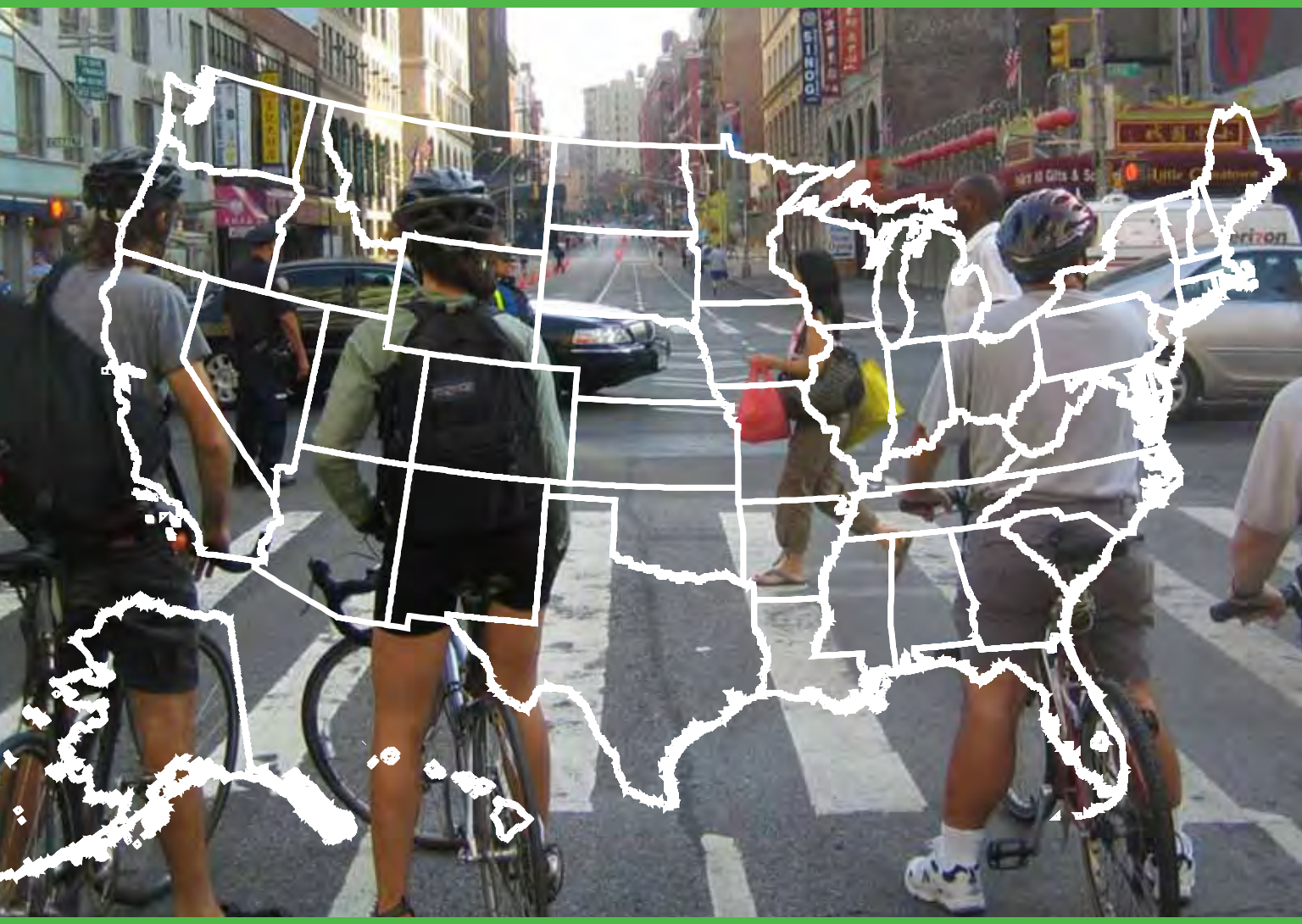
BICYCLING AND WALKING IN THE UNITED STATES

2010

BENCHMARKING REPORT



prepared by

Alliance for Biking & Walking

Alliance for Biking & Walking

BICYCLING AND WALKING IN THE UNITED STATES 2010

BENCHMARKING REPORT

Funding for this report was provided by
the Centers for Disease Control and Prevention.

This project was also made possible with significant
support from Planet Bike and Bikes Belong Coalition.

Copyright 2010 by Alliance for Biking & Walking
The Library of Congress, United States Copyright Office

All rights reserved. This report may be reproduced or transmitted
with the written permission of the Alliance. Requests should be
sent to Alliance for Biking & Walking at the address below:

P.O. Box 65150
Washington, DC 20035
Phone: 202-449-9692
E-mail: info@PeoplePoweredMovement.org
Web site: http://www.PeoplePoweredMovement.org

cover photo courtesy of Rails to Trails Conservancy

Report Credits

Author/Project Manager:
Kristen Steele, Alliance for Biking & Walking

Research Coordinator/Author:
Monica Altmaier, Alliance for Biking & Walking

Research Consultants:
Ralph Buehler, PhD, Virginia Tech
John Pucher, PhD, Rutgers University

Benchmarking Project Advisors:
Andrew Dannenberg, MD, MPH, Centers for Disease Control & Prevention
Deb Hubsmith, Safe Routes to School National Partnership
Jeffrey Miller, Alliance for Biking & Walking
Gabe Rousseau, PhD, Federal Highway Administration
Stephen Skowronski, Centers for Disease Control & Prevention
Arthur M. Wendel, MD, MPH , Centers for Disease Control & Prevention

ITE Review Committee:
Philip J. Caruso, PE, Institute of Transportation Engineers
John N. LaPlante, PE, T.Y. Lin International
Tatiana Richey, Institute of Transportation Engineers
Matthew D. Ridgway, AICP, PTP, Fehr & Peers
Jeffrey R. Riegner, PE, AICP, Whitman, Requardt & Associates, LLP
Edward R. Stollof, AICP, Institute of Transportation Engineers
Shawn M. Turner, PE, Texas Transportation Institute

Additional Contributors:
Bob Laurie, Alaska Department of Transportation
Kate McCarthy and Teri Gardner, San Francisco Bicycle Coalition
Lotte Schlegel
Allison Vogt, Bicycle Coalition of Maine

Editing Assistance:
Nadege Dubuisson, Alliance for Biking & Walking
Jim Swanson
Maggie Warren
Jessica Weber, Alliance for Biking & Walking

Photos courtesy of:
Alison Fayre, Alliance for Biking & Walking, Bicycle Coalition of Maine, Cindy Shebley www.photowalkstoday.com, City of Minneapolis, D Sharon Pruitt, David Gartner www.versusgoliath.com, David Niddrie, Donald Pflaum, Dustin Jensen www.sfwiggle.com, Frank Chan, Greg Raisman, Gustavo Verissimo, Jason Vanderhill, Jchetan, John Luton, John Pucher, Juhan Sonin, Kate McCarthy, Katherine Johnson, Kristen Steele, Kristian Mollenborg, La-Citta-Vita @ Flickr, Les Chatfield, Louisville Metro Government, Megan Rucker, Myleen Hollero www.myleenhollero.com, Nicholas Whitaker, flickr/nickdigital, Payton Chung, Rails to Trails Conservancy, San Francisco Bicycle Coalition, Trailnet, Transportation Alternatives, SouthEast Alaska Regional Health Consortium (SEARHC), Washington Area Bicyclist Association

Photo by Kristen Steele

Acknowledgments

This report is the result of hundreds working together.

Thanks to the Centers for Disease Control & Prevention, Bikes Belong, and Planet Bike for funding this project. Thanks to Dr. John Pucher of Rutgers University and Dr. Ralph Buehler of Virginia Tech for their guidance, as well as for their contributions to the data analysis and editing of this report. And, to Lotte Schlegel for quality control and Monica Altmaier for her assistance with research, data collection, and illustrations.

Thanks to the Institute of Transportation Engineers' review team for their advice during the drafting of this report. Also, thanks to our advisors at the Centers for Disease Control and Prevention for providing their expertise and guidance throughout the report drafting.

Last and most importantly, thanks to the leaders of Alliance member organizations who supported this project. These leaders were the vital links to local officials and delivered the city and state surveys on time. This project would not have been possible without them, and it is in support of their vital work that this report has been produced.

Thanks to the following organizations and people for their help providing data for this report.

Activate Omaha, Tammie Dodge
Active Transportation Alliance, Carolyn Helmke and Randy Neufeld
Alabama Department of Transportation, Mary Crenshaw
Alaska Department of Transportation, Bob Laurie
Alan M. Voorhees Transportation Center, Leigh Ann Von Hagen
Alta Planning + Design, Jennifer Donlon
Arizona Department of Transportation, Michael Sanders
Atlanta Bicycle Campaign, Amy Goodwin
Atlanta Bicycle Campaign, Alicia Winkelblech
Austin Cycling Association, Rebecca Serna
Baton Rouge Advocates for Safe Streets, Rick Moreland
Bicycle Advocacy of Central Arkansas, Ken Gound
Bicycle Alliance of Washington, Johnathon Fitzpatrick
Bicycle Coalition of Greater Philadelphia, John Boyle
Bicycle Coalition of Maine, Allison Vogt
Bicycle Colorado, Rolando Luarca
Bicycle Federation of Wisconsin, Catrine Lehrer-Brey
Bicycle Transportation Alliance, Emily Gardner
BikeDenver, Lise Neer
BikeTexas, Robin Stallings
Bike Walk Mississippi, Karen Mogridge
Boston Bikes, Nicole Freedman
California Department of Transportation, Ken McGuire
Capitol Region Council of Governments, Sandy Fry
Charlotte Department of Transportation, Ken Tippette
Chicago Department of Transportation, Joshua Koonce
City of Arlington, Alicia Winkelblech
City of Baltimore, Nate Evans
City of Colorado Springs, Kristin Bennett
City of Fort Collins, Dave Kemp
City of Fort Worth, Don Koski
City of Fresno, Bryan Jones
City of Houston, Rita Balchus
City of Kansas City, Deb Ridgway
City of Long Beach, Courtney Aguirre

City of Oakland, Jason Patton
City of Oklahoma City Planning Department, Lanc Gross
City of Raleigh Public Works Department, Eric Lamb
City of San Diego, Brad Jacobsen
City of San Jose, John Brazil
City of Tucson Transportation Department, Tom Thivener
City of Tulsa Public Works Department, Brent Stout
City of Virginia Beach Parks and Recreation, Barbara Duke
ClevelandBikes, Kevin Cronin
Coalition of Arizona Bicyclists, Robert Jensen
Consider Biking, Jeff Stephens
Delaware Department of Transportation, Anthony Aglio
Department of Transportation, Talbot Hauffe
Executive Office of Transportation, Josh Lehman
Federal Highway Administration, Donna Jones, Jatona Hatcher, Christopher Douwes
Florida Bicycle Association, Laura Hallam
Green Mobility Network, John Hopkins
Hawaii Bicycling League, Mitchell Nakagawa
Indiana Bicycle Coalition, Nancy Tibbett
Iowa Bicycle Coalition, Mark Wyatt
Kansas Department of Transportation, Becky Pepper
Kentucky Transportation Cabinet, David Tipton
League of American Bicyclists, Bill Nesper and Jeff Peel
League of Illinois Bicyclists, Ed Barsotti
Little Rock Bicycle Friendly Committee, Bud Laumer
L.A. County Bicycle Coalition, Jennifer Klausner
Louisiana Department of Transportation and Development, Brian Parsons
Louisville Metro Public Works, Dirk Gowin
Maryland Department of Transportation, Michael Jackson
Mayor's Office of Transportation & Utilities, Charles Carmalt
Memphis Urban Area Metropolitan Planning Organization, Tim Moreland
Michigan Department of Transportation, Josh DeBruyn
Michigan Trails and Greenways Alliance, Todd Scott
Minnesota Department of Transportation, Mary Elizabeth Jackson
Missouri Bicycle Federation, Brent Hugh
Mountain State Wheelers Bicycle Club, Dennis Strawn
National Center for Safe Routes to School, Nancy Pullen-Seufert and Austin Brown
National Transportation Enhancements Clearinghouse, Tracy Hadden Loh
Nevada Department of Transportation, Bill Story
New Hampshire Department of Transportation, Jerry Moore
New Mexico Department of Transportation, Tom Trowbridge
New Orleans Regional Planning Commission, Dan Jatres
New York State Department of Transportation, Eric Ophardt
North Carolina Bicycle and Pedestrian Transportation, Helen Chaney
North Dakota Department of Transportation, Bennett Kubischta
Ohio Department of Transportation, Sharon Todd
Oklahoma Department of Transportation, Richard Andrews
Palmetto Cycling Coalition, Rachael Kefalos
Regional Transportation Commission of South Nevada, Jerry Duke
Rhode Island Department of Transportation Intermodal Planning, Steve Church
Safe Routes to School National Partnership, Margo Pedroso
Salt Lake City Bicycle Collective, Michael Wise
San Francisco Bicycle Coalition, Neal Patel
San Louis Obispo County Bicycle Coalition, Adam Fukushima
South Dakota Department of Transportation, Craig McIntyre
St. Louis Regional Bicycle Federation, Patty Vinyard
St. Paul Public Works, David Kuebler
Tennessee Department of Transportation, Jessica Wilson
Teton Valley Trains and Pathways, Tim Adams
Transportation Alternatives, Caroline Samponaro
Utah Department of Transportation, Sharon Briggs
Vermont Agency of Transportation, Jon Kaplan
Walk/Bike Nashville, Glen Wanner
Washington Area Bicyclist Association, Eric Gilliland

Photo by Dustin Jensen, sfwiggle.com

Contents

Acknowledgments....1

Preface....6
- Alliance for Biking & Walking....6
- Benchmarking Project Origins....7

Executive Summary....8
- Objectives....8
- Data Collection....9
- Results....12
  - State Overview of Primary Benchmarking Indicators....10
  - City Overview of Primary Benchmarking Indicators....11
  - Overview of Walking, Bicycling, Transit, and Car Mode Share....12
  - High to Low Ranking of Bicycling and Walking Levels....13
  - Low to High Ranking of Bike/Ped Fatality Rates....14
  - High to Low Ranking of Per Capita Funding to Bike/Ped....15
- Conclusions....19

1: Introduction....21
- Benchmarking Bicycling and Walking....21
- Primary Objectives....22
- Secondary Objectives....23
- Study Areas and Data Collection....24
  - Study Area Populations....25
- Benchmarks in This Report....27
  - Primary Benchmarks in This Report....27
- Using This Report....28

2: Levels of Bicycling and Walking....30
- How Many People Bicycle and Walk?....30
  - State Ranking: Bicycling and Walking to Work....31
  - City Ranking: Bicycling and Walking to Work....32
  - Workers' Commutes in U.S. by Mode of Transport....32
  - Levels of Walking to Work in U.S....33
  - Levels of Bicycling to Work in U.S....33
  - Share of Commuters Who Bicycle or Walk in 50 States....34
  - Share of Commuters Who Bicycle or Walk in Largest U.S. Cities....35
  - Estimated Percent of All Trips by Bicycle and Foot....36
  - Share of Commuters Who Bicycle or Walk 1990-2007....37
- Who Bicycles and Walks?....38
  - Bicyclist Mode Share by Income Class....38
  - Pedestrian Commuters by Income Classification....39
  - A Look at Gender....40
  - A Look at Ethnicity....41
  - Bicycling and Walking to Work Levels and Gender Composition by State....42
  - Bicycling and Walking to Work Levels and Gender Composition by City....43
  - A Look at Age....44

3: Safety....44
Overview of Walking and Pedestrian Safety Nationwide and in Largest U.S. Cities....46
Overview of Bicycling and Bicycle Safety Nationwide and in Largest U.S. Cities....46
Victim Demographics....46
Age and Risk....46
What's the Risk?....47
Bicycle Safety Ranking....47
Pedestrian Safety Ranking....48
Percent of Trips and Traffic Fatalities Represented by Pedestrians in Cities....49
Percent of Trips and Traffic Fatalities Represented by Bicyclists in....50
Bicyclist and Pedestrian Risk by State....51
Emerging Trends....52
U.S. Bicycle and Pedestrian Fatalities 1994-2008....52
Bicycle Safety in States....53
Pedestrian Safety in States....54
Bicycle Safety in Cities....55
Pedestrian Safety in Cities....56

4: Policies and Provisions....57
Policies vs. Provisions....57
Data on Policies and Provisions....58
Bicycling and Walking Policies....58
Planning for Bicycling and Walking in States....60
Planning for Bicycling and Walking in Cities....61
Complete Streets Policies....63
City Policies Affecting Bicycling and Walking....64
State Policies Affecting Bicycling and Walking....65
Safe Routes to School Policies....68
State Bicycle Policies....70
State Legislation Relating to Bicycling....71
Provisions for Bicycling and Walking....72
Percent of Federal Transportation Dollars to Bicycling and Walking....73
Bicycle and Pedestrian Dollars by Funding Program..73
Percent of Transportation Dollars to Bike/Ped....74
Composition of Federal Funding for Bike/Ped Provisions in Largest U.S. Cities....75
Percent of Transportation Enhancement Funding to Bike/Ped by State....76
State Transportation Enhancement Benchmarks FY 1992-2008....77
Bike/Ped Funding in States....78
Bike/Ped Funding in Cities....79
Safe Routes to School Funding....80
FTE Bike/Ped Staff/Million People....83
Number of FTE Bike/Ped Staff in Cities (2006-2008) and FTE Staff/Million People....84
Bike/Ped Staffing in States....85
Staffing in Cities....86
Existing Bicycle Facilities in Major U.S. Cities....88
Growth in Bicycle Facilities in Major U.S. Cities 2007-2009....89
Bike/Ped Infrastructure in Cities....90
Innovative Facilities in Cities....91
Innovative Facilities Defined....92
CLOSER LOOK: Minneapolis: 15,000 Bicycle Parking Spots....93
Bike-Transit Integration....94

5: Education and Encouragement....95
2 of the "5 Es"....95
Educating Professionals....96
Bike/Ped Professional Education in States....97
Educating the Public....98
Public Education and Events in States....100
Adult Bicycle Education Courses....101
Youth Bicycle Education Courses....102
Youth Bicycle Education: Youth Per One Participant..103
Adult Bicycle Education: Adults Per One Participant....104
Encouragement Programs and Events....105
Bicycle Promotion in Cities....106
Bike to Work Day Events....107
National Walk and Bike to School Day Participants..108
Number of Schools Participating in Bike and Walk to School Day....109
City-Sponsored Bicycle Rides....110
CLOSER LOOK: Louisville Mayor's Healthy Hometown Hike and Bike....110
Ciclovia/Car-free Events....111

6: Grassroots Advocacy....112
Growing the Movement....112
Advocacy as an Indicator....113
Alliance U.S. Bike/Ped Advocacy Organizations...113
Proving Effectiveness....114
Measuring Advocacy Capacity....114
Revenue Sources of Statewide Alliance Organizations....114
Revenue Sources of Alliance Organizations Serving Cities....114
Advocacy Capacity Ranking....115
Revenue Sources of Statewide Alliance Organizations....116
Per Capita Revenue of Statewide Alliance Organizations....117
Revenue Sources of Alliance Organizations Serving Cities....118
Per Capita Income of Alliance Advocacy Organizations....119
Number of Residents Per One Member in Alliance Advocacy Organizations....119
Number of Residents Per One Member in Statewide Alliance Organizations....120
Number of Residents Per One Member in Alliance Organizations Serving Cities....121
Capacity of Statewide Alliance Organizations....122
CLOSER LOOK: Bicycle Coalition of Maine: Statewide Powerhouse for Bicycling....123
Capacity of Alliance Organizations Serving Cities...124

CLOSER LOOK: San Francisco Bicycle Coalition: 10,000 Members Strong....125

7: Influencing Bicycling and Walking....127

Environmental Influences....127

Comparing Average Summer and Winter Temperatures to Bicycling Levels....128

Residential Density and Bicycling ad Walking Levels in Major U.S. Cities....129

Comparing Facility Miles to Bicycling Levels....130

Socioeconomics and Demographics....131

Comparing Car Ownership to Bicycling and Walking Levels....132

Relationship between Bicyclist Fatalities and Bicycling Levels....133

Relationship between Pedestrian Fatalities and Walking Levels....134

Relationship between Advocacy Capacity and Mode Share....135

Advocacy and Education....136

Looking to the Leaders....137

CLOSER LOOK: Alaska's High Levels of Walking....138

CLOSER LOOK: Portland's High Levels of Bicycling....141

8: Impact of Bicycling and Walking on Public Health....143

Bicycling, Walking, and Obesity....144

Change in Bicycling and Walking Rates vs. Adult Obesity and Overweight Rate....144

Trend in Obese Children vs. Rate of Bicycling and Walking to School....144

Comparing Bicycling and Walking to Obesity Levels in 50 States....145

Obesity Levels....146

Levels of Bicycling and Walking to Work....146

Other Health Indicators....147

Public Health in 50 States....148

Public Health in U.S. Cities....149

Comparing Bicycling and Walking to Physical Activity Rates in 50 States....150

Comparing Bicycling and Walking to Diabetes Rates in 50 States....151

Comparing Bicycling and Walking to High Blood Pressure Rates in 50 States....152

9: Conclusion....153

Bicycle Share of Trips in Europe, North America, and Australia....154

Walk Share of Trips in Europe, North America, and Australia....155

Bicycling Levels in International Cities....156

Bicycle Funding and Mode Share....157

Appendix 1: Overview of Data Sources....161

Appendix 2: Organization and Study Area Matches....162

Appendix 3: Challenges with Trip Data....163

Appendix 4: Additional Data on Bicycling and Walking Commute Trends....167

Bicycle to Work Levels by City 1990-2007....167

Bicycle to Work Levels by State 1990-2007....168

Walking to Work Levels by City 1990-2007....169

Walking to Work Levels by State 1990-2007....170

Appendix 5:Additional Resources....171

Appendix 6: Overview of Other Benchmarking Efforts....178

Benchmarking Efforts Abroad....178

Benchmarking Efforts in the U.S....180

Links to Other Benchmarking Efforts....182

Benchmarking Together....187

Bibliography....188

Preface

Alliance for Biking & Walking

Alliance for Biking & Walking (formerly known as the Thunderhead Alliance) is the North American coalition of grassroots bicycling and walking advocacy organizations. Our mission is to create, strengthen, and unite state and local bicycle and pedestrian advocacy organizations. Since our founding in 1996, we have grown from 12 to 160 member organizations representing 47 states and three Canadian provinces. In the last 14 years, we have improved the effectiveness of our organizations through trainings and the sharing of best practice models in organizational development and bicycling and walking initiatives. We are continually improving our delivery channels through executive coaching, replicable models, trainings, our on-call support system, and our online resources library.

Alliance organizations inform and organize their communities to improve conditions for bicycling and walking, promoting these as healthy and enjoyable ways to travel. From advocating for bikeways and walkways to conducting safety courses, our coalition is changing attitudes and the environment in communities across North America. The Alliance connects these grassroots forces, sharing best practices, fostering peer networking, and supporting each other in our efforts to promote bicycling and walking for healthy communities, a healthy environment, and a better quality of life.

Advocacy leaders from across North America gathered for the 2008 Alliance Leadership Retreat in Bainbridge Island, WA.

Photo by the Alliance for Biking & Walking

Benchmarking Project Origins

The Alliance's Benchmarking Project began in 2003 when Alliance leaders recognized the need for advocates to measure progress of bicycling and walking and realized the lack of available data. Our staff and board jumped on the project, recognizing the benefit of showing the impact advocacy has on increasing bicycling and walking. Without hard data to measure results, Alliance organizations were missing a key argument for their efforts.

In 2004 the Alliance completed a pilot benchmarking report collecting data only on bicycling from just 15 cities and 15 states to test methods for the project. This first report helped pave a smoother path for the collection of more comprehensive data from all 50 states and 51 cities in 2006 and 2007. The first full report on the status of bicycling and walking in the United States was published in August 2007 (under the organization's former name: Thunderhead Alliance). This report marks a shift to the beginning of the year (January 2010). This shift was made so that the report would not seem outdated as quickly since publishing in the fall leaves just a few months left in the year. This document is the second full report and builds upon our previous efforts.

Through the ongoing Benchmarking Project, the Alliance for Biking & Walking will publish an updated version of this report every two years and will continuously refine methods and consider new data sets as available. As the project progresses, it will offer more precise benchmarks and recommendations for advocates and government officials so that they have the data they need to improve bicycling and walking in the U.S. and eventually all of North America.

Since our founding in 1996, we have grown from 12 to 160 member organizations representing 47 states and three Canadian provinces.

Advocacy leaders point to the location of their new campaigns at an Alliance Winning Campaigns Training.

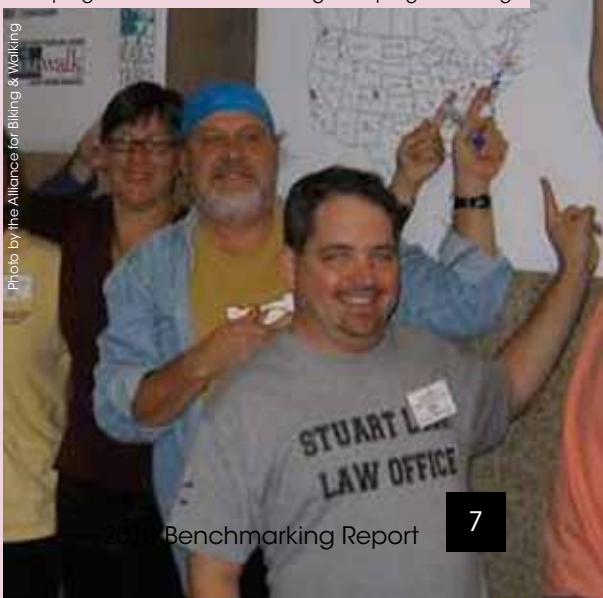


Photo by the Alliance for Biking & Walking

Executive Summary

Photo by Kate McCarthy, San Francisco Bicycle Coalition

What isn't counted, doesn't count.

Government officials working to promote bicycling and walking need data to evaluate their efforts. In order to improve something, there must be a means to measure it. The Alliance for Biking & Walking's Benchmarking Project is an ongoing effort to collect and analyze data on bicycling and walking in all 50 states and at least the 50 largest cities. This is the second biennial Benchmarking Report. The first report was published in the fall of 2007, and the next report is scheduled to be published in January 2012.

Objectives

(1) Promote Data Collection and Availability

The Benchmarking project aims to collect data from secondary sources (existing databases) and to conduct surveys of city and state officials to obtain data not collected by another national source. A number of government and national data sources are collected and

illustrated in this report. Through state, city, and organization biannual surveys, this project makes new data available in a standardized format that otherwise does not exist.

(2) Measure Progress and Evaluate Results

The Benchmarking Project aims to provide data to government officials and advocates in an accessible format that helps them measure their progress toward increasing bicycling and walking and evaluate the results of their efforts. Because the Benchmarking Project is ongoing, cities and states can measure their progress over time and will see the impacts of their efforts. By providing a consistent and objective tool for evaluation, organizations, states, and cities can determine what works and what doesn't. Successful models can be emulated and failed models reevaluated.

(3) Support Efforts to Increase Bicycling and Walking

This project will ultimately support the efforts of government officials and bicycle and pedestrian advocacy organizations to increase bicycling and walking in their communities. By providing a means for cities and states to compare themselves to one another, this report will highlight successes, encourage communities making progress, and make communities aware of areas where more effort is needed. By highlighting the top states and cities, other states and cities will gain inspiration and best practice models. This report is intended to help states and communities set goals, plan strategies, and evaluate results.

Data Collection

This report focuses on 50 states and the 51 largest U.S. cities. Most bicycling and walking is in urban areas, and because of short trip distances, the most potential for increasing bicycling and walking is in cities. Whenever possible, the Alliance collected data for this report directly from uniform government data sources. Researchers collected data that were not readily accessible from national sources through three surveys for cities, states, and advocacy organizations. In October 2008, the team reached out to 50 states and 51 cities, utilizing the staff of cities, state departments of transportation, metropolitan planning organizations, and advocacy organizations to provide data for organization, city, and state surveys. The surveys complemented existing government data sources to create a comprehen-

State Overview of Primary Benchmarking Indicators

Key: ● = Top 1/3 among states ◐ = Middle 1/3 among states ○ = Bottom 1/3 among states * = data unavailable

State	Mode Share	Safety	Funding	Staffing	Bike/Ped Policies (1)	Advocacy Capacity (2)
Alabama	○	○	◐	○	○	◐
Alaska	●	●	●	●	◐	○
Arizona	◐	○	●	○	●	◐
Arkansas	○	○	◐	◐	○	◐
California	◐	◐	◐	◐	◐	*
Colorado	●	◐	○	○	◐	●
Connecticut	◐	◐	○	○	●	○
Delaware	◐	○	●	●	◐	○
Florida	○	○	○	○	◐	◐
Georgia	○	○	◐	○	◐	*
Hawaii	●	◐	●	◐	◐	●
Idaho	●	●	●	●	◐	○
Illinois	◐	◐	○	○	◐	●
Indiana	○	◐	◐	○	○	●
Iowa	●	●	●	◐	○	●
Kansas	◐	◐	◐	●	○	○
Kentucky	○	◐	◐	○	◐	*
Louisiana	○	○	○	◐	◐	○
Maine	●	●	◐	●	●	●
Maryland	◐	○	○	●	●	*
Massachusetts	●	●	○	●	●	●
Michigan	◐	◐	◐	●	◐	●
Minnesota	◐	●	●	◐	●	◐
Mississippi	○	○	○	◐	○	◐
Missouri	○	◐	◐	○	○	◐
Montana	●	●	●	*	○	○
Nebraska	◐	●	◐	*	○	○
Nevada	◐	○	○	◐	◐	○
New Hampshire	◐	●	●	●	●	◐
New Jersey	◐	◐	○	◐	●	◐
New Mexico	◐	○	●	◐	○	*
New York	●	●	○	○	◐	◐
North Carolina	○	○	◐	◐	◐	○
North Dakota	●	●	●	●	○	○
Ohio	○	◐	◐	○	○	◐
Oklahoma	○	○	○	◐	○	◐
Oregon	●	●	◐	●	●	●
Pennsylvania	●	◐	●	○	◐	○
Rhode Island	◐	◐	●	◐	◐	●
South Carolina	○	○	○	○	●	●
South Dakota	●	●	◐	◐	○	◐
Tennessee	○	○	●	○	●	○
Texas	○	○	○	◐	○	●
Utah	◐	◐	◐	●	●	◐
Vermont	●	●	●	●	●	●
Virginia	○	◐	○	*	○	●
Washington	●	●	●	●	◐	●
West Virginia	◐	◐	○	◐	◐	◐
Wisconsin	●	●	◐	●	●	●
Wyoming	●	●	●	●	○	○
Find the Data (pg)	38	57–58	82	89	64, 69,75	121, 126

Interpreting the State and City Overview Tables

The tables on this page and next give an overview of how states and cities compare in six areas. Full circles indicate the best ranking; states and cities with full circles are within the top 1/3 among their peers. Half-circles represent the middle 1/3, and empty circles represent the bottom 1/3. States and cities with the most filled in circles represent those that are setting the benchmarks for bicycling and walking levels, safety, funding, staffing, policies, and advocacy capacity, Below is an explanation for how the ranking on this page and next were determined.

Mode Share: This ranking is based on the combined share of commuters who bicycle and walk to work. The top 1/3 states and cities are those with the highest percentage of workers who commute by bicycle and foot. **Data source:** ACS 2007

Safety: This ranking is based on the bicycle and pedestrian fatality rate defined as number of bicycle and pedestrian deaths (using a 3-year average) divided by the bicycling and walking to work mode share times the population. The top 1/3 states and cities are those with the lowest fatality rate, and thus the highest safety ranking. **Data Sources:** FARS 2005-2007, ACS 2007

Funding: This ranking is based on the federal dollars per capita that are obligated to bicycling and walking annually. The top 1/3 states and cities are those with the highest per capita investment of federal dollars in bicycling and walking. **Data Source:** FHWA 2004-2008

Staffing: This ranking is based on the number of full-time-equivalent city and state staff devoted to bicycling and walking issues per 1 million residents. The state ranking includes only state department of transportation staff. City ranking includes city staff. The top 1/3 states and cities are those with the highest number of bike/ped staff per 1 million residents. **Data Source:** State and city surveys

Bike/Ped Policies: This ranking is based on the total number of policies promoting bicycling and walking adopted by the state/city. **Policies counted for states include:** Goals to increase walking, increase bicycling, decrease pedestrian fatalities, and decrease bicycle fatalities; Master Plan adopted for bicycling and for walking; Bike/ Ped advisory committee; legal 2-abreast riding for bicycles; publicly available bicycle map; incen-

City Overview of Primary Benchmarking Indicators

Key: ● = Top 1/3 among states ◐ = Middle 1/3 among states ○ = Bottom 1/3 among states * = data unavailable

tives for bicycle commuting, complete streets policy; CO_2 Reduction Plan adopted and if it included goals for bicycling and goals for walking; statewide bicycle conference. **Policies counted for cities include:** goals to increase walking, increase bicycling, decrease pedestrian fatalities, and decrease bicycle fatalities; Master Plan adopted for bicycling and for walking; Bike/ Ped advisory committee; driver enforcement for not yielding; minimum spending level for bicycle and pedestrian; maximum number of parking spaces for new building; bicycle parking requirements in building/ garages, new buildings, and at public events; complete streets policy. **Data Sources:** State surveys, city surveys, League of American Bicyclists (1)

Advocacy Capacity: This ranking is based on the 3-year average (2006-2008) per capita revenue of bicycling and walking advocacy organizations serving cities/states. Only statewide organizations are included for states and only organizations with a focus on serving a study area city are included for cities. Cities and states without dedicated advocacy organizations are marked by an empty circle. **Data Source:** Organization surveys (2)

Notes: (1) Because many states have the same number of policies, policy rankings are not divided into even thirds. For states, those with 10 or more of the 16 policies considered are indicated with full circles; those with 5-9 policies are indicated with a half circle, and those with fewer than 5 policies are indicated with an empty circle. For cities, those with 9 or more of the 15 policies considered are indicated with full circles; those with 7-8 policies are indicated with a half circle, and those with fewer than 7 policies are indicated with an empty circle. (2) These rankings are based on surveys of Alliance bicycling and walking advocacy organizations only. Because some cities and states are not served by dedicated Alliance advocacy organizations, for states, the 16 served by advocacy organizations with the greatest capacity are marked with a full circle, the 15 remaining states served by advocacy organizations are marked with half circles, and the remaining states not served by statewide Alliance advocacy organizations are indicated with empty circles. For cities the 15 served by advocacy organizations with the greatest capacity are marked with a full circle, the 14 remaining cities served by advocacy organizations are marked with half circles, and the remaining cities not served by dedicated Alliance advocacy organizations are indicated with empty circles.

City	Mode Share	Safety	Funding	Staffing	Bike/Ped Policies (1)	Advocacy Capacity (2)
Albuquerque	◐	○	◐	*	*	◐
Arlington, TX	○	○	○	*	○	○
Atlanta	◐	◐	●	○	●	●
Austin	◐	◐	○	●	●	◐
Baltimore	●	●	◐	◐	○	○
Boston	●	●	○	◐	○	◐
Charlotte	○	○	○	◐	●	◐
Chicago	●	●	○	●	◐	●
Cleveland	◐	●	●	*	*	●
Colorado Springs	◐	●	◐	◐	◐	●
Columbus	◐	◐	○	◐	◐	◐
Dallas	○	○	◐	○	◐	◐
Denver	●	●	●	●	○	◐
Detroit	◐	○	◐	○	○	○
El Paso	○	◐	○	*	*	○
Fort Worth	○	○	○	○	○	◐
Fresno	◐	○	◐	●	●	○
Honolulu	●	◐	*	●	◐	○
Houston	○	○	◐	○	○	*
Indianapolis	○	◐	●	○	○	○
Jacksonville	○	○	◐	*	*	○
Kansas City, MO	○	●	●	○	●	◐
Las Vegas	◐	◐	○	◐	●	○
Long Beach	◐	◐	○	◐	●	◐
Los Angeles	◐	◐	○	*	○	◐
Louisville	◐	○	◐	●	●	●
Memphis	○	○	◐	*	○	○
Mesa	◐	◐	○	◐	●	○
Miami	◐	○	●	◐	○	◐
Milwaukee	●	◐	◐	○	●	●
Minneapolis	●	●	●	●	◐	●
Nashville	○	○	●	*	○	●
New Orleans	●	●	◐	◐	○	*
New York	●	●	*	○	◐	●
Oakland	●	●	●	●	●	◐
Oklahoma City	○	○	◐	◐	○	○
Omaha	○	●	◐	*	○	◐
Philadelphia	●	●	◐	○	○	●
Phoenix	○	○	○	○	◐	○
Portland, OR	●	●	◐	●	●	●
Raleigh	◐	◐	●	○	◐	○
Sacramento	●	◐	●	*	*	◐
San Antonio	○	○	○	*	*	○
San Diego	◐	◐	●	○	◐	◐
San Francisco	●	●	●	●	●	●
San Jose	◐	◐	●	●	◐	●
Seattle	●	●	●	●	◐	●
Tucson	●	◐	●	◐	●	○
Tulsa	○	○	○	●	◐	○
Virginia Beach	○	◐	○	◐	◐	○
Washington, DC	●	●	●	●	●	●
Find the Data (pg)	39	59–60	83	88,90	65,68	128

Overview of Walking, Bicycling, Transit, and Car Mode Share

Mode of Travel	% of Trips to Work (1)		% of All Trips (2)	
	50 States	Major U.S. Cities	50 States	Major U.S. Cities
	2.8%	4.8%	8.7%	11.0%
	0.5%	0.8%	0.9%	0.9%
	4.8%	17.3%	1.6%	2.4%(4)
(3)	91.9%	77.1%	88.8%	85.7%(4)

Sources: (1) ACS 2007 (2) NHTS 2001 **Notes:** (3) This includes trips by private car and "other" means that are not public transportation, bicycling, or walking. (4) These values are estimated using metropolitan areas with populations over 1 million and do not reflect the study area cities of this report exactly.

sive reserve of data that evaluates multiple factors that affect bicycling and walking in cities and states.

