal of Preventive Medicine*, Vol. 28: 134-140.

The California Safe Routes to School (SR2S) legislation provided competitive funds for construction projects such as sidewalks, traffic lights, pedestrian crossings and bicycle paths, to improve the safety and convenience of walking and cycling routes for school children. This cross-sectional evaluation examined the relationship between changes in the built environment and walking/bicycling travel to school. Surveys were distributed to parents of third-grade through fifth-grade children at 10 schools that had a completed SR2S project nearby. Two groups were created based on whether parents stated that their children would pass the SR2S project on the way to school or not. Results showed that children who passed completed SR2S projects were more likely to show increases in walking or bicycling travel than were children who would not pass by projects (15% versus 4%), supporting the effectiveness of the SR2S legislation.

Cooner, Scott A. 2005. "Developing Operational and Safety Guidelines for School Sites in Texas." *Transportation Research Record: Journal of the Transportation Research Board*, no.1922: 90-97.

The objective of a two-year study was to recommend school site planning guidelines for transportation-related elements such as site selection, general site requirements and design, bus operations, parent drop-off and pickup zones, driveways, turn lanes, signing and marking, parking, and pedestrian and bicycle access. The research team based these guidelines on a comprehensive review of existing guidelines and the

results of field studies at school sites in Texas. Examples are provided of good practices and of practices to avoid for three of the more prominent guidelines. The guidelines are focused on transportation design, operations, and safety within school sites with a particular focus on the parent drop-off and pickup zones. A site plan review checklist based on the 21 consensus guidelines approved by the project advisory panel is provided. Texas Department of Transportation engineers, field crews, architects, and school district personnel can use this checklist to coordinate efforts and improve the safety and efficiency of school site access and traffic flow.

Gielen, Andrea Carlson; Susan DeFrancesco; David Bishai; Patricia Mahoney; Shiu Ho; Bernard Guyer. 2004. "Child Pedestrians: the Role of Parental Beliefs and Practices in Promoting Safe Walking in Urban Neighborhoods." *Bulletin of the New York Academy of Medicine*, Vol. 81, No. 4.

The purpose of this study was to describe parents' child pedestrian safety practices, knowledge, risk perceptions, and beliefs. We surveyed 732 parents from four elementary schools in urban neighborhoods that differed in income, and child pedestrian injury risks. Findings indicated that most parents taught their children street safety. Few (16%) knew basic pedestrian safety facts; 46% believed children younger than 10 years could safely cross streets alone; 50% believed a child pedestrian crash was likely. Parents in lower income neighborhoods reported the highest rates of unpleasant walking environments and concerns about drug dealers, crime, violence, and trash. We conclude that education should focus on children's risk, developmental capabilities, and supervision needs. Promoting physical activity in urban neighborhoods, especially lower income ones, must address concerns about the physical and social environment.

<http://cmbi.bjmu.edu.cn/news/report/2004/Urban/view/8.pdf>

Hallmark, Shauna and Hillary Isebrands. *Toolbox to Address Safety and Operations on School Grounds and Public Streets Adjacent to Elementary and Middle Schools in Iowa*. February 2006. Draft Report. Prepared for Iowa Department of Transportation. Prepared by Center for Transportation Research and Education, Iowa State University. www.ctre.iastate.edu

Martin, S; Carlson, S. 2005. "Barriers to Children Walking To or From School: United States, 2004." *Morbidity and Mortality Weekly Report*, Vol. 54, No. 38: 949-952.

One of the objectives of Healthy People 2010 is to increase among children and adolescents the proportion of trips to school made by walking from 31% to 50%. Presently, fewer than 15% of children and adolescents use active modes of transportation. This report examines data from a 2004 Consumer Styles Survey and a follow-up recontact survey to describe what parents report as barriers to their school-aged children (5 to 18 years) walking to or from school. Of the 1,705 adults who reported having a child between 5 and 18 years of age, 1,588 (93%) answered the walk-to-school questions for their youngest child. Approximately 17% reported that their child walked to or from school at least once per week during a usual week. Distance to school was the most commonly reported barrier (61.5%), followed by traffic-related danger (30.4%), then weather (18.6%). For 11.7%, crime was reported as a barrier, and 6.0% reported school policy as a barrier. The editorial comment appended to this article reports on a study from 1999 that also found distance to be the most commonly cited barrier. The editor also considers some of the limitations of the findings from the 2004 report. A final section briefly introduces one effort to overcome barriers to walking to school, the nationwide Safe Routes to School (SR2S) initiative. The SR2S initiative includes programs designed to increase the percentage of students who walk or bicycle to school by addressing barriers through the "four E's": engineering, enforcement, education, and encouragement.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm>

Planning for Schools and Liveable Communities: The Oregon School Siting Handbook. June 2005. Oregon Transportation and Growth Management Program. http://www.lcd.state.or.us/LCD/TGM/about_us.shtml

Safe Routes to School: A How-To Handbook for Making It Safe and Fun to Walk and Bike to School. 2005. Michigan Fitness Foundation and Michigan Department of Transportation. www.saferoutesmichigan.org

Safe Routes to School: Practice and Promise. July 2004. Report No. DOT-HS-809-742. U.S. Department of Transportation, National Highway Traffic Safety Administration. Developed by Center for Health Training.

