



Increasing Physical Activity

THROUGH COMMUNITY DESIGN

A Guide for Public Health Practitioners and Livable Community Advocates

NATIONAL CENTER FOR BICYCLING & WALKING | June 2010



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CREDITS

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The report may be downloaded at www.bikewalk.org.

Table of Contents

Chapter One: Introduction

Health, Physical Activity & Community Design Treating the Patient

Chapter Two: How to Improve Conditions for Walking and Bicycling

What's Your Role?
What Needs Doing?

Chapter Three: How to Get It Funded

Develop a Strategy
Follow Through with the Project
Summary

Chapter Four: Resources & Glossary

Public Health

Transportation

Land Use Planning & Community Design

Facility Planning & Design

Schools

Funding Sources & Programs

Advocacy

Environmental

Equity & Social Justice

Glossary

"Ultimately it is the right people who make change possible; we either have to be them or find them."



Sharon Z. Roerty, AICP/PP/MCRP
Executive Director, National Center for
Bicycling & Walking

Walk With Me

A letter from Sharon Z. Roerty, Executive Director of the National Center for Bicycling & Walking

Picture a place with short, connected blocks, a variety of building types and destinations proximate to each other. Then picture a place with four or more lanes of traffic, double left turn lanes, limited through streets, large gaps between buildings and deep property setbacks. It is probably easy to include people walking or biking in the first mental picture; and less so in the second.

About a year ago I was facilitating a workshop for a group of advocates in southern Alabama who had a vision of a region with a continuous network of sidewalks, paths, trails, and complete streets spanning two counties, and crossing a major body of water. In the audience were two college students, who were leaders in a campus sustainability group. As part of the workshop each person was asked to think of and then describe a place where they like to walk or bike. When it came to be the students' turn, they both retreated, before confessing that they never had lived in such a place. They couldn't picture this place.

In 2002 when we published, *Increasing Physical Activity through Community Design*, we did it as a guide to engage public health practitioners and encourage them to become more involved in community design issues. The current adaptation of the IPA guidebook is still aimed at public health practitioners, however it recognizes that a more deeply rooted trans-disciplinary approach is necessary for creating the public will and support for change and sustaining it. Public health practitioners can't do it alone; planners can't do it alone; elected officials need a reason to do it; environmentalists, social workers, educators, housing developers and advocates—they all need to be part of it.

Not long after I met the college students from Alabama, I participated in a bike rodeo in Newark, NJ. On a steamy Saturday in July, 125 children, ages 3-12, showed up to learn to ride. Thanks to the generosity of many, each and every child was outfitted with a refurbished bike, a new helmet, and received instruction from a trained professional on the rules of the road—all at no cost. They negotiated the cones and the chalk lines of the parking lot obstacle course, learning how to start, stop, and handle their new bicycles. I can still picture the happy faces as the children left the courtyard with their "new" bikes and new confidence. Newark is struggling to become a bicycle friendly city. If everyone continues to work together it will happen.

This guidebook is about implementation. For over a decade, the National Center for Bicycling & Walking has been leading the fight to make our communities healthy by design. Fortunately in 2010 our efforts are bolstered by national leaders and national programs. First Lady Michelle Obama has initiated "Let's Move" a program that promotes physical activity. USDOT Secretary Ray LaHood has been making public statements about community design that supports walking and biking; and he is backing up his statements with policy directives. Also in 2010 there is a better understanding of the built environment and its impact positively and negatively on our mobility and health. We still have a lot of work to do but we are on the right road.



INCREASING PHYSICAL ACTIVITY THROUGH COMMUNITY DESIGN

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Chapter Four

RESOURCES & GLOSSARY

Public Health	2
Transportation	. 3
Land Use Planning & Community Design	4
Facility Planning & Design	. 5
Schools	6
Funding Sources & Programs	6
Advocacy	. 7
Environmental	
Equity & Social Justice	9
Glossary	





Public Health

Active Living Research (www.activelivingresearch.org), a national program of the Robert Wood Johnson Foundation, supports research to identify environmental factors and policies that influence physical activity for children and families to inform effective childhood obesity prevention strategies, particularly in lowincome communities and racial/ethnic groups at highest risk.