Results

Levels of Bicycling and Walking

From 1990 to 2007, the percent of commuters who bicycle to work increased from 0.4% to 0.5% while the percent of commuters who walk to work decreased from 3.9% to 2.8%. According to the 2007 American Community Survey (ACS), 3.3% of commuters nationwide are bicyclists (0.5%) or pedestrians (2.8%). Residents of major U.S. cities are 1.8 times more likely to walk or bicycle to work than the national average.

According to the 2001 National Household Travel Survey (NHTS) 0.9% of all trips are by bicycle and 8.7% of all trips are by foot nationwide. It is difficult to determine bicycling and walking mode share for all trips at the state and city levels because of small sample sizes of NHTS.

Bicycle and pedestrian commuters are generally distributed proportionately among ethnic groups in the U.S., according to the 2007 ACS. Hispanics are slightly more likely to bicycle or walk to work and Asians are more likely to walk to work than other ethnic groups. Greater disparities are found among genders. While among pedestrian commuters, 54% are male and 46% are female, among bicycle commuters, 77% are male and only 23% are female. A look at age reveals that while walking is generally distributed proportionately among age groups, youth under age 16 make up the majority of bicycle trips. This age group makes up just 24% of the U.S. population, but accounts for 58% of bicycling trips.

Safety

While overall numbers of bicycle and pedestrian fatalities are declining, pedestrians and bicyclists are still at a disproportionate risk for being a victim of a traffic fatality. While just 8.7% of trips in the U.S. are by foot and 0.9% are by bicycle, 11.3% of traffic fatalities are pedestrians and 1.8% are bicyclists. In major U.S. cities, 4.8% of trips are by foot

High to Low Ranking of Bicycling and Walking Levels

States

1. Alaska
2. New York
3. Vermont
4. Montana
5. Oregon
6. Wyoming
7. South Dakota
8. Hawaii
9. North Dakota
10. Massachusetts
11. Maine
12. Iowa
13. Pennsylvania
14. Colorado
15. Idaho
16. Washington
17. Wisconsin
18. Minnesota
19. California
20. New Hampshire
21. Rhode Island
22. Illinois
23. Nebraska
24. New Jersey
25. Utah
26. Connecticut
27. Delaware
28. Kansas
29. Arizona
30. Nevada
31. West Virginia
32. Maryland
33. New Mexico
34. Michigan
35. Ohio
36. Virginia
37. Indiana
38. Kentucky
39. Louisiana
40. Missouri
41. Florida
42. Oklahoma
43. North Carolina
44. Mississippi
45. South Carolina
46. Texas
47. Georgia
48. Arkansas
49. Tennessee
50. Alabama

Cities

1. Boston
2. Washington, DC
3. San Francisco
4. New York
5. Seattle
6. Minneapolis
7. Philadelphia
8. New Orleans
9. Portland, OR
10. Honolulu
11. Baltimore
12. Oakland
13. Chicago
14. Denver
15. Tucson
16. Milwaukee
17. Sacramento
18. Long Beach
19. Atlanta
20. Cleveland
21. Los Angeles
22. Miami
23. San Diego
24. Raleigh
25. Columbus
26. Mesa
27. Albuquerque
28. Detroit
29. Austin
30. Colorado Springs
31. Louisville
32. Las Vegas
33. Fresno
34. San Jose
35. Tulsa
36. Houston
37. Kansas City, MO
38. Memphis
39. El Paso
40. Omaha
41. San Antonio
42. Phoenix
43. Virginia Beach
44. Indianapolis
45. Charlotte
46. Dallas
47. Arlington, TX
48. Jacksonville
49. Nashville
50. Fort Worth
51. Oklahoma City

and 0.8% are by bicycle, yet 26.5% of traffic fatalities are pedestrians and 3.0% are bicyclists.

According to the 2005-2007 Fatality Analysis Reporting System (FARS) and the 2001 NHTS, seniors are the most vulnerable age group. While adults over 65 make up 9% of walking trips and 4% of bicycling trips, they account for 19% of pedestrian fatalities and 9% of bicyclist fatalities.

Policies and Provisions

A number of policies and provisions are represented in this report including funding and staffing levels, infrastructure, written policies, and bike-transit integration. While many states and cities have shown progress in this area, most still rank poorly for funding, written policies, and bike-transit integration.

Funding for Bicycling and Walking

2008 data from the Federal Highway Administration reveal that states spend just 1.2% of their federal transportation dollars on bicycling and walking. This amounts to just $1.29 per capita for bicycling and walking. About 46% of these dedicated bicycle and pedestrian dollars are from the Transportation Enhancement (TE) program. The majority of TE funding (48%) goes toward building bicycle and pedestrian facilities and to bicycle and pedestrian education.

Source: 2007 ACS **Notes** This ranking is based on the combined bike and walk to work share from the 2007 ACS. The number one position indicates the state and city with the highest share of commuters who commute by bicycle or foot. View graphs illustrating this data on pages 34 and 35 of this report.

Planning and Legislation
Since the 2007 Benchmarking Report, there has been a 44% increase in the number of states that have published goals to increase bicycling and walking, and a 78% increase in the number of states that have published goals to reduce bicycle and pedestrian fatalities.

A number of new policies were included in the surveys for this report and collected from the League of American Bicyclists' (LAB) new Bicycle Friendly States program. 2009 LAB data on state legislation reveal that most states have basic bicyclists' rights legislation such as allowing bicyclists to legally ride two-abreast, signal right turns with their right hand, and to take a full traffic lane in the presence of a sidepath or bike lane. Fourteen states have 3-foot passing laws that require motorists to pass bicyclists at a safe distance of at least three feet.

A survey of other policies found that less than half of cities and states have adopted complete streets policies that require streets be built to accommodate all potential road users. Thirteen of 18 states that have adopted CO2 reduction plans have included goals for bicycling and walking as part of these plans. Just 16 states report having a statewide bicycle conference. And 36 states report having a publicly available bicycle map.

Sources: FARS 2005-2007, ACS 2007 **Notes:** This ranking is based on the fatality rate which is calculated as number of bicycling or walking fatalities during 2005-2007 divided by the population times the bicycle or walk to work mode share. The number one position indicates the safest state or city according to the fatality rate. View these data on pages 53–56 of this report.

Low to High Ranking of Bike/Ped Fatality Rates

States

1. Vermont
2. Nebraska
3. Alaska
4. Wyoming
5. North Dakota
6. Maine
7. Idaho
8. New Hampshire
9. Minnesota
10. Massachusetts
11. South Dakota
12. Iowa
13. New York
14. Wisconsin
15. Montana
16. Washington
17. Oregon
18. Colorado
19. Kansas
20. Connecticut
21. Pennsylvania
22. Utah
23. Ohio
24. Illinois
25. Rhode Island
26. West Virginia
27. Virginia
28. Indiana
29. Hawaii
30. New Jersey
31. Kentucky
32. Michigan
33. California
34. Missouri
35. Maryland
36. Delaware
37. Oklahoma
38. Arkansas
39. Nevada
40. Tennessee
41. Texas
42. Georgia
43. Arizona
44. North Carolina
45. Mississippi
46. New Mexico
47. Louisiana
48. Alabama
49. South Carolina
50. Florida

Cities

1. Kansas City, MO
2. Boston
3. Minneapolis
4. Seattle
5. New York
6. San Francisco
7. Colorado Springs
8. Washington, DC
9. Portland, OR
10. Philadelphia
11. Omaha
12. Chicago
13. Baltimore
14. New Orleans
15. Oakland
16. Cleveland
17. Denver
18. Columbus
19. Milwaukee
20. Long Beach
21. Honolulu
22. Atlanta
23. Sacramento
24. San Diego
25. Virginia Beach
26. El Paso
27. Los Angeles
28. Tucson
29. Raleigh
30. San Jose
31. Indianapolis
32. Mesa
33. Austin
34. Las Vegas
35. San Antonio
36. Memphis
37. Louisville
38. Fresno
39. Arlington, TX
40. Houston
41. Charlotte
42. Albuquerque
43. Tulsa
44. Detroit
45. Miami
46. Phoenix
47. Nashville
48. Oklahoma City
49. Dallas
50. Fort Worth
51. Jacksonville

High to Low Ranking of Per Capita Funding to Bike/Ped

States

1. Alaska
2. Vermont
3. Rhode Island
4. Wyoming
5. Montana
6. Hawaii
7. New Hampshire
8. Delaware
9. Iowa
10. New Mexico
11. Tennessee
12. Washington
13. Arizona
14. Minnesota
15. North Dakota
16. Pennsylvania
17. Idaho
18. Alabama
19. Missouri
20. Kansas
21. Indiana
22. Maine
23. Nebraska
24. South Dakota
25. Georgia
26. Kentucky
27. Wisconsin
28. Oregon
29. Utah
30. Michigan
31. Ohio
32. Arkansas
33. North Carolina
34. California
35. Louisiana
36. Colorado
37. Connecticut
38. Florida
39. Mississippi
40. Texas
41. Massachusetts
42. Nevada
43. Illinois
44. Oklahoma
45. Maryland
46. New Jersey
47. New York
48. West Virginia
49. South Carolina
50. Virginia

Cities

1. Atlanta
2. Minneapolis
3. Oakland
4. Washington, DC
5. Tucson
6. Seattle
7. Nashville
8. Cleveland
9. Sacramento
10. Miami
11. Indianapolis
12. Raleigh
13. San Diego
14. San Francisco
15. San Jose
16. Denver
17. Kansas City, MO
18. Portland, OR
19. New Orleans
20. Detroit
21. Albuquerque
22. Oklahoma City
23. Milwaukee
24. Houston
25. Jacksonville
26. Omaha
27. Philadelphia
28. Dallas
29. Fresno
30. Memphis
31. Colorado Springs
32. Louisville
33. Baltimore
34. Virginia Beach
35. Arlington, TX
36. San Antonio
37. Columbus
38. Phoenix
39. Long Beach
40. Boston
41. Los Angeles
42. Tulsa
43. Chicago
44. Las Vegas
45. Mesa
46. Fort Worth
47. Charlotte
48. Austin
49. El Paso

Data on Safe Routes to School policies at the state level were collected from state surveys and from the Council of Educational Facility Planners International (CEFPI). State surveys indicate that 15 states provide additional funding for Safe Routes to School beyond federal funding. According to CEFPI, 25 states have policies requiring minimum acreage for school siting. These policies often force new schools to locate far from population centers making bicycling and walking to school difficult for students.

Cities were surveyed on driver enforcement for not yielding to bicyclists or pedestrians. Results indicate that slightly less than half of cities actively enforce motorists not yielding to bicyclists and pedestrians. The average fine is $159.

Cities were also surveyed on car and bicycle parking requirements. The majority of cities (38) have policies that require a minimum number of car parking spaces for new developments. Just eight cities report having policies that set maximum limits for car parking. Fifteen cities require bicycle parking in buildings and garages, 23 as part of new buildings, and eight at public events over a certain size.

Staffing

Staffing is indicative of how a state or city prioritizes improving bicycling and walking. Surveys indicate that,

Source: FHWA FMIS 2004-2008 **Notes:** This ranking is based on the per capita spending of states and cities on bicycling and walking using a 5-year average (2004-2008). Data is based on funds obligated to projects in this period and are not necessarily the amount spent in these years. The number one position indicates the state or city with the highest amount of per capita funding to bicycling and walking. No data were available for New York City and Honolulu. View these data on pages 78–79 of this report.

on average, states have 0.8 staff per 1 million residents dedicated to bicycling and walking. While there are states and cities with notable staffing dedicated to bicycling and walking, there is still significant room for improvement. Outreach for this report revealed that the majority of staff dedicated to bicycle and pedestrian issues are overworked, and their departments are understaffed.

Infrastructure
City surveys examined current and planned bicycle and pedestrian infrastructures in order to benchmark the progress communities are making. Specifically, cities reported miles of bike lanes, bicycle routes, and multi-use paths. On average, cities have 1.6 miles of bicycle facilities (bike lanes, multi-use paths, and signed bicycle routes) per square mile (up from 1.2 miles in 2007).
While implementation of innovative facilities such as bicycle boulevards and colored bike lanes is low, surveys indicated that there are new projects currently being implemented or in the process of approval.

Bike-Transit Integration
Bike-transit integration has proved to be a vital aspect of effective bicycle systems. The report analyzes responses from city and state surveys, as well as American Public Transportation Association (APTA) data, to see how well cities are integrating bicycle systems with transit. Thirty-seven cities report that 100% of their bus fleet has bicycle racks, a 23% increase over the past two years. On average, major U.S. cities report an average of 1.2 bicycle parking spaces at transit stops for every 10,000 residents.

Education and Encouragement

Education and encouragement programs at the state and city level are effective ways to inform the public and promote bicycling and walking. Information from state and city surveys and the National Center for Safe Routes to School illustrates the growth in bicycle and pedestrian education in communities. National Walk and Bike to School Day is a popular encouragement activity with growing school participation nationwide.

Thirty cities report having youth bicycle education courses and 35 have adult courses. Youth education is a vital area of outreach because it has the potential to influence the habits of the next generation. The number of youth who participate in bicycle education courses in cities increased by 20% from two years ago. Surveys indicate a 69% increase in adult participation levels for bicycle educational courses over the last two years.

League of American Bicyclists' data indicate that the majority of states (43) have information on bicycling in their state driver's manual, yet just 23 states have questions on bicycling on their state driver's exam. The majority of states (33) have a "Share the Road" or similar public safety campaign. Fifteen states report sponsoring a statewide ride to promote bicycling or physical activity.

This Alliance also collected data on professional education regarding bicycling and walking. Overall, most states have great room for improvement in this area. Only 30% of states have bicycle enforcement as part of police officer training, and only 22% have bicycle enforcement as a police academy requirement. And, just 16 states report having hosted a statewide bicycle and pedestrian conference.

Cities were also surveyed on encouragement activities including presence of and participation levels in Bike to Work Day events, ciclovias/Sunday street events, and city-sponsored bicycle rides. Bike to Work Day is the most common encouragement event with 38 cities

Photo by Kristen Steele

participating with an average of one participant for every 157 adults. Twenty-three cities sponsor rides to promote bicycling or physical activity with an average of one participant for every 582 residents. Fifteen states have hosted car-free ciclovia/Sunday parkways events with an average of one participant for every 53 residents.

Cycling and Walking Advocacy

Advocacy organizations have the potential to influence bicycling and walking in the communities they serve by advocating for and winning new policies, funding, infrastructure, and programs. The number of Alliance state and local bicycle and pedestrian advocacy organizations has been increasing steadily since the Alliance was founded in 1996 (as Thunderhead Alliance). This report measures organization capacity of Alliance member organizations and sets standards for membership, revenue, staffing, and media exposure. Results from Alliance organization surveys vary widely because of the great variation in maturity and operations of these organizations as well as the communities they serve. Some organizations in this report are decades old while others were founded not long before these surveys were collected.

Surveys indicate that revenue of advocacy organizations per resident served increased from $0.03 to $0.04 in the last two years. Organizations serving cities earn significantly more per capita than their statewide counterparts. Local organizations earn an average of $0.20 per resident served while statewide organizations earn just $0.03 per resident. About half of the statewide Alliance organizations report an increase in per capita revenue from two years ago. In general, organization revenue is diversified, coming from membership and donations, events, fees, grants, contracts, and the bicycle industry. Local alliance organizations also have much higher per capita membership levels averaging one member per 1,283 residents. Statewide organizations have an average of 5,222 per member. Similarly, statewide organizations operate with an average of 0.3 full-time-equivalent staff (FTE) per million residents served. Organizations serving cities average 1.9 FTE staff per million residents.

Factors Influencing Bicycling and Walking

Analysis in this report shows several positive relationships between bicycling and walking rates and safety, advocacy capacity, density, and car ownership. While weather does not appear to be a factor that directly influences bicycling levels, density, advocacy capacity, and cost of operating a vehicle are a few factors that appear to influence bicycling and walking trips. ACS and FARS data indicate a positive

correlation between bicycling and walking levels and safety. In line with previous studies, an increase in walking and bicycling levels is strongly related to increased bicyclist and pedestrian safety. A slight positive relationship also exists between advocacy capacity (revenue and staff levels) and bicycling and walking levels. Denser cities (higher number of residents per square mile) also have higher levels of bicycling and walking. As the percent of trips to work by walking and bicycling decreases, so does the percent of households that do not own a car. This suggests a relationship between car ownership and walking and bicycling levels. However, the relationship in cities between bicycling and walking levels and the miles of bike lanes and shared use paths is not as strong and may need to be analyzed further. Difficulty in measuring the quality and accessibility of facilities makes it difficult to examine this relationship at present.

Impacts of Bicycling and Walking on Public Health

To see how bicycling and walking influence public health, the Alliance compared public health data to bicycling and walking levels. Data from the Behavioral Risk Factor Surveillance System (BRFSS) and ACS reflect a direct relationship between levels of bicycling and walking and several public health indicators. Data suggest that the risk for such health problems as obesity, diabetes, asthma, and hypertension will decrease with more bicycling and walking. States with lower bicycling and walking levels on average have higher levels of obesity, diabetes, hypertension, and asthma. States with higher levels of bicycling and walking also have a greater percentage of adults who meet the recommended 30-plus minutes of daily physical activity. This suggests that increasing bicycling and walking can help achieve public health goals of increasing physical activity and lowering rates of overweight and obesity.

Conclusions

While many state and local communities are making sufficient efforts to promote bicycling and walking, there is much more work to be done. Barriers in staffing and funding remain a consistent limitation to promoting bicycling and walking. Bicycling and walking make up nearly 10% of all trips, and over 13% of traffic fatalities, and yet receive less than 2% of federal transportation dollars. The proven environmental, economic, and personal health benefits that bicycling and walking offer are evidence that increasing bicycling and walking levels are in the public good, yet a much greater investment is needed throughout the U.S. This Benchmarking Report identifies which cities and states are leading the way and provides links to

resources (Appendix 5) from these communities. The Alliance recommends that government officials and advocates take the time to evaluate their efforts to promote bicycling and walking. This report can be used by communities to see how they measure up, to identify role models, and to set new goals. Continued benchmarking and improvements in the availability of data will strengthen the report in the coming years, and lend a better understanding of the factors that influence bicycling and walking. Ultimately, by providing a tool for communities to consistently measure progress, evaluate results, and set new targets, this report will advance efforts for a more bicycle and pedestrian friendly America.

1: Introduction

Photo by David Niddrie

Benchmarking Bicycling and Walking

Benchmarking is the method of determining best practices or standards and who sets them. Government officials and bicycle and pedestrian advocates have all wondered at some point how their city or state compares with others. Officials and advocates need data to measure their progress and evaluate their efforts. The Alliance for Biking & Walking's Benchmarking Project collects data from government and national data sources, and through surveys to government officials and advocates. Results are published in a biennial Benchmarking Report to demonstrate the progress of cities and states in regard to bicycling and walking. Benchmarking helps to show officials and advocates where their city or state measures up and helps them to identify areas most in need of improvement. The ultimate objectives of the Benchmarking Project are to increase the number of people who bicycle and walk and to improve their safety. Through benchmarking, new goals can be set, programs evaluated, and continued progress made toward a bicycle and pedestrian friendly America.

Primary Objectives

Promote Data Collection and Availability

Historically there has been little data available on bicycling and walking that can be compared across states and cities. Data that has existed is often not easily accessible to officials and advocates. One of the primary objectives of the Alliance's Benchmarking Project is to promote data collection and availability. This project collects data from a number of government and national data sources and presents it in a way that is easily accessible to those who need it. Through biennial surveys of states, cities, and advocacy organizations, the Benchmarking Project makes new data available such as miles of infrastructure, staffing levels, and advocacy capacity. These data are not collected by any other source, but are crucial to understanding mode share and safety outcomes.

Measure Progress and Evaluate Results

Benchmarking is a necessary step to give communities a true picture of how they compare to other communities, what areas they are excelling in, and where they are falling behind. Most importantly, these data enable advocates and officials to evaluate the results of their efforts. Because the Benchmarking Project is ongoing, states and cities can measure their progress over time and will see the impacts of their efforts. By providing a consistent and objective tool for evaluation, this report allows states and cities to determine what works and what doesn't. Successful models can be emulated and failed models discarded.

Support Efforts to Increase Bicycling and Walking

The ultimate objectives of the Alliance's Benchmarking Project are to support the efforts of officials and advocates to increase bicycling and walking in their communities and improve bicycle and pedestrian safety across the U.S. By comparing bicycling and walking statistics across states and cities, this report highlights and praises efforts of communities who provide models, encourages those making progress, and makes states and cities aware of areas where they need work. The Alliance hopes that this report will be used by communities to set goals for increasing bicycling and walking, plan strategies using best practice models, and evaluate results over time. The Alliance strives to make this project a service and tool for officials and advocates so that they can chart the best course toward more bikeable and walkable communities.

Photo by Kristen Steele

Secondary Objectives

Make the Health Connection

The Centers for Disease Control and Prevention have declared obesity an epidemic, and people are now looking more closely at the lifestyle choices that may be to blame. Among the top are unhealthy diet and sedentary lifestyles. Studies demonstrate a link between the built environment and levels of physical activity (Goldberg, 2007; TRB, 2005). The way communities are designed is inextricably linked to the amount of physical activity its residents average. Where environments are built with bicyclists and pedestrians in mind, more people bicycle and walk. These environments increase opportunities for physical activity and promote healthy lifestyles. Nearly 40% of all trips are two miles or less (NHTS), which is considered an easily bikeable distance. Now that people are looking for answers to reversing the obesity epidemic, increasing bicycling and walking is an obvious solution.

Alliance for Biking & Walking has partnered with the Centers for Disease Control and Prevention for this project in an effort to highlight the connection between healthy lifestyles and bicycling and walking. This report includes data on physical activity, obesity and overweight trends, high blood pressure rates, and diabetes, to illustrate the connection between bicycling and walking levels and these health indicators. Along with illustrating the correlation between bicycling and walking and health, the Alliance hopes to show, over time, that as bicycling and walking

levels increase, the obesity epidemic also begins to reverse. Data and illustrations in this report are intended to be used by officials and advocates to argue for bicycling and walking as an important part of the solution to creating healthier communities.

Strengthen the Alliance's Network

Lastly, the Alliance aims to strengthen its network of bicycle and pedestrian advocacy organizations by providing organizations the data they need to evaluate their success, prove results, and gain prominence in their communities. Alliance organizations can bring data from this report back to their community leaders, government officials, and media to highlight areas in which their community is successful, making progress, and in need of improvements. Alliance organizations can also use these data to prove that advocacy gets results by showing the link between advocacy capacity and levels of bicycling and walking. This report is a tool for Alliance member organizations to gain prominence and win safe and accessible streets for bicycling and walking in their communities.

Study Areas and Data Collection

50 States / 51 Cities

The Benchmarking Project focuses data collection efforts on the 50 U.S. states and the 50 largest U.S. cities. Smaller and mid-sized U.S. cities were invited to participate in the project, and data are made available from these cities, but for comparison purposes only. The 50 largest cities (and New Orleans) are included in this report. New Orleans was included in the 2007 Benchmarking Report as a top 50 population city (according to 2005 ACS population data), but experienced dramatic population loss after Hurricane Katrina in 2005. Raleigh, NC, moved up into the top 50 largest cities and is the only new city added for this report. The project team chose to keep New Orleans in this analysis to maintain consistency in cities reported. Throughout this report we refer to the "51 Largest U.S. Cities" which includes the 50 largest U.S. cities and New Orleans. For consistency purposes going forward, cities will only be excluded or added into the report if their population remains above or below the top 50 cutoff for three years or more. Throughout this report, the top 50 largest U.S. cities (and New Orleans) are also referred to as "major" or "largest" U.S. cities.

The Benchmarking Project focuses on the 50 largest cities because these areas are the largest population areas of U.S. residents. Nearly

50 million people live in the 51 cities included in this report. Cities are also generally more densely developed than suburban and rural communities, and so may have greater opportunities for conversion of car trips to bicycling and walking.

Data Collection

The Project Team identified national and uniform government sources for data in this report whenever possible. National data sources utilized for this report include:

- U.S. Census (1990, 2000)
- American Community Survey (ACS) (2005, 2006, 2007)
- American Public Transportation Association (APTA) (2008)
- National Household Travel Survey (2001-2002)
- National Transportation Enhancements Clearinghouse (2005-2007)
- Federal Highway Administration (FHWA) (2004-2009)
- Fatality Analysis Reporting System (FARS) (2005-2007)
- Behavioral Risk Factor Surveillance System (BRFSS) (2007)
- National Health Interview Survey (NHIS) (2005)
- National Health and Nutrition Examination Study (NHANES) (2005-2006)
- United States Historical Climatology Network (USHCN)
- National Center for Safe Routes to School (2009)
- National Complete Streets Coalition (2009)

Study Area Populations

Rank	State	Population
1	California	36,553,215
2	Texas	23,904,380
3	New York	19,297,729
4	Florida	18,251,243
5	Illinois	12,852,548
6	Pennsylvania	12,432,792
7	Ohio	11,466,917
8	Michigan	10,071,822
9	Georgia	9,544,750
10	North Carolina	9,061,032
11	New Jersey	8,685,920
12	Virginia	7,712,091
13	Washington	6,468,424
14	Massachusetts	6,449,755
15	Indiana	6,345,289
16	Arizona	6,338,755
17	Tennessee	6,156,719
18	Missouri	5,878,415
19	Maryland	5,618,344
20	Wisconsin	5,601,640
21	Minnesota	5,197,621
22	Colorado	4,861,515
23	Alabama	4,627,851
24	South Carolina	4,407,709
25	Louisiana	4,293,204
26	Kentucky	4,241,474
27	Oregon	3,747,455
28	Oklahoma	3,617,316
29	Connecticut	3,502,309
30	Iowa	2,988,046
31	Mississippi	2,918,785
32	Arkansas	2,834,797
33	Kansas	2,775,997
34	Utah	2,645,330
35	Nevada	2,565,382
36	New Mexico	1,969,915
37	West Virginia	1,812,035
38	Nebraska	1,774,571
39	Idaho	1,499,402
40	Maine	1,317,207
41	New Hampshire	1,315,828
42	Hawaii	1,283,388
43	Rhode Island	1,057,832
44	Montana	957,861
45	Delaware	864,764
46	South Dakota	796,214
47	Alaska	683,478
48	North Dakota	639,715
49	Vermont	621,254
50	Wyoming	522,830

Rank	City	Population
1	New York	8,274,527
2	Los Angeles	3,806,003
3	Chicago	2,737,996
4	Houston	2,046,792
5	Phoenix	1,513,777
6	Philadelphia	1,449,634
7	San Antonio	1,284,332
8	San Diego	1,276,740
9	Dallas	1,240,044
10	San Jose	922,389
11	Jacksonville	808,526
12	Detroit	808,327
13	Indianapolis	793,010
14	San Francisco	764,976
15	Austin	749,659
16	Columbus	732,974
17	Charlotte	675,229
18	Fort Worth	650,613
19	Baltimore	637,455
20	Memphis	637,425
21	Boston	613,117
22	El Paso	605,410
23	Nashville	593,332
24	Denver	588,349
25	Washington, DC	588,292
26	Milwaukee	582,207
27	Seattle	577,231
28	Las Vegas	562,582
29	Louisville	561,398
30	Portland, OR	550,795
31	Oklahoma City	546,930
32	Tucson	519,260
33	Albuquerque	511,893
34	Mesa	479,415
35	Fresno	470,460
36	Long Beach	458,302
37	Sacramento	451,404
38	Kansas City, MO	437,657
39	Virginia Beach	434,743
40	Atlanta	432,511
41	Cleveland	395,310
42	Tulsa	389,536
43	Colorado Springs	389,490
44	Omaha	374,344
45	Arlington, TX	359,365
46	Oakland	358,829
47	Raleigh	354,188
48	Honolulu	352,725
49	Minneapolis	351,184
50	Miami	348,827
51*	New Orleans	239,124

Source: 2007 ACS **Note:** * New Orleans is not currently the 51 largest U.S. city but was included in this report for consistency and continuity with the 2007 Benchmarking Report.

- League of American Bicyclists (LAB) Bicycle Friendly States Program (2009)
- Rails to Trails Conservancy (2009)
- Safe Routes to School National Partnership (SRTSNP) State of the State's Report (2009)

The sources are identified throughout the report with accompanying data. An overview of the data sources used in this report can be found in Appendix 1 on page 161.

Many of the variables this report measures are not currently available from other national sources. In these cases, the Project Team relied on city, state, and organization surveys to collect data on such indicators as miles of bicycle facilities, bike/ped staffing levels, and advocacy capacity. The surveys were sent to leaders of Alliance organizations, government officials, and advocates in the 50 states and 51 cities represented in this report in October 2008. Because Alliance advocacy leaders can tap existing relationships with local government officials, they were able to help increase the survey response rate and ensure that finished surveys were as complete as possible. Surveys were completed by department of transportation staff, metropolitan planning organization staff, city officials, and Alliance advocacy leaders. In many cases surveys required input from multiple agencies because the requested data were not easily accessible in one place. The project team reached out to survey respondents through March 2009, with the final data for

Photo by Katherine Johnson

Primary Benchmarks in This Report

Input Benchmarks	
Policy (Chapter 4)	◆ funding levels (per capita and % of transportation dollars to bicycling and walking) ◆ staffing levels (per capita) ◆ complete streets policies ◆ goals to increase bicycling and walking ◆ goals to increase safety ◆ bike/ped master plan ◆ bike/ped advisory committee ◆ legislation ◆ infrastructure (existing and planned miles per square mile) ◆ bike-transit integration • bicycle racks on buses • bicycle parking spaces at transit stations (per capita) • bicycle access on rail ◆ facilities at transit
Programs (Chapter 5)	◆ adult and youth bicycle education courses (per capita) ◆ Bike to Work Day program (per capita) ◆ car-free events program (per capita) ◆ city/state-sponsored bicycle rides program (per capita) ◆ Walk and Bike to School Day program (per capita)
Advocacy (Chapter 6)	◆ presence of dedicated bike/ped advocacy organization ◆ capacity indicators of advocacy organization • membership (per capita) • budget (per capita) • staff levels (per capita) • media hits
Outcome Benchmarks	
Mode share (Chapter 2)	◆ trips to work ◆ all trips ◆ demographics • age • gender • ethnicity
Safety (Chapter 3)	◆ fatalities (number and percent of all traffic fatalities) ◆ risk ◆ disparities in mode share and fatalities ◆ demographics • age
Public health (Chapter 8)	◆ overweight and obesity levels ◆ hypertension (high blood pressure) levels ◆ diabetes levels ◆ asthma levels ◆ physical activity levels

the report coming in early April. All data were entered into the Benchmarking Project's data collection tool, checked for quality control, and analyzed over the next several months. This report relies largely on self-reported data and while the Alliance has made all efforts to verify, the accuracy cannot be guaranteed.

Benchmarks in This Report

Bicycling and walking mode share (percent of all trips and percent of trips to work) and safety are the two primary outcome benchmarks of this project. Because our ultimate goals are to increase bicycling

and walking, and improve bicyclist and pedestrian safety, these are the benchmarks with which we ultimately measure the progress of states and cities. We also measure a number of input benchmarks which we believe, and research has shown, influence levels of bicycling, walking, and safety. Input benchmarks are the factors that affect the outcome benchmarks. Policy, Programs, and Advocacy are the three primary input benchmarks contained in this report. A variety of things are measured under each of these input categories (detailed in the chart on page 27). While likely none of these benchmarks alone are responsible for bicycling and walking levels and safety, a number of them combined may shape mode share and safety levels.

This report includes additional data on input factors that may influence bicycling and walking including weather, residential density, and levels of car ownership. This report also includes data on public health, a secondary outcome benchmark of this project.

Using This Report

The Benchmarking Project is intended as a resource for government officials, bicycle and pedestrian advocates, researchers, and the media searching for comparable data and means to measure progress. We encourage you to search this document for your city or state to see how you compare to other cities or state. To make data easy to find, this report orders all data tables alphabetically by city or state. Charts and graphs are ordered by benchmark in order to most clearly see how states and cities compare with each other. **Here are a few additional tips for using this report:**

1. **See where you measure up:** Scan the report for your city or state. See how your city/state compares to others. Are you below or above the average for other cities/states? Note where you are leading and where you are behind.
2. **Connect with the media:** Consider issuing a press release or talking with the media about this report. Discuss how your state or city stacks up against others in bicycling and walking levels, safety, and funding. Highlight any areas where you are leading and opportunities for improvement. Use the data to support the work you are doing to promote bicycling and walking locally.
3. **Evaluate your efforts:** Think about where you have been focusing your efforts toward increasing bicycling and walking and

safety. Are these efforts working? Look for trends in the data in this report. Look for benchmarks set by cities and states that are leading in the area you are working in.

4. **Set new goals:** Use the data in this report to set new goals and refocus your efforts if needed. In this report you will find which cities/states are leading in per capita funding and staffing for bicycling and walking, in miles of bicycling and walking facilities per square mile, in per capita membership and revenue for advocacy organizations, and a number of other indicators. You will also see what the national average and averages for major U.S. cities are. Use these benchmarks to set goals for your city/state.
5. **Use it as a reference book:** The Alliance has heard from a number of government officials and advocates that the Benchmarking Report is a publication they reference frequently in their work. Keep this report on your office bookshelf in an accessible location. Use it when you are contacted by the media for statistics in your community, or when you need facts for a presentation or paper you are preparing. Use these data to support your work promoting bicycling and walking in your state or city.

If you have questions about the data in this report, would like to request additional data from the Benchmarking Project, have feedback for our team, or other questions or inquiries, please don't hesitate to contact us at benchmarking@PeoplePoweredMovement.org.

2: Levels of Bicycling and Walking

Photo courtesy of Frank Chan, San Francisco Bicycle Coalition

How Many People Bicycle and Walk?

The question of how many people in a given area bicycle and walk, and what percentage of trips bicycling and walking account for, is arguably the most important question for advocates and officials. Bicycling and walking levels are the ultimate outcome benchmarks of all efforts to promote bicycling and walking. These figures show communities if they are gaining or losing ground in their efforts to convert more trips to active transportation. Unfortunately, accurate and comparable data on bicycling and walking levels are still very limited (1).

Trip Data for This Report

This report relied on the most consistent and dependable source of data on levels of bicycling and walking available, the American Community Survey (ACS). The ACS is an annual survey which provides

(1) For a discussion of the challenges with determining accurate levels of bicycling and walking, see Appendix 3, page 163. Appendix 3 also contains a discussion on the differences between the ACS and Census methodologies.

STATE RANKING

Cycling to Work	Walking to Work
1 Oregon	1 Alaska
2 Montana	2 New York
3 Wyoming	3 Vermont
4 Colorado	4 Montana
5 Idaho	5 South Dakota
6 Alaska	6 Hawaii
7 California	7 North Dakota
8 Utah	8 Massachusetts
9 Arizona	9 Maine
10 Washington	10 Wyoming
11. Wisconsin	11. Pennsylvania
12. Minnesota	12. Iowa
13. Massachusetts	13. Oregon
14. Hawaii	14. Washington
15. North Dakota	15. Rhode Island
16. Nebraska	16. New Hampshire
17. Nevada	17. Wisconsin
18. Illinois	18. New Jersey
19. Florida	19. Colorado
20. South Dakota	20. Idaho
21. Vermont	21. Connecticut
22. New York	22. Minnesota
23. New Mexico	23. Illinois
24. Iowa	24. Nebraska
25. Delaware	25. California
26. Maine	26. Kansas
27. Michigan	27. Delaware
28. New Hampshire	28. Utah
29. Pennsylvania	29. Maryland
30. Indiana	30. West Virginia
31. Kansas	31. Nevada
32. Louisiana	32. Ohio
33. Ohio	33. Michigan
34. New Jersey	34. Arizona
35. Virginia	35. New Mexico
36. Connecticut	36. Kentucky
37. Mississippi	37. Virginia
38. Rhode Island	38. Indiana
39. Texas	39. Louisiana
40. Missouri	40. Missouri
41. West Virginia	41. Oklahoma
42. Kentucky	42. North Carolina
43. North Carolina	43. South Carolina
44. South Carolina	44. Texas
45. Georgia	45. Mississippi
46. Maryland	46. Georgia
47. Oklahoma	47. Florida
48. Arkansas	48. Arkansas
49. Tennessee	49. Tennessee
50. Alabama	50. Alabama

yearly estimates on the share of workers commuting by bicycle or foot. This report also includes the estimated bicycling and walking mode share for all trips from the 2001 National Household Travel Survey (NHTS) (2).