This publication is designed to provide enough information about SRTS programs so those in decision-making positions will be able to determine how to allocate scarce resources and to assure positive outcomes from SRTS efforts. It delves into the history of SRTS, considers risks and benefits, offers examples, and lists supportive agencies and organizations.

SAFETEA-LU Memorandum on Safe Routes to School (SRTS) Program. Office of Safety, Federal Highway Administration, U.S. Department of Transportation. September 26, 2005.

This memorandum details the designation of full-time Safe Routes to School coordinators within state departments of transportation and the designation of single points of contact within FHWA Division Offices for the Safe Routes to School Program. The memorandum includes legislative language on SRTS from the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users.

<http://safety.fhwa.dot.gov/safetealu/saferoutememo.htm>

Travel and Environmental Implications of School Siting. October 2003. Report No. EPA-231-R-03-004. U.S. Environmental Protection Agency.

This study provides important information about the effect of school location on how children get to school. It shows that school siting and design can affect traffic congestion, air pollution, school transportation budgets, and children's health and obesity.

<http://www.epa.gov/smartgrowth>

Tsai, Jeff, Diane Ward, and Katie Caggia. "Creating and Operating a Walking School Bus Program." Transportation Research Board 85th Annual Meeting, Washington, DC, January 23, 2006. Prepared by the Institute for Transportation Research and Education at North Carolina State University.

<http://itre.ncsu.edu>

SAFETEA-LU and Other Legislative Resources

Bicycle and Pedestrian Provisions in (SAFETEA-LU) not Codified in Title 23. Federal Highway Administration, U.S. Department of Transportation. www.fhwa.dot.gov/environment/bikeped/legtealu.htm

Flexible Funding for Highways and Transit and Funding for Bicycle and Pedestrian Programs. Federal Highway Administration, U.S. Department of Transportation. www.fhwa.dot.gov/hep/flexfund.htm

Language of the *Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users*. Federal Highway Administration, U.S. Department of Transportation. www.fhwa.dot.gov/safetealu/index.htm

Legislating Mobility Options: A Survey of State Laws Promoting Public Transit, Walking, and Bicycling. 2005. Washington, DC: AARP Public Policy Institute, 28 p.

The purpose of this report is two-fold: to provide a summary of state laws that promote three modes of transportation - public transit, walking, and bicycling and to develop criteria to assist policymakers in evaluating the likelihood of success of legislative proposals for enhancing and expanding mobility options. As the state transportation laws analyzed in this report affect all Americans, the focus on mobility within and between communities is necessarily broad. However, there are important aspects of transportation policy that have implications for an aging population. This report makes periodic reference to older Americans and the correlation between mobility options and social well being. This study included three major tasks: 1. Reviewing and categorizing state laws that promote or restrict the mobility options of public transit, walking, and bicycling; 2. Selecting and analyzing case studies that demonstrate particularly significant laws; and, 3. Developing criteria for evaluating the potential effectiveness of the state laws. The study used the laws of California, Colorado, Maine and Oregon for case studies. The four case studies suggest criteria to use in evaluating whether proposed legislation is likely to succeed in expanding mobility options.

Strategic Highway Safety Plans: A Champion's Guide to Saving Lives. Guidance to Supplement SAFETEA-LU Requirements. April 5, 2006. U.S. Department of Transportation, Federal Highway Administration, Office of Safety.

A Strategic Highway Safety Plan (SHSP) developed by the State Department of Transportation (DOT) is a

new Federal requirement of SAFETEA-LU, 23 U.S.C. § 148, and is a major part of the core Highway Safety Improvement Program (HSIP). This document has three purposes: (1) to promote best practices and serve as guidance to State DOTs and their safety partners for the development and implementation of the State SHSP; (2) to assist State DOTs in creating an SHSP that meets the requirements of SAFETEA-LU with the ultimate goal of reducing the number of highway fatalities and serious injuries on all public roads; and (3) to assist States in understanding the relationship between the SHSP and existing transportation planning and programming processes in order to best develop the SHSP with implementation in mind. <http://safety.fhwa.dot.gov/safetealu/shspguidance.htm>

Safety Resources

Campbell, B.J.; Zegeer, Charles V.; Huang, Herman H. and Michael J. Cynecki. *A Review of Pedestrian Safety Research in the United States and Abroad*. January 2004. Report No. FHWA-RD-03-042. U.S. Department of Transportation, Federal Highway Administration.