Designing and Building Healthy Places (www.cdc.gov/healthyplaces) is a site created by the Centers for Disease Control and Prevention to provide statistics, information on planning and designing healthy communities and other resources.

The Division of Nutrition, Physical Activity and Obesity (www.cdc.gov/ nccdphp/dnpao) is a branch of the Centers for Disease Control and Prevention that provides information on nutrition and physical activity. Available slides provide an effective, dramatic presentation on the consequences (and magnitude) of the physical inactivity and obesity problem. Find state obesity trends at: www.cdc.gov/obesity/data/trends.html#state.

Healthy Kids, Healthy Communities (www.healthykidshealthycommunities.org) is a Robert Wood Johnson Foundation national program that advances communitybased solutions to the childhood obesity epidemic. Its primary goal is to change policies and environments to support active living and healthy eating among children and families across the United States.

Measuring the Health Effects of Sprawl: A National Analysis of Physical Activity, Obesity, and Chronic Disease (www.smartgrowthamerica.org/report/ healthsprawl8.03.pdf) is a 2003 report written by Barbara A. McCann and Reid Ewing of Smart Growth America.

The **National Institutes of Health** (www.nih.gov), a part of the U.S. Department of Health and Human Services, is the primary federal agency for conducting and supporting medical research.

Nemours Children's Health System (www.nemours.org), one of the nation's largest pediatric health systems, is dedicated to achieving higher standards in children's health.

The Physical Activity Resources for Health Professionals (www.cdc.gov/ nccdphp/dnpa/physical/health_professionals) site is a service of the Centers for Disease Control and Prevention that provides key reference documents, data and surveillance resources, information to assist with program planning and evaluation and ideas for physical activity promotion Also order The Community Health Promotion Handbook at www.prevent.org/content/view/142/173/.

INCREASING PHYSICAL ACTIVITY THROUGH COMMUNITY DESIGN Chapter 4 | Resources & Glossary



Public Health Agency of Canada provides resources and information about the benefits of regular physical activity, the federal role in the promotion of physical activity, and its role in the prevention of chronic disease. See resources at www.phac-aspc.qc.ca/hp-ps/hl-mvs/index-eng.php.

The Robert Wood Johnson Foundation Center to Prevent Childhood Obesity (www.reversechildhoodobesity.org) is a national organization dedicated to reversing the childhood obesity epidemic by changing public policies and creating healthier environments in schools and communities.

Transportation

Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking (www.railstotrails.org/resources/documents/whatwedo/ atfa/atfa_20081020.pdf) is a 2008 report of the Rails to Trails Conservancy (RTC) and the Bikes Belong Coalition, from which users can learn more about how adequate federal investment in bicycling and walking will create healthier places for healthier people. For more information on RTC, see: www.railstotrails.org.

Advocacy Advance is a partnership between the League of American Bicyclists and the Alliance for Biking and Walking to research issues critical to the bicycling community. They have developed a series of reports on the topic of accessing federal funding for bicycle and pedestrian projects, available at: www.bikeleague.org/resources/reports.

Bicycling and Walking in the United States, 2010 Benchmarking Report (www. peoplepoweredmovement.org/benchmarking) is a 2010 report of the Alliance for Biking & Walking.

Dangerous by Design: Solving the Epidemic of Preventable Pedestrian Deaths (and Making Great Neighborhoods) (www.transact.org/pdfs/2009-11-09-dangerous by design.pdf) is a 2009 report from the Surface Transportation Policy Project (STPP) and Transportation for America. Expanding on earlier data collection and analysis and research done by STPP, this report emphasizes solving the epidemic of preventable pedestrian deaths and making great neighborhoods. This report is one of several produced by STPP and available on their website (www.transact.org).