This report looks at mode share to work data from the 1990 and 2000 decennial Census, and the 2005, 2006, and 2007 ACS. Although work trips account for only 14% of all trips (NHTS 2001-2002), these data provide a glimpse into trends in bicycling and walking levels over the last 17 years.

Findings on Mode Share

The Alliance used 2007 ACS data to determine that nationwide, an average of 3.3% of commuters get to work by bicycle (0.5%) or foot (2.8%). In the major U.S. cities studied here, the share of commuters by bicycle and foot is higher at 5.6% (0.8% bicycling and 4.8% walking). People in major cities are 1.6 times more likely to bicycle to work, and 1.8 times more likely to walk to work, than their counterparts nationwide.

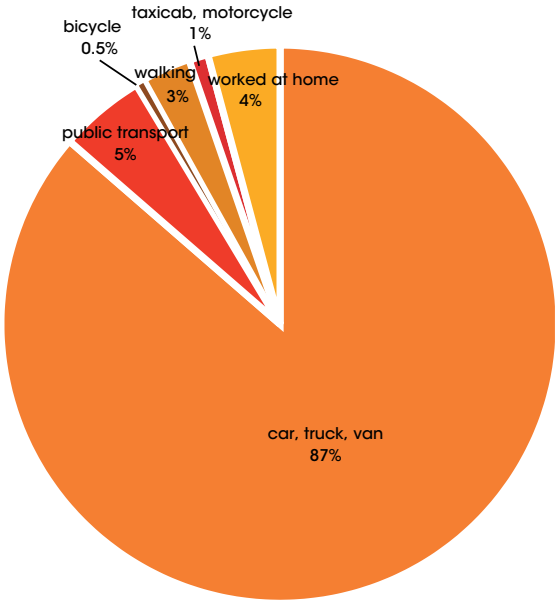
Since our last report in 2007, Oregon has replaced Montana as the state

Tables to left: Source: 2007 ACS **Notes:** This ranking is based on the share of commuters who bicycle and walk to work. The state with the greatest share of commuters who bicycle or walk is ranked #1. The 50th position is the state with the least percentage of commuters who bicycle or walk. View these data on pages 34 and 42 of this report. (2) The 2001 NHTS is a national survey with small sample sizes when disaggregated to the state and local level. Thus, NHTS data for 2001 should be viewed as rough and sometimes unreliable estimates of walk and bicycle trips for individual states and cities. Also, NHTS reports local data according to metropolitan statistical areas, which extend beyond the boundaries of the cities chosen for this Benchmarking report. Due to these limitations, NHTS data should be considered rough estimates for bicycling and walking in these areas. For more of a discussion on data limitations in this chapter, see Appendix 3.

with the highest bicycle to work share at 1.9%. Portland retains the highest share of workers commuting by bicycle—3.9%—among cities in this study. Alaska and Boston remain the state and city with the highest pedestrian commute share (8.4% and 13.3% of all workers commute by foot, respectively).

According to 2001 NHTS estimates the total bicycle mode share for all trip purposes nationwide is 0.90% with the average for the largest metropolitan areas of 0.94%. Oregon is also the top state for overall bicycle mode share, according to NHTS estimates(1), with

Workers' Commutes in U.S. by Mode of Transport



Graph above and ranking to right: Source: ACS 2007
Notes: (ranking to right) This ranking is based on the share of commuters who bicycle and walk to work in cities. The city with the greatest percent of commuters who bicycle or walk is ranked #1. The 51st position is the city with the least percentage of people who commute by bicycle or foot. View this data on pages 35 and 43 of this report. (1) For details and reliability of state and city level NHTS estimates, please see Appendix 3, page 163.

CITY RANKING

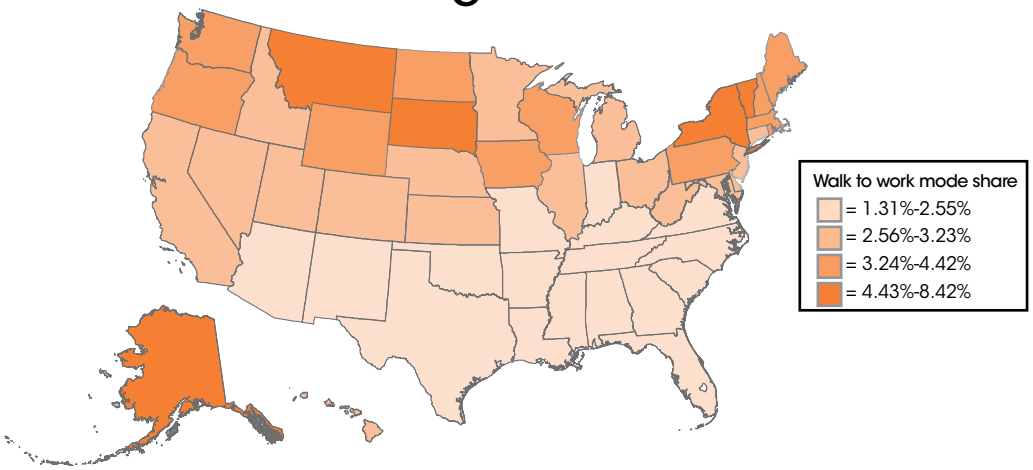
Cycling to Work

1. Portland, OR
2. Minneapolis
3. San Francisco
4. Seattle
5. Tucson
6. Sacramento
7. Washington, DC
8. New Orleans
9. Denver
10. Mesa
11. Oakland
12. Chicago
13. Honolulu
14. Philadelphia
15. Boston
16. Austin
17. Long Beach
18. San Diego
19. Albuquerque
20. Columbus
21. New York
22. San Jose
23. Fresno
24. Atlanta
25. Milwaukee
26. Las Vegas
27. Los Angeles
28. Phoenix
29. Cleveland
30. Colorado Springs
31. Raleigh
32. Detroit
33. Memphis
34. Houston
35. Baltimore
36. Jacksonville
37. Louisville
38. Kansas City, MO
39. Omaha
40. Virginia Beach
41. Nashville
42. Dallas
43. Fort Worth
44. Indianapolis
45. San Antonio
46. Arlington, TX
47. El Paso
48. Miami
49. Tulsa
50. Oklahoma City
51. Charlotte

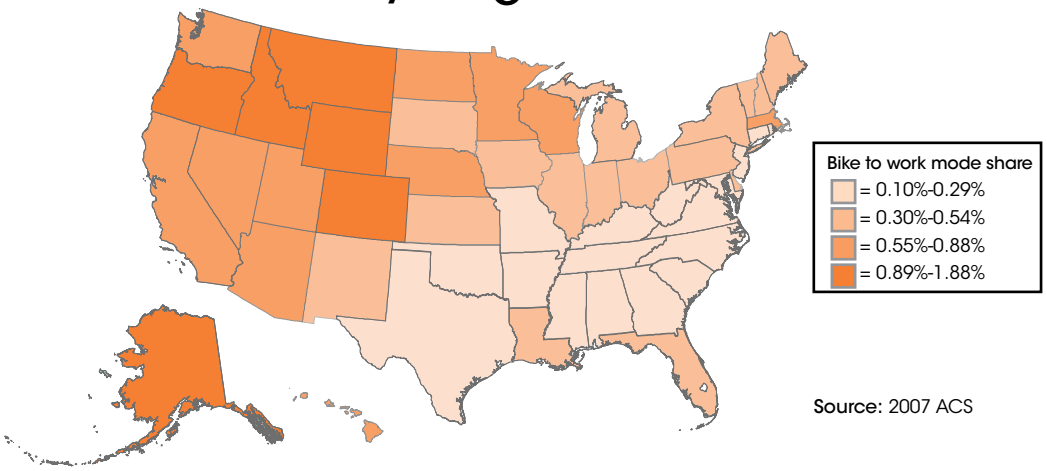
Walking to Work

1. Boston
2. Washington, DC
3. New York
4. San Francisco
5. Seattle
6. Philadelphia
7. Baltimore
8. New Orleans
9. Honolulu
10. Minneapolis
11. Chicago
12. Oakland
13. Milwaukee
14. Portland, OR
15. Denver
16. Miami
17. Tucson
18. Atlanta
19. Cleveland
20. Los Angeles
21. Long Beach
22. Sacramento
23. Raleigh
24. Detroit
25. Columbus
26. San Diego
27. Colorado Springs
28. Tulsa
29. Louisville
30. Albuquerque
31. El Paso
32. Kansas City, MO
33. San Antonio
34. Houston
35. Omaha
36. Las Vegas
37. Memphis
38. Fresno
39. Virginia Beach
40. Austin
41. San Jose
42. Mesa
43. Phoenix
44. Charlotte
45. Indianapolis
46. Arlington, TX
47. Dallas
48. Jacksonville
49. Nashville
50. Fort Worth
51. Oklahoma City

Levels of Walking to Work in U.S.



Levels of Bicycling to Work in U.S.

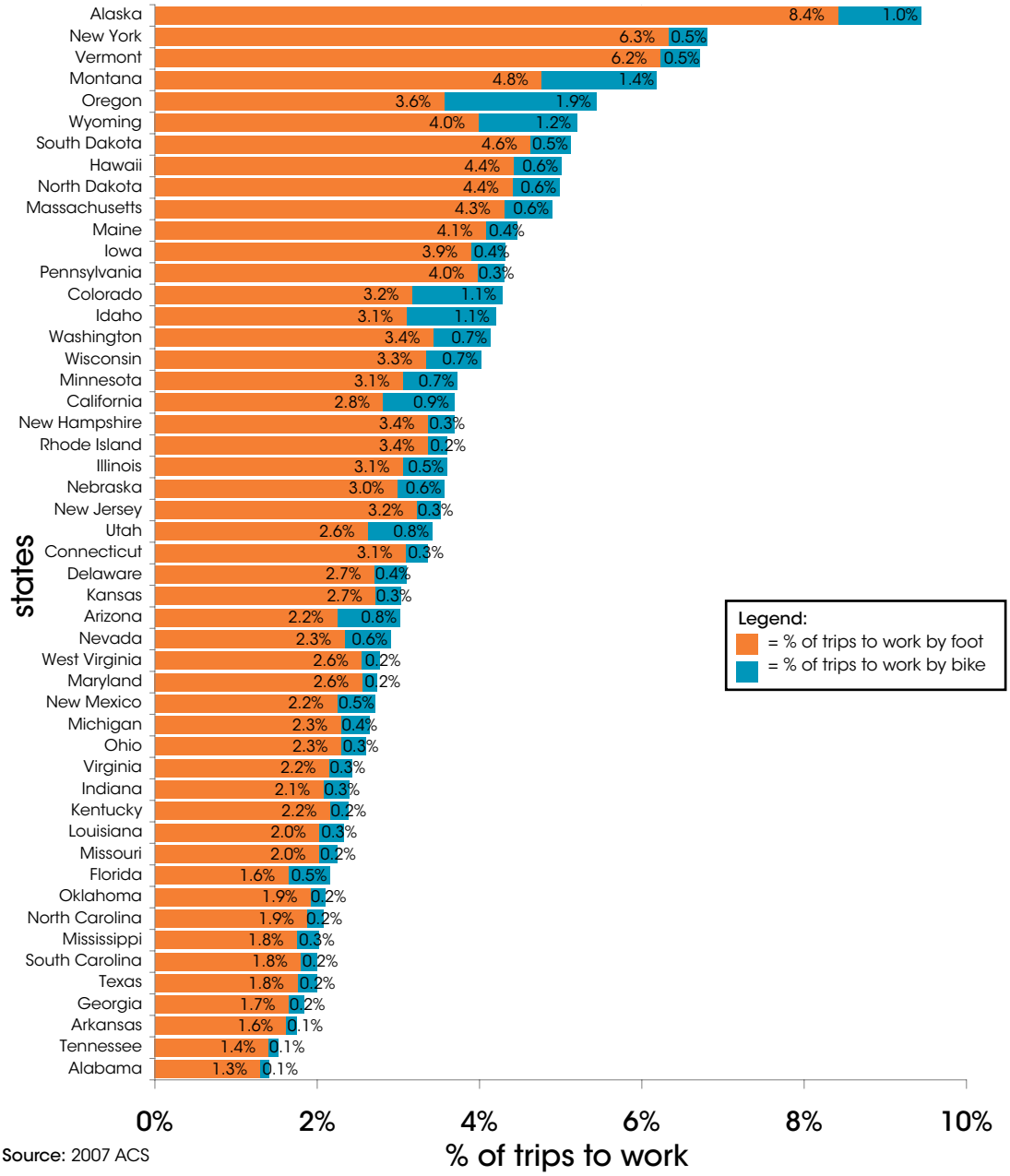


Source: 2007 ACS

2.4% of all trips by bicycle. Tennessee and West Virginia rank lowest in bicycle to work commute share with only 0.07% of work trips by bicycle. Arkansas ranks lowest for all bicycle trips according to NHTS estimates, with only 0.2% of all trips by bicycle.

NHTS data for 2001 show that nationally 8.7% of all trips are by foot. Rates of walking in cities are the greatest. NHTS estimates that 11.0% of all city trips are by foot. New York has the highest rate among states with 18.2% of trips estimated to be by foot. Delaware ranks lowest with only 4.0% walking mode share. New York City ranks highest among major U.S. cities with 19.2% of trips estimated to be by foot. Louisville and Houston rank lowest with an estimated 4.5% walking mode share.

Share of Commuters Who Bicycle or Walk in 50 States

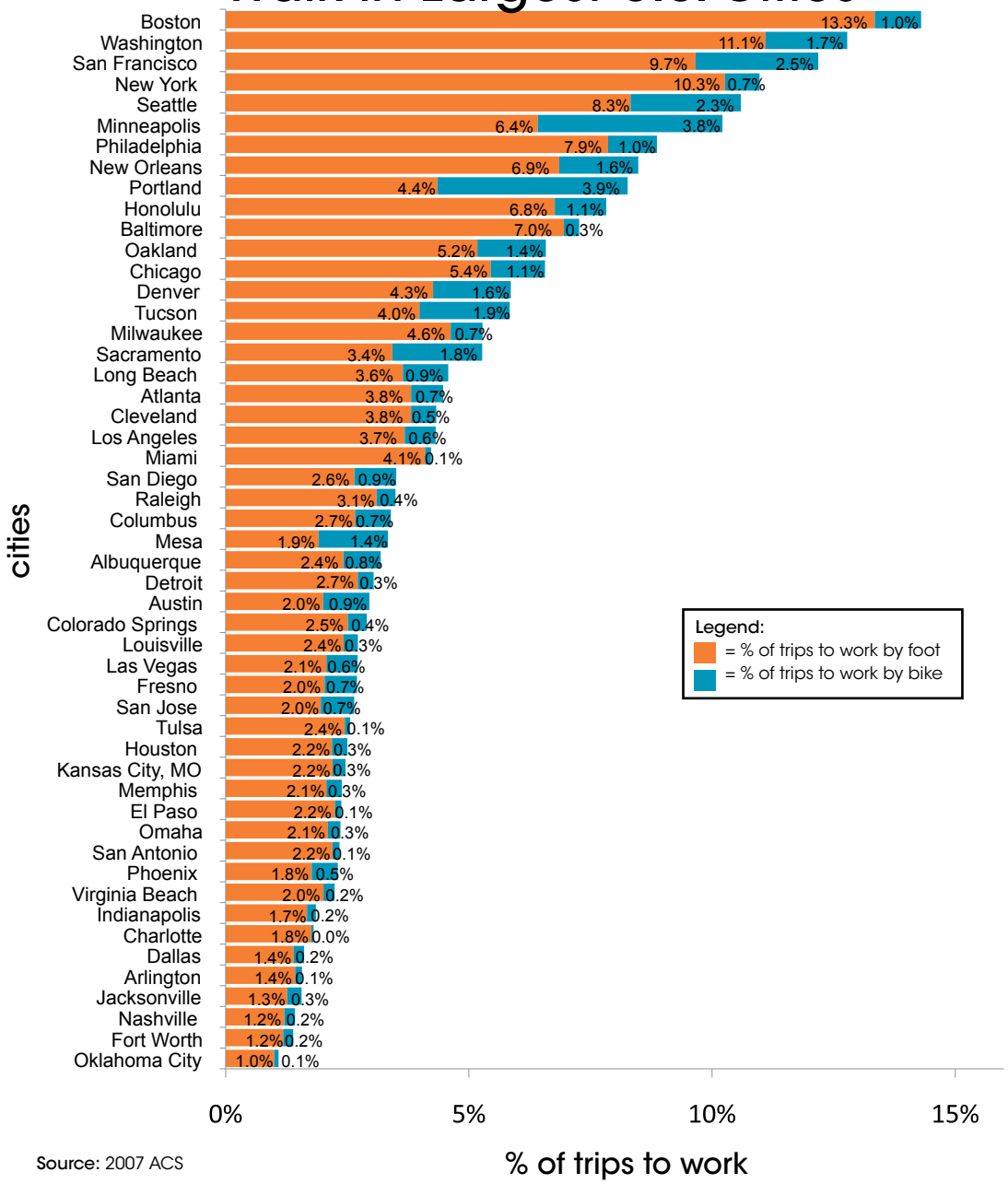


Source: 2007 ACS

Alaska and New York lead states for bicycle + walk to work mode share.

Alaska leads New York and Vermont as the state with the highest percentage of work trips by bicycle or foot—9.4% of all work trips. Alabama and Tennessee rank lowest among states with 1.4% and 1.5% bicycle and walk to work mode share, respectively.

Share of Commuters Who Bicycle or Walk in Largest U.S. Cities



Source: 2007 ACS

Bicycling and walking mode share is significantly higher in cities. On average 5.6% of work trips in the largest U.S. cities are by bicycle or foot. Boston (14.3%) leads Washington, DC (12.8%), San Francisco (12.2%), and New York (11.0%) as the city with the highest rate of bicycling and walking to work.

Boston ranks top for bicycle + walk to work mode share.

Estimated Percent of All Trips by Bicycle and Foot

Nearly 10% of all trips are by bicycle or foot in the U.S.

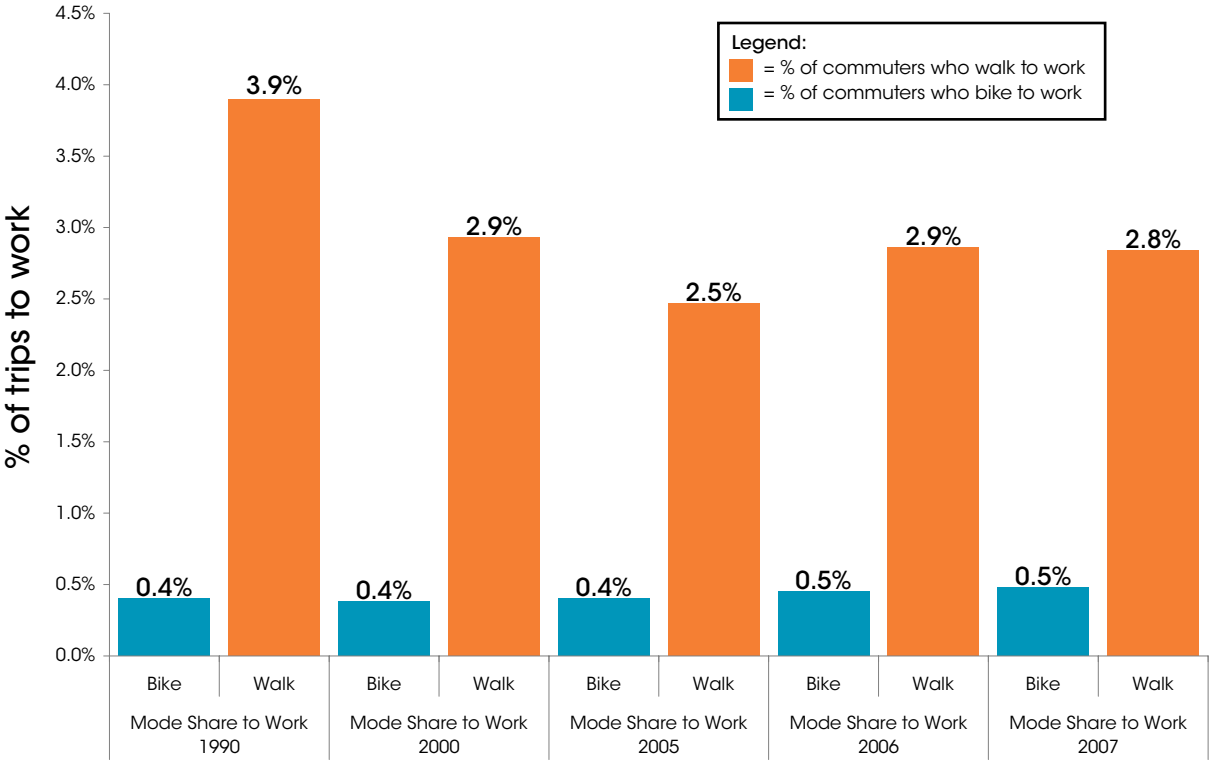
Photo by Gustavo Verissimo

State	Estimated % of all trips	
	by bike	by foot
Alabama	0.6	4.9
Alaska	1.4	8.0
Arizona	1.3	9.3
Arkansas	0.2	5.4
California	1.1	10.6
Colorado	0.7	9.5
Connecticut	0.4	11.1
Delaware	0.7	4.1
Florida	1.3	6.9
Georgia	0.8	5.5
Hawaii	1.2	7.0
Idaho	1.0	6.1
Illinois	1.2	9.7
Indiana	0.6	5.8
Iowa	0.8	7.5
Kansas	0.6	5.0
Kentucky	1.0	5.4
Louisiana	0.6	7.1
Maine	0.9	10.3
Maryland	0.3	10.5
Massachusetts	1.0	9.9
Michigan	1.0	7.4
Minnesota	1.3	7.3
Mississippi	0.5	4.9
Missouri	0.4	6.2
Montana	0.9	10.2
Nebraska	0.7	7.4
Nevada	0.9	9.2
New Hampshire	0.4	7.4
New Jersey	1.0	10.7
New Mexico	0.7	5.7
New York	0.7	18.2
North Carolina	0.4	6.0
North Dakota	*	4.4
Ohio	0.6	7.4
Oklahoma	1.5	6.0
Oregon	2.4	8.5
Pennsylvania	0.7	10.9
Rhode Island	0.9	7.2
South Carolina	0.5	4.2
South Dakota	1.0	6.4
Tennessee	0.4	5.2
Texas	0.8	5.6
Utah	0.6	9.2
Vermont	*	9.4
Virginia	0.9	7.8
Washington	0.4	10.0
West Virginia	0.3	7.2
Wisconsin	1.4	7.3
Wyoming	3.7	4.4
Mean/Average	0.90 (1)	8.7(1)
Median	0.8	7.3
High	2.4	18.2
Low	0.2	4.1

City	Estimated % of all trips	
	by bike	by foot
Albuquerque	**	**
Arlington (TX)	**	**
Atlanta	0.6	5.8
Austin	1.2	6.7
Baltimore	0.7	11.4
Boston	0.8	9.7
Charlotte	0.8	7.6
Chicago	1.2	10.9
Cleveland	0.3	7.8
Colorado Springs	**	**
Columbus	0.3	8.2
Dallas	0.7	6.2
Denver	0.7	9.3
Detroit	0.8	9.0
El Paso	**	**
Fort Worth	0.7	6.2
Fresno	**	**
Honolulu	**	**
Houston	0.8	4.5
Indianapolis	0.5	5.5
Jacksonville	1.4	6.0
Kansas City (MO)	0.5	5.8
Las Vegas	1.0	8.7
Long Beach	1.0	11.1
Los Angeles	1.0	11.1
Louisville	1.0	4.5
Memphis	0.2	6.7
Mesa	1.5	9.8
Miami	2.2	5.8
Milwaukee	1.6	9.4
Minneapolis	1.3	7.6
Nashville	0.4	8.1
New Orleans	0.6	8.0
New York	0.8	19.2
Oakland	0.9	10.8
Oklahoma City	2.0	7.5
Omaha	**	**
Philadelphia	0.8	12.1
Phoenix	1.5	9.8
Portland, OR	2.8	8.5
Sacramento	1.6	10.1
San Antonio	0.5	4.8
San Diego	1.0	10.2
San Francisco	0.9	10.8
San Jose	0.9	10.8
Seattle	0.5	10.2
Tucson	**	**
Tulsa	**	**
Virginia Beach	1.8	7.3
Washington, DC	0.7	11.4
Mean/Average	0.94 (2)	11.0 (2)
Median	0.8	8.5
High	2.8	19.2
Low	0.2	4.5

Source: NHTS 2001 **Notes:** NHTS is not representative at any disaggregated level below census divisions or MSA size categories nationwide. It is possible to identify metropolitan areas in the NHTS . This report presents the estimated MSA mode share of bike and walk trips for MSAs in which the specific cities are located. The reader should keep in mind that the estimates are not for the city themselves and that the samples for individual MSAs are small. Because of this, data at the state and city levels are only rough approximations; data unavailable for Raleigh; * indicates that data were unavailable for this MSA. (1) represents national average (2) weighted average.

Share of Commuters Who Bicycle or Walk 1990-2007



Sources: U.S. Census 1990, 2000; ACS 2005, 2006, 2007

Trends in Bicycling and Walking Levels

The Alliance looked at data from the 1990 and 2000 decennial Census and the 2005, 2006, and 2007 American Community Survey to examine trends in the share of commuters who bicycle or walk to work over the last two decades. (Find additional data on bicycling and walking levels over time in Appendix 4, page 167.)

The number of people who bicycle to work has increased steadily, rising 29.8% between 1990 and 2007 from 466,856 to 664,859 people who bicycle to work nationwide. The share of commuters who bicycle to work has risen slightly from 0.4% nationwide in 1990 and 2000 to 0.5% today.

During the same time period the number of people who walk to work fell 12% despite population growth of 21% (from roughly 249 million people in 1990 to roughly 301 million people in 2007). The number of people who walk to work increased by just 4% between

2000 and 2007, despite population growth of 7%. The share of commuters who walk to work is now 2.8%, down from 3.9% in 1990. The share of commuters who walk to work has remained relatively stable since 2000.

Who Bicycles and Walks?

Demographic Data

Determining who walks and bicycles is also difficult. Because the ACS counts only commuter trips, trips taken for nonwork purposes, such as those made by children, for recreational purposes, or in combination with other modes of transportation are left out. Part of the efforts to increase and standardize local trip counts includes adding demographic information in these surveys. Local efforts have been conducted to capture information on bicyclist and pedestrian demographics (including some referenced in Appendix 6 of this report). However, because there is no standardized format used for these surveys, the Alliance relied on ACS and NHTS data for demographic information.

Bicyclist and Pedestrian Income

There is almost no variation in the bicycle mode share by income class. Data from the 2001 NHTS show that bicycling mode share is roughly 0.9% for all income classes. However, a more comprehensive examination of the socioeconomics of bicycling may reveal a difference in trip purpose among income classes (i.e., lower-income bicyclists may bicycle more for utility while high-income bicyclists may bicycle more for recreation). Regardless of the reason for bicycle trips, these data show that bicycling levels are roughly evenly distributed among all income classes.

Data from ACS reveal that the majority of people who walk to work earn less than $15,000 per year. More than two-thirds of people who

Bicyclist Mode Share by Income Class

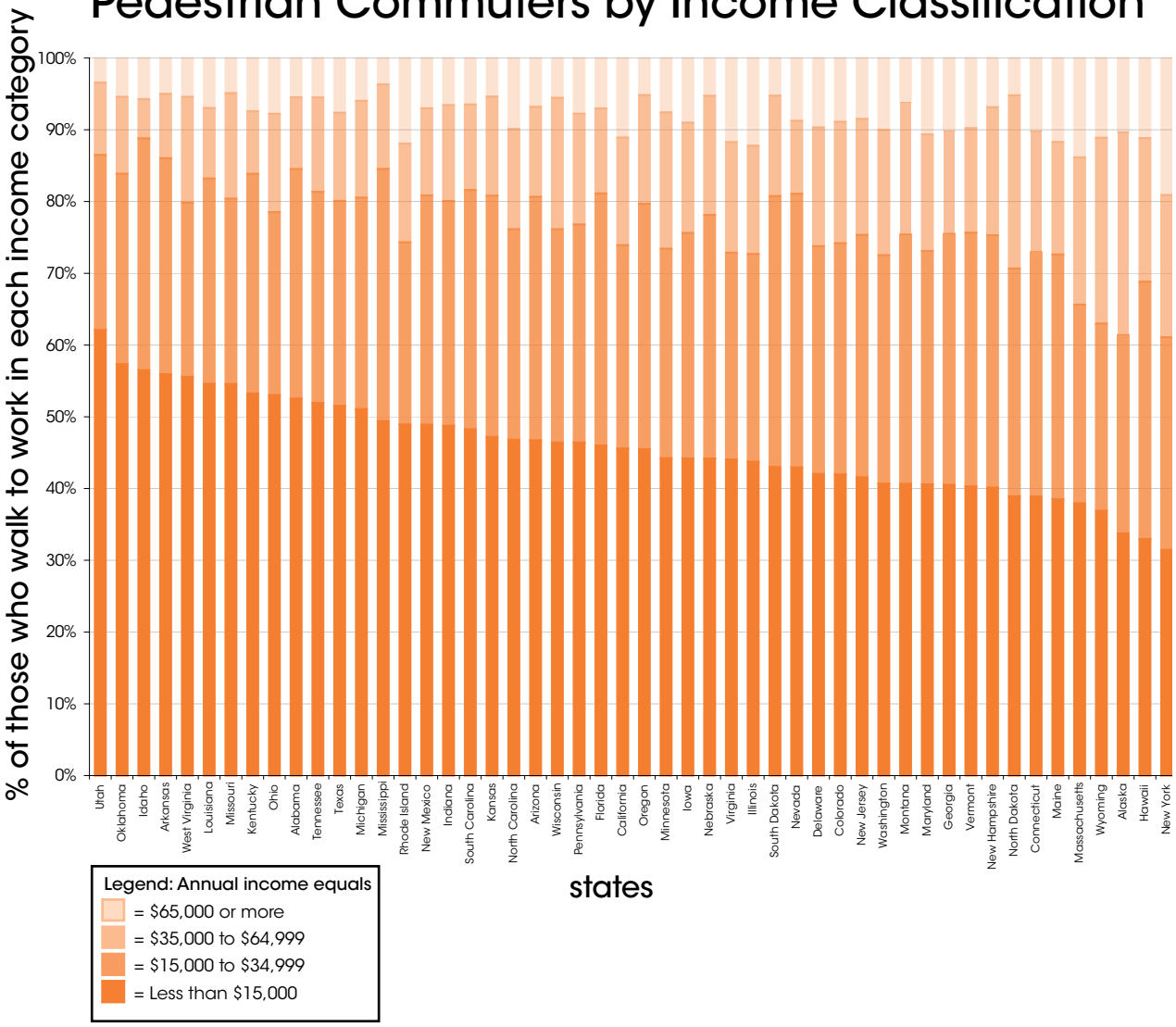
Household Income					
Less than $20,000	$20,000 to $39,999	$40,000 to $74,999	$75,000 to $99,999	$100,000 and over	All
0.9%	0.9%	0.9%	0.9%	0.8%	0.9%

Source: John Pucher and John L. Renne, 2003.

New York pedestrians represent a relatively even distribution among income groups.

Photo by Nicholas Whitaker flickr/nickdigital

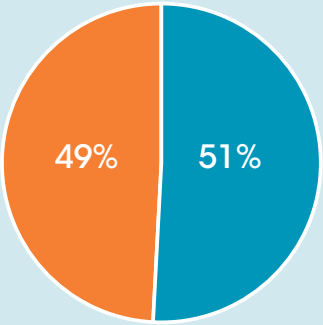
Pedestrian Commuters by Income Classification



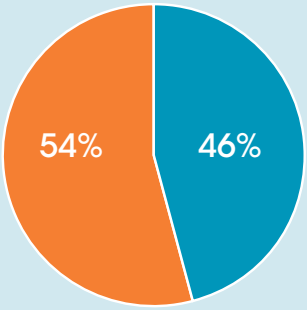
Source: ACS 2005

A Look at Gender

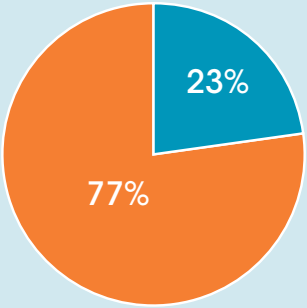
Gender Distribution in U.S.



Walk to Work Trips by Gender



Bike to Work Trips by Gender



Legend:
= Male
= Female

Source: ACS 2007

Photo by Johelan

walk to work, on average, earn below $35,000 a year. New York has the most even income distribution among people who walk to work, with all income groups well represented. Utah has the least equal distribution with walking concentrated mostly among low-income groups. The difference in average median income among states could also account for some variation and should be considered with these data.

Bicyclist and Pedestrian Gender

The gap between men and women is much wider among bicyclists than pedestrians. Nationwide, just 23% of bicycle to work trips are women. Men make up 77% of bicycle to work trips and 54% of walk to work trips. Massachusetts, New Hampshire, Rhode Island, Vermont, and Wyoming are the only states where women walk to work at slightly higher rates than men. Men bicycle to work at higher rates than women in all states, though the gap varies among states. Rhode Island has the smallest gap among men (56%) and women (44%) bicyclists. Alabama has the largest gap between men (91%) and women (9%) bicyclists.

Photo by David Niddrie, Bnkubarber@flickr

The gap between men and women also varies largely among major U.S. cities. Again, most cities have relatively small gaps between levels of men and women who walk to work. In roughly 1/5 of cities surveyed, women walk to work at slightly higher rates. On average, men make up 75% of bicycle to work trips in major U.S. cities. According to ACS data, virtually all bicycle commuters in Tulsa and Fort Worth are male, making these the cities with the greatest gender divide among bicyclists. Because of low sample sizes, it is possible that there are female commuters in these cities, but it is not reflected in the data.

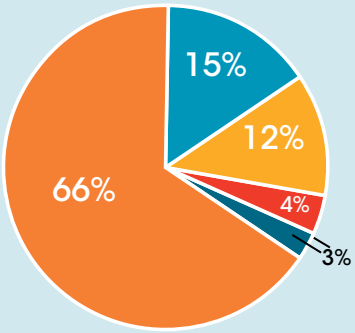
The gap between men and women could be due to a variety of factors, such as differences in family responsibilities and occupation, which could have a powerful influence over a person's ability to walk or bicycle to work.

Bicyclist and Pedestrian Ethnicity

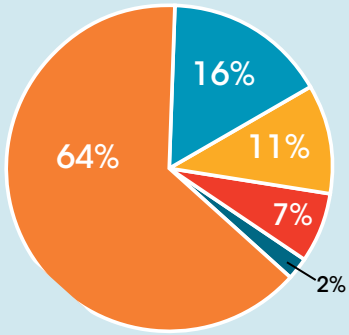
ACS data reveal a fairly even distribution among bicyclists and pedestrians in regard to ethnicity. Hispanics are slightly more likely to bicycle or

A Look at Ethnicity

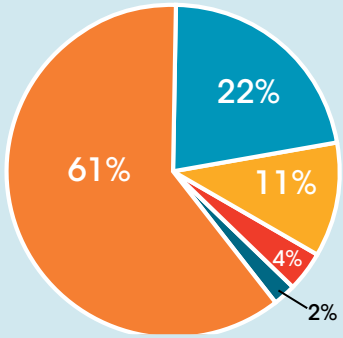
Ethnicity in the U.S.



Ethnicity of People Who Walk to Work



Ethnicity of People Who Bicycle to Work



Legend:
- = White/non-hispanic
- = Hispanic
- = Black
- = Asian
- = Other

Source: ACS 2007

Bicycling and Walking to Work Levels and Gender Composition by State

Legend:
= High value
= Low value

Women make up less than 25% of trips to work by bicycle.