This report is part of a larger study for FHWA entitled "Evaluation of Pedestrian Facilities." The purpose of this report is to provide an overview of research studies on pedestrian safety in the United States; some foreign research is also included.

Good Practices Guide for Bicycle Safety Education. Report No. FHWA-SA-02-001. U.S. Department of Transportation, Federal Highway Administration. www.fhwa.dot.gov.

Good Practices Guide for Pedestrian Safety Education. June 2004. Report No. DOT-HS-809-741. U.S. Department of Transportation, National Highway Traffic Safety Administration. www.nhtsa.dot.gov.

Landis, Bruce; Petritsch, Theodore A. and Herman F. Huang. *Characteristics of Emerging Road and Trail Users and Their Safety*. October 2004. Report. No. FHWA-HRT-04-103. U.S. Department of Transportation, Federal Highway Administration.

This study can be used to help design professionals adequately design roadway and shared use path facilities to meet the operational and safety needs of trail and non-motorized transportation users.

National Strategies for Advancing Bicycle Safety. June 2001. The National Strategies for Advancing Bicycle Safety is a national safety agenda designed to make bicycling safer for everyone. The agenda is the work of more than 75 participants who shaped the goals and strategies during a conference held in Washington, D.C. in July 2000. The National Strategies for Advancing Bicycle Safety defines goals, strategies, and initial actions that can be taken to reduce bicycle related deaths and injuries nationwide. http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/bicycle_safety/index.htm

National Strategies for Advancing Child Pedestrian Safety. October 2001. Centers for Disease Control and Prevention, and National Center for Injury Prevention and Control. This document is not intended to be a government plan of action, nor to provide recommendations to the government. Rather, these strategies are intended to be used by anyone interested in reducing pedestrian injuries among children, while encouraging them to explore their environment by walking. We urge you to review these strategies, consider them, and implement them. We hope this document will inspire you to dedicate yourself to improving the safety of child pedestrians everywhere. <http://www.cdc.gov/ncipc/pedestrian/newpedbk.pdf>

Zegeer, Charles V.; Sandt, Laura; et al. *How to Develop a Pedestrian Safety Action Plan*. February 2006. Prepared for the Federal Highway Administration, U.S. Department of Transportation. Prepared by the Pedestrian and Bicycle Information Center, Highway Safety Research Center, University of North Carolina. Chapel Hill, NC 27599-3430.

WEB SITES

Federal Government Sites

FHWA Planning, Environment, & Realty (HEP) Program
www.fhwa.dot.gov/hep/index.htm

HEP Funding Programs

Congestion Mitigation and Air Quality (CMAQ)
www.fhwa.dot.gov/environment/cmaqpgs/index.htm

National Scenic Byways Program
www.fhwa.dot.gov/environment/scenguid.htm

State Contacts List
www.bywaysonline.org/contacts/states.html

Nonmotorized Transportation Pilot Program
www.fhwa.dot.gov/environment/bikeped/legtealu.htm#sec1807

Recreational Trails Program
www.fhwa.dot.gov/environment/rectrails/

Recreational Trails Program State Administrators
www.fhwa.dot.gov/environment/rectrails/rtpstate.htm

Transportation Enhancements
<http://www.fhwa.dot.gov/environment/te/index.htm>

National Transportation Enhancements Clearinghouse
www.enhancements.org

FHWA Bicycle and Pedestrian Program
www.fhwa.dot.gov/environment/bikeped/index.htm

State Bicycle and Pedestrian Coordinator List
<http://design.transportation.org/?siteid=59&pageid=852>

FHWA Pedestrian and Bicycle Safety
<http://safety.fhwa.dot.gov/index.htm>

Pedestrian Safety
http://safety.fhwa.dot.gov/ped_bike/ped/index.htm

Bicycle Safety
http://safety.fhwa.dot.gov/ped_bike/bike/index.htm

Safe Routes to School
<http://safety.fhwa.dot.gov/saferoutes/index.htm>

SRTS Coordinator List by State
www.safety.fhwa.dot.gov/saferoutes/statecontacts.htm

FHWA Pedestrian Forum Newsletter
http://safety.fhwa.dot.gov/ped_bike/ped/pedforum/index.htm

FHWA Pedestrian & Bicycle Safety Research Page
www.tfhr.gov/safety/pedbike/pedbike.htm

Pedestrian and Bicycle Information Center (PBIC)
Main Page - www.pedbikeinfo.org
Pedestrian information - www.walkinginfo.org
Bicycle information - www.bicyclinginfo.org
Safe Routes to School - www.saferoutesinfo.org
Digital Library of images - www.pedbikeimages.org
Walk to School Program - www.walktoschool.org
International Walk to School - www.iwalktoschool.org