United States Research and Innovative Technology Administration Bureau of **Transportation Statistics** (www.bts.gov/publications/transportation_statistics_ annual report) is an annual report on many modes of transportation including biking and walking.





Land Use Planning & Community Design

Context Sensitive Solutions Clearinghouse (www.contextsensitivesolutions.org) provides a variety of support tools addressing design standards, liability, stakeholder involvement and new techniques in transportation problemsolving. Many publications and resources covering context-sensitive solutions are available.

The Local Government Commission (www.lgc.org) is a nonprofit, nonpartisan, membership organization that provides inspiration, technical assistance and networking to local elected officials and other dedicated community leaders who are working to create healthy, walkable and resource-efficient communities. Many technical resources are available on the topic of community design.

National Complete Streets Coalition (www.completestreets.org) is a broad coalition of advocates and transportation professionals who are working together to enact complete streets policies across the country. Many resources available including federal policy guidelines, fact sheets and links to reports and manuals highlighting complete streets best practices.

Partners for Livable Communities (www.livable.com) is a non-profit leadership organization working to improve the livability of communities by promoting quality of life, economic development and social equity. Resources, links and best practices can be found at their Web site.

Residential Streets (available at www.uli.org) is a 76-page guide from the Urban Land Institute's Walter M. Kulash describing practical approaches to planning and designing residential streets and enhancing livability.

Smart Growth America (www.smartgrowthamerica.org) is a coalition of national, state and local organizations working to improve the ways we plan and build the towns, cities and metro areas we call home. The site provides a list of publications and resources to support citizen-driven planning that coordinates development, transportation, revitalization of older areas and preservation of open space and the environment.

Stopping Sprawl (www.sierraclub.org/sprawl) is a resource from the Sierra Club that provides a list of publications and a forum for discussing sprawl and its impacts.

Streets and Sidewalks, People and Cars: The Citizen's Guide to Traffic Calming (www2.lgc.org/bookstore/detail.cfm?itemId=15) is a 52-page guide written by Dan Burden of the Local Government Commission to help communities better understand the dynamics of vehicle and pedestrian movement, identify traffic-calming opportunities and recommend street improvements.





Facility Planning & Design

Bicycle Friendly America (www.bikeleague.org/programs/bicyclefriendlyamerica), a resource developed by the League of American Bicyclists, contains a wealth of information on bicycle friendly communities, businesses and universities in the U.S.

Biking and Walking—Slowing Traffic (www.activelivingresources.org/ bikingandwalking1.php) is a site from the Active Living Resource Center, featuring information related to traffic calming and links to related resources

Guide for the Development of Bicycle Facilities (3rd Edition) (https:// bookstore.transportation.org/item_details.aspx?id=104), a 1999 book from the American Association of State Highway and Transportation Officials, is the most referenced bicycle-facility document in the U.S.

Guide for the Planning, Design, and Operation of Pedestrian Facilities (1st **Edition)** (https://bookstore.transportation.org/item_details.aspx?id=119) is a 2004 report from the American Association of State Highway and Transportation Officials providing quidance on the planning, design and operation of pedestrian facilities along streets and highways.

National Transportation Enhancements Clearinghouse (www.enhancements.org) is an online information service sponsored by the Federal Highway Administration and Rails-to-Trails Conservancy to provide professionals, policy-makers and citizens with information about Transportation Enhancements (TE): how they are implemented, how to make use of this provision of the nation's transportation program, an explanation of the TE program, documents about the program, a directory of people in each state who work with TE projects and example projects.

Pedestrian and Bicycle Information Center (PBIC) (www.pedbikeinfo.org) is a clearinghouse for information about health and safety, engineering, advocacy, education, enforcement, access and mobility. The PBIC serves anyone interested in pedestrian and bicycle issues, including planners, engineers, private citizens, advocates, educators, police and the health community.

The Rails-to-Trails Conservancy's trail building site (www.railstotrails.org/ ourWork/trailBuilding) contains many useful resources and reports related to multi-use trail planning and development, including a "Trail Building Toolbox."

The Traffic Calming Library (www.ite.org/traffic) from the Institute of Transportation Engineers contains a searchable database of reports, articles and other documents related to traffic calming.

Trails for the Twenty-First Century (Second Edition): Planning, Design, and Management Manual for Multi-Use Trails (www.islandpress.com/bookstore/ details6028.html?prod id=863) is a 2001 book from the Rails to Trails Conservancy for planners, landscape architects, local officials and community activists interested in creating a multiuse trail.

Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.

Lockwood I. Institute of Transportation Engineers Traffic Calming Definition. ITE Journal, July 1997.





Schools

Active Living Resource Center's Safe Routes to School Introduction (www. activelivingresources.org/saferoutestoschool.php) provides information about the program, with links to resources, case studies, fact sheets and assessment tools.

Active and Safe Routes to Schools (www.saferoutestoschool.ca) is a program of Green Communities Canada providing resources, tools, information and links for schools and communities to create their own unique Active & Safe Routes to School program.

Alliance for a Healthier Generation has useful tool kits for schools (www.healthiergeneration.org/schools).

Eco-Schools (www.nwf.org/ecoschools) is an internationally acclaimed program that provides a framework to help educators integrate sustainable principles throughout their schools and curriculum. The National Wildlife Federation was designated as the host agency for this program in December, 2008.

National Center for Safe Routes to School (www.saferoutesinfo.org) provides information, resources and links about the federal Safe Routes to School program.

Safe Routes to School National Partnership (www.saferoutespartnership.org) is a network of more than 400 nonprofit organizations, government agencies, schools and professionals working together to advance the Safe Routes to School movement in the U.S.

Sustrans (www.sustrans.org.uk) is the U.K.'s leading sustainable transport charity. Sustrans' vision is a world in which people choose to travel in ways that benefit their health and the environment.



Advocacy Advance is a partnership between the League of American Bicyclists and the Alliance for Biking and Walking to research issues critical to the bicycling community. They have developed a series of reports (www.bikeleague. org/resources/reports) on the topic of accessing federal funding for bicycle and pedestrian projects.

Congestion Mitigation and Air Quality Improvement Program is a \$6 billion program to fund surface transportation and other projects that can help improve air quality and reduce congestion. See www.fhwa.dot.gov/environment/ *cmaqpqs* for program quidance and other related resources.

Enhancing America's Communities: A Guide to Transportation Enhancements (www.enhancements.org/download/publications/e3/enhancing%20americas%20 communities%202007.pdf) is a 40-page 2007 report from the Federal Highway



INCREASING PHYSICAL ACTIVITY THROUGH COMMUNITY DESIGN Chapter 4 | Resources & Glossary



Administration (www.fhwa.dot.gov) describing the Transportation Enhancements program (www.enhancements.org) as provided under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, enacted in 2005. The report includes federal requirements for eligibility, how to navigate your way around state transportation agencies, a typical project development process and 15 case studies of enhancement projects.

Advocacy

Adventure Cycling Association (www.adventurecycling.org) is a national nonprofit with a mission to inspire people of all ages to travel by bicycle for fitness, fun and self-discovery.

Alliance for Biking and Walking (formerly the Thunderhead Alliance) (www. peoplepoweredmovement.org) is a national coalition of grassroots bicycle and pedestrian advocacy organizations uniting advocacy leaders to help them become more effective by sharing best practices and innovations, strengthening organizations through resource sharing and training opportunities, and helping advocates to create organizations in underserved communities.

America Bikes (www.americabikes.org) is a national coalition of leaders from the bicycle community advocating for positive outcomes for bicycling in the federal transportation bill.

America Walks (www.americawalks.org) is a national coalition of walking advocacy groups dedicated to promoting livable communities, where people walk because it's a real choice.

Association of Pedestrian and Bicycle Professionals (www.apbp.org) is a national nonprofit organization representing the interests of engineers, planners, advocates, academics and safety experts who work to improve conditions for bicyclists and pedestrians.

League of American Bicyclists (LAB) (www.bikeleague.org) is a national organization that promotes cycling for fun, fitness and transportation. The LAB membership includes individuals, recreational clubs and advocacy organizations that share an interest in working through advocacy and education for a bicycle-friendly America.

National Center for Bicycling & Walking (NCBW) (www.bikewalk.org) is a nonprofit organization working for more bicycle-friendly and walkable communities. The NCBW offers information support, training, consultation services and resources to public agencies, nongovernmental organizations and advocates, maintains an Internet support center and organizes the biennial Pro Walk/Pro Bike® Conference series and other special meetings.









Rails-to-Trails Conservancy (www.railtrails.org) is the nation's largest trails organization dedicated to connecting people and communities by a nationwide network of public trails, many built along former rail lines and connecting corridors.

The Walkable and Livable Communities Institute (www.walkablelivable.org) is a non-profit center focused on helping cities and towns throughout the world become more walkable, bikeable, sustainable, socially engaged and welcoming by improving their built form.



Environmental

National Trust for Historic Preservation (www.preservationnation.org) provides leadership, education, advocacy and resources to save America's diverse historic places and revitalize our communities.

The Nature Conservancy (www.nature.org) is the leading conservation organization working around the world to protect ecologically important lands and waters for nature and people. Calculate your carbon footprint using their carbon footprint calculator (www.nature.org/initiatives/climatechange/calculator).

Sierra Club's Cool Cities Program (www.coolcities.us) is a collaboration between community members, organizations, businesses and local leaders to implement clean energy solutions that save money, create jobs and help curb global warming.

United States Environmental Protection Agency Clean Energy Programs (www. epa.gov/cleanenergy/energy-programs) are working with state policy makers, electric and gas utilities, energy customers and other key stakeholders. By identifying, designing and implementing clean energy policy and technology solutions, they deliver important environmental and economic benefits. Resources include a carbon counter (greenhouse gas equivalencies calculator): (www.epa.gov/cleanenergy/energy-resources/calculator.html).

United States Environmental Protection Agency State Environmental Agencies site (www.epa.gov/epahome/state.htm) includes links to all 50 U.S. states' Departments of Environmental Protection.



Equity & Social Justice

Environmental Justice Research Center (www.ejrc.cau.edu) serves as a research, policy and information clearinghouse on issues related to environmental justice, race and the environment, civil rights and human rights, facility siting, land use planning, brownfields, transportation equity, suburban sprawl, smart growth and energy.

Healthy, Equitable Transportation Policy: Recommendations and Research (www.convergencepartnership.org/site/c.fhL0K6PELmF/b.5327643/k.BF0B/ *Transportation RX.htm*) is a report by PolicyLink and the Prevention Institute commissioned by the Convergence Partnership.

Office of Sustainable Housing and Communities (OSHC) (http://portal. hud.gov/portal/page/portal/hud/program_offices/sustainable_housing_ communities), within the U.S. Department of Housing and Urban Development (HUD), is designed to help build stronger, more sustainable communities by connecting housing to jobs, fostering local innovation and building a clean energy economy. Funded by Congress for the first time in HUD's 2010 Budget, OSHC is a key component of the Partnership for Sustainable Communities.

The Partnership for Sustainable Communities (www.dot.gov/affairs/2009/ dot8009.htm) was created by the U.S. Department of Transportation and the U.S. Department of Housing and Urban Development to help American families gain better access to affordable housing, more transportation options and lower transportation costs.

PolicyLink (www.policylink.org) is a national research and action institute advancing economic and social equity by "Lifting Up What Works." PolicyLink connects the work of people on the ground to the creation of sustainable communities of opportunity that allow everyone to participate and prosper. Such communities offer access to quality jobs, affordable housing, good schools, transportation and the benefits of healthy food and physical activity.

Glossary

ACE: Active Community Environment.

Bike Lane: A portion of the roadway designated for preferential use by bicyclists.

CDC: Centers for Disease Control and Prevention.

CIP: Capital Improvement Program.

CMAQ: Congestion Mitigation and Air Quality Improvement Program.

Crime Prevention through Environmental Design (CPTED): Crime prevention philosophy based on the theory that proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, as well as an improvement in the quality of life.





INCREASING PHYSICAL ACTIVITY THROUGH COMMUNITY DESIGN Chapter 4 | Resources & Glossary

Crosswalk: Marked or unmarked area of an intersection where pedestrians cross, or a marked roadway crossing mid-block. Pedestrians have special rights at crosswalks.

Curb Extension: A section of curb that extends into the roadway, which shortens crossing distance and improves pedestrian visibility. Also known as a bulb-out, neckdown, flare or choker.

Curb Radius: The curved edge of the roadway at an intersection.

Design Speed: A selected speed used to determine the various geometric design features of the roadway.

Environmental Justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, educational level or income with respect to the development, implementation and enforcement of environmental laws. Environmental justice seeks to ensure that minority and low-income communities have access to public information relating to human health and environmental planning, regulations and enforcement.

ISTEA: Intermodal Surface Transportation Efficiency Act of 1991. Landmark legislation for balanced federal highway funding and the predecessor to TEA-21.

Metabolic Syndrome: A cluster of conditions—including high blood pressure, elevated insulin levels, excess body weight and fat around the waist or elevated cholesterol levels—that occurring together, increase your risk of heart disease, stroke and diabetes.

NCBW: National Center for Bicycling & Walking.

NPTS: Nationwide Personal Transportation Survey.

Shared Roadway: Roads on which cyclists and motorists share the travel lanes.

Shared-Use Path: A facility separated from motor vehicle traffic by an open space or barrier, and typically used by pedestrians, joggers, skaters and bicyclists as two-way facilities.

Shoulder Bikeway: Paved and smooth roadway shoulder at least 4 feet wide.

Sidewalk: An improved facility for pedestrians that is usually, but not always, located in the public right-of-way next to a roadway and constructed of concrete or other hard, smooth surface.

Smart Growth: Community development pattern that is economically sound, environmentally friendly and supportive of community livability.

TE: Transportation Enhancement.

TIP: Transportation Improvement Program.

TND: Traditional Neighborhood Development. A human-scale, walkable community with moderate to high residential densities and a mixed-use core.

Traffic Calming: A set of techniques that reduce the speed and aggressiveness of traffic.

Wide Outside Lane: A lane of at least 14 feet that allows an average-sized motor vehicle to safely pass a bicyclist without crossing over into the adjacent lane.



The National Center for Bicycling & Walking is a national nonprofit organization with offices in Washington, DC, and New Jersey. NCBW developed the award winning Walkable Community Workshop program, which brings together planners, engineers, public health professionals, citizen advocates, youth and others to develop community transportation systems that work for all users. We have facilitated hundreds of community workshops and walking audits, and we count numerous state departments of transportation, metropolitan planning organizations, and local governments as our clients.

The **Active Living Resource Center** is a program of the National Center for Bicycling & Walking. The ALRC is dedicated to reducing health disparities by helping communities remove barriers to everyday physical activity—like walking and bicycling. We have a specific interest in reducing childhood obesity by increasing opportunities for children to regularly and safely walk and bicycle to school and other destinations.

The Active Living Resource Center was initiated with funding support from the Robert Wood Johnson Foundation.

For more information on NCBW and/or ALRC visit us at www.bikewalk.org.

For copies of this report, please visit www.bikewalk.org.