Photo by David Niedrig, Bnkubarber@Flickr

State	Trips to work by bicycle			Trips to work by foot		
	% of trips	% men	% women	% of trips	% men	% women
Alabama	0.1%	91%	9%	1.3%	63%	37%
Alaska	1.0%	60%	40%	8.4%	61%	39%
Arizona	0.8%	79%	21%	2.2%	58%	42%
Arkansas	0.1%	86%	14%	1.6%	60%	40%
California	0.9%	77%	23%	2.8%	54%	46%
Colorado	1.1%	71%	29%	3.2%	58%	42%
Connecticut	0.3%	74%	26%	3.1%	56%	44%
Delaware	0.4%	100%	0%	2.7%	55%	45%
Florida	0.5%	79%	21%	1.6%	56%	44%
Georgia	0.2%	83%	17%	1.7%	59%	41%
Hawaii	0.6%	73%	27%	4.4%	54%	46%
Idaho	1.1%	69%	31%	3.1%	62%	38%
Illinois	0.5%	77%	23%	3.1%	51%	49%
Indiana	0.3%	79%	21%	2.1%	55%	45%
Iowa	0.4%	77%	23%	3.9%	57%	43%
Kansas	0.3%	71%	29%	2.7%	59%	41%
Kentucky	0.2%	74%	26%	2.2%	56%	44%
Louisiana	0.3%	80%	20%	2.0%	59%	41%
Maine	0.4%	66%	34%	4.1%	58%	42%
Maryland	0.2%	83%	17%	2.6%	52%	48%
Massachusetts	0.6%	77%	23%	4.3%	48%	52%
Michigan	0.4%	77%	23%	2.3%	52%	48%
Minnesota	0.7%	73%	27%	3.1%	56%	44%
Mississippi	0.3%	88%	12%	1.8%	66%	34%
Missouri	0.2%	71%	29%	2.0%	59%	41%
Montana	1.4%	65%	35%	4.8%	57%	43%
Nebraska	0.6%	79%	21%	3.0%	57%	43%
Nevada	0.6%	80%	20%	2.3%	53%	47%
New Hampshire	0.3%	85%	15%	3.4%	49%	51%
New Jersey	0.3%	86%	14%	3.2%	53%	47%
New Mexico	0.5%	88%	12%	2.2%	55%	45%
New York	0.5%	82%	18%	6.3%	51%	49%
North Carolina	0.2%	81%	19%	1.9%	65%	35%
North Dakota	0.6%	89%	11%	4.4%	57%	43%
Ohio	0.3%	72%	28%	2.3%	54%	46%
Oklahoma	0.2%	83%	17%	1.9%	63%	37%
Oregon	1.9%	69%	31%	3.6%	54%	46%
Pennsylvania	0.3%	77%	23%	4.0%	52%	48%
Rhode Island	0.2%	56%	44%	3.4%	46%	54%
South Carolina	0.2%	90%	10%	1.8%	56%	44%
South Dakota	0.5%	68%	32%	4.6%	60%	40%
Tennessee	0.1%	70%	30%	1.4%	58%	42%
Texas	0.2%	81%	19%	1.8%	57%	43%
Utah	0.8%	76%	24%	2.6%	53%	47%
Vermont	0.5%	76%	24%	6.2%	49%	51%
Virginia	0.3%	82%	18%	2.2%	57%	43%
Washington	0.7%	71%	29%	3.4%	54%	46%
West Virginia	0.2%	70%	30%	2.6%	55%	45%
Wisconsin	0.7%	70%	30%	3.3%	52%	48%
Wyoming	1.2%	82%	18%	4.0%	45%	55%
Mean/Average (1)	0.5%	77%	23%	2.8%	56%	44%
Median	0.4%	77%	23%	3.1%	56%	44%
High	1.9%	91%	44%	8.4%	66%	55%
Low	0.1%	56%	9%	1.3%	45%	34%

Source: ACS 2007 **Note:** (1) All averages are weighted.

Bicycling and Walking to Work Levels and Gender Composition by City

Cities	Trips to work by bicycle			Trips to work by foot		
	% of trips	% men	% women	% of trips	% men	% women
Albuquerque	0.8%	87%	13%	2.4%	43%	57%
Arlington, TX	0.1%	86%	14%	1.4%	57%	43%
Atlanta	0.7%	82%	18%	3.8%	58%	42%
Austin	0.9%	64%	36%	2.0%	53%	47%
Baltimore	0.3%	89%	11%	7.0%	50%	50%
Boston	1.0%	73%	27%	13.3%	46%	54%
Charlotte	0.04%	44%	56%	1.8%	58%	42%
Chicago	1.1%	69%	31%	5.4%	48%	52%
Cleveland	0.5%	62%	38%	3.8%	62%	38%
Colorado Springs	0.4%	74%	26%	2.5%	49%	51%
Columbus	0.7%	80%	20%	2.7%	64%	36%
Dallas	0.2%	94%	6%	1.4%	60%	40%
Denver	1.6%	69%	31%	4.3%	56%	44%
Detroit	0.3%	92%	8%	2.7%	56%	44%
El Paso	0.1%	86%	14%	2.2%	57%	43%
Fort Worth	0.2%	100%	0% (1)	1.2%	55%	45%
Fresno	0.7%	82%	18%	2.0%	57%	43%
Honolulu	1.1%	74%	26%	6.8%	48%	52%
Houston	0.3%	70%	30%	2.2%	48%	52%
Indianapolis	0.2%	57%	43%	1.7%	58%	42%
Jacksonville	0.3%	86%	14%	1.3%	49%	51%
Kansas City, MO	0.3%	61%	39%	2.2%	55%	45%
Las Vegas	0.6%	88%	12%	2.1%	57%	43%
Long Beach	0.9%	81%	19%	3.6%	58%	42%
Los Angeles	0.6%	83%	17%	3.7%	50%	50%
Louisville	0.3%	61%	39%	2.4%	47%	53%
Memphis	0.3%	37%	63%	2.1%	60%	40%
Mesa	1.4%	92%	8%	1.9%	81%	19%
Miami	0.1%	100%	0% (1)	4.1%	55%	45%
Milwaukee	0.7%	73%	27%	4.6%	52%	48%
Minneapolis	3.8%	69%	31%	6.4%	63%	37%
Nashville	0.2%	78%	22%	1.2%	55%	45%
New Orleans	1.6%	66%	34%	6.9%	61%	39%
New York	0.7%	80%	20%	10.3%	49%	51%
Oakland	1.4%	70%	30%	5.2%	54%	46%
Oklahoma City	0.1%	78%	22%	1.0%	60%	40%
Omaha	0.3%	94%	6%	2.1%	49%	51%
Philadelphia	1.0%	76%	24%	7.9%	48%	52%
Phoenix	0.5%	72%	28%	1.8%	58%	42%
Portland, OR	3.9%	67%	33%	4.4%	53%	47%
Raleigh	0.4%	56%	44%	3.1%	66%	34%
Sacramento	1.8%	71%	29%	3.4%	56%	44%
San Antonio	0.1%	86%	14%	2.2%	57%	43%
San Diego	0.9%	78%	22%	2.6%	56%	44%
San Francisco	2.5%	72%	28%	9.7%	54%	46%
San Jose	0.7%	63%	37%	2.0%	58%	42%
Seattle	2.3%	71%	29%	8.3%	55%	45%
Tucson	1.9%	76%	24%	4.0%	58%	42%
Tulsa	0.1%	100%	0% (1)	2.4%	62%	38%
Virginia Beach	0.2%	69%	31%	2.0%	65%	35%
Washington, DC	1.7%	66%	34%	11.1%	49%	51%
Mean/Average (2)	0.8%	75%	25%	4.8%	52%	48%
Median	0.65%	74%	24%	2.65%	56%	44%
High	3.9%	100%	63%	13.3%	81%	57%
Low	0.04%	37%	0%	1.0%	43%	19%

Photo by Nicholas Whitaker, flickr/nick digital

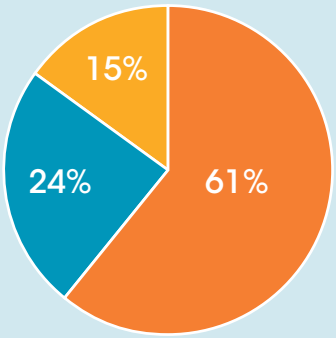
In major U.S. cities, 5.6% of work trips are by bicycle or by foot.

Legend:
= High value
= Low value

Source: ACS 2007 **Notes:** (1) For some cities the number of total bicyclists captured in the ACS is very small. Additionally, disaggregating these estimates into male and female categories might lead to unexpected and unreliable results. For example, some cities show particularly low or high shares of women commuting by bicycle. In some cities the ACS even estimates that 0 women are bicycling for their commute. However, it is likely that there are some women bicycling in these cities. Similarly, for other cities such as Charlotte, the ACS shows a particularly high share of women bicycling. Due to the small number of bicyclists overall, disaggregate estimates by gender are not reliable in these cases. (2) All averages are weighted.

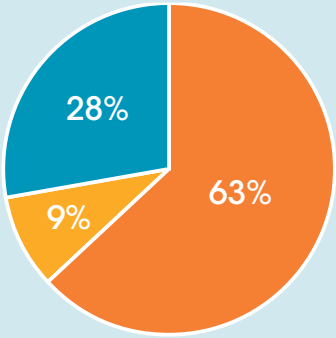
A Look at Age

Age of the U.S. Population



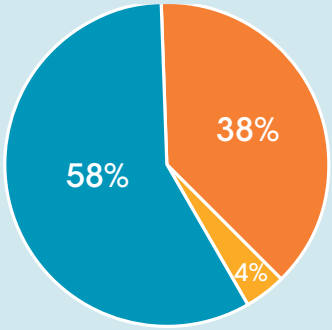
Source: ACS 2007

Age of People Who Walk



Source: NHTS 2001

Age of People Who Bicycle



Source: NHTS 2001

Legend:
- = Under age 16
- = Over age 65
- = Age 16–65

walk to work, comprising 15% of the U.S. population, but accounting for 16% of pedestrian commuters and 22% of bicycle commuters. Asians are also more likely to walk to work comprising 4% of the population and 7% of pedestrian commuters.

Age of Bicyclists and Pedestrians

It is no surprise that youth make up a disproportionate amount of bicycling and walking trips. National estimates from NHTS indicate that youth under age 16 make up 28% of walking trips and 58% of bicycling trips, despite accounting for just 24% of the population. Adults over age 65 account for 15% of the population and make up 9% of all walking trips and 4% of all bicycling trips. The rest of people age 16-65 make up 61% of the population and account for 63% of all walking trips and 38% of trips by bicycle.

Photo by Myleen Hollero, myleenhollero.com

3: Safety

Photo courtesy of David Gartner, www.versusgoliath.com

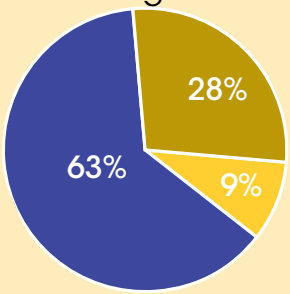
While news headlines are filled with deaths of war and cancer victims, the public rarely hears reports on the thousands that die each year in traffic crashes. In 2008, according to the National Highway Traffic Safety Administration (NHTSA), 37,261 people died on U.S. roadways. Of these, 716 were bicyclists and 4,378 were pedestrians. Though bicycle and pedestrian fatalities have decreased over the last three years, bicyclists and pedestrians are still at a disproportionate risk for being a victim of a traffic fatality.

Data for this chapter came largely from the NHTSA's Fatality Analysis Reporting System (FARS). FARS collects data from police reports of traffic accidents and is the authoritative national source for traffic fatalities in the United States.

FARS data indicate that bicyclists and pedestrians account for 13.1% of all traffic fatalities, despite the fact that they make up roughly 10% of all trips (according to NHTS estimates). In the largest U.S. cities (51 cities in this report), where bicycling and walking account for 12% of all trips, bicyclists and pedestrians represent 29.5% of all traffic fatalities.

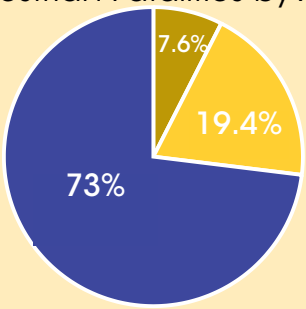
Age and Risk

Pedestrians Age Distribution



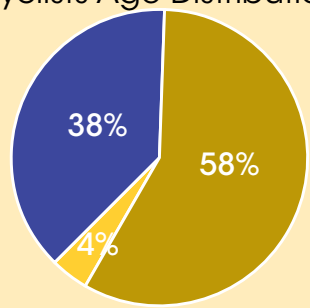
Source: NHTS 2001

Pedestrian Fatalities by Age



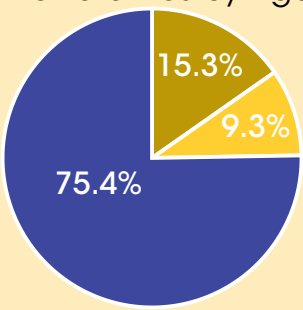
Source: FARS 2005-2007

Cyclists Age Distribution



Source: NHTS 2001

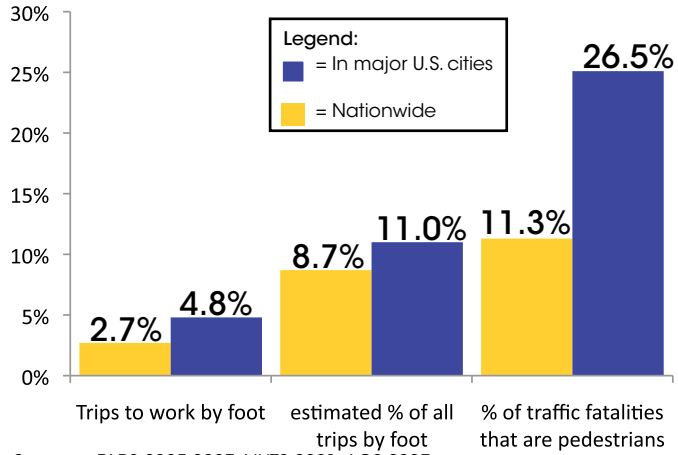
Bike Fatalities by Age



Source: FARS 2005-2007

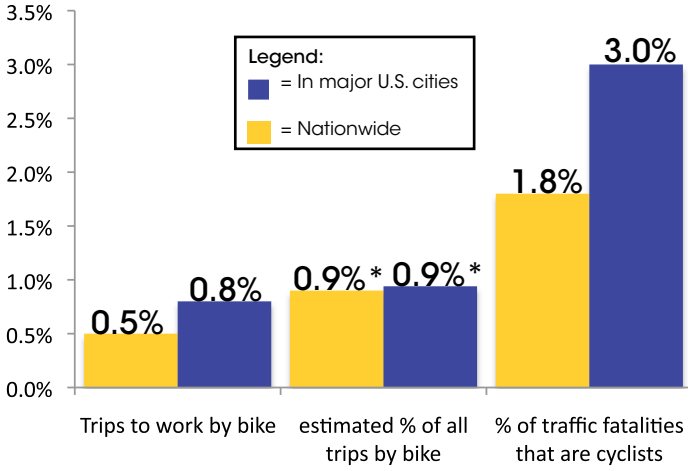
Legend:
- = Under age 16
- = Over age 65
- = Age 16–65

Overview of Walking and Pedestrian Safety Nationwide and in Largest U.S. Cities



Sources: FARS 2005-2007, NHTS 2001, ACS 2007

Overview of Bicycling and Bicycle Safety Nationwide and in Largest U.S. Cities



Sources: FARS 2005-2007, NHTS 2001, ACS 2007 * = Value is 0.90% for states and 0.94% for cities, but these are rounded to 0.9% for chart consistency.

Victim Demographics

According to FARS, between 2005-2007, nearly one-quarter of all bicycle fatality victims are youth (under age 16) and seniors (over age 60). These age groups account for 27% of pedestrian fatalities. Seniors (over age 65) are at a disproportionate risk, accounting for just 9% of all walking trips and roughly 19% of pedestrian fatalities. Adults over age 65 make up 4% of all bicycling trips and

account for roughly 9% of bicyclist fatalities.

In some areas the risk facing seniors, the most vulnerable road users, is even greater. In Honolulu, where 51% of all traffic fatalities are pedestrians, 66% of victims are over age 60. Similarly in Boston, where 31% of all traffic fatalities are pedestrians, 46% of these are seniors. While cities do vary in their demographic composition, these rates of senior fatalities are still disproportionately higher than the percent of trips they represent.

What's the Risk?

To understand bicycle and pedestrian safety in a city or state, it is not enough to simply look at the number of fatalities in a given year. The level of bicycling and walking in an area also must be taken into account to determine what the risk of bicycling or walking is. For example, if a city had just 100 people who bicycled and had one bicycle fatality and another city had 6,000 people who bicycled and had two bicycle fatalities, the first city would have a higher fatality rate. If one out of 100 bicyclists was a victim of a traffic fatality, the risk in that community would be much greater than the one where two out of 6,000 bicyclists died in traffic.

To measure risk, the Alliance divided the 3-year average number of

Sources: FARS 2005-2007, ACS 2007 **Notes:** This ranking is based on the fatality rate which is calculated as number of bicyclist fatalities during 2005-2007 divided by the population times the share of commuters who bicycle to work. View these data on pages 53 and 55 of this report.

Bicycle Safety RANKING

States

1. Vermont
2. South Dakota
3. Wyoming
4. Idaho
5. Alaska
6. Colorado
7. North Dakota
8. Minnesota
9. Massachusetts
10. Oregon
11. Nebraska
12. Montana
13. Washington
14. Wisconsin
15. Illinois
16. Utah
17. West Virginia
18. California
19. Rhode Island
20. Connecticut
21. Pennsylvania
22. Kansas
23. Ohio
24. New York
25. Hawaii
26. Maine
27. New Jersey
28. Arizona
29. Virginia
30. Missouri
31. New Hampshire
32. Iowa
33. New Mexico
34. Michigan
35. Mississippi
36. Maryland
37. Nevada
38. Delaware
39. Kentucky
40. Indiana
41. Oklahoma
42. Arkansas
43. Texas
44. Tennessee
45. Georgia
46. Florida
47. North Carolina
48. Louisiana
49. South Carolina
50. Alabama

Cities

1. Oklahoma City
2. Omaha
3. San Francisco
4. Minneapolis
5. Seattle
6. Milwaukee
7. Portland, OR
8. Washington, DC
9. Austin
10. Denver
11. Cleveland
12. Boston
13. Honolulu
14. Chicago
15. Columbus
16. Oakland
17. Colorado Springs
18. Long Beach
19. Sacramento
20. Fort Worth
21. Philadelphia
22. New Orleans
23. San Jose
24. Tucson
25. Kansas City, MO
26. Los Angeles
27. Baltimore
28. Virginia Beach
29. New York
30. San Diego
31. Memphis
32. Dallas
33. Houston
34. Atlanta
35. Mesa
36. Fresno
37. Las Vegas
38. Raleigh
39. Tulsa
40. El Paso
41. Albuquerque
42. Phoenix
43. Detroit
44. San Antonio
45. Louisville
46. Jacksonville
47. Nashville
48. Arlington, TX
49. Indianapolis
50. Miami
51. Charlotte

Pedestrian Safety RANKING

States

1. Vermont
2. Nebraska
3. Alaska
4. Maine
5. New Hampshire
6. Iowa
7. North Dakota
8. Massachusetts
9. Wyoming
10. Minnesota
11. Idaho
12. New York
13. South Dakota
14. Wisconsin
15. Montana
16. Kansas
17. Washington
18. Connecticut
19. Pennsylvania
20. Oregon
21. Colorado
22. Ohio
23. Utah
24. Rhode Island
25. Illinois
26. Indiana
27. West Virginia
28. Virginia
29. Kentucky
30. Hawaii
31. New Jersey
32. Michigan
33. Missouri
34. California
35. Maryland
36. Delaware
37. Oklahoma
38. Arkansas
39. Tennessee
40. Nevada
41. Texas
42. Georgia
43. North Carolina
44. Arizona
45. Mississippi
46. Louisiana
47. Alabama
48. New Mexico
49. South Carolina
50. Florida

Cities

1. Kansas City, MO
2. Boston
3. Seattle
4. Minneapolis
5. New York
6. Colorado Springs
7. Washington, DC
8. San Francisco
9. Philadelphia
10. Baltimore
11. Omaha
12. Chicago
13. New Orleans
14. Portland, OR
15. Cleveland
16. Oakland
17. Atlanta
18. Columbus
19. Milwaukee
20. Denver
21. Honolulu
22. Long Beach
23. El Paso
24. Virginia Beach
25. San Diego
26. Indianapolis
27. Los Angeles
28. Raleigh
29. Sacramento
30. Tucson
31. San Jose
32. Arlington, TX
33. San Antonio
34. Mesa
35. Louisville
36. Las Vegas
37. Memphis
38. Charlotte
39. Houston
40. Fresno
41. Austin
42. Tulsa
43. Albuquerque
44. Detroit
45. Miami
46. Nashville
47. Phoenix
48. Oklahoma City
49. Dallas
50. Fort Worth
51. Jacksonville

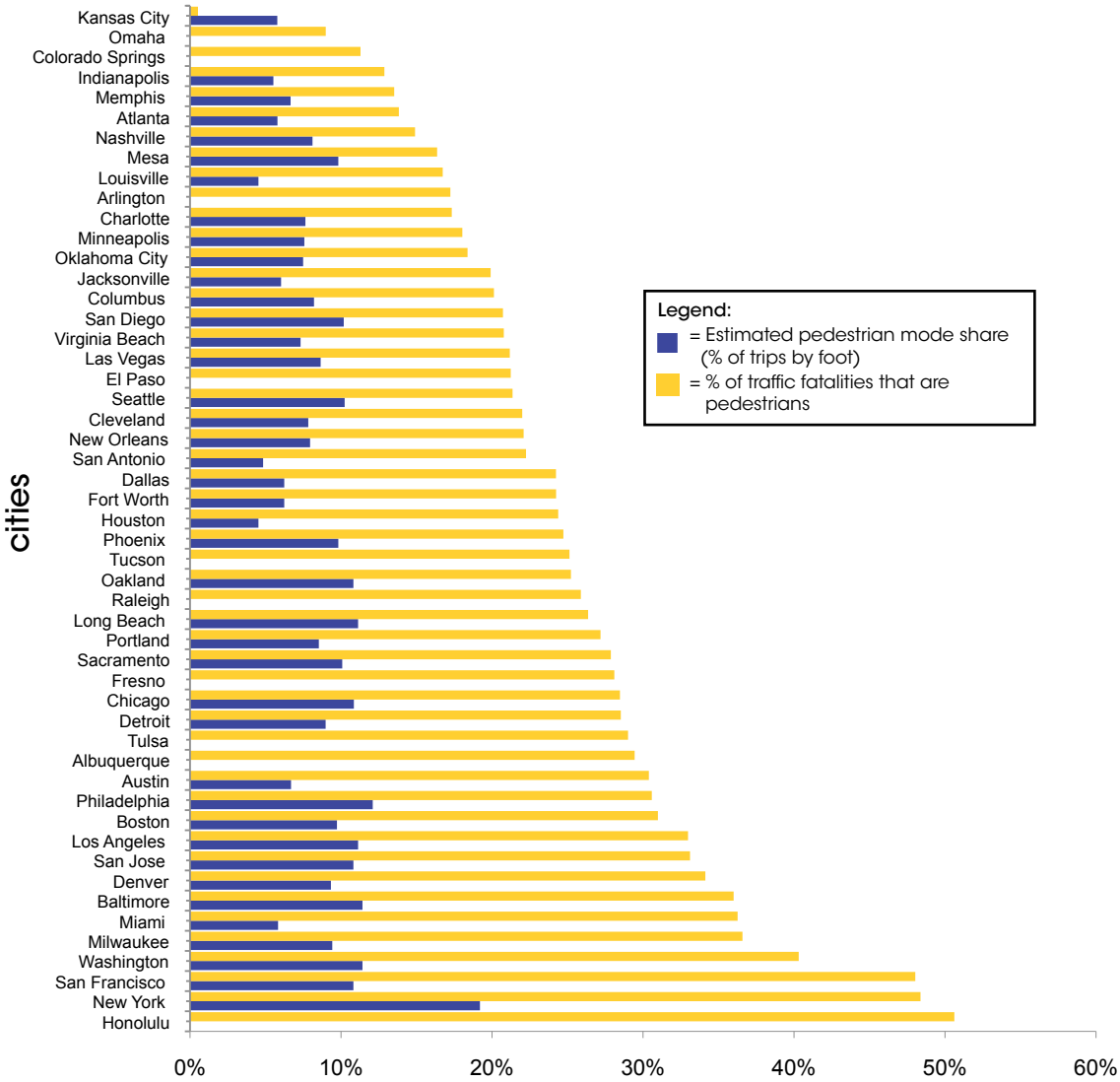
Bicyclists and pedestrian fatality rates are lower in major U.S. cities.

fatalities by the bicycling and walking to work mode shares multiplied by the population. Multiplying population times work trips mode share allows us to better estimate exposure levels for bicycling and walking. Because no accurate data source exists for all trips, this is the best approximation of exposure levels available. Exposure data are rough approximations and fatalities can vary greatly from year to year. Thus, all fatality rate data should be interpreted as rough estimates of risk, and not as the exact risk level for any city or state.

FARS and ACS data indicate that nationwide, 5.2 bicyclists are killed for every 10,000 bicyclists on the roadways. Bicyclists are slightly safer in major U.S. cities where the fatality rate is 3.3 fatalities per 10,000 bicyclists. Vermont and South Dakota are the safest states for bicycling with 0 and 0.8 deaths per 10,000 bicyclists, respectively. Alabama is the most dangerous state for bicycling (22.5 deaths per 10,000 bicyclists) followed by South

Sources: FARS 2005-2007, ACS 2007 **Notes:** This ranking is based on the fatality rate which is calculated as number of pedestrian fatalities during 2005-2007 divided by the population times the walk to work mode share. View this data on pages 54 and 56 of this report.

Percent of Trips and Traffic Fatalities Represented by Pedestrians in Cities

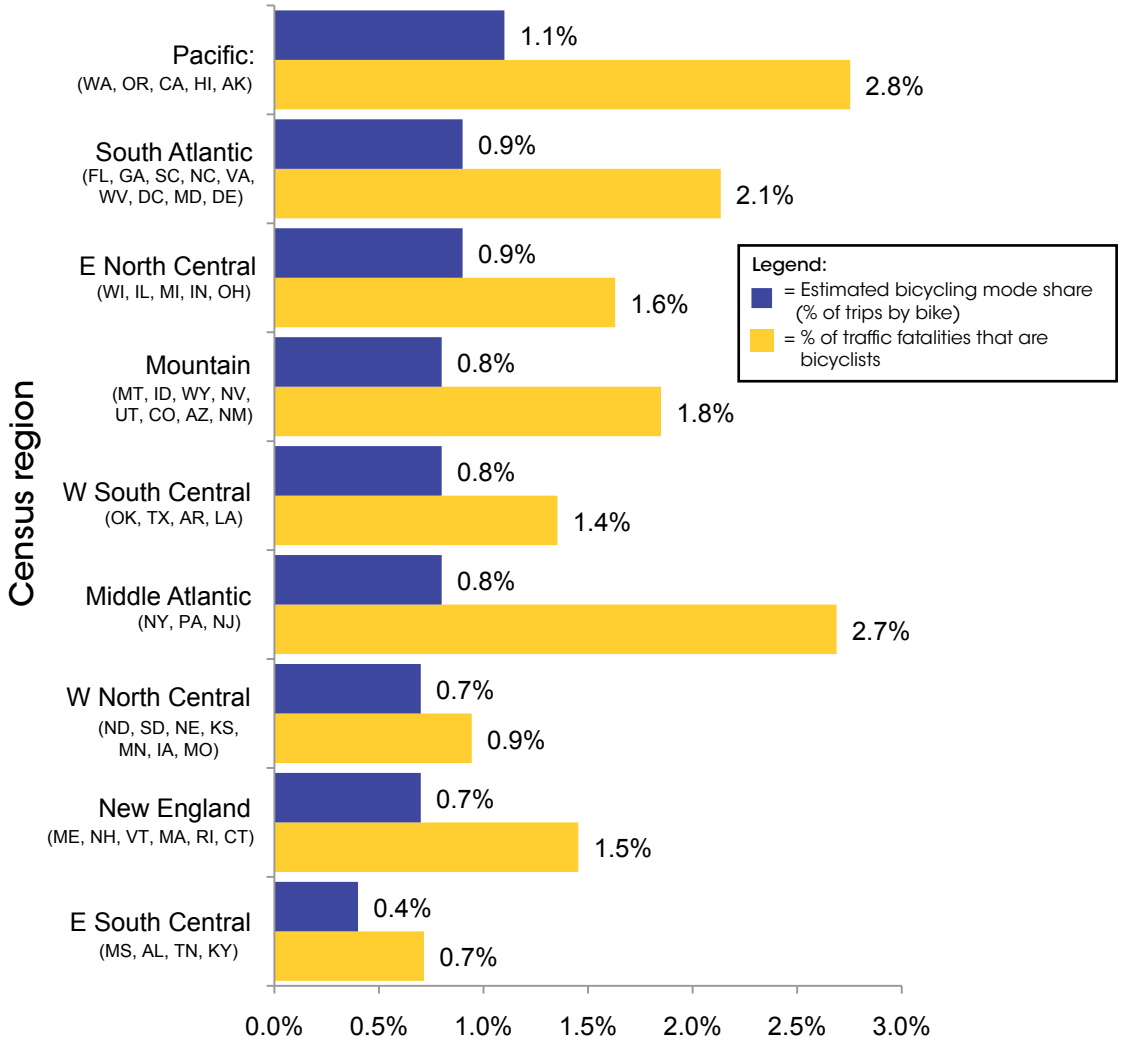


Sources: FARS 2005-2007, NHTS 2001-2002 **Note:** Pedestrian mode share data unavailable for Albuquerque, Arlington, Colorado Springs, El Paso, Fresno, Honolulu, Omaha, Raleigh, Tucson, and Tulsa. For details and reliability of city level NHTS estimates, please see Appendix 3, page 163.

In every major U.S. city besides Kansas City, MO, pedestrians represent a greater percentage of traffic fatalities than the percentage of walking trips. San Francisco has the greatest disparity with pedestrians representing roughly 48% of all traffic fatalities and only 11% of all trips (a 37% difference). Miami (30% difference), New York (29%), and Washington, DC (29%) follow San Francisco as cities with the greatest disparity between mode share and fatality rates of pedestrians.

Pedestrians are at a disproportionate risk of being killed in major cities.

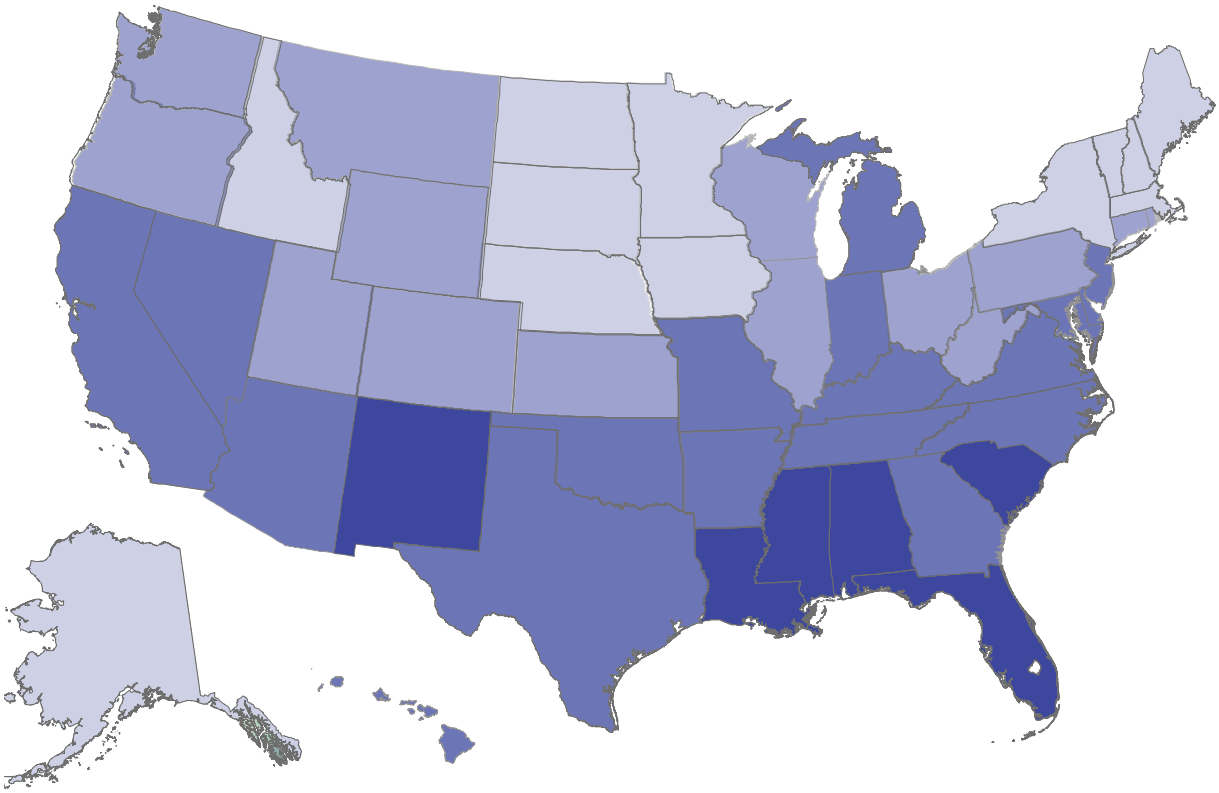
Percent of Trips and Traffic Fatalities Represented by Bicyclists



Sources: FARS 2005-2007, NHTS 2001 **Note:** NHTS cannot be reliably disaggregated to either the state or city level, so we are showing the NHTS and FARS data for bicycle mode share and bicyclist fatalities by official U.S. Census region here because it is more accurate.

Nationwide, bicyclists make up a disproportionate percentage of traffic fatalities.

Bicyclist and Pedestrian Risk by State



Source: FARS 2005-2007, ACS 2007 **Notes:** This map uses a fatality rate calculated as the 3-year average number of bicyclist or pedestrian fatalities (2005-2007) divided by the population times the bike or walk to work share (to adjust for exposure). Because of the approximate nature of the exposure data and great fluctuations in fatality data from year to year, this rate should be seen as a rough estimate.

Bike/Ped Fatalities per 10K Bicyclists and Pedestrians
- = 0–2.6
- = 2.7–4.9
- = 5–10
- = 11–17

Carolina (20.2 deaths per 10,000 bicyclists). Oklahoma City and Omaha report no bicycle fatalities in the years studied. San Francisco, Seattle, and Minneapolis are the next safest cities for bicycling with fatality rates of 0.7, 0.8, and 0.8 deaths per 10,000 bicyclists, respectively. Charlotte is the least safe major city for bicycling with 62.7 bicyclists killed per 10,000 bicyclists.

Pedestrians are similarly safer in major U.S. cities where 4.6 pedestrian fatalities occur for every 10,000 pedestrians. In states, there are 5.6 pedestrian deaths per 10,000 pedestrians. Vermont is also the safest state for walking with 0.7 pedestrian deaths per 10,000 pedestrians. Florida (18.2 deaths per 10,000 pedestrians) is followed by South Carolina (13.9 deaths per 10,000 pedestrians) as the least safe states for walking. Kansas City, MO, and Boston have the lowest pedestrian fatality rates among major U.S. cities with 0.3 and 0.9 pedestrian deaths per 10,000 pedestrians. Jacksonville and Fort Worth have the

highest pedestrian fatality rates with 28.3 and 24.3 pedestrian deaths per 10,000 pedestrians, respectively.

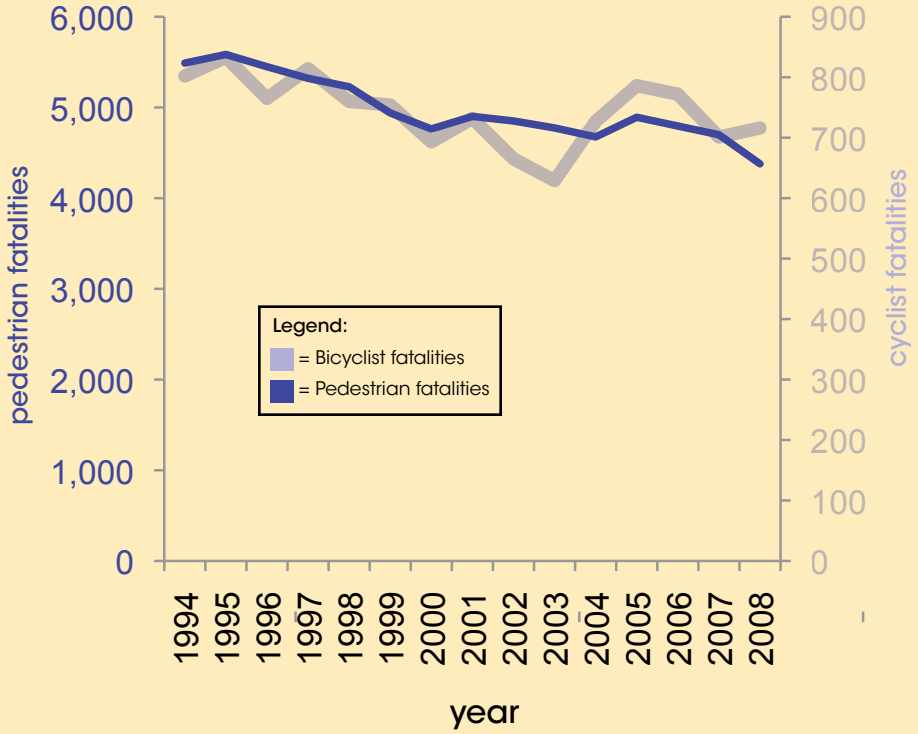
Emerging Trends

Traffic fatalities are on the decline throughout the U.S., including those involving bicyclists and pedestrians. Between 1995 and 2008 the number of bicyclists killed in traffic in the U.S. decreased by 14%. Pedestrian fatalities fell 22% over the same period. However, 2002, 2003, and 2007 all saw fewer bicycling fatalities than 2008. Pedestrian fatalities have experienced a steady decline with 2008 being a record low year for fatalities.

Photo by Les Chatfield

Bicycle and pedestrian fatalities are on the decline.

U.S. Bicycle and Pedestrian Fatalities 1994-2008



Source: FARS 1994-2008

Bicycle Safety in States

State	Annual reported bicycle fatalities (1)	Bicycle fatalities per 10K bicyclists (1,2)	% Of all traffic fatalities that are bicyclists (1)	% Of bicycle fatalities (1)	
				Under age 16	Over age 60
Alabama	10.7	22.5	0.9%	22%	3%
Alaska	1.0	1.4	1.3%	33%	0%
Arizona	28.3	5.8	2.4%	9%	16%
Arkansas	3.0	8.5	0.5%	22%	11%
California	121.7	3.8	2.9%	13%	13%
Colorado	9.7	1.8	1.7%	21%	10%
Connecticut	4.0	4.2	1.4%	25%	0%
Delaware	2.3	7.0	1.8%	0%	0%
Florida	124.7	13.4	3.7%	7%	13%
Georgia	19.3	10.9	1.1%	19%	3%
Hawaii	4.0	5.3	2.7%	0%	17%
Idaho	2.3	1.4	0.9%	29%	14%
Illinois	21.0	3.0	1.6%	17%	11%
Indiana	16.3	8.1	1.8%	20%	12%
Iowa	7.7	6.3	1.7%	22%	9%
Kansas	4.0	4.5	0.9%	33%	8%
Kentucky	6.7	7.3	0.7%	20%	10%
Louisiana	22.3	17.4	2.3%	12%	4%
Maine	2.7	5.3	1.5%	38%	0%
Maryland	7.0	6.9	1.1%	24%	0%
Massachusetts	7.0	1.8	1.6%	33%	10%
Michigan	23.3	6.6	2.1%	23%	13%
Minnesota	6.3	1.8	1.2%	37%	5%
Mississippi	5.3	6.8	0.6%	25%	0%
Missouri	8.0	6.1	0.7%	21%	17%
Montana	3.3	2.5	1.3%	40%	10%
Nebraska	2.0	2.0	0.7%	33%	17%
Nevada	10.0	6.9	2.4%	17%	10%
New Hampshire	2.7	6.1	1.9%	38%	0%
New Jersey	14.0	5.6	1.9%	24%	5%
New Mexico	6.0	6.6	1.3%	17%	11%
New York	48.3	5.3	3.4%	19%	10%
North Carolina	25.0	13.7	1.6%	13%	8%
North Dakota	0.7	1.8	0.6%	100%	0%
Ohio	15.7	4.6	1.2%	19%	9%
Oklahoma	5.3	8.2	0.7%	31%	6%
Oregon	13.3	1.9	2.8%	5%	25%
Pennsylvania	17.0	4.3	1.1%	31%	6%
Rhode Island	1.0	3.9	1.3%	0%	67%
South Carolina	17.3	20.2	1.6%	19%	4%
South Dakota	0.3	0.8	0.2%	0%	0%
Tennessee	7.7	10.7	0.6%	30%	9%
Texas	49.0	8.6	1.4%	16%	10%
Utah	6.3	3.0	2.2%	5%	21%
Vermont	0.0	0.0	0.0%	ø	ø
Virginia	13.3	6.1	1.4%	18%	5%
Washington	11.3	2.5	1.8%	18%	9%
West Virginia	1.3	3.3	0.3%	0%	0%
Wisconsin	10.7	2.8	1.4%	22%	13%
Wyoming	0.7	1.1	0.4%	50%	0%
Mean/Average (3)	15.0	5.2	1.8%	16%	10%
Median	7.0	5.3	1.4%	21%	9%
High	124.7	22.5	3.7%	100%	67%
Low	0.0	0.0	0.0%	0%	0%

Bicyclists account for 1.8% of all traffic fatalities in U.S.

Florida and California have the highest number of annual reported bicycle fatalities of the 50 states. Alabama, South Carolina, Louisiana, and North Carolina are the riskiest states for bicyclists with the highest rate of bicycle fatalities over bicycle trips. Vermont has the lowest bicycle fatality rate among states.

Legend:
* = Data unavailable
ø = Not applicable
= High value
= Low value

Sources: FARS 2005-2007, ACS 2007 **Notes:** (1) All fatality data are based on the 3-year average number of fatalities from 2005-2007. (2) Bicyclist fatality rate was calculated as the 3-year average number of bicyclist fatalities (2005-2007) divided by the population times the bicycle to work share (to adjust for exposure). Because of the approximate nature of the exposure data and great fluctuations in fatality data from year to year, this rate should be seen as a rough estimate. (3) All averages are weighted by population except for annual reported bicycle fatalities.

Pedestrian Safety in States

11.3% of all traffic fatalities in the U.S. are pedestrians.

With an average of 700 pedestrian fatalities annually over the last three years, California has the highest number of pedestrian deaths. Florida takes the lead for pedestrian fatality rate, however. Vermont has the lowest number of pedestrian fatalities and also has the lowest pedestrian fatality rate of the 50 states.

Legend:
= High value
= Low value

State	Annual reported pedestrian fatalities (1)	Ped. fatalities per 10K peds (1,2)	% Of all traffic fatalities that are pedestrians	% Of pedestrian fatalities	
				Under age 16	Over age 60
Alabama	73.3	12.1	6.3%	10%	14%
Alaska	10.0	1.7	13.0%	10%	13%
Arizona	159.7	11.2	13.5%	5%	15%
Arkansas	37.7	8.2	5.7%	10%	16%
California	700.3	6.8	16.7%	8%	24%
Colorado	55.0	3.6	9.7%	10%	15%
Connecticut	34.3	3.2	11.9%	4%	30%
Delaware	18.0	7.7	13.6%	6%	11%
Florida	548.7	18.2	16.3%	6%	18%
Georgia	150.3	9.5	8.9%	8%	11%
Hawaii	31.0	5.5	21.2%	2%	49%
Idaho	11.3	2.4	4.3%	15%	26%
Illinois	158.3	4.0	12.3%	10%	22%
Indiana	65.0	4.9	7.1%	12%	18%
Iowa	24.0	2.1	5.4%	14%	25%
Kansas	22.3	3.0	5.1%	9%	21%
Kentucky	50.0	5.5	5.4%	10%	18%
Louisiana	105.7	12.1	10.8%	9%	8%
Maine	9.7	1.8	5.4%	3%	45%
Maryland	104.3	7.3	16.6%	8%	14%
Massachusetts	66.0	2.4	15.4%	5%	35%
Michigan	134.7	5.8	12.2%	9%	16%
Minnesota	38.3	2.4	7.4%	11%	24%
Mississippi	62.0	12.1	6.8%	6%	12%
Missouri	81.0	6.8	7.3%	7%	12%
Montana	13.3	2.9	5.1%	5%	15%
Nebraska	8.3	1.6	3.1%	8%	16%
Nevada	55.3	9.2	13.5%	7%	17%
New Hampshire	8.0	1.8	5.7%	13%	38%
New Jersey	155.3	5.5	20.8%	6%	24%
New Mexico	60.7	13.7	13.1%	3%	11%
New York	304.0	2.5	21.6%	6%	33%
North Carolina	169.0	9.9	10.6%	8%	12%
North Dakota	6.0	2.1	5.2%	6%	22%
Ohio	99.3	3.8	7.8%	12%	18%
Oklahoma	54.0	7.8	7.0%	9%	14%
Oregon	47.7	3.6	10.1%	10%	24%
Pennsylvania	158.7	3.2	10.3%	10%	30%
Rhode Island	14.0	3.9	17.7%	5%	24%
South Carolina	110.7	13.9	10.4%	5%	10%
South Dakota	9.3	2.5	5.4%	7%	14%
Tennessee	76.0	8.8	6.1%	10%	11%
Texas	399.7	9.5	11.5%	8%	13%
Utah	27.0	3.9	9.3%	16%	21%
Vermont	2.7	0.7	3.5%	13%	50%
Virginia	86.0	5.2	8.8%	7%	21%
Washington	66.3	3.0	10.8%	9%	27%
West Virginia	23.7	5.1	5.8%	13%	17%
Wisconsin	52.3	2.8	6.8%	11%	27%
Wyoming	5.0	2.4	2.9%	0%	7%
Mean/Average (3)	95.3	5.6	11.3%	8%	20%
Median	55.0	4.0	8.9%	8%	18%
High	700.3	18.2	21.6%	16%	50%
Low	2.7	0.7	2.9%	0%	7%

Sources: FARS 2005-2007, ACS 2007
Notes: (1) All fatality data are based on the 3-year average number of fatalities from 2005-2007. (2) Pedestrian fatality rate was calculated as the 3-year average number of pedestrian fatalities (2005-2007) divided by the population times the walk to work share (to adjust for exposure). Because of the approximate nature of the exposure data and great fluctuations in fatality data from year to year, this rate should be seen as a rough estimate. (3) All averages are weighted by population except for annual reported pedestrian fatalities.

Bicycle Safety in Cities

City	Annual reported bicycle fatalities (1)	Bicycle fatalities per 10K bicyclists (1,2)	% Of all traffic fatalities that are bicyclists (1)	% Of bicycle fatalities (1)	
				Under age 16	Over age 60
Albuquerque	3.3	8.5	5.6%	20%	10%
Arlington ,TX	1.0	19.8	3.4%	33%	0%
Atlanta	1.7	5.9	2.7%	40%	0%
Austin	1.0	1.4	1.7%	33%	0%
Baltimore	0.7	3.3	1.6%	50%	0%
Boston	1.0	1.7	4.2%	0%	0%
Charlotte	3.5	62.7	2.2%	0%	0%
Chicago	5.7	1.9	3.0%	18%	12%
Cleveland	0.3	1.6	1.0%	0%	0%
Colorado Springs	0.3	2.2	1.6%	0%	0%
Columbus	1.0	1.9	1.9%	0%	0%
Dallas	1.3	5.0	0.9%	25%	0%
Denver	1.3	1.4	3.2%	25%	0%
Detroit	2.7	10.2	2.4%	25%	0%
El Paso	0.7	8.3	1.8%	0%	0%
Fort Worth	0.3	2.5	0.4%	0%	0%
Fresno	2.0	6.4	5.0%	0%	33%
Honolulu	0.7	1.8	2.5%	0%	50%
Houston	3.3	5.1	1.5%	10%	20%
Indianapolis	3.0	20.7	4.5%	22%	11%
Jacksonville	3.7	15.4	2.5%	27%	0%
Kansas City, MO	0.3	2.8	0.5%	0%	0%
Las Vegas	2.3	6.5	4.1%	14%	0%
Long Beach	1.0	2.3	2.7%	0%	0%
Los Angeles	7.3	3.0	2.6%	5%	27%
Louisville	2.0	12.1	2.4%	17%	17%
Memphis	1.0	4.9	0.9%	33%	0%
Mesa	4.3	6.3	7.9%	8%	23%
Miami	1.3	31.3	2.2%	0%	0%
Milwaukee	0.3	0.9	0.8%	100%	0%
Minneapolis	1.0	0.8	4.9%	0%	0%
Nashville	2.3	17.9	2.7%	14%	0%
New Orleans	1.0	2.6	3.5%	33%	0%
New York	21.7	3.7	7.0%	12%	14%
Oakland	1.0	2.0	2.7%	0%	0%
Oklahoma City	0.0	0.0	ø	ø	ø
Omaha	0.0	0.0	ø	ø	ø
Philadelphia	3.7	2.5	3.4%	9%	9%
Phoenix	7.7	9.4	3.6%	4%	9%
Portland, OR	2.7	1.2	7.8%	0%	0%
Raleigh	1.0	7.3	3.5%	0%	0%
Sacramento	2.0	2.4	4.9%	0%	17%
San Antonio	2.0	10.7	1.6%	17%	0%
San Diego	4.3	4.0	4.3%	8%	0%
San Francisco	1.3	0.7	3.1%	0%	0%
San Jose	1.7	2.6	3.3%	40%	0%
Seattle	1.0	0.8	2.9%	0%	0%
Tucson	2.7	2.8	4.1%	38%	0%
Tulsa	0.3	7.8	0.8%	100%	0%
Virginia Beach	0.3	3.3	1.3%	0%	0%
Washington, DC	1.3	1.3	3.1%	0%	0%
Mean/Average (3)	2.4	3.3	3.0%	13%	9%
Median	1.3	2.9	2.7%	8%	50%
High	21.7	62.7	7.9%	100%	50%
Low	0.0	0.0	0.4%	0%	0%

3% of traffic fatalities in major U.S. cities are bicyclists.

Oklahoma City and Omaha have the lowest number of annual reported bicycle fatalities (0) among the largest U.S. cities. New York has the highest number of annual reported bicycle fatalities, but Charlotte ranks as the riskiest city for bicycling with the most bicyclist fatalities per bicycle trips.

Legend:
* = Data unavailable
ø = Not applicable
= High value
= Low value

Sources: FARS 2005-2007, ACS 2007 **Notes:** fatality data unavailable for Oklahoma City and Omaha. (1)All fatality data are based on the 3-year average number of fatalities from 2005-2007. (2) Bicyclist fatality rate was calculated as the 3-year average number of bicyclist fatalities (2005-2007) divided by the population times the bicycle to work share. (3) All averages are weighted by population except annual reported bicycle fatalities.

Photo by La-Citta-Vita @ Flickr

Pedestrians account for 25% of traffic fatalities in major U.S. cities

Despite comprising less than 5% of trips to work and 11% of all trips, pedestrians in major U.S. cities account for over a quarter of traffic fatalities. In Honolulu, New York, and San Francisco, roughly half of all traffic fatalities are pedestrians. Along with being the safest city for bicycling, Kansas City, MO, also has the lowest pedestrian fatality rate (fatalities/trips).

Legend:
* = Data unavailable
= High value
= Low value

Sources: FARS 2005-2007, ACS 2007 **Notes:** (1) All fatality data are based on the 3-year average number of fatalities from 2005-2007. (2) Pedestrian fatality rate was calculated as the 3-year average number of pedestrian fatalities (2005-2007) divided by the population times the walk to work share. (3) All averages are weighted by population except for annual reported pedestrian fatalities.

Pedestrian Safety in Cities

City	Annual reported pedestrian fatalities (1)	Ped. fatalities Rate per 10K peds (1,2)	% Of all traffic fatalities that are pedestrians	% Of pedestrian fatalities (1)	
				Under age 16	Over age 60
Albuquerque	17.7	14.3	29.4%	0.0%	15.1%
Arlington	5.0	9.7	17.2%	0.0%	13.3%
Atlanta	8.7	5.3	13.8%	7.7%	7.7%
Austin	18.3	12.2	30.4%	3.6%	12.7%
Baltimore	15.0	3.4	36.0%	11.1%	15.6%
Boston	7.3	0.9	31.0%	0.0%	45.5%
Charlotte	13.0	10.9	17.3%	2.6%	7.7%
Chicago	54.7	3.7	28.5%	13.4%	21.3%
Cleveland	7.3	4.9	22.0%	4.5%	27.3%
Colorado Springs	2.3	2.4	11.3%	14.3%	0.0%
Columbus	10.7	5.5	20.1%	15.6%	9.4%
Dallas	37.0	21.3	24.2%	1.8%	9.9%
Denver	14.3	5.7	34.1%	14.0%	16.3%
Detroit	31.7	14.4	28.5%	9.5%	9.5%
El Paso	8.0	5.9	21.2%	12.5%	33.3%
Fort Worth	18.7	24.3	24.2%	17.9%	3.6%
Fresno	11.3	11.8	28.1%	17.6%	20.6%
Honolulu	13.7	5.7	50.6%	0.0%	65.9%
Houston	52.7	11.8	24.4%	7.0%	10.8%
Indianapolis	8.7	6.5	12.9%	3.8%	11.5%
Jacksonville	29.0	28.3	19.9%	4.6%	12.6%
Kansas City, MO	0.3	0.3	0.5%	0.0%	0.0%
Las Vegas	12.0	10.3	21.2%	8.3%	13.9%
Long Beach	9.7	5.8	26.4%	3.4%	27.6%
Los Angeles	93.3	6.7	33.0%	4.6%	29.3%
Louisville	13.7	10.0	16.7%	4.9%	14.6%
Memphis	14.3	10.9	13.5%	2.3%	0.0%
Mesa	9.0	9.8	16.4%	7.4%	33.3%
Miami	22.0	15.4	36.3%	6.1%	31.8%
Milwaukee	15.0	5.6	36.6%	17.8%	13.3%
Minneapolis	3.7	1.6	18.0%	18.2%	27.3%
Nashville	12.7	17.7	14.9%	7.9%	7.9%
New Orleans	6.3	3.9	22.1%	15.8%	15.8%
New York	149.0	1.8	48.4%	6.9%	37.1%
Oakland	9.3	5.0	25.2%	0.0%	21.4%
Oklahoma City	11.3	20.8	18.4%	14.7%	14.7%
Omaha	2.7	3.4	9.0%	12.5%	0.0%
Philadelphia	33.3	2.9	30.6%	15.0%	25.0%
Phoenix	52.3	19.5	24.7%	6.4%	9.6%
Portland, OR	9.3	3.9	27.2%	7.1%	39.3%
Raleigh	7.3	6.7	25.9%	4.5%	9.1%
Sacramento	11.3	7.3	27.9%	8.8%	20.6%
San Antonio	27.7	9.8	22.3%	2.4%	10.8%
San Diego	21.0	6.2	20.7%	3.2%	19.0%
San Francisco	20.3	2.8	48.0%	4.9%	36.1%
San Jose	16.7	9.2	33.1%	6.0%	20.0%
Seattle	7.3	1.5	21.4%	0.0%	40.9%
Tucson	16.3	7.9	25.1%	4.1%	20.4%
Tulsa	12.7	13.3	29.0%	13.2%	10.5%
Virginia Beach	5.3	6.1	20.8%	6.3%	12.5%
Washington, DC	17.3	2.7	40.3%	15.4%	13.5%
Mean/Average (3)	20.1	4.6	26.5%	7.4%	21.2%
Median	12.9	6.4	24.3%	6.4%	14.7%
High	149.0	28.3	50.6%	18.2%	65.9%
Low	0.3	0.3	0.5%	0.0%	0.0%

4: Policies and Provisions

Photo by Kate McCarthy, San Francisco Bicycle Coalition

Policies vs. Provisions

Research shows that better policies and increased provisions for bicycling and walking lead to higher levels of bicycling and walking. This report differentiates between policies and provisions because in some cases where there are good policies on paper there is nothing to show for them on the ground. Policies are the written or unwritten procedures. In other cases, there may be no official policy, but there is an informal policy to accommodate bicycling and walking through provisions of funding, infrastructure, and staff support.

The Alliance makes this distinction because it is not enough for states and cities to have policies that look good, if they do not translate into provisions on the ground. On the other hand, unofficial policies can provide provisions one day and vanish with changes in administration. By distinguishing the two and measuring them separately and against each other, policies that are truly effective versus those that are artificial can be distinguished.

Policy =
Written or unwritten procedure

Provision =
Physical needs such as funding, infrastructure, staff, etc.

Data on Policies and Provisions

For benchmarks in this chapter the Alliance relied on state and city surveys, the National Transportation Enhancements Clearinghouse and the Federal Highway Administration's (FHWA) Fiscal Management Information System (FMIS), League of American Bicyclists' Bicycle Friendly States data, Safe Routes to School National Partnership, National Center for Safe Routes to School, the Rails to Trails Conservancy, and the American Public Transportation Association. The Alliance sent surveys to all 50 states and the 51 cities included in this report. State and city surveys were answered by local advocates, government officials (department of transportation employees, state bicycle and pedestrian coordinators, state Safe Routes to School coordinators, and city planning staff (for more information on this process, see Chapter 1, page 26). State/city survey data are self-reported by cities/states and no separate validation was done to ensure data accuracy.

This chapter of the report focuses more heavily on cities since they are where provisions can best be measured. However, not all cities were able to report on bicycling and walking provisions because their agencies have not implemented methods to collect these data and thus have no data available.

Bicycling and Walking Policies

Strong policies to provide provisions for and promote bicycling and walking can help transform communities into healthier and more livable places. This report considered a number of policies such as complete streets policies, bicycle parking policies, annual spending

Photo by Payton Chung

targets for bicycle and pedestrian projects, published goals to increase bicycling and walking, and published goals to decrease bicycle and pedestrian fatalities.

Planning for Bicycling and Walking

Published Goals

When a state or city publishes a goal to increase bicycling and walking and decrease crashes, they are making a public commitment to progress for which success can be easily measured. Since 2007, states and cities have improved in this area with several adopting new goals in the last two years. Twenty-three states report they have published goals for increasing *both* bicycling and walking. North Dakota and Mississippi have goals for increasing walking only, and Nevada has a goal to increase bicycling only. This is up from just 16 states that reported goals for increasing bicycling and walking in 2007. Similarly, more cities have now adopted goals to increase bicycling and walking. Of the cities surveyed, 22 have goals to increase walking and 33 have goals to increase bicycling. Two years ago just 25 of these cities reported having such goals.

States and cities are also increasing their commitment to bicycling and walking safety. Thirty-two states report having adopted goals to decrease bicycle and pedestrian fatalities. This is up 78% from 2007 when just 18 states had adopted these goals. Of the cities surveyed, 29 have adopted goals to reduce bicycle fatalities and 23 have adopted goals to decrease pedestrian fatalities. Just 20 of these cities reported having goals to reduce bicycle and pedestrian fatalities in 2007.

Master Plans

Planning is an integral step to creating healthy livable communities. Bicycle and pedestrian master plans set a community's vision for the future and their road map for achieving their goals. Roughly half of cities and states have adopted master plans for bicycling and walking as of this report. Because these data were not collected in 2007, we cannot yet measure progress. Twenty-two states have bicycle and pedestrian master plans. Delaware, Iowa, Minnesota, Nevada, and North Dakota have bicycle master plans only, and Maine has a pedestrian master plan only. Eighteen of the cities surveyed have bicycle and pedestrian master plans. Nineteen more have bicycle master plans only and Charlotte, NC, has a pedestrian master plan only. Chicago, Fresno, and Philadelphia all report having plans in progress. Miami has a short-range plan for bicycling and walking. (For links to sample bicycle and pedestrian master plans, see Appendix 5, pages 173 and 174).

Planning for Bicycling and Walking in States

Roughly half of the states have published goals to increase bicycling and walking.

Twenty-three states have goals to increase both bicycling and walking, a 44% increase since 2007. The number of states that have goals for reducing bicycle and pedestrian fatalities has increased by 78% since 2007, from 18 states to 32 today.

State	Published Goals:				Master Plan Adopted		Bike/Ped Advisory Committee
	To Increase Walking	To Increase Bicycling	Decrease Ped. Fatalities	Decrease Bicycle Fatalities	For Bicycling	For Walking	
Alabama							
Alaska	✓	✓	✓	✓	✓	✓	
Arizona	✓	✓	✓	✓	✓	✓	✓
Arkansas	✓★	✓★					
California	✓	✓	✓	✓			✓
Colorado	✓	✓	✓	✓			
Connecticut			✓	✓	✓	✓	✓
Delaware			✓	✓	✓	(1)	✓
Florida			✓★	✓★			
Georgia	✓★	✓★	✓★	✓★	✓	✓	
Hawaii		✓			✓	✓	
Idaho	✓	✓	✓	✓	✓	✓	
Illinois	✓★	✓★	✓★	✓★			✓
Indiana					✓	✓	
Iowa					✓		✓
Kansas					✓	✓	
Kentucky	✓★	✓★	✓★	✓★			✓
Louisiana			✓	✓	✓	✓	
Maine	✓	✓	✓★	✓★		✓	✓
Maryland	✓	✓	✓	✓	✓	✓	✓
Massachusetts	✓★	✓★	✓★	✓★	✓	✓	✓
Michigan	✓★	✓★	✓	✓			
Minnesota	✓	✓	✓	✓	✓		✓
Mississippi	✓★						
Missouri			✓	✓			
Nevada		✓	✓	✓	✓		✓ (2)
New Hampshire	✓	✓	✓	✓	✓	✓	✓
New Jersey	✓★	✓★	✓★	✓★	✓	✓	✓
New Mexico			✓★	✓★	✓	✓	✓
New York			✓★	✓★	✓	✓	✓
North Carolina	✓	✓	✓	✓	✓	✓	✓ (2)
North Dakota	✓★				✓		
Ohio							
Oklahoma					✓	✓	
Oregon	✓★	✓★	✓★	✓★			✓
Pennsylvania	✓★	✓★	✓★	✓★	✓	✓	✓
Rhode Island	✓★					✓	
South Carolina	✓★	✓★	✓★	✓★	✓	✓	✓
South Dakota							
Tennessee	✓	✓	✓★	✓★	✓	✓	
Texas			✓	✓			✓
Utah	✓	✓	✓	✓	✓	✓	
Vermont	✓★	✓★	✓★	✓★	✓	✓	
Washington							
West Virginia	✓★	✓★	✓★	✓★			
Wisconsin	✓★	✓★	✓	✓	✓	✓	
Wyoming			✓★	✓★			
# of states responding yes	26	25	32	32	27	24	20
Mean/Average	Yes	-	Yes	Yes	Yes	No	No

Legend:
✓ = Yes/has policy
★ = New policy since 2007 Benchmarking Report

Source: State surveys 2008/2009 **Notes:** No data received from Montana, Nebraska, and Virginia and therefore these states are not shown on this graph; Responses of "unknown" and "NA" were taken to mean "no" for this table. All empty cells should be understood to be a "no" response. (1) Under development. (2) Bicycle only.

Planning for Bicycling and Walking in Cities

City	Published Goals:				Master Plan Adopted		Bike/Ped Advisory Committee
	To Increase Walking	To Increase Bicycling	Decrease Ped. Fatalities	Decrease Bicycle Fatalities	For bicycling	For walking	
Arlington, TX					✓		✓ (4)
Atlanta	✓	✓	✓	✓	✓	✓	
Austin	✓	✓	✓	✓	✓	✓	✓
Baltimore					✓		✓
Boston		✓			✓		✓
Charlotte	✓	✓	✓★	✓★		✓	✓ (3)
Chicago	(2)	✓	(2)	✓	✓	(2)	✓
Colorado Springs	✓★	✓★	✓★	✓★	✓		
Columbus	(2)	✓★		✓★	✓		✓
Dallas	✓	✓	✓	✓	✓		✓
Denver	✓	✓			✓	✓	✓
Detroit					✓	✓	
Fort Worth							
Fresno	✓	✓	✓	✓	(2)	(2)	✓
Honolulu		✓	✓	✓	✓		✓
Houston		✓★		✓	✓		✓
Indianapolis					✓		✓
Kansas City, MO	✓★	✓★	✓★	✓★	✓	✓	✓
Las Vegas	✓	✓	✓	✓	✓	✓	✓
Long Beach	✓	✓	✓	✓	✓		
Los Angeles					✓		✓
Louisville	✓	✓	✓	✓			✓
Memphis					✓	✓	✓
Mesa		✓	✓	✓	✓	✓	✓
Miami		✓	✓	✓	(1)	(1)	✓
Milwaukee		✓		✓★	✓		✓
Minneapolis		✓					✓
Nashville					✓	✓	✓
New Orleans							
New York	✓★	✓★	✓★	✓★	✓		
Oakland	✓	✓	✓	✓	✓	✓	✓
Oklahoma City		✓★		✓★	✓		✓
Omaha							✓
Philadelphia			✓ (5)	✓ (5)	✓	(2)	✓
Phoenix	✓★	✓★	✓★	✓★	✓	✓	
Portland, OR	✓	✓	✓★	✓★	✓	✓	✓
Raleigh		✓		✓	✓		✓
San Antonio							
San Diego	✓★	✓★			✓	✓	
San Francisco	✓★	✓★	✓★	✓★	✓	✓	✓
San Jose			✓	✓	✓	✓	✓
Seattle	✓	✓	✓	✓	✓	✓	✓
Tucson	✓	✓			✓		✓
Tulsa	✓★	✓★			✓	✓	✓
Virginia Beach	✓	✓	✓★	✓★	✓		✓
Washington, DC	✓	✓	✓	✓	✓	✓	✓ (3)
# of cities responding yes	22	33	23	29	37	19	36
Mean/Average	No	Yes	No	Yes	Yes	No	Yes

Source: City surveys 2008/2009 **Notes:** The following top 51 population cities did not respond to these survey questions: Albuquerque, Cleveland, El Paso, Jacksonville, and Sacramento; Cities with combined bike/ped master plans have both columns marked; cities with separate bike and ped master plans have respective columns marked. (1) Has short-range plan only. (2) In development/process. (3) Bicycle only. (4) Parks board acts in similar capacity. (5) Goal to be published in forthcoming Strategic Agenda for Transportation.

Planning is stronger for bicycling than walking in cities.

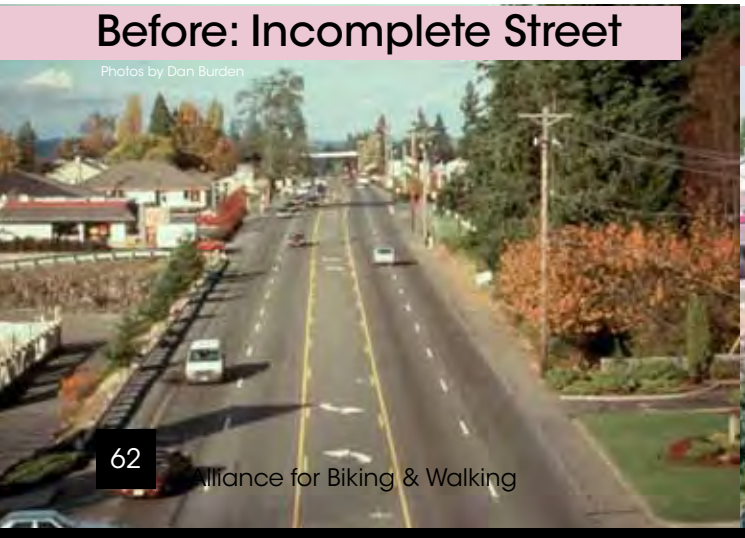
More than half of states have goals to increase bicycling and decrease bike fatalities and have adopted a bicycle master plan. Fewer cities have goals and plans for increasing walking and pedestrian safety. Several cities have adopted new goals for bicycling and walking in the last two years. New policies are indicated with a star in the table on this page.

Legend:
✓ = Yes/has policy
★ = New policy since 2007 Benchmarking Report

Advisory Committees
In many states and cities, bicycle and pedestrian advisory committees assist with the planning, development, and implementation of bicycling and walking programs and facilities. These committees are typically comprised of volunteer community stakeholders such as bicycle and running club leaders, bicycle shop owners, advocacy leaders, and concerned citizens. Groups typically meet monthly or quarterly and make recommendations to city or state staff and planners about facilities, programs, and issues relating to bicycling and walking in their state/community. Thirty-six cities and 20 states that were surveyed report having a bicycle and pedestrian advisory committee. Arlington, TX; Charlotte, NC; and Washington, DC, have committees focused primarily on bicycling as do the states of Nevada and North Carolina.

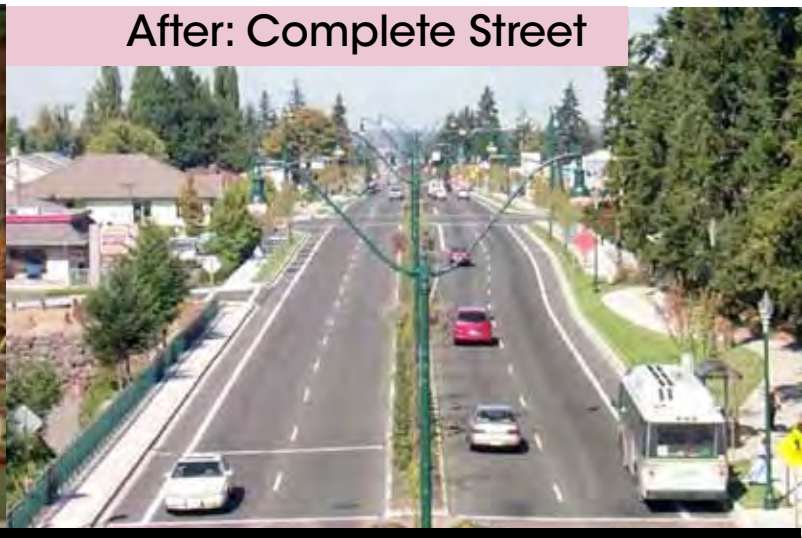
Environmental Plans
Growing awareness and concern over climate change has led to many states and communities strategizing how they can reduce their greenhouse gas emissions. Many states and cities have adopted Carbon Dioxide Reduction Plans that aim to reduce consumption of fossil fuels and to decrease reliance on power generated by fossil fuels. Transportation accounts for roughly a third of greenhouse gases in the U.S. (EPA), and so any CO_2 reduction plan must look at transportation solutions. Replacing car trips with bicycling and walking is an obvious solution, but how many of these plans include goals for increasing nonmotorized transport? Of 18 states that have adopted CO_2 reduction plans, 13 (72%) have included goals for increasing bicycling and walking. Only Wisconsin, New Mexico, and Minnesota have CO_2 reduction plans that fail to set goals for bicycling and walking. Illinois, Florida, New Jersey, and Pennsylvania have CO_2 reduction plans forthcoming.

Before: Incomplete Street

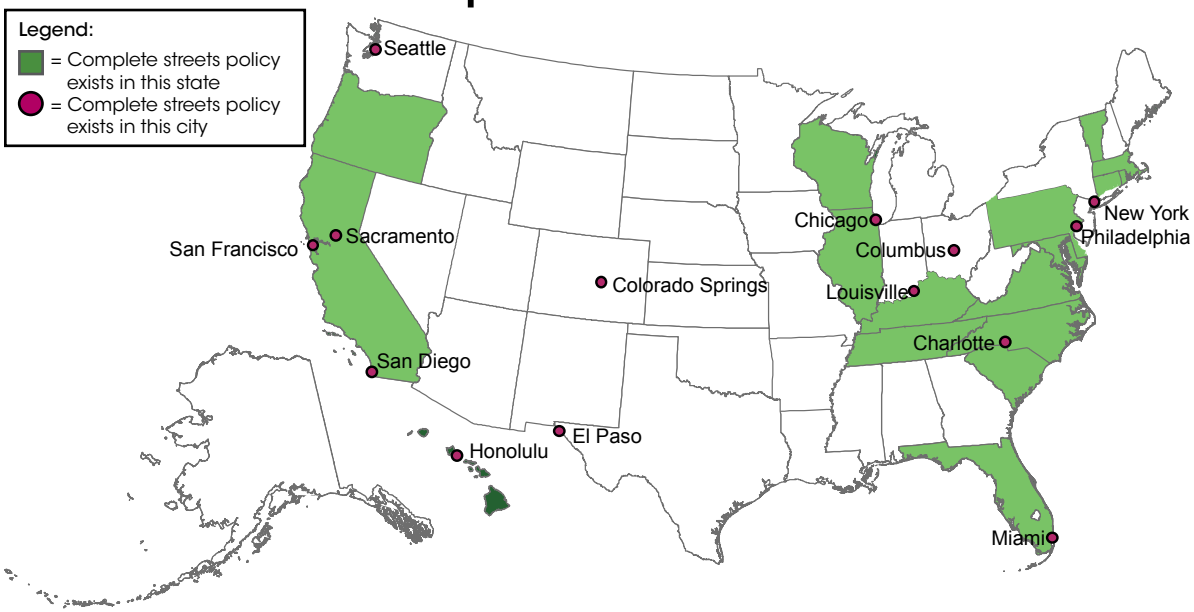


Photos by Dan Burden

After: Complete Street



Complete Streets Policies



Source: National Complete Streets Coalition, September 2009 **Note:** Only cities out of the 51 cities included in this report are included on this map.

Complete Streets Policies

The bicycle and pedestrian advocacy movement and its partners for transit and disabled rights have adopted the term "complete streets" because it accurately frames the discussion to show that a street is not complete unless all modes of transport are provided for. A complete street provides safe access for pedestrians, bicyclists, children, the elderly, disabled people, transit users, and motorists. Complete streets policies require that all streets are designed and built to provide safe access for all potential users. These policies ensure that provisions such as sidewalks, curb cuts, bike lanes, traffic calming, and inviting crossings are included in all road projects and not as an optional add-on. The Alliance asked cities and states if they have adopted a complete streets policy. As of this report, 18 states and 14 of the 51 cities in this report have adopted local complete streets policies. This is up from 2007 when just 10 states and 8 of the 51 cities had adopted complete streets policies. (For links to complete streets resources and model policies, see Appendix 5, page 175.)

Bicycle Parking Requirements

Over 1.5 million bicycles are stolen in the U.S. each year (http://www.stolenbicycleregistry.com/links.php). In a 2008 survey of roughly 1,800 San Francisco bicyclists, the number one reason

City Policies Affecting Bicycling & Walking

City	Driver Enforcement		Min. spending levels for bike/ped	Car parking requirements		Bike parking requirements			Complete streets policy (1)
	For not yielding?	If yes, what is fine?		Min. # of spaces for new building	Max # of spaces for new building	Bike parking in buildings/ garages	Bike parking in new building	Bike parking at public events	
Albuquerque									
Arlington, TX				✓			✓(4)		
Atlanta	✓	$240		✓	✓	✓	✓		
Austin	✓	$176-$200		✓		✓	✓		
Baltimore				✓	(3)	(3)	✓	✓(4)	
Boston				✓		(3)	(3)		(3)
Charlotte	(5)		(3)	✓		✓	✓		✓
Chicago	✓	$150(8)			✓		✓		✓
Cleveland									
Colorado Springs				✓				✓	✓
Columbus	(7)			✓	✓	(3)	(3)	✓	✓
Dallas	✓	$75		✓					
Denver				✓					
Detroit	✓	(7)		✓					
El Paso									✓
Fort Worth				✓					
Fresno	✓			✓			✓		
Honolulu	✓	$150		✓					✓
Houston	✓			✓					
Indianapolis									
Jacksonville									
Kansas City, MO	✓	(2)		✓	✓	✓	✓		
Las Vegas	✓	(2)		✓		✓	✓		
Long Beach	✓	$159	✓	✓					
Los Angeles				✓			✓		
Louisville				✓	✓		✓		✓
Memphis	✓	(7)			✓				
Mesa	✓	(2)		✓			✓		
Miami				✓					✓
Milwaukee	✓	$149		✓		✓	✓	✓	
Minneapolis	✓			✓	✓	✓	✓		
Nashville	(5)	$50		✓				✓	
New Orleans				✓					
New York	(5)			✓		✓(4)	(3)		✓
Oakland	(6)	$201		✓		✓	✓	✓	
Oklahoma City				✓					
Omaha									
Philadelphia				✓(10)		(3)	(3)		✓
Phoenix	✓								
Portland, OR	✓	$242	✓	✓		✓	✓		
Raleigh	✓	$100 (9)		✓			✓		
Sacramento									✓
San Antonio									
San Diego				✓		✓			✓
San Francisco	(5)				✓	✓(4)	✓	✓	✓
San Jose	✓	(7)		✓	(7)		✓		
Seattle									✓
Tucson	✓	$163		✓		✓	✓	✓	
Tulsa	✓	(7)		✓					
Virginia Beach				✓			✓		
Washington, DC	✓	$200		✓		✓	✓		
# of cities responding yes	23	-	2	38	8	15	23	8	14
Mean/Average	No	$159	No	Yes	No	No	No	No	No

Sources: City surveys, NCSC 2009 **Notes:** Legend next page; Answers marked as "unknown" on surveys were taken to mean "no." The following top-50 population cities did not respond to these survey questions: Albuquerque, Cleveland, El Paso, Jacksonville, and Sacramento (1) Complete streets data from the National Complete Streets Coalition. (2) Varies. (3) Under development/in progress. (4) In some places/cases. (5) Law exists but enforcement is rare, sporadic, or non-existent. (6) Pedestrian only. (7) Unknown. (8) For a bicyclist, $500 if bicyclist hit. (9) Plus court costs. (10) Yes, but it depends on the zoning for the project and no parking is required for commercial development downtown.

State Policies Affecting Bicycling and Walking

State	Publicly available bicycle map	Complete Streets Policy (3)	CO_2 reduction plan			Annual statewide bicycle conference
			Adopted	Includes goals for bicycling	Includes goals for walking	
Alabama						
Alaska						
Arizona	✓		✓	✓	✓	
Arkansas	✓					
California		✓	✓			✓
Colorado	✓		✓			
Connecticut		✓	✓	✓ (1)	✓ (1)	
Delaware	✓	✓	✓			✓
Florida		✓	(2)			✓
Georgia	✓					
Hawaii	✓	✓				
Idaho	✓					✓
Illinois	✓	✓	(2)			
Indiana						
Iowa	✓					✓
Kansas	✓					
Kentucky		✓				
Louisiana	✓					
Maine	✓		✓	✓	✓	✓
Maryland	✓	✓	✓	✓	✓	✓
Massachusetts	✓	✓	✓	✓	✓	
Michigan	✓					✓
Minnesota	✓		✓			✓
Mississippi	✓					
Missouri	✓					
Montana	✓					
Nebraska	✓					
Nevada	✓					✓
New Hampshire	✓		✓	✓	✓	
New Jersey			(2)	✓	✓	
New Mexico	✓		✓			
New York	✓					
North Carolina	✓	✓				
North Dakota						
Ohio						
Oklahoma						
Oregon	✓	✓	✓	✓	✓	✓
Pennsylvania		✓	(2)			
Rhode Island	✓	✓	✓	✓	✓	
South Carolina	✓	✓				✓
South Dakota	✓					✓
Tennessee	✓	✓	✓	✓	✓	
Texas						
Utah	✓		✓	✓	✓	
Vermont		✓	✓	✓	✓	
Virginia	✓	✓				✓
Washington	✓		✓	✓	✓	✓
West Virginia	✓					
Wisconsin	✓	✓	✓			✓
Wyoming	✓					
# of states responding yes	36	18	18	13	13	16
Mean/Average	Yes	No	No	No	No	No

72% of states have a publicly available bike map.

Legend: (previous and this page)
✓ = Yes/has legislation or policy

Sources: State surveys 2008/2009, NCSC 2009 (3) **Notes:** LAB 2009 (1) Generally, not specific. (2) In development/not yet adopted.

bicyclists cited why they don't bicycle more was fear of bicycle theft (*Report Card on Bicycling: San Francisco 2008)*. Lack of safe places to park a bicycle is a barrier to increasing bicycling. Many cities have taken steps to overcome this barrier by requiring businesses and new developments, parking garages, and public events to include bicycle parking. Of the cities surveyed for this report, less than half (23 cities) require bicycle parking in new buildings. Even fewer require bicycle parking in buildings/garages—just 15 cities. Only eight cities require bicycle parking at public events.

83% of cities surveyed require car parking minimums for new buildings.

A 2002 comparison of bicycle parking requirements in 145 jurisdictions reveals that these policies typically require bicycle parking between 2% and 20% of car parking (Comparison of Bike Parking Policies). Some policies are triggered by minimum requirements such as the square footage of a building, the numbers of employees a business has, or the number of car parking spaces. In these cases, if the minimum is not met (such as a business having under 25 employees), a business is not required to install any bicycle parking.

Car Parking Requirements

The Alliance also surveyed cities on policies requiring a minimum and/or maximum number of car parking spaces for new buildings. Eighty-three percent of responding cities (38 cities) reported having minimum car parking requirements. These policies can often negatively affect land-use development that promotes bicycling and walking. On the flip side, eight cities (Atlanta, Chicago, Columbus, Kansas City, Louisville, Memphis, Minneapolis, and San Francisco) reported having policies that set a maximum number of car parking spaces for new buildings. These progressive policies require more dense development and land-use practices that can encourage safer and more friendly environments for bicyclists and pedestrians.

Driver Enforcement

Enforcement is one of the five Es for creating a bicycle and pedestrian friendly community. (Engineering, Education, Encouragement, and Evaluation are the other four.) Enforcement generally includes both laws protecting bicyclists and pedestrians and the enforcement of these laws. It is one thing to have laws that protect bicyclists, pedestrians, and other road users, but it is another thing to have these rules of the road enforced. Whether it's ticketing speeding motorists or reminding bicyclists to stop at traffic lights, enforcement is critical to ensuring that safety rules keep road users safe.

For this report the Alliance collected data on a number of laws and policies. Relating to driver enforcement, we looked at three policies: photo enforcement for moving violations, driver enforcement for not yielding to bicyclists and pedestrians, and restrictions on driver cell phone use. Twenty-three of the cities surveyed report that their city enforces motorists not yielding to bicyclists and pedestrians when nonmotorized users have the right of way. Oakland enforces not yielding to pedestrians only. Charlotte, Nashville, New York, and San Francisco report that a law does exist, but enforcement is rare, sporadic, or nonexistent. Of the cities that do enforce not yielding to bicycles and pedestrians, fines range from $50 to $242. The average fine for motorists is $159.

Out of 50 states, 28 permit photo enforcement of moving violations. Only eight states restrict cell phone use by motorists. Half of these allow the use of a hands-free cell phone device.

Most states and cities do not have spending targets for bicycling and walking.

Photo by Cindy Shebley, www.photowalkstoday.com

Safe Routes to School Policies

Through the 2005 federal transportation act, $612 million was provided to fund Safe Routes to School programs in all 50 states and the District of Columbia. As part of this legislation, each state was mandated to hire a full-time Safe Routes to School Coordinator. The Alliance asked states if they use any additional funding sources for SRTS besides federal SRTS dollars. Fifteen states reported using additional funding sources for SRTS. Among the other funding sources used by states are state funds, Transportation Enhancement, state license plate sales, and private foundation funding.

The Alliance also collected data on whether or not states have a policy setting minimum acreage requirements for school siting. These requirements can often lead to sprawl by forcing new schools to be built far away from urban and suburban centers, and create poor conditions for bicycling and walking to school. According to a 2003 Council on Educational Facility Planners Brief on Educational Facility Issues, 25 states have minimum acreage policies for school siting. These policies vary but on average require a minimum of 10 acres for elementary schools, 20 acres for middle schools, and 30 acres for high schools, plus 1 acre for every 100 students.

Spending Targets

Spending targets are goals set by states and cities for how much money, or what percent of transportation spending, will be allocated to bicycling and walking. Most states and cities report

Photo by D Sharon Pruitt

Fifteen states provide additional funding for Safe Routes to School beyond federal funding.

Source: State surveys, 2008/2009 Council of Educational Facility Planners International 2003 Brief on Educational Facility Issues **Notes:** (1) State. (2) Idaho Transportation Department. (3) National Highway Traffic Safety Administration Grant. (4) State discretionary funds. (5) Voter bonds. (6) Community SRTS project EOT/DPH/ private foundation. (7) NHTSA. (8) NJDOT local aid economic development, bikeways program. (9) Transportation Enhancement funds. (10) Local funds. (11) State license plate sales. (12) Policies requiring minimum acreage for school siting often promote sprawl by forcing new schools to locate away from denser population centers resulting in schools that are not walkable and bikeable.

Safe Routes to School Policies

States	Minimum acreage for school siting policy? (12)	Additional SRTS funding beyond federal?
Alabama	✓	
Alaska	✓	
Arizona	✓	✓ (1)
Arkansas		
California	✓	✓ (1)
Colorado		
Connecticut	✓	
Delaware	✓	✓
Florida		
Georgia	✓	
Hawaii	✓	
Idaho	✓	✓ (2)
Illinois		
Indiana	✓	
Iowa		
Kansas		✓ (3)
Kentucky	✓	✓ (4)
Louisiana		
Maine	✓	✓ (5)
Maryland		
Massachusetts		✓ (6)
Michigan		
Minnesota		
Mississippi	✓	✓ (9)
Missouri	✓	
Montana		
Nebraska		
Nevada		✓ (7)
New Hampshire	✓	
New Jersey		✓ (8)
New Mexico		
New York	✓	
North Carolina	✓	
North Dakota		✓ (9)
Ohio	✓	
Oklahoma	✓	✓ (10)
Oregon		
Pennsylvania		
Rhode Island	✓	
South Carolina		
South Dakota		
Tennessee		
Texas		✓ (11)
Utah	✓	
Vermont		
Virginia	✓	
Washington	✓	✓ (1)
West Virginia	✓	
Wisconsin		
Wyoming	✓	
# of states responding yes	25	15
Mean/Average	-	No

that they do not have spending targets for bicycling and walking. Just eight states (Hawaii, Maine, North Carolina, Oregon, South Carolina, Tennessee, and Washington) report having spending targets. Seven cities (Charlotte, Cleveland, Fresno, Las Vegas, Phoenix, San Francisco, and Columbus) report having spending targets. Some spending targets are based on percentage of transportation spending (Hawaii 2%, Rhode Island 4%). Columbus's target is over a 20-year period. Other states and cities set dollar amounts as annual spending targets.

State Legislation

Bikes Considered Vehicles?

Although all states treat bicyclists as having the same rights and responsibilities on the road as other vehicles, not all states define bicycles as vehicles. Forty-three states report that their traffic code defines a bicycle as a vehicle. Arizona, California, Iowa, Michigan, Nevada, New Jersey, and Vermont do not specifically define a bicycle as a vehicle in their traffic codes.

Can Bicyclists Legally Ride Two Abreast?

Most states have laws that allow bicyclists to ride side-by-side or "two abreast" as long as they are not impeding traffic. Forty-five states have legislation allowing bicyclists to ride two abreast. Hawaii, Iowa, Montana, Nebraska, and South Dakota are the only states where there is not legislation allowing bicyclists to ride side-by-side.

Safe Passing Laws

In recent years many states have successfully pursued legislation that requires motorists to pass bicyclists at a set "safe" distance. These "Safe Passing" or "3-Feet" laws, as they're often called, are primarily aimed at educating motorists how to safely pass bicyclists. Motorists may believe that just avoiding contact with bicyclists is all that is required when passing. Many motorists are unaware of the dangers of passing a bicyclist too closely which may lead to the bicyclist being hit or startled resulting in a crash. Fourteen states now have safe passing laws on the books.

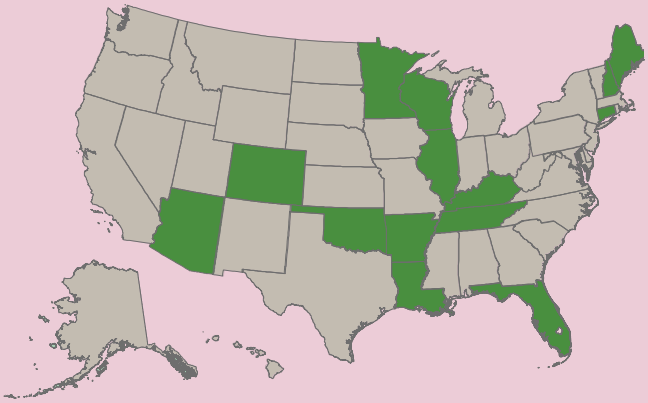
Mandatory Bike Lane and Sidepath Use Laws

Although most state laws define bicycles as vehicles with the same rights and responsibilities as other vehicles

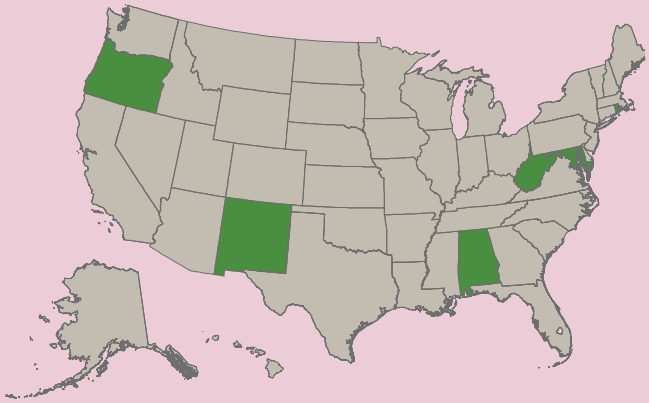
Photo by David Niedzielski, Bikubeile, aerialist

State Bicycle Policies

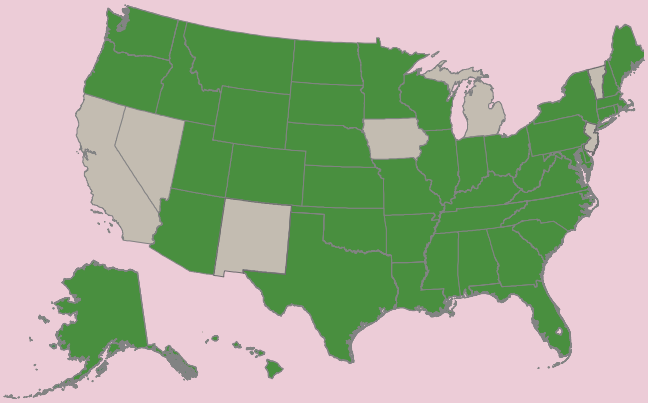
3-foot Passing Laws



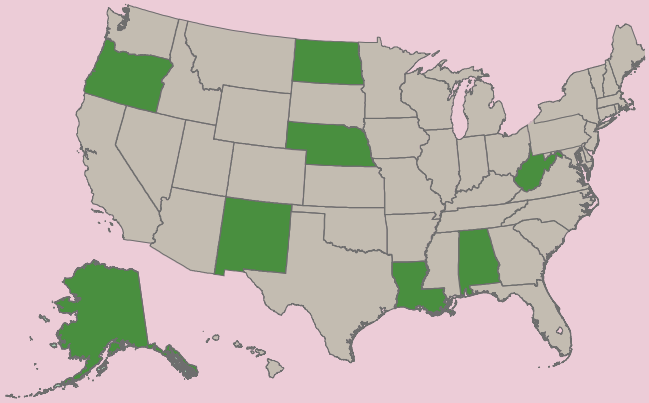
Mandatory Bike Lane Use Laws



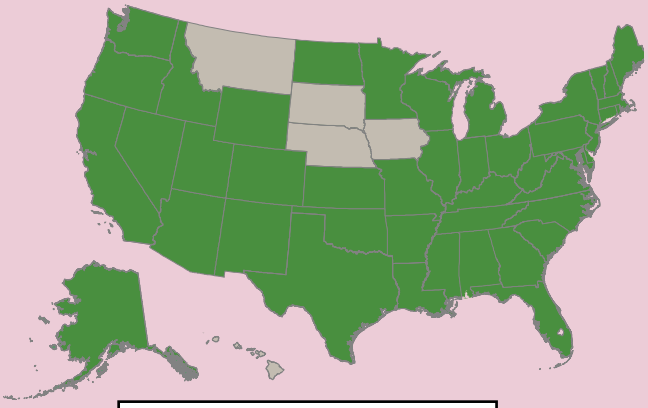
Bicycle Considered a Vehicle



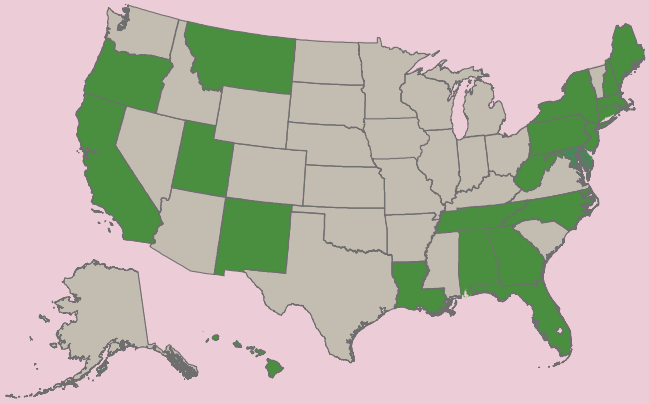
Mandatory Sidepath Use Law



Bicycles Can Legally Ride 2-Abreast



Mandatory Youth Helmet Laws



Legend:
= Policy in existence in this state
= State does not have this policy

Source: League of American Bicyclists' Bicycle Friendly States program

State Legislation Relating to Bicycling

State	Bicycle a vehicle by law?	Legal 2-abreast riding for bicycles	3-foot passing distance for cars	Legally signal w/ right hand	Photo enforc.	Cell phone restrict.	Bicyclist allowed full use of lane in presence of:		Mandatory youth helmet policy	Age?
							Sidepath	Bike lane		
Alabama	✓	✓			✓				✓	< 16
Alaska	✓	✓			✓			✓		ø
Arizona		✓	✓	✓	✓		✓	✓		ø
Arkansas	✓	✓	✓				✓	✓		ø
California		✓		✓	✓	✓ (1)	✓	✓	✓	< 18
Colorado	✓	✓	✓	✓	✓	✓ (2)	✓	✓		
Connecticut	✓	✓	✓	✓	✓	✓ (1)	✓	✓	✓	< 15
Delaware	✓	✓		✓	✓		✓	✓	✓	< 18
Florida	✓	✓	✓	✓			✓	✓	✓	< 16
Georgia	✓	✓			✓		✓	✓	✓	< 16
Hawaii	✓						✓	✓	✓	< 16
Idaho	✓	✓		✓			✓	✓		ø
Illinois	✓	✓	✓	✓	✓		✓	✓		ø
Indiana	✓	✓					✓	✓		ø
Iowa					✓		✓	✓		ø
Kansas	✓	✓		✓			✓	✓		ø
Kentucky	✓	✓		✓			✓	✓		ø
Louisiana	✓	✓	✓	✓	✓	✓		✓	✓	< 12
Maine	✓	✓	✓	✓	✓		✓	✓	✓	< 16
Maryland	✓	✓			✓	✓ (2)	✓		✓	< 16
Massachusetts	✓	✓		✓			✓	✓	✓	< 17
Michigan		✓					✓	✓		ø
Minnesota	✓	✓	✓	✓			✓	✓		ø
Mississippi	✓	✓			✓		✓	✓		ø
Missouri	✓	✓		✓	✓		✓	✓		ø
Montana	✓						✓	✓	✓	
Nebraska	✓			✓				✓		ø
Nevada		✓					✓	✓		ø
New Hampshire	✓	✓	✓	✓			✓	✓	✓	< 16
New Jersey		✓		✓	✓	✓ (1)	✓	✓	✓	< 17
New Mexico	✓	✓			✓				✓	< 18
New York	✓	✓		✓	✓	✓	✓	✓	✓	< 14
North Carolina	✓	✓			✓		✓	✓	✓	< 16
North Dakota	✓	✓		✓				✓		ø
Ohio	✓	✓		✓	✓		✓	✓		ø
Oklahoma	✓	✓	✓				✓	✓		ø
Oregon	✓	✓		✓	✓				✓	< 16
Pennsylvania	✓	✓		✓	✓		✓	✓	✓	< 11
Rhode Island	✓	✓		✓	✓	✓	✓		✓	< 15
South Carolina	✓	✓		✓			✓	✓		ø
South Dakota	✓				✓		✓	✓		ø
Tennessee	✓	✓	✓	✓	✓		✓	✓	✓	< 16
Texas	✓	✓		✓	✓		✓	✓		ø
Utah	✓	✓	✓	✓			✓	✓		ø
Vermont		✓					✓	✓		ø
Virginia	✓	✓		✓	✓		✓	✓		ø
Washington	✓	✓		✓	✓	✓ (1)	✓	✓		ø
West Virginia	✓	✓							✓	< 14
Wisconsin	✓	✓	✓				✓	✓		ø
Wyoming	✓	✓					✓	✓		ø
# of states responding yes	43	45	14	30	28	8	43	43	22	ø
Mean/Average	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	< 16

Source: LAB 2009 **Notes:** (1) Hands-free device only. (2) Under age 18.

Legend: ✓ = Yes/has legislation ø = not applicable

on roadways, some states and municipalities have laws that discriminate against bicyclists by prohibiting them from full use of roadways when a bike lane or adjacent pathway is present. These "mandatory bike lane use" and "mandatory sidepath" laws put bicyclists in danger by compromising their ability to navigate traffic with the best vehicular tactics (such as merging into the left lane to turn left, or not riding to the right of traffic in a turn lane).

Most states, however, do allow bicyclists full use of the lane in traffic. Forty-three states allow the full use of the lane by bicyclists when a bike lane is present and 43 allow use of the full lane in the presence of a sidepath. States that have mandatory bike lane use laws include Alabama, Alaska, Maryland, New Mexico, Oregon, Rhode Island, and West Virginia. States that have mandatory sidepath laws include Alabama, Louisiana, Nebraska, New Mexico, North Dakota, Oregon, and West Virginia.

Mandatory Helmet Laws
While there is no federal law in the U.S. requiring helmet use for bicyclists, starting in 1987, states and local jurisdictions began passing their own laws requiring helmet use. Most laws on the books apply to minors under 18. Slightly less than half of states surveyed (22) reported having a mandatory youth helmet policy. The average age these policies apply to is youth under age 16. Mandatory helmet laws are controversial among bicycling proponents. For more information on these laws and the controversy around them see Appendix 5, page 176.

Provisions for Bicycling and Walking

"Provisions" for bicycling and walking are defined here as anything that provides for bicyclists and pedestrians. This includes funding for bicycling and walking facilities and programs, bicycle parking, bike-transit integration, bicycle and pedestrian infrastructure (such as sidewalks, paths, and bike lanes), and staffing levels. Each of these is a concrete way in which cities and states show effort toward improving their communities for bicyclists and pedestrians. In many cases, these provisions are the result of good written policies. In other cases, they are the result of the culture of cities and states.

Funding for Bicycling and Walking

The most accurate uniform data on funding to bicycling and walking comes from the Federal Highway Administration's FMIS accounting system. The funding data in this report (unless otherwise noted)

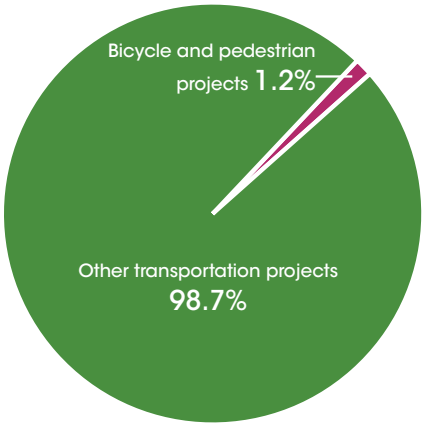
depicts a 5-year average of federal funds obligated to projects, and are not necessarily the actual amount spent in these years. Tables on pages 78-79 show both the federal dollars per capita for each state and city, and the percent of federal transportation dollars to bicycling and walking in each state and city.

The variation in federal funding sources to bicycle and pedestrian projects is relatively small, with the Transportation Enhancement (TE) program responsible for roughly 46% of all bike/ped obligations. More than 50 additional federal funding programs have been used for bicycle and pedestrian projects, most at relatively small amounts. On average, states spend just 1.2% of their federal transportation dollars on bike/ped projects (based on the 5-year funding period from 2004-2008). This amounts to just $1.29 per capita for bicycling and walking each year. The variation in per capita funding and the percentage of transportation dollars spent on bicycle and pedestrian projects are great among both cities and states. This fact, along with the number of diverse funding sources, indicates that states and local jurisdictions play a significant role in determining how their federal transportation dollars are spent.

Transportation Enhancements
The Transportation Enhancement (TE) program is the best known funding source for bicycle and pedestrian infrastructure improvements. The program currently provides over $800 million in federal funds annually to states to distribute to community-based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic, and environmental aspects of transportation

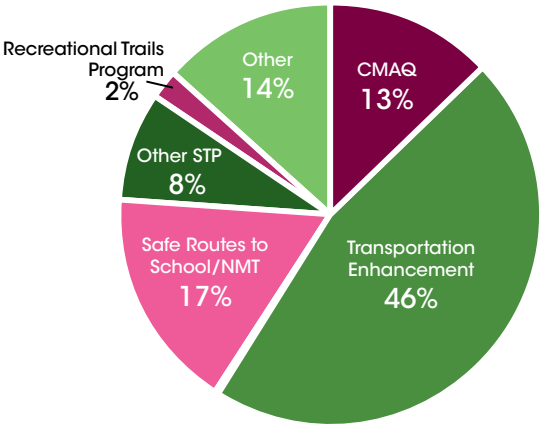
Only 1.2% of federal transportation dollars are spent on bicycling and walking.

Percent of Federal Transportation Dollars to Bicycling and Walking



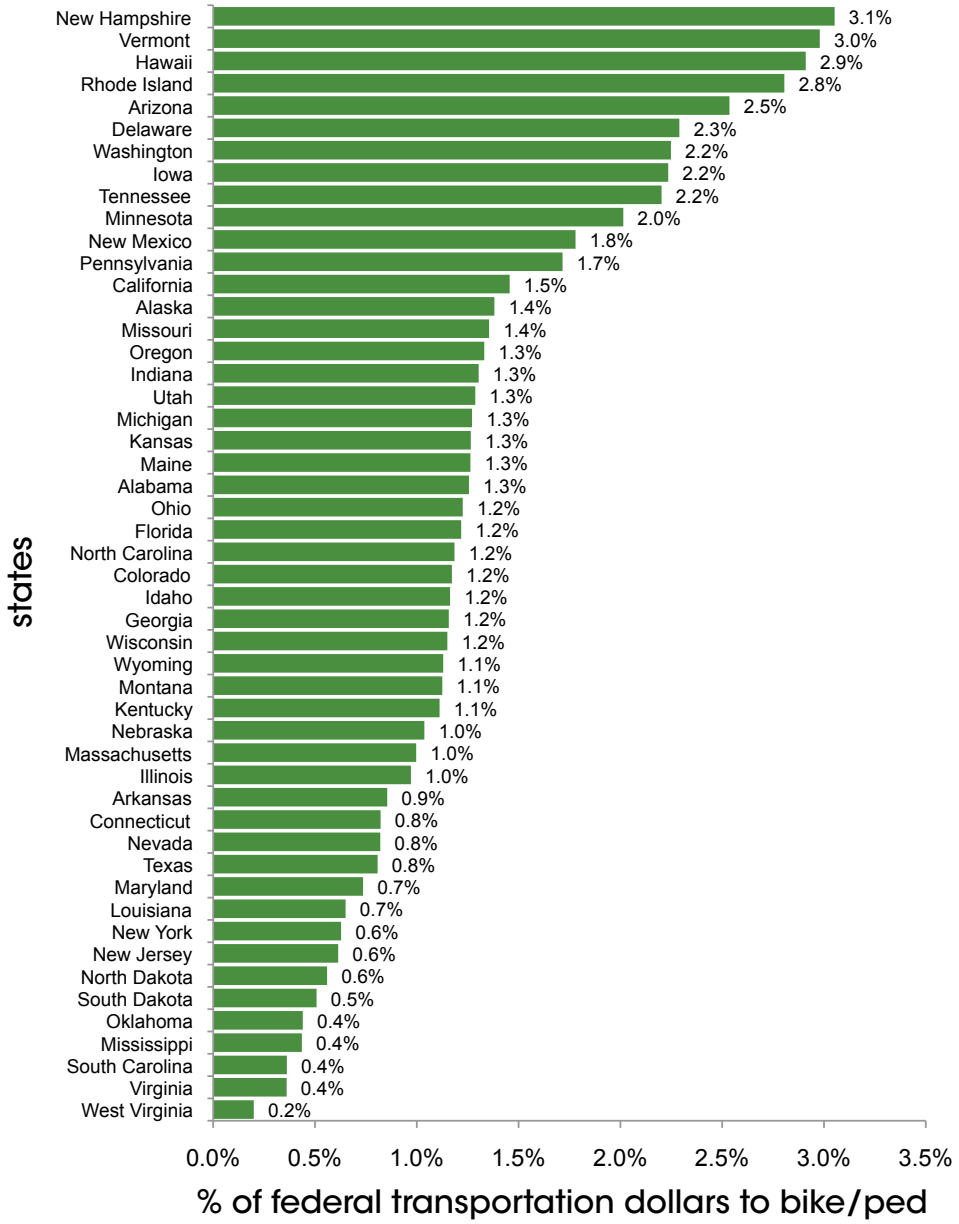
Source: FHWA FMIS 2006-2008 **Note:** Data are based on funds obligated to projects between 2006-2008 and are not necessarily the amount spent in these years.

Bicycle and Pedestrian Dollars by Funding Program



Source: FHWA FMIS 2008: www.fhwa.dot.gov/environment/bikeped/bipedfund.htm. **Abbreviations:** CMAQ = Congestion Mitigation and Air Quality Improvement Program; TE = Transportation Enhancement Activities; NMT = Nonmotorized Transportation Programs; Other STP = Surface Transportation Program (STP except TE). **Note:** Data are based on funds obligated in 2008 and do not necessarily represent funds that were spent in this year.

Percent of Transportation Dollars to Bike/Ped

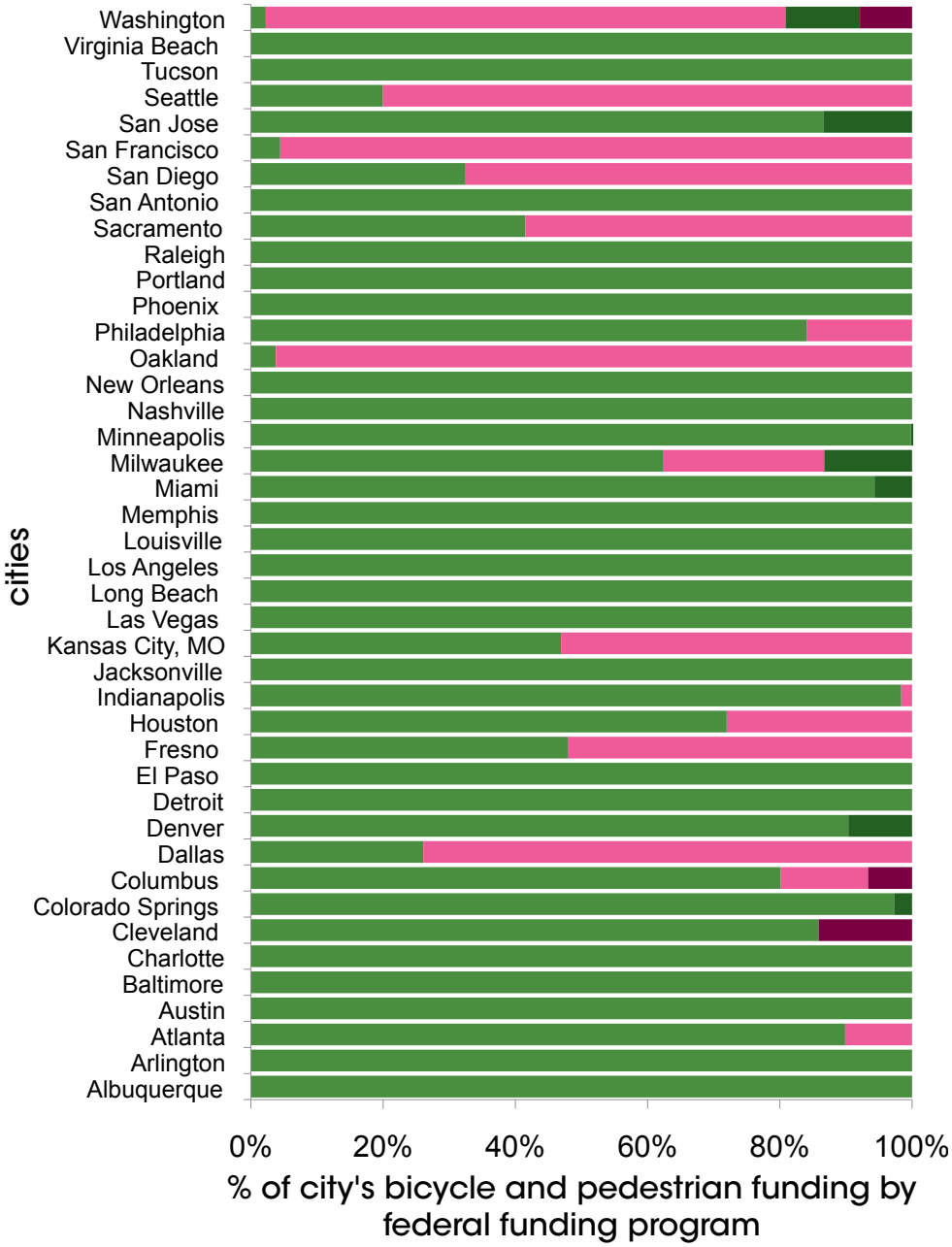


Source: FHWA FMIS 2004-2008 **Note:** Data are based on a 5-year average of funds obligated to projects between 2004-2008 and are not necessarily the amount spent in these years.

New Hampshire spends the greatest percentage of its transportation dollars on bicycling and walking.

According to data from the FHWA, New Hampshire and Vermont spent the greatest percentage on bicycling and walking among states—3.1% and 3.0%, respectively. West Virginia, Virginia, and South Carolina spent the smallest percentage on bicycle and pedestrian projects among states.

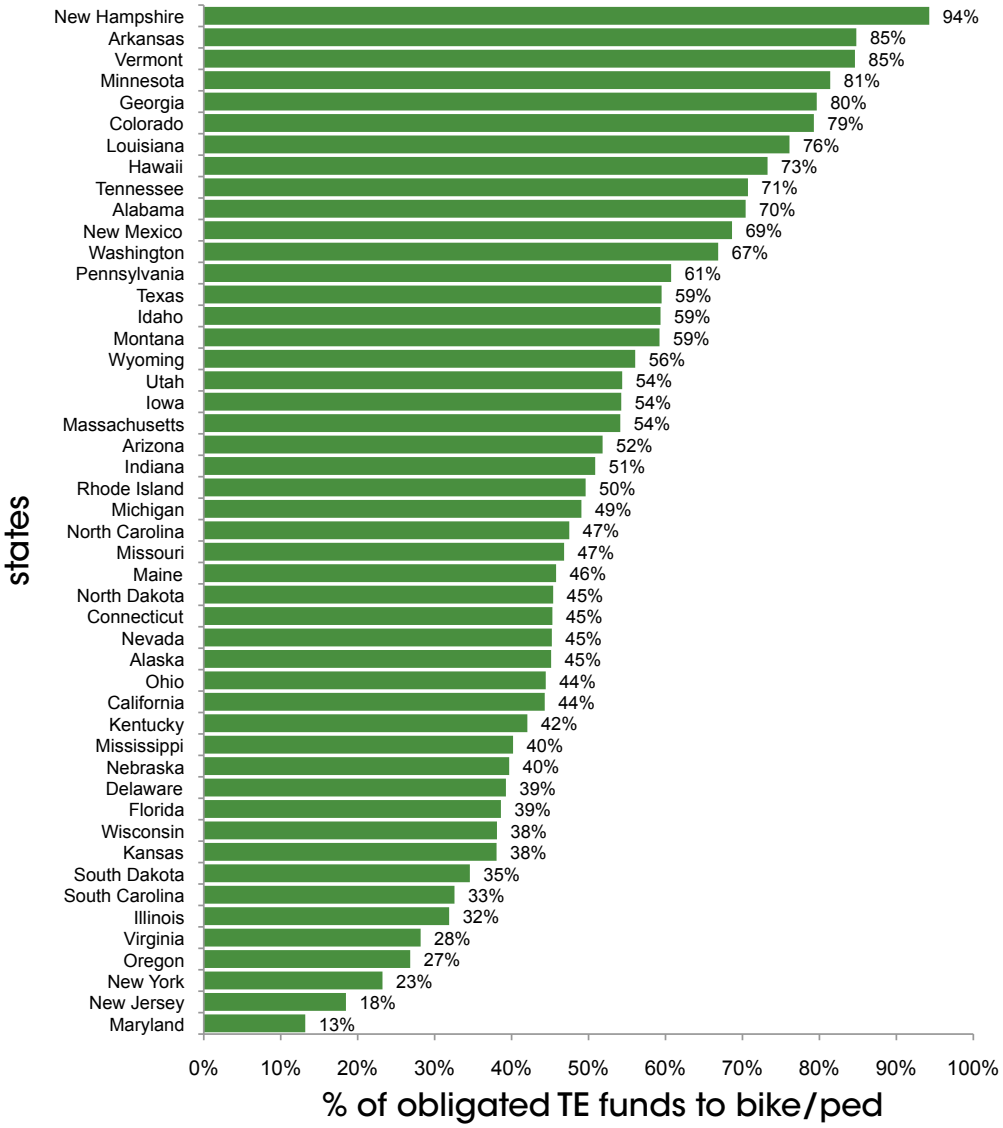
Composition of Federal Funding for Bike/ Ped Provisions in Largest U.S. Cities



Source: FHWA FMIS 2006-2008 **Note:** Data are based on funds obligated to projects between 2006-2008 and are not necessarily the amount spent in these years.

Legend:
- = Transportation Enhancement/ Surface Transportation Program
- = Congestion Mitigation and Air Quality Improvement Program
- = Safe Routes to School
- = Recreational Trails Program

Percent of Transportation Enhancement Funding to Bike/Ped by State



Source: FHWA FMIS 2007-2009 **Note:** Oklahoma and West Virginia's TE deobligations exceeded TE obligations during this 3-year period and are not included in this graph. (1) Figures for this graph are based on a 3-year average using data from 2007-2009.

48% of TE funding goes to bicycling and walking.

Most TE funding (48%) goes toward bicycling and walking facilities, education, and safety. States vary greatly on how they spend their TE dollars. New Hampshire dedicates the greatest percentage of TE funds to bicycling and walking (94%) while Maryland dedicates the smallest share to bicycling and walking (13%).

State Transportation Enhancement Benchmarks FY 1992–2008

State	Programmed		Obligated		Rescinded	
	FY 92-08	Rate	FY 92-08	Rate	FY 92-08	Rate
Alabama	$175,297,844	102.5%	$164,054,754	95.9%	$48,895,951	28.6%
Alaska	$123,887,847	96.1%	$128,912,131	100.0%	$10,781,131	8.4%
Arizona	$167,110,212	87.2%	$141,560,660	73.9%	$2,315,684	1.2%
Arkansas	$106,377,157	91.2%	$97,557,570	83.6%	$22,853,725	19.6%
California	$881,466,436	101.9%	$713,358,047	82.5%	$43,833,147	5.1%
Colorado	$121,257,074	86.3%	$99,396,402	70.8%	$11,042,566	7.9%
Connecticut	$121,054,389	107.1%	$107,350,747	95.0%	$29,554,413	26.2%
Delaware	$44,907,024	85.1%	$50,035,649	94.8%	$711,774	1.3%
Dist. of Columbia	$33,815,692	91.3%	$27,134,414	73.2%	$8,340,225	22.5%
Florida	$442,792,409	82.4%	$413,699,021	77.0%	$45,677,551	8.5%
Georgia	$375,229,612	94.8%	$245,112,813	61.9%	$9,923,350	2.5%
Hawaii	$51,257,633	71.1%	$58,524,419	81.2%	$5,083,049	7.1%
Idaho	$46,458,549	82.2%	$55,568,804	98.3%	$15,586,680	27.6%
Illinois	$295,111,820	81.6%	$252,387,695	69.8%	$29,311,837	8.1%
Indiana	$276,027,742	102.2%	$235,903,852	87.3%	$9,208,474	3.4%
Iowa	$160,996,329	120.5%	$124,788,066	93.4%	$5,486,083	4.1%
Kansas	$148,375,129	107.5%	$134,951,771	97.8%	$4,131,192	3.0%
Kentucky	$177,785,732	103.5%	$147,646,308	86.0%	$1,884,032	1.1%
Louisiana	$116,181,466	90.6%	$76,126,243	59.4%	$19,492,583	15.2%
Maine	$47,817,437	105.8%	$43,084,501	95.3%	$8,699,084	19.2%
Maryland	$175,299,661	109.2%	$123,128,369	76.7%	$1,702,358	1.1%
Massachusetts	$83,708,333	57.3%	$53,056,856	36.3%	$26,884,634	18.4%
Michigan	$307,758,936	96.8%	$268,661,885	84.5%	$23,491,544	7.4%
Minnesota	$209,914,793	107.9%	$176,367,919	90.6%	$8,356,633	4.3%
Mississippi	$86,246,221	65.6%	$98,265,996	74.8%	$3,495,347	2.7%
Missouri	$204,552,677	92.8%	$169,756,428	77.0%	$8,690,387	3.9%
Montana	$59,941,506	66.2%	$68,800,289	76.0%	$812,340	0.9%
Nebraska	$79,827,826	104.1%	$63,513,074	82.8%	$16,361,635	21.3%
Nevada	$73,599,585	107.3%	$58,330,684	85.1%	$10,609,850	15.5%
New Hampshire	$71,963,781	127.2%	$52,834,165	93.4%	$538,151	1.0%
New Jersey	$130,167,557	65.8%	$147,080,659	74.4%	$24,862,377	12.6%
New Mexico	$100,626,067	119.3%	$79,101,667	93.8%	$23,978,018	28.4%
New York	$337,442,493	83.7%	$274,496,646	68.1%	$4,013,818	1.0%
North Carolina	$249,020,575	88.9%	$234,594,724	83.8%	$31,689,478	11.3%
North Dakota	$50,738,753	81.7%	$58,887,029	94.8%	$9,889,771	15.9%
Ohio	$295,573,634	105.0%	$264,600,828	94.0%	$43,132,111	15.3%
Oklahoma	$131,722,840	82.7%	$125,961,537	79.1%	$26,794,901	16.8%
Oregon	$95,319,166	103.9%	$75,708,862	82.5%	$33,803,287	36.8%
Pennsylvania	$408,086,921	131.7%	$285,197,158	92.1%	$4,458,722	1.4%
Rhode Island	$62,157,348	123.6%	$49,658,033	98.8%	$417,928	0.8%
South Carolina	$89,554,912	47.7%	$135,452,643	72.1%	$2,128,919	1.1%
South Dakota	$40,107,060	79.7%	$42,882,270	85.2%	$27,356,395	54.4%
Tennessee	$217,672,103	98.1%	$162,089,558	73.0%	$10,462,801	4.7%
Texas	$638,904,671	101.2%	$454,195,113	72.0%	$241,749,638	38.3%
Utah	$57,558,449	78.0%	$73,386,588	99.5%	$7,683,353	10.4%
Vermont	$49,818,382	101.8%	$42,894,183	87.6%	$409,055	0.8%
Virginia	$239,359,961	102.8%	$217,334,584	93.3%	$13,107,277	5.6%
Washington	$180,429,458	116.9%	$134,826,920	87.3%	$12,967,083	8.4%
West Virginia	$80,228,769	100.1%	$71,926,561	89.8%	$1,605,346	2.0%
Wisconsin	$165,679,635	107.0%	$123,982,315	80.1%	$96,268,802	62.2%
Wyoming	$49,018,495	83.7%	$56,788,389	97.0%	$43,258	0.1%
Mean/Average (1)	$175,200,159	95.0%	$148,253,251	80.4%	$20,599,564	11.2%
Median	$122,572,460	96.5%	$123,555,342	84.2%	$10,193,0756	7.7%
High	$881,466,436	131.7%	$713,358,047	100%	$241,749,638	62.2%
Low	$33,815,692	47.7%	$27,134,414	36.3%	$43,258	0.1%

Legend:
= High value
= Low value

Source: NTEC, *Transportation Enhancements: Summary of Nationwide Spending as of FY 2008*, May 2009. **Notes:** The District of Columbia is included in this chart for comparison purposes although throughout the rest of the report it is not included in state charts. (1) All percent averages are weighted.

Bike/Ped Funding in States

State	State spending target for bicycling and walking?		Federal transportation funds (5-year average)			
	Yes/No	Amount in thousands	Obligated to bike/ped projects/yr.	Per capita	% of federal transportation $ to bike/ped	% of T.E. funds to bike/ped (6)
Alabama	No	ø	$8,628,064	$1.86	1.3%	70%
Alaska	No	ø	$5,293,922	$7.75	1.4%	45%
Arizona	No	ø	$14,265,819	$2.25	2.5%	52%
Arkansas	No	ø	$3,380,767	$1.19	0.9%	85%
California	No	ø	$42,513,249	$1.16	1.5%	44%
Colorado	No	ø	$5,119,051	$1.05	1.2%	79%
Connecticut	No	ø	$3,680,766	$1.05	0.8%	45%
Delaware	No	ø	$2,974,950	$3.44	2.3%	39%
Florida	No	ø	$17,473,613	$0.96	1.2%	39%
Georgia	No	ø	$13,237,596	$1.39	1.2%	80%
Hawaii	Yes	2% (1)	$4,726,768	$3.68	2.9%	73%
Idaho	No	ø	$2,950,445	$1.97	1.2%	59%
Illinois	No	ø	$10,237,261	$0.80	1.0%	32%
Indiana	No	ø	$10,128,848	$1.60	1.3%	51%
Iowa	*	ø	$8,490,443	$2.84	2.2%	54%
Kansas	No	ø	$4,848,814	$1.75	1.3%	38%
Kentucky	No	ø	$5,880,800	$1.39	1.1%	42%
Louisiana	No	ø	$4,864,574	$1.13	0.7%	76%
Maine	Yes	$6,000	$2,075,246	$1.58	1.3%	46%
Maryland	No	ø	$3,752,521	$0.67	0.7%	13%
Massachusetts	No	ø	$5,801,466	$0.90	1.0%	54%
Michigan	No	ø	$12,596,298	$1.25	1.3%	49%
Minnesota	No	ø	$11,487,168	$2.21	2.0%	81%
Mississippi	No	ø	$2,717,942	$0.93	0.4%	40%
Missouri	No	ø	$10,560,257	$1.80	1.4%	47%
Montana	*	ø	$3,708,734	$3.87	1.1%	59%
Nebraska	No	ø	$2,595,997	$1.46	1.0%	40%
Nevada	*	ø	$2,116,757	$0.83	0.8%	45%
New Hampshire	No	ø	$4,814,329	$3.66	3.1%	94%
New Jersey	No	ø	$4,765,128	$0.55	0.6%	18%
New Mexico	No	ø	$5,256,735	$2.67	1.8%	69%
New York	No	ø	$9,567,399	$0.50	0.6%	23%
North Carolina	Yes	$6,000 (2)	$10,604,949	$1.17	1.2%	47%
North Dakota	*	ø	$1,291,448	$2.02	0.6%	45%
Ohio	No	ø	$14,112,511	$1.23	1.2%	44%
Oklahoma	No	ø	$2,449,835	$0.68	0.4%	* (7)
Oregon	Yes	ø	$4,910,847	$1.31	1.3%	27%
Pennsylvania	No	ø	$24,740,241	$1.99	1.7%	61%
Rhode Island	Yes	4% (3)	$5,062,642	$4.79	2.8%	50%
South Carolina	Yes	$1,500 (4)	$1,959,352	$0.44	0.4%	33%
South Dakota	No	ø	$1,160,072	$1.46	0.5%	35%
Tennessee	Yes	$1,500 (5)	$14,861,172	$2.41	2.2%	71%
Texas	No	ø	$21,625,217	$0.90	0.8%	59%
Utah	No	ø	$3,348,278	$1.27	1.3%	54%
Vermont	No	ø	$4,568,218	$7.35	3.0%	85%
Virginia	*		$2,684,985	$0.35	0.4%	28%
Washington	Yes	$20,000	$15,069,147	$2.33	2.2%	67%
West Virginia	No	ø	$862,711	$0.48	0.2%	* (7)
Wisconsin	No	ø	$7,381,620	$1.32	1.2%	38%
Wyoming	No	ø	$2,445,508	$4.68	1.1%	56%
Mean/Average	No	ø	$7,793,010	$1.29 (8)	1.2% (8)	48% (8)
Median	No	ø	$4,910,847	$1.39	1.2%	49%
High	ø	$20,000	$42,513,249	$7.75	3.1%	94%
Low	ø	$1,500	$862,711	$0.35	0.2%	13%

Legend:
ø = Not applicable
* = Officials could not access data
= High value
= Low value

Source: State Surveys, FHWA FMIS 2004-2009 **Notes:** All data except % of TE to bike/ped are based on a 5-year average of funds obligated to projects between 2004-2008 and are not necessarily the amount spent in these years. (1) Of eligible federal funds. (2) $6M of TIP funds; $450K for admin budget from state. (3) 4% of funding to all modes. (4) 3% of Transportation Enhancement to SCDOT. (5) Answered "$15 million over next 10 years," taken to be $1.5M/year. (6) TE funding data represent a 3-year average from 2007-2009. (7) Due to large amounts of deobligated funds in the 3-year period between 2007-2009, estimates could not be obtained for this state. (8) Weighted average.

Bike/Ped Funding in Cities

City	City spending target for bicycling and walking?		Federal transportation funds (5-year average)		
	Yes/No	Amount in thousands	Obligated to bike/ped projects/yr. (2)	Per capita (2)	% of federal transportation $ to bike/ped (2)
Albuquerque	No	ø	$946,800	$1.85	6.4%
Arlington, TX	No	ø	$305,577	$0.85	3.1%
Atlanta	No	ø	$4,384,014	$10.14	1.0%
Austin	No	ø	$95,376	$0.13	0.2%
Baltimore	No	ø	$569,206	$0.89	0.9%
Boston	No	ø	$328,421	$0.54	0.2%
Charlotte	Yes	$8,000 (1)	$98,404	$0.15	0.2%
Chicago	No	ø	$992,024	$0.36	0.3%
Cleveland	Yes	*	$1,322,246	$3.34	2.4%
Colorado Springs	No	ø	$373,417	$0.96	1.3%
Columbus	Yes	$168,000	$565,541	$0.77	1.3%
Dallas	No	ø	$1,302,439	$1.05	1.9%
Denver	No	ø	$1,249,991	$2.12	0.9%
Detroit	No	ø	$1,515,371	$1.87	0.7%
El Paso	*	*	$24,169	$0.04	0.05%
Fort Worth	No	ø	$110,941	$0.17	0.7%
Fresno	Yes	$1,250	$469,870	$1.00	1.3%
Honolulu	No	ø	* (4)	* (4)	* (4)
Houston	*	ø	$2,486,454	$1.21	0.8%
Indianapolis	No	ø	$2,047,740	$2.58	1.9%
Jacksonville	No	ø	$959,240	$1.19	1.0%
Kansas City, MO	No	ø	$928,147	$2.12	3.8%
Las Vegas	Yes	$3,200	$159,181	$0.28	0.2%
Long Beach	*	*	$270,600	$0.59	0.5%
Los Angeles	No	ø	$1,966,138	$0.52	1.2%
Louisville	No	ø	$521,951	$0.93	0.8%
Memphis	No	ø	$634,474	$1.00	1.1%
Mesa	No	ø	$121,558	$0.25	0.3%
Miami	No	ø	$998,636	$2.86	0.8%
Milwaukee	No	ø	$739,048	$1.27	0.6%
Minneapolis	No	ø	$2,196,334	$6.25	1.0%
Nashville	No	ø	$2,134,048	$3.60	3.3%
New Orleans	No	ø	$448,484	$1.88	0.3%
New York	No	ø	* (4)	* (4)	* (4)
Oakland	No	ø	$1,859,518	$5.18	3.3%
Oklahoma City	No	ø	$712,234	$1.30	0.6%
Omaha	No	ø	$425,660	$1.14	1.0%
Philadelphia	No	ø	$1,554,572	$1.07	1.7%
Phoenix	Yes	*	$1,103,631	$0.73	1.0%
Portland, OR	No	ø	$1,045,154	$1.90	8.2%
Raleigh	No	ø	$904,913	$2.55	3.2%
Sacramento	*	*	$1,376,896	$3.05	1.6%
San Antonio	*	*	$1,042,222	$0.81	1.7%
San Diego	No	ø	$3,255,358	$2.55	1.8%
San Francisco	Yes	*	$1,900,010	$2.48	0.5%
San Jose	No	ø	$2,030,153	$2.20	3.3%
Seattle	No	ø	$2,119,749	$3.67	2.5%
Tucson	No	ø	$2,108,475	$4.06	3.2%
Tulsa	No	ø	$144,158	$0.37	0.2%
Virginia Beach	No	ø	$380,182	$0.87	0.4%
Washington, DC	No	ø	$2,826,495	$4.80	2.1%
Mean/Average	No	ø	$1,121,104	$1.49 (3)	1.1% (3)
Median	ø	ø	$959,240	$1.19	1.0%
High	ø	ø	$4,384,014	$10.14	8.2%
Low	ø	ø	$24,169	$0.04	0.05%

Legend:
ø = Not applicable
* = Data unavailable
= High value
= Low value

Sources: City Surveys, FHWA FMIS 2004-2008 **Notes:** (1) Based on biannual bond allocations. (2) Data are based on the 5-year average of funds obligated to projects between 2004-2008 and are not necessarily the amount spent in these years. FHWA projects are coded by "urbanized area," county, and "standard place code." Data were sorted by urbanized area, standard place code, and then county code to most accurately capture a particular city's funding amount. Because not all projects include all codes, these figures should be seen as approximate estimates for each city. (3) Weighted average. (4) Due to large amounts of deobligated funds in the 5-year period between 2004-2008, accurate funding estimates could not be obtained for this city.

Safe Routes to School Funding

States	SRTS Application Status [Cycle] (2,6)	Funded Schools/ Programs (2,7)	Awarded Funds FY 2005-2009 (1,3,4)			Obligated Funds FY 2005-2009 (1,3,5)			Percent of requests awarded (2)
			Total	Per Student (8)	Percent Awarded	Total	Per Student (8)	Percent Obligated	
Alabama	C [2nd]	55	$8,202,771	$11.03	95%	$2,047,525	$2.75	24%	74%
Alaska	O [4th]	9	$1,416,702	$10.96	28%	$4,990,000	$38.59	100%	ø
Arizona	A [3rd]	66	$3,700,000	$3.87	34%	$2,660,503	$2.78	25%	33%
Arkansas	A [2nd]	47	$4,099,340	$8.94	72%	$3,789,523	$8.27	67%	41%
California	A [2nd]	219	$90,921,826	$14.46	141%	$30,389,823	$4.83	47%	25%
Colorado	C [4th]	218	$7,831,424	$9.76	94%	$3,516,051	$4.38	42%	39%
Connecticut	O [3rd]	13	$2,911,200	$5.35	44%	$2,453,761	$4.51	37%	35%
Delaware	O [Rolling]	23	$1,566,110	$13.05	33%	$4,768,142	$39.72	100%	ø
Dist. of Columbia	A [1st]	13	$2,814,745	*	59%	$3,261,500	*	68%	ø
Florida	C [3rd]	981	$49,469,328	$18.63	178%	$19,730,741	$7.43	71%	ø
Georgia	A [1st]	25	$4,982,979	$3.21	30%	$3,083,467	$1.98	18%	22%
Hawaii	P [2nd]	5	$549,133	$3.20	12%	$818,246	$4.77	17%	42%
Idaho	A [5th]	150	$4,532,834	$16.91	94%	$2,766,581	$10.32	58%	69%
Illinois	C [2nd]	113	$22,039,071	$10.83	99%	$4,744,324	$2.33	21%	8%
Indiana	C [4th]	112	$6,930,143	$7.06	60%	$1,939,136	$1.98	17%	28%
Iowa	C [4th]	52	$5,364,708	$11.11	92%	$3,138,342	$6.50	54%	17%
Kansas	A [3rd]	55	$4,562,719	$10.39	79%	$3,789,016	$8.63	66%	34%
Kentucky	C [4th]	93	$9,526,165	$14.25	124%	$4,698,652	$7.03	61%	18%
Louisiana	A [3rd]	45	$6,702,343	$9.26	78%	$5,483,927	$7.57	64%	60%
Maine	A [2nd]	33	$4,260,000	$21.10	89%	$1,546,071	$7.66	32%	39%
Maryland	C [3rd]	182	$8,811,920	$10.42	86%	$9,237,122	$10.92	90%	56%
Massachusetts	O [Rolling]	230	$1,884,755	$1.88	17%	$4,174,480	$4.17	39%	ø
Michigan	O [Rolling]	51	$13,990,389	$9.58	77%	$6,707,574	$4.59	37%	51%
Minnesota	A [4th]	115	$7,517,000	$9.07	82%	$3,366,119	$4.06	37%	9%
Mississippi	P [3rd]	68	$6,246,854	$12.74	100%	$1,262,006	$2.57	20%	34%
Missouri	A [2nd]	156	$8,994,221	$10.21	88%	$3,630,489	$4.12	35%	24%
Montana	C [3rd]	26	$1,270,090	$18.21	26%	$2,319,602	$33.26	48%	55%
Nebraska	C [3rd]	64	$4,186,603	$14.40	87%	$1,794,670	$6.17	37%	18%
Nevada	O [2nd]	6	$1,594,971	$3.76	89%	$715,910	$1.69	40%	27%
New Hampshire	A [3rd]	55	$2,381,507	$11.57	50%	$674,965	$3.28	14%	68%
New Jersey	A [3rd]	98	$14,345,900	$10.34	95%	$4,224,436	$3.04	28%	12%
New Mexico	A [3rd]	44	$1,007,262	$3.23	21%	$1,080,189	$3.46	22%	60%
New York	A [1st]	181	$27,499,133	$8.21	91%	$1,804,400	$0.54	6%	47%
North Carolina	C [2nd]	65	$6,532,817	$4.57	44%	$1,716,860	$1.20	12%	59%
North Dakota	A [3rd]	129	$3,218,492	$2.25	67%	$1,811,273	$1.27	38%	23%
Ohio	A [2nd]	338	$8,792,150	$4.93	45%	$3,194,471	$1.79	16%	77%
Oklahoma	O [2nd]	38	$3,360,964	$5.30	50%	$3,408,600	$5.37	50%	47%
Oregon	C [3rd]	68	$2,940,932	$5.23	46%	$1,753,357	$3.12	27%	85%
Pennsylvania	A [1st]	46	$18,818,368	$10.33	94%	$2,879,929	$1.58	14%	34%
Rhode Island	A [1st]	35	$1,868,789	$10.38	39%	$658,082	$3.66	14%	25%
South Carolina	A [2nd]	26	$5,152,000	$7.58	66%	$2,073,750	$3.05	27%	47%
South Dakota	C [2nd]	14	$1,417,449	$11.78	30%	$848,258	$7.05	18%	39%
Tennessee	C [3rd]	55	$6,185,850	$9.86	59%	$1,348,743	$2.15	13%	31%
Texas	P [2nd]	525	$25,618,783	$5.57	60%	$12,010,146	$2.61	28%	37%
Utah	A [4th]	46	$6,268,611	$12.15	107%	$5,821,457	$11.29	99%	46%
Vermont	A [4th]	60	$2,680,661	$25.65	56%	$3,055,535	$29.24	64%	50%
Virginia	O [4th]	21	$5,903,626	$4.83	44%	$13,109,376	$10.73	98%	42%
Washington	C [3rd]	32	$10,517,000	$10.39	97%	$5,526,295	$5.46	51%	22%
West Virginia	C [3rd]	41	$4,981,987	$17.62	104%	$3,249,050	$11.49	68%	60%
Wisconsin	A [2nd]	250	$6,930,779	$8.02	71%	$5,662,526	$6.56	58%	21%
Wyoming	A [5th]	48	$4,661,053	$55.09	98%	$3,988,573	$47.14	84%	64%
Mean/Average (9)	A [3rd]	107	$9,175,774	$9.35	73%	$4,367,129	$4.41	39%	28%
Median	ø	55	$5,152,000	$10.27	72%	$3,194,471	$4.59	37%	39%
High	ø	981	$ 90,921,826	$55.09	178%	$30,389,823	$47.14	100%	85%
Low	ø	5	$ 549,133	$1.88	12%	$658,082	$0.54	6%	8%

Note: Source and notes for this table on following page.

Legend: = High value = Low value

infrastructure. On average 48% of TE funds go toward bicycle and pedestrian facilities and programs, making it an important funding program for those working on bicycle and pedestrian issues to track.

TE projects must fit one of 12 eligible categories and must relate to surface transportation. The National Transportation Enhancements Clearinghouse collects data on TE-funded projects and provided data on TE-funded projects for the 50 states and cities studied here from 1992–2008. Data show that, on average, states have programmed 95% of their available TE funds. Programmed projects are those approved to receive TE funding from individual states. Some states program more funds than their apportionments (funds available to the state department of transportation) with the expectation that some projects will be dropped. Just 80% of apportioned TE funding has been obligated. Obligated funds are those which the federal government has committed to reimburse states. This report also looked at the rate

(Table Page 80) Sources: SRTSNP November 2009 (1) NCSRTS 2009. (2) STN 2008. (3) Total pupil data from STN 2008 takes into account grades K-12 whereas Safe Routes to School (SRTS) funding can only be spent on grades K-8. **Notes:** Washington, DC is included in this table for comparison, although it is not compared to states in other areas of the report; all dollar figures cited are as of June 30, 2009. (4) "Awarded" columns measure the amount of funding each state has announced for local grants and statewide spending—not including administrative expenses. These are the funds that will ultimately help local communities create safer routes to school. (5) "Obligated" columns reflect the amount that the state has expended or contracted to expend on Safe Routes to School, including local grants, statewide spending, and administrative expenses. Obligation is important as it demonstrates what level of funding has been or will soon be spent to date to build infrastructure projects, support noninfrastructure activities, and implement the program. (6) "SRTS Application Status" options include [Brackets indicate the funding cycle]: P = Preparation: The state SRTS Program is in the process of developing the application, review, and/or selection process for the next funding cycle/round they will conduct; O = Open: The state SRTS Program has opened its application process; C = Closed: Applications for SRTS programs have closed, and the state SRTS Program is reviewing applications and will next announce selected funding recipients; A = Awarded: The state has completed an application process, and has announced the recipients that will be funded for that round. In some instances, local programs have already received funds. (7) "SRTS Funded Schools or Programs" shows the number of schools in the state that are receiving SRTS funds or the number of state-funded SRTS activities. If the number of schools is not known, the number of SRTS programs is used. This number will usually be an estimate, because many funding recipients will conduct programs in numerous schools. Fund awards are typically made through a competitive process, but in some instances the state may directly select local programs to fund. (8) Total pupil data is representative of public schools only. (9) All averages are weighted except for number of funded schools/programs, total awarded funds, and total obligated funds.

Photo by Kristen Steele

of TE recisions among states. Since 2002, Congress has enacted rescissions, removal of apportioned funding before the funding is set to expire, that have affected transportation funding. In most years, states have had discretion as to how much to rescind from TE as opposed to other Federal-aid highway programs. This has meant that often TE is disproportionately affected by recisions when states choose to rescind a greater percentage of TE funds than in other transportation funding programs. Nearly $21 million, or 11% of authorized TE funding, has been rescinded since 2002.

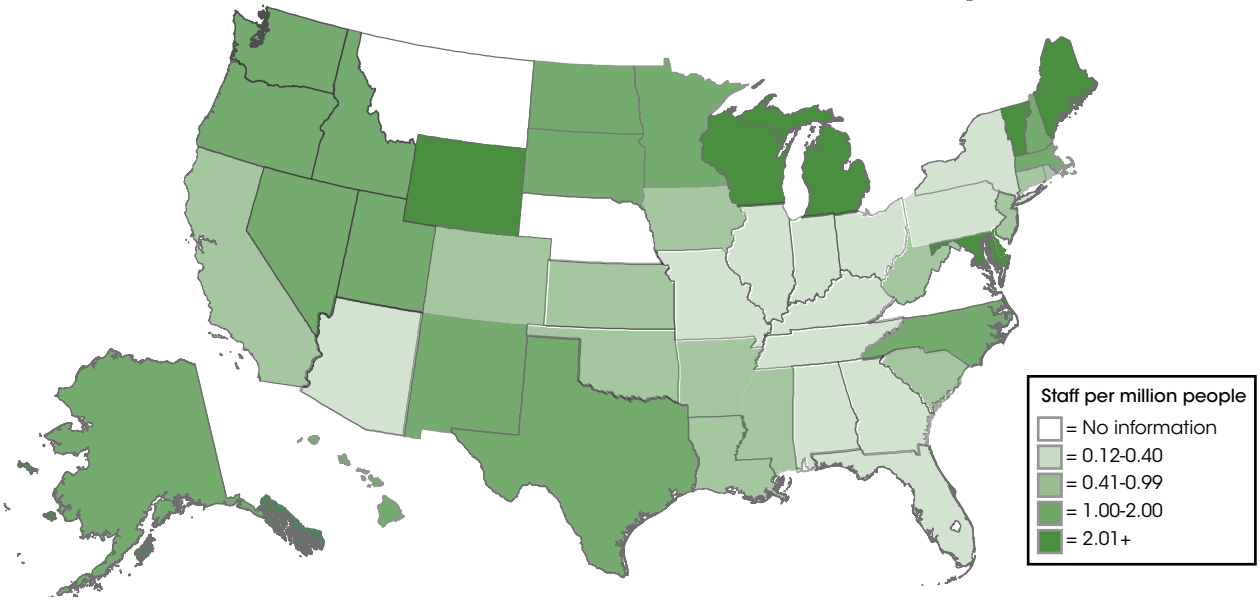
Safe Routes to School

Safe Routes to School (SRTS) is the newest federally funded program that is 100% dedicated to funding bicycle and pedestrian capital, education, promotion, and enforcement projects. The National SRTS program was signed into law, under the federal transportation legislation SAFETEA-LU, in 2005. Because the program is new, data are still sparse. The Safe Routes to School National Partnership and the National Center for Safe Routes to School have compiled data to measure the progress of states' Safe Routes to School programs. Data presented in this report include each state's most current SRTS application status and cycle, the number of schools funded, total funding awarded to and obligated by each state, percent of funding awarded based on requests, and percent of applications funded.

As of November 2009, the federal Safe Routes to School (SRTS) program has awarded approximately $417 million to 5,462 schools or programs. This amounts to $9.35 per public school student. Roughly $222 million, 39% of SRTS funding, has been obligated, or expended or contracted, to date. This amounts to an average of $4.41 per public school student from 2005-2009, roughly $0.88/year/student. Most states are currently in their third award cycle. Five states are in their first award cycle. Fifteen states are in their second award cycle, seventeen in their third, nine in their fourth, and five in their fifth. Three states accept applications on a rolling basis.

The National Center for Safe Routes to School also collects data to track demand for Safe Routes to School programs. Data show that nationwide, just 28% of funding requests have been awarded (based on total funds requested). States vary on how they are meeting the demand for Safe Routes to School programs and projects, but in almost all cases a lack of funding is responsible for inability of states to meet the high demand. Illinois has the largest gap between supply and demand and is able to fund just 8% of the total funds requested. Oregon best meets demand with current funding. Eighty-five percent of funds requested have been awarded in Oregon. The Safe Routes to

FTE Bike/Ped Staff/Million People



Source: State Surveys 2008/2009 **Notes:** This chart represents the 3-year average (2006-2008) number of full-time equivalent (FTE) state department of transportation staff dedicated to bicycling and walking issues for each state except for Hawaii (2 year average 2007-2008) and Michigan (data for most recent year only).

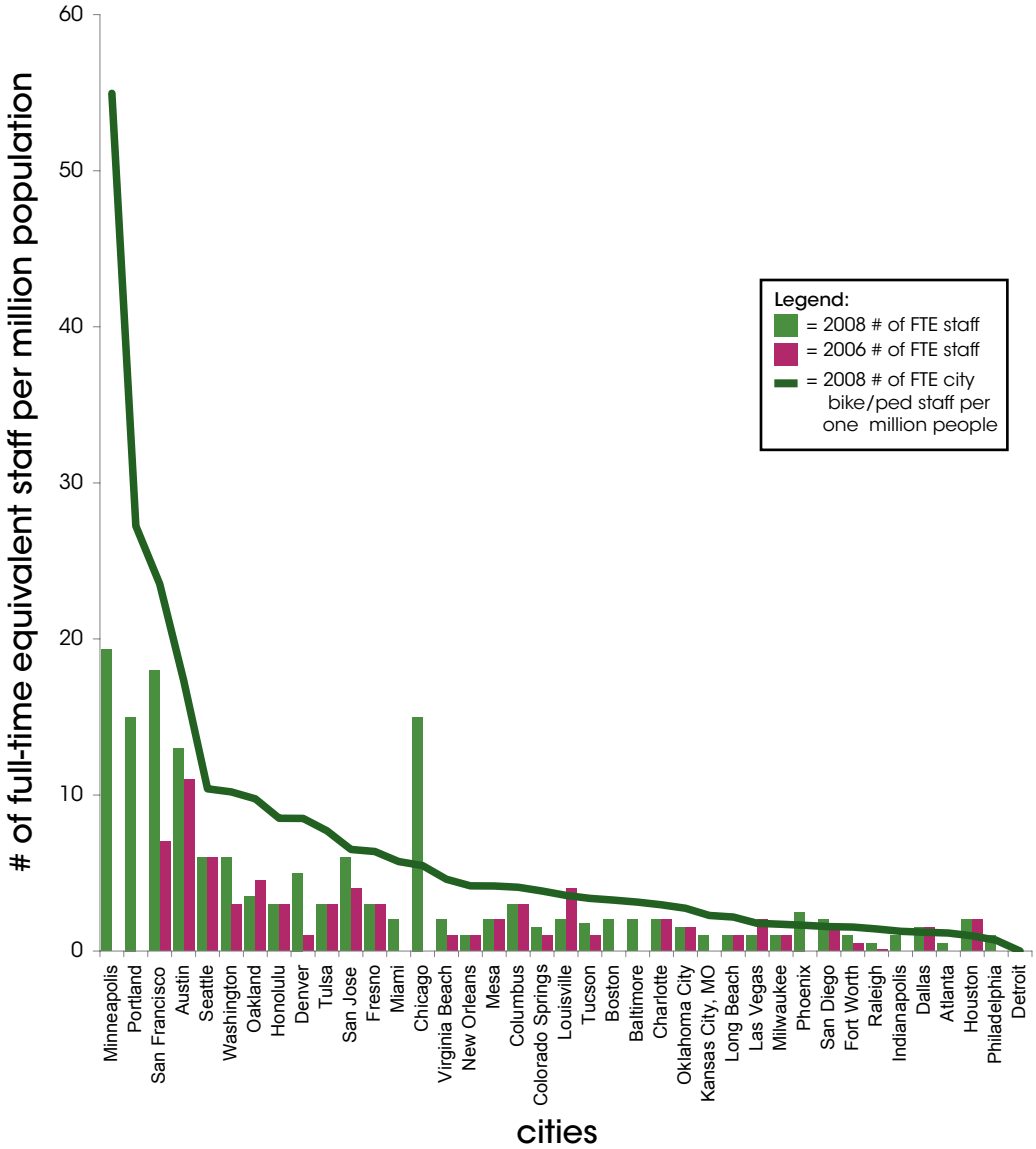
School National Partnership and the National Center for Safe Routes to School have leading roles in Benchmarking Safe Routes to School performance and publish regular progress reports. See Appendix 5, page 176 for links to their websites and the most up-to-date measurements for Safe Routes to School.

Staffing

To determine how bicycle and pedestrian staffing differs among states and cities, surveys asked them to report the number of full-time-equivalent (FTE) staff dedicated to bicycle and pedestrian programs. On average, state departments of transportation (DOTs) employ 0.8 FTE staff per one million people (up from 0.34 as of 2007 Benchmarking Report). The rate is higher among the major cities surveyed, which average 3.9 FTE bicycle and pedestrian staff per million people (up from 2.8 as of 2007 Benchmarking Report). State DOTs were also surveyed on levels of Safe Routes to School staffing. SAFETEA-LU legislation requires a full-time SRTS Coordinator for each state. Most states average 1.2 FTE staff dedicated to Safe Routes to School, or 1.1 FTE staff per million students.

The Alliance also asked cities to report how many FTE police on bicycles and foot did they fund over the last three years. Cities average 55.6 FTE police on bicycles and 184 police on foot per million people.

Number of FTE Bike/Ped Staff in Cities (2006-2008) and FTE Staff/Million People



Source: City surveys 2008/2009 **Note:** No data for Albuquerque, Arlington, Cleveland, El Paso, Jacksonville, Los Angeles, Memphis, Nashville, New York, Omaha, Sacramento, and San Antonio; no 2006 data for Atlanta, Baltimore, Boston, Chicago, Minneapolis, Phoenix, and Portland.

Largest U.S. cities average 3.9 bike/ped staff per 1 million residents.

Minneapolis has more staff dedicated to bicycling and walking—19.3 full-time-equivalent (FTE) employees—than any other major U.S. city. They also rank highest per capita with 55 FTE per million residents. Portland and San Francisco rank second and third with 27.2 and 18.3 FTE per million residents, respectively. Detroit ranks lowest with no staff dedicated to bicycling and walking.

Bike/Ped Staffing in States

State	State Bike/Ped Staff		Safe Routes to School Staff	
	Number of full-time equivalent	Staff/ 1 million people	Number of full-time equivalent	Staff/ 1 million students
Alabama	1.2	0.3	1.0	1.3
Alaska	1.3	1.9	1.1	8.5
Arizona	2.0	0.3	1.0	1.0
Arkansas	1.8	0.6	1.0	2.2
California	17.5 (2)	0.5	1.0	0.2
Colorado	2.0	0.4	1.0	1.2
Connecticut	1.5	0.4	1.0	1.8
Delaware	4.7	5.4	1.0	8.3
Florida	5.0	0.3	1.0	0.4
Georgia	2.0	0.2	1.0	0.6
Hawaii	1.5	1.2	1.0	5.8
Idaho	2.0	1.3	1.0	3.7
Illinois	1.9	0.1	1.0	0.5
Indiana	1.7	0.3	1.0	1.0
Iowa	2.0	0.7	2.5	5.2
Kansas	2.0	0..7	2.0	4.6
Kentucky	1.7	0.4	1.0	1.5
Louisiana	3.3	0.8	2.0	2.8
Maine	3.2	2.4	1.5	7.4
Maryland	24.6	4.4	2.0	2.4
Massachusetts	9.0	1.4	4.5	4.5
Michigan	21.5	2.1	ø	ø
Minnesota	5.8	1.1	1.0	1.2
Mississippi	2.0	0.7	1.0	2.0
Missouri	1.0	0.2	1.0	1.1
Montana	ø	ø	ø	ø
Nebraska	ø	ø	ø	ø
Nevada	3.3	1.3	1.0	2.4
New Hampshire	2.3	1.8	1.0	4.9
New Jersey	5.0	0.6	1.0	0.7
New Mexico	2.2	1.1	1.5	4.8
New York	4.0	0.2	2.0	0.6
North Carolina	9.8	1.1	1.0	0.7
North Dakota	0.9	1.4	1.0	0.7
Ohio	2.0	0.2	1.0	0.6
Oklahoma	1.7	0.5	1.0	1.6
Oregon	6.0	1.6	1.0	1.8
Pennsylvania	1.5	0.1	1.0	0.5
Rhode Island	1.0	0.9	1.0	5.6
South Carolina	2.0	0.5	1.0	1.5
South Dakota	0.8	1.0	ø	ø
Tennessee	2.3	0.4	1.0	1.6
Texas	25.0	1.0	1.0	0.2
Utah	5.0	1.9	1.0	1.9
Vermont	6.0	9.7	1.0	9.6
Virginia	ø	ø	ø	ø
Washington	10.0	1.5	1.0	1.0
West Virginia	1.0	0.6	1.0	3.5
Wisconsin	15.0	2.7	1.0	1.2
Wyoming	2.0	3.8	1.0	11.8
Mean/Average (1)	4.9	0.8	1.2	1.2
Median	2.0	0.8	1.0	1.6
High	25.0	9.7	4.5	11.8
Low	0.8	0.1	1.0	0.2

States have an average of 0.8 staff persons dedicated to bicycling and walking.

Texas has the highest number of full-time equivalent (FTE) staff dedicated to bicycling and walking, but per capita, Vermont ranks highest with 9.7 FTE/ million residents. Illinois ranks lowest with just 0.1 FTE per million residents.

Legend:
ø = Not applicable
= High value
= Low value

Source: State surveys 2008/2009 **Notes:** State bike/ped staff data are based on the 3-year average number of staff from 2006-2008. Safe Routes to School Staff data are based on 2008 staffing figures only. (1) All averages are weighted by population except for number of full-time equivalent state bike/ped staff and number of full-time equivalent Safe Routes to School staff. (2) Answered 15-20.

Staffing in Cities

City	City bike/ped staff (3)		Police on bicycles			Police on foot (3)	
	Number of full-time equivalent	Staff/ 1 million people	Number of full-time equivalent (3)	Bicycle police/ million people (3)	Percent of force trained on bicycles	Number of full-time equivalent	Foot police/ million people
Atlanta	0.2	0.4	ø	ø	ø	ø	ø
Austin	12.0	16.0	30.0	40.0	30%	12	16
Baltimore	1.5 (4)	2.4 (4)	44.0	69.0	ø	284 (5)	446 (5)
Boston	2.0 (5)	3.3 (5)	ø	ø	ø	ø	ø
Charlotte	2.0	3.0	ø	ø	ø	ø	ø
Chicago	15.0 (5)	5.5 (5)	306.3 (5)	111.9 (5)	ø	ø	ø
Colorado Springs	1.3	3.4	1.0 (4)	2.6 (4)	20%	ø	ø
Columbus	3.3	4.5	50.0	68.2	ø	ø	ø
Dallas	1.5	1.2	24.0	19.4	48%	ø	ø
Denver	3.0	5.1	20.0 (5)	34.0 (5)	ø	ø	ø
Detroit	0.0	0.0	ø	ø	ø	ø	ø
Fort Worth	0.8	1.3	24.0	36.9	ø	ø	ø
Fresno	3.0	6.4	8.0	17.0	ø	4	9
Honolulu	3.0	8.5	21.0	59.5	ø	ø	ø
Houston	1.7	0.8	93.3	45.6	20%	ø	ø
Indianapolis	0.3	0.4	18.3	23.1	15%	2 (5)	3 (5)
Kansas City, MO	0.3	0.8	16.5 (4)	37.7 (4)	3%	7	16
Las Vegas	1.3	2.4	50.0	88.9	ø	0	0
Long Beach	1.0	2.2	11.0	24.0	3%	5	11
Louisville	2.7	4.8	12.0	21.4	12%	ø	ø
Mesa	2.0	4.2	4.7	9.7	15%	0	0
Miami	0.7	1.9	33.0 (4)	94.6 (4)	17%	ø	ø
Milwaukee	1.0	1.7	60.0 (5)	103.1 (5)	ø	ø	ø
Minneapolis	19.3 (5)	55.0 (5)	8.5 (5)	24.2 (5)	28%	ø	ø
New Orleans	1.0	4.2	ø	ø	ø	ø	ø
New York	8.0 (5)	1.0 (5)	ø	ø	ø	ø	ø
Oakland	3.8	10.7	15.0 (5)	41.8 (5)	ø	ø	ø
Oklahoma City	1.7	3.0	ø	ø	ø	ø	ø
Philadelphia	0.3	0.2	ø	ø	ø	ø	ø
Phoenix	2.5 (5)	1.7 (5)	ø	ø	ø	ø	ø
Portland, OR	15.0 (5)	27.2 (5)	1.7	3.0	20%	0	0
Raleigh	0.2	0.7	14.0	39.5	25%	0	0
San Antonio	0.0	0.0	55.3	43.1	8%	0	0
San Diego	1.8	1.4	ø	ø	ø	ø	ø
San Francisco	14.0	18.3	89.0 (5)	116.3 (5)	ø	ø	ø
San Jose	5.0	5.4	5.0	5.4	1%	ø	ø
Seattle	6.0	10.4	ø	ø	ø	1,276 (4)	2,210 (4)
Tucson	1.3	2.6	37.0	71.3	ø	ø	ø
Tulsa	3.0	7.7	ø	ø	ø	ø	ø
Virginia Beach	1.3	3.1	80.0 (4)	184.0 (4)	40%	800 (4)	1840 (4)
Washington, DC	4.3	7.4	ø	ø	ø	ø	ø
Mean/Average (2)	3.6	3.9	40.4	55.6	19%	184	24
Median	1.8	3.0	21.0	39.5	17%	3	6
High	19.3	55.0	306.3	184.0	48%	1,276	2,210
Low	0.0	0.0	1.0	2.6	1%	0	0

Legend:
ø = Not applicable
= High value
= Low value

Source: City surveys **Notes:** (1) The following top 51 population cities did not respond to these survey questions: Albuquerque, Arlington, Cleveland, El Paso, Jacksonville, Los Angeles, Memphis, Nashville, Omaha, and Sacramento. (2) All averages are weighted by population except for number of full-time equivalent bike/ped staff, number of full-time equivalent police on bicycles, and percent of police force trained on bicycles. (3) Data are based on the 3-year average number of full-time-equivalent staff from 2006-2008. (4) Limited data, number is based on 2-year average. (5) Limited data, number is based on most recent year available.

Cities also report that on average, 19% of their police force is trained on bicycles.

Infrastructure

To see how cities compared to one another on infrastructure for bicycling and walking, they were asked to report on miles of existing and planned facilities including on-street striped bike lanes, multi-use paths, and signed bicycle routes. Cities averaged 1.6 miles of bicycle facilities (bike lanes, multi-use paths, and signed bicycle routes combined) per square mile (up from 1.2 as of the 2007 Benchmarking Report). On the high end of the range is Las Vegas, with 7.7 miles of bicycle facilities per square mile. San Francisco and Tucson rank second and third, with 4.5 and 3.5 miles of facilities per square mile, respectively.

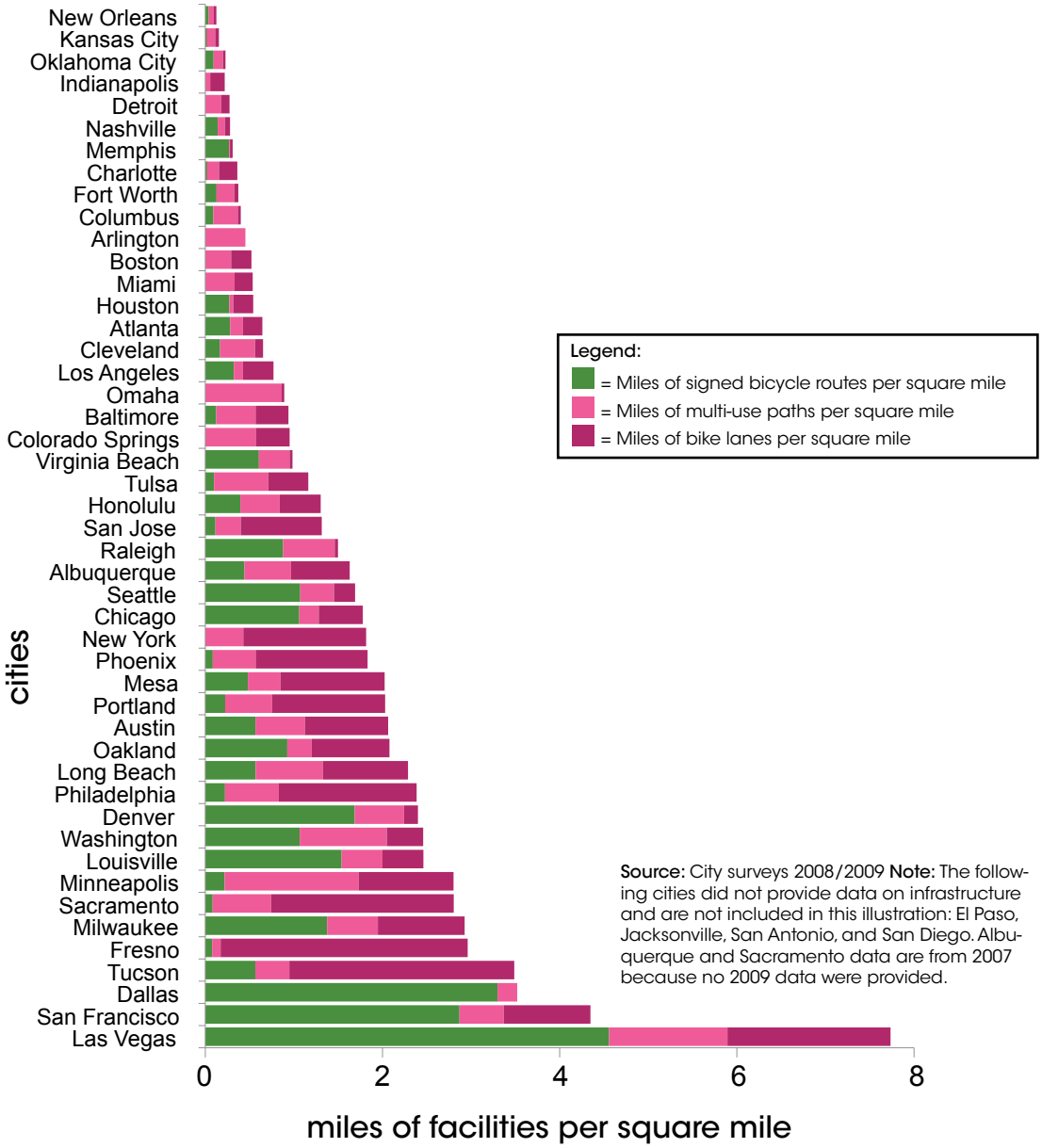
Cities were also asked to report on miles of planned bicycle and pedestrian facilities. Data show cities plan for roughly 60% more miles of bicycle and pedestrian facilities as the amount they currently have. Las Vegas has more planned facilities than any other city, with 16.0 miles of facilities planned per square mile.

As part of their infrastructure for bicycling, cities were asked to report the number of bicycle parking spaces and number of guarded bicycle parking spaces in their city. Cities averaged 22.5 bicycle parking spaces per 10,000 people. Minneapolis has the highest amount of bicycle parking per capita with 430.3 bicycle parking spaces per 10,000 people. A few cities reported no bicycle parking. This report took a closer look at the success of Minneapolis (page 93) and found that strong policies and an innovative funding mechanism have contributed to their success in this area. Surveys also indicate that on average 7% of bicycle parking spaces are secure (guarded or locked).

Innovative Facilities for Bicycling and Walking

A century of planning roads for cars means that planning for bicyclists, pedestrians, and other users will often require innovative designs and treatments. The Alliance asked cities which, if any, of five innovative treatments they have used or adopted. Shared lane markings, also called "sharrows," are the most common innovative treatment in use today. Twenty cities report that they have used shared lane markings. Five cities report that they have implemented bicycle boulevards. The same number have implemented bicycle traffic lights. Eight cities have used colored bike lane treatments and two (San Jose and Dallas) report implementing woonerfs, or living

Existing Bicycle Facilities in Major U.S. Cities

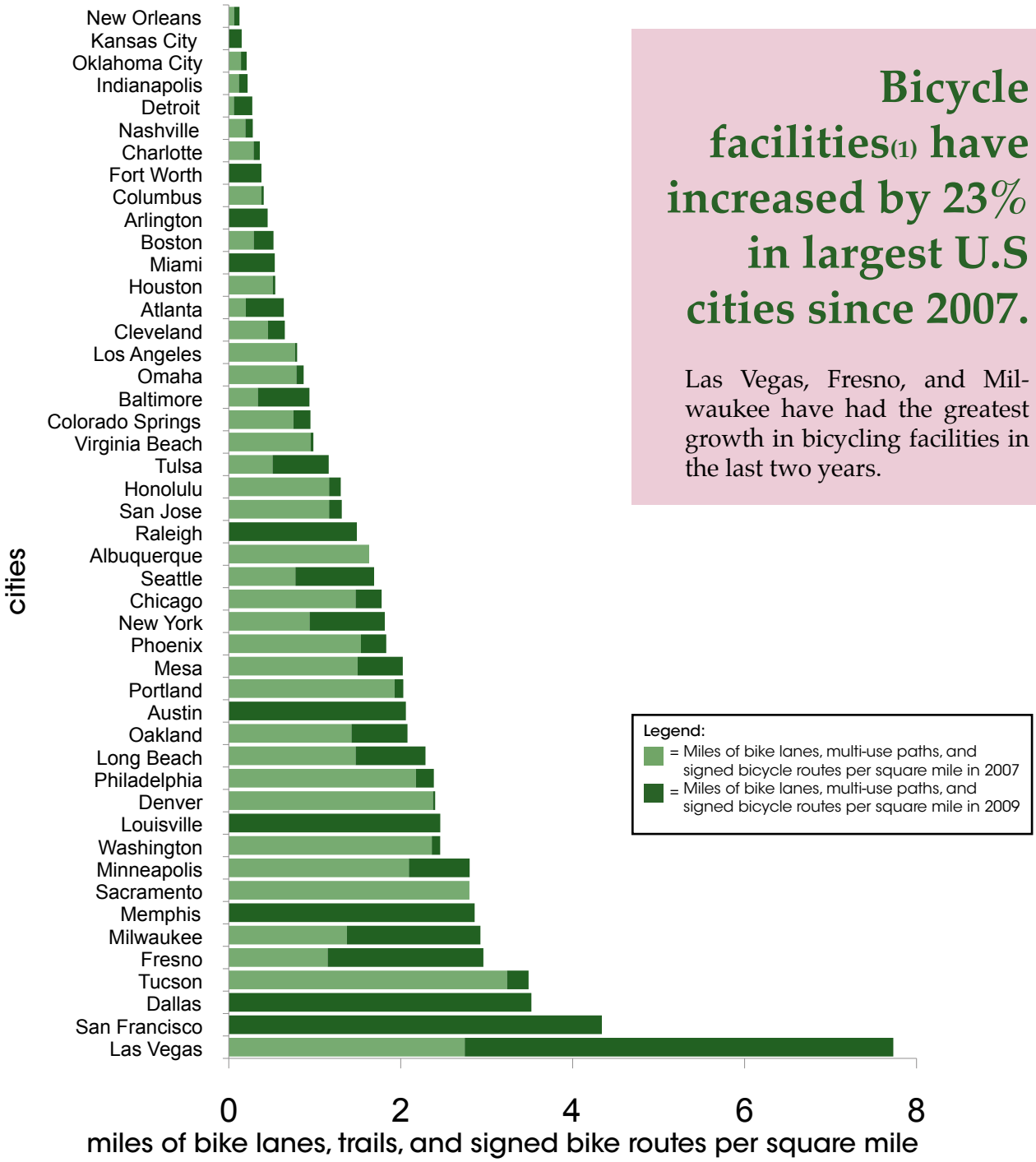


Source: City surveys 2008/2009 **Note:** The following cities did not provide data on infrastructure and are not included in this illustration: El Paso, Jacksonville, San Antonio, and San Diego. Albuquerque and Sacramento data are from 2007 because no 2009 data were provided.

Cities average 1.6 miles of bicycle facilities per square mile.

Las Vegas and San Francisco have the most miles of bicycle facilities per square mile among the largest U.S. cities. Fresno and Tucson rank highest for miles of bike lanes per square mile. New Orleans, Kansas City, and Oklahoma City have the fewest miles of bicycle facilities per square mile.

Growth in Bicycle Facilities(1) in Major U.S. Cities 2007-2009



Bicycle facilities(1) have increased by 23% in largest U.S cities since 2007.

Las Vegas, Fresno, and Milwaukee have had the greatest growth in bicycling facilities in the last two years.

Source: City surveys 2008/2009 **Notes:** The following cities did not provide data on infrastructure and are not included in this illustration: El Paso, Jacksonville, San Antonio, and San Diego. Austin, Arlington, Fort Worth, Dallas, Louisville, Memphis, and Raleigh only have 2009 data because no data were available in 2007. San Francisco, Miami, and Kansas City only have 2009 data because 2007 info was found to be incorrect. Albuquerque and Sacramento have only 2007 data because no 2009 data were provided. (1) Bicycle facilities include bike lanes, multi-use paths, and signed bicycle routes.

Bike/Ped Infrastructure in Cities

City	Miles of bicycle facilities			Facility miles / sq. mile			Bike parking	
	On-street bike lanes	Multi-use paths	Signed bicycle routes	2007 bicycle facilities	Current (2009) bicycle facilities	Planned (2) bike/ped facilities	Spaces per 10K people	% guarded
Albuquerque	120	95	80	1.6	*	2.7	*	*
Arlington, TX	*	43	*	*	0.5	0.1	2.8	*
Atlanta	29	19	37	0.2	0.6	1.7	11.5	*
Austin	236	140	142	*	2.1	9.7	96.0	0%
Baltimore	30	36	10	0.3	0.9	0.1	0.1	0%
Boston	11	14	0	0.5	0.5	*	9.8	3%
Charlotte	50	33	4.4	0.3	0.4	11.9	*	*
Chicago	113	50	241	1.5	1.8	2.2	*	*
Cleveland	7	31	13	0.5	0.7	2.2	*	*
Colorado Springs	71	106	*	0.8	1.0	0.5	*	*
Columbus	7	58	19	0.4	0.4	2.6	1.4	8%
Dallas	0	76	1,128	*	3.5	3.7	3.0	16%
Denver	24.	85	258	2.4	2.4	*	*	*
Detroit	13	25	0	0.1	0.3	2.9	*	*
Fort Worth	14	58	40	0.3	0.4	3.0	0.9	0%
Fresno	290	10	8	1.1	3.0	1.0	*	*
Honolulu	40	38	34	1.2	1.3	4.2	*	*
Houston	130	26	157	0.5	0.5	0.1	7.3	100%
Indianapolis	59	20	*	0.1	0.2	0.6	*	*
Kansas City, MO	13	30	5	0.2	0.2	2.7	1.7	27%
Las Vegas	208	151	515	2.7	7.7	16.0	*	*
Long Beach	48	38	28	1.5	2.3	1.4	21.8	20%
Los Angeles	162	48.	151	0.8	0.8	*	*	*
Louisville	30	30	100	*	2.5	3.8	*	*
Memphis	2	3	75	1.5	0.3	1.4	*	*
Mesa	147	46	60	4.0	2.0	*	*	*
Miami	7	12	0	*	0.5	1.7	7.3	60%
Milwaukee	94	55	132	2.1	2.9	1.5	42.9	1%
Minneapolis	59	83	12	2.1	2.8	3.2	430.3	2%
Nashville	28	38	66	0.2	0.3	0.6	4.0	5%
New Orleans	5	10	7	0.1	0.1	1.1	*	*
New York	420	130		0.9	1.8	5.9	7.5	*
Oakland	49	15	52	1.4	2.1	4.1	83.0	14%
Oklahoma City	6	64	57	0.1	0.2	0.7	*	*
Omaha	1	100	0	1.0	0.9	0.2	*	*
Philadelphia	210	82	30	2.2	2.4	*	*	*
Phoenix	600	230	40	1.5	1.8	0.8	*	*
Portland, OR	171	71	30	1.9	2.0	4.8	*	*
Raleigh	4	67	101	*	1.5	4.3	1.7	0%
Sacramento	200	64	8	2.8	*	0.0	*	*
San Francisco	45	23	132	*	4.5	0.7	46.4	4%
San Jose	160	50	20	1.2	1.3	2.9	10.8	10%
Seattle	20	32	90	0.8	1.7	0.0	44.2	10%
Tucson	495	75	110	3.2	3.5	0.6	69.3	0%
Tulsa	83	112	18	0.5	1.2	1.5	*	*
Virginia Beach	8	86	150	1.0	1.0	0.6	*	*
Washington, DC	25	60	65	2.4	2.5	*	*	*
Mean/Median	99	59	98	1.2	1.6	2.7	22.5 (1)	7% (1)
Median	45	49	40	1	1.3	1.6	10.65	4%
High	600	230	1,128	4.0	7.7	16.0	430.3	100%
Low	0	3	0	0.1	0.1	0.0	0.1	0%

Source: City surveys 2008/2009 **Notes:** The following cities were unable to provide data on bicycle facilities: El Paso, Jacksonville, San Antonio, and San Diego. Albuquerque and Sacramento data are from 2007 because no 2009 data were provided. (1) Weighted average. (2) Planned facilities includes only miles of new facilities and does not represent a combined value of existing and planned facilities.

Legend:
* = Officials could not access data
= High value
= Low value

Innovative Facilities in Cities

City	Shared lane markings	Bicycle boulevards	Woonerf/ living streets	Colored bike lanes	Bicycle traffic light
Albuquerque (1)					
Arlington, TX					
Atlanta					
Austin					
Baltimore	✓	(2)		(2)	
Boston	✓			(3)	
Charlotte					
Chicago	✓	(4)	(2)	✓	
Cleveland	(4)	(4)			
Colorado Springs					
Columbus	(5)	✓			
Dallas	✓		✓		
Denver	✓				
Detroit					
El Paso (1)					
Fort Worth	✓				
Fresno					
Honolulu					
Houston	✓				
Indianapolis				✓	
Jacksonville (1)					
Kansas City, MO					
Las Vegas					
Long Beach	✓(6)	✓(6)		✓(6)	✓(6)
Los Angeles	(2)				
Louisville	✓				
Memphis					
Mesa					
Miami					
Milwaukee					
Minneapolis	✓			✓	
Nashville	✓				
New Orleans	✓				
New York	✓			✓	✓
Oakland	✓				
Oklahoma City	✓				
Omaha					
Philadelphia				✓	
Phoenix					
Portland, OR	✓	✓		✓	✓
Raleigh					
Sacramento (1)					
San Antonio					
San Diego (1)					
San Francisco	✓			(7)	✓
San Jose	✓		✓		
Seattle	✓	✓			
Tucson		✓		✓	✓
Tulsa					
Virginia Beach					
Washington, DC	✓				
# of states responding yes	20	5	2	8	5
Mean/Average	No	No	No	No	No

Source: City surveys 2008/2009 **Notes:** (1) Unanswered survey. (2) Planned for 2009 or 2010. (3) Ready to be installed (4) Proposed. (5) Pending FHWA approval. (6) Currently being implemented. (7) Currently experimenting.

Innovative bicycle and pedestrian treatments on the rise in major U.S. cities.

Although relatively few cities reported having implemented innovative bicycle and pedestrian treatments, a number of cities noted these treatments are either proposed, pending, or on their way. Long Beach is currently implementing new sharrow, bicycle boulevard, colored bike lane, and bicycle traffic light treatments. Baltimore, San Francisco, and Boston are among the other cities who are experimenting with innovative treatments. Portland has already implemented four out of the five innovative treatments listed here.

Legend:
✓ = Yes/has policy

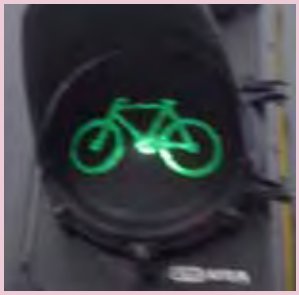
Innovative Facilities Defined

Shared lane markings—often called "sharrows," these are markings which resemble a bicycle and an arrow painted on a roadway to indicate that the route is for bicycles as well as motorized vehicles.

Bicycle boulevards—a shared roadway which is intended to give priority to bicyclists by optimizing it for bicycle traffic (through traffic calming) and discouraging some motor vehicle traffic. Many of these routes have no bike lanes so bicyclists are free to use the middle of the street.

Woonerf/ living streets—these streets are designated as "shared streets" and do not prioritize the needs of the vehicle. Rather, it is a space for pedestrians, bicyclists, and low-speed vehicles.

Colored bike lanes—bike lanes which have special pavement and coloring to provide a distinct visual definition that the space is designated for bicyclists.



Bicycle traffic light—lights on roadways which have specific symbols to direct bicycle traffic.

Photos top to bottom: John Luton, Payton Chung, La-Citta-Vita@Flickr, Alison Fayre , Roland Tanglao

streets. Portland has used more innovative treatments than any other major U.S. city. For data on innovative facilities, see page 91; for definitions of these facilities, see the side panel on this page.

Bike-Transit Integration

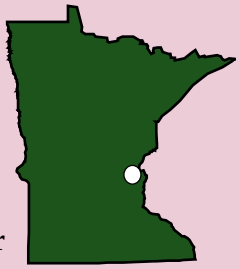
The last bicycling provision measured was bike-transit integration. This report sought to measure how well cities provide for bicyclists on transit (Pucher and Buehler, 2009). While most cities are successfully integrating bicycles with buses, many fall behind in regard to providing parking for bicyclists at transit. Almost all cities surveyed have 100% of their city bus fleet equipped with bicycle racks. When it comes to bicycle parking, cities average just 1.2 bicycle parking spaces at transit stops per 10,000 residents.

One of Minneapolis's roughly 4,000 bicycle racks overflows outside of Fairview Medical Center.

Photo courtesy of Donald Pflaum, City of Minneapolis

CLOSER LOOK

Minneapolis: 15,000 Bicycle Parking Spots



Minneapolis ranks highest among cities surveyed for per capita bicycle parking. With over 15,000 bicycle parking spaces, Minneapolis boasts 430 spaces for every 10,000 residents. A number of policy decisions have contributed to Minneapolis's success. The city parking budget includes $40,000 a year for bicycle parking and has a unique 50/50 cost share program with local businesses that are interested in bicycle racks. The city also has ordinances that support bicycle parking and will pay 100% of the cost for bicycle racks at schools and public parks. Minneapolis doesn't plan on slowing down its provision of bicycle parking anytime soon. As one of five pilot communities in the U.S. to receive hefty federal support for bicycle and pedestrian provisions under SAFETEA-LU (the most recent federal transportation act), they have received a grant that will allow them to install racks at 100% of Minneapolis schools, public parks, and post offices.

Photo by Megan Rucker, Austin, TX (photo from Chicago, IL)

Most bus fleets in major cities are equipped for bicycles.

Thirty-seven cities report that 100% of their city buses are equipped with bicycle racks. This is up 23% from 2007 when just 30 cities reported that 100% of their buses had racks. New York is now the only major U.S. city with no bicycle racks on buses (Pucher and Buehler, 2009). Houston and Boston have some buses with bicycle racks. In regards to bicycle parking at transit, cities average 1.2 bicycle parking spaces for every 10,000 residents.

Legend:
* = Officials could not access data
= High value = Low value

Bike-Transit Integration

City	Bike racks on buses	% of buses with bicycle racks	Bike parking at transit	
			# of bicycle parking spaces at transit stops	Bike parking spaces per 10,000 people
Albuquerque	142	*	*	*
Arlington, TX	35	*	30	0.8
Atlanta	559	100%	*	*
Austin	*	100%	156	2.1
Baltimore	*	100%	*	*
Boston		30%	0	0.0
Charlotte	342	100%	51	0.8
Chicago	1,827	100%	*	*
Cleveland	619	*	6	0.2
Colorado Springs	81	100%	0	0.0
Columbus	*	100%	48	0.7
Dallas	*	100%	15	0.1
Denver	1,060	100%	7	0.1
Detroit	*	25%	0	0.0
El Paso	151	*	30	0.5
Fort Worth	126	100%	10	0.2
Fresno	126	100%	30	0.6
Honolulu	*	100%	18	0.5
Houston	*	95%	250	1.2
Indianapolis	160	100%	*	*
Jacksonville	182	*	*	*
Kansas City, MO	250	100%	18	0.4
Las Vegas	406	100%	*	*
Long Beach	193	100%	*	*
Los Angeles	2,744	*	272	0.7
Louisville	245	100%	0	0.0
Memphis	30	60%	0	0.0
Mesa	*	100%	0	0.0
Miami	843	100%	0	0.0
Milwaukee	0	100%	*	*
Minneapolis	978	100%	3	0.1
Nashville	137	100%	0	0.0
New Orleans	151	100%	*	*
New York	0	0%	0	0.0
Oakland	722	100%	0	0.0
Oklahoma City	*	100%	0	0.0
Omaha	*	100%	*	*
Philadelphia	1,361	100%	*	*
Phoenix	*	100%	54	0.4
Portland, OR	643	100%	100	1.8
Raleigh	*	100%	*	*
Sacramento	4	*	*	*
San Antonio	430	*	15	0.1
San Diego	833	100%	0	0.0
San Francisco	712	100%	544	7.1
San Jose	*	100%	*	*
Seattle	1,149	100%	2,390	41.4
Tucson	214	100%	71	1.4
Tulsa	61	*	*	0.0
Virginia Beach	*	100%	*	0.0
Washington, DC	1,504	100%	*	0.0
Mean/Average	475.5	93%	125	1.2 (1)
Median	193	100%	13	0.2
High	2,744	100%	2,390	41.4
Low	0	0%	0	0

Sources: APTA 2008, City surveys 2008/2009 **Note:** (1) Average weighted.

5: Education and Encouragement

Photo courtesy of Trailnet

2 of the "5 Es"

Education and encouragement are two of the often cited "5 Es" needed for making a community bicycle and pedestrian friendly. Both bicyclists and motorists need education on how to safely share the road and navigate traffic. Widespread education efforts can contribute to safer roadways for all. Encouragement is also needed to promote the spread of bicycling and walking as means of transport, recreation, and physical activity.

This report is the first to establish benchmarks for bicycle and pedestrian education and encouragement efforts. Many states and cities have implemented programs and events with these aims but have had no way to evaluate their success compared to others. The 2010 Benchmarking Report has expanded to include this chapter in an attempt to collect this baseline data and to measure progress in future years.

The "5 Es"

1. Evaluation
2. Engineering
3. Education
4. Encouragement
5. Enforcement

Educating Professionals

This report measured education efforts in two areas: professional education and public education. The first refers to the education professionals receive that contributes to the promotion and safety of bicycling and walking. Included is the education of police officers in bicycle laws and safety and the education of government employees and other professionals working to promote, plan, and implement policies and provisions for bicycling and walking.

Police Training

Police officers without training in bicycle laws may incorrectly stop or ticket bicyclists, or set a bad example of the law for other motorists. Education of law enforcement in bicycle safety and laws pertaining to bicycling is critical to furthering bicycling.

Data on police officer education come from the League of American Bicylists' Bicycle Friendly State surveys. According to these surveys, just 15 states include bicycling enforcement in their Police Officer Standards and Training (POST). Eleven states include bicycling enforcement as a Police Academy