FHWA and Federal Transit Administration (FTA) Programs for Bicycle and Pedestrian Projects
<http://www.fhwa.dot.gov/hep/bkepedtble.htm>

CDC Active Community Environments Initiative (ACES)
www.cdc.gov/nccdphp/dnpa/physical/health_professionals/active_environemtns/aces.htm

CDC National Center for Injury Prevention and Control, National Strategies for Advancing Child Pedestrian Safety
www.cdc.gov/ncipc/pedestrian/default.htm

CDC KidsWalk-to-School Program
www.cdc.gov/nccdphp/dnpa/kidswalk/index.htm

NHTSA Pedestrian Safety Program
www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.dfedd570f698cabbf30811060008a0c/

NHTSA Safe Routes to School – Practice and Promise
www.nhtsa.dot.gov/people/injury/pedimot/bike/Safe-Routes-2004/

US Access Board, Public Rights-of-Way
www.access-board.gov/prowac/index.htm

Transportation Research Board, Pedestrian and Cycles Committee
www.trb.org/directory/comm_search.asp?sCode=ANF

AASHTO Subcommittee on Design, Technical Committee on Nonmotorized Transportation
<http://design.transportation.org/?siteid=59&pageid=761>

Partnership for a Walkable America
www.walkableamerica.org

Starting a Walking School Bus
www.walkingschoolbus.org

National Trust for Historic Preservation's National Main Street Institute
www.mainstreet.org

EPA's State and Local Transportation Resources
www.epa.gov/otaq/stateresources/index.htm

Legislation & Guidance

Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users –
www.fhwa.dot.gov/safetealu/index.htm

Bicycle and Pedestrian Provisions in (SAFETEA-LU) not Codified in Title 23 –
www.fhwa.dot.gov/environment/bikeped/legtealu.htm

Flexible Funding for Highways and Transit and Funding for Bicycle & Pedestrian Programs
www.fhwa.dot.gov/hep/flexfund.htm

Trail-Specific

Rails to Trails Conservancy
www.railtrails.org

Trails and Greenways Clearinghouse
www.trailsandgreenways.org

American Hiking Society
www.americanhiking.org

American Trails
www.americantrails.org
Health and Fitness - Safe Routes to School information
www.americantrails.org/resources/health/saferoutesfund05.html

Other National Organizations

Active Living by Design
www.activelivingbydesign.org

America Bikes
www.americabikes.org
Safe Routes to School information
www.americabikes.org/SRTS.asp

American Council of the Blind, Pedestrian Safety
<http://www.acb.org/pedestrian/index.html>

America on the Move
<http://aom.americaonthemove.org>

American Public Health Association
www.apha.org

American Traffic Safety Services Association
www.atssa.com

America Walks
www.americawalks.org

Association of Pedestrian and Bicycle Professionals
www.apbp.org

Bikes Belong
www.bikesbelong.org
Safe Routes to School Overview
www.bikesbelong.org/page.cfm?PageID=249

Congress for New Urbanism
www.cnu.org

Institute of Transportation Engineers
www.ite.org

Insurance Institute for Highway Safety, Pedestrian Research & Statistics
www.iihs.org/research/topics/peds.html

League of American Bicyclists
www.bikeleague.org

Local Government Commission - Center for Livable Communities
www.lgc.org/center/index.html

National Association of Recreation Resource Planners
www.narrp.org

National Center for Bicycling and Walking
www.bikewalk.org

National Coalition for Promoting Physical Activity
www.ncppa.org

National Recreation and Park Association
www.nrpa.org

Perils for Pedestrians
www.pedestrians.org

Robert Wood Johnson Foundation
www.rwjf.org/index.jsp

Smart Growth America
<http://smartgrowthamerica.org/>

Smart Growth Network
www.smartgrowth.org

Surface Transportation Policy Project
www.transact.org

Thunderhead Alliance
www.thunderheadalliance.org

Other Useful Links

Green Communities Canada – Active & Safe Routes to School
www.saferoutestoschool.ca/

Marin County Bicycle Coalition's Safe Routes to Schools
www.saferoutestoschools.org

Michigan Fitness Foundation
www.michiganfitness.org

Pednet's International Pedestrian Lexicon (glossary)
<http://user.itl.net/~wordcraf/lexicon.html>

Project for Public Spaces
www.pps.org

Safe Routes Michigan
www.saferoutesmichigan.org

Victoria Transport Policy Institute
www.vtpi.org

World Health Organization Healthy Cities Project – Transport and Health
www.who.dk/healthy-cities/UHT/20050201_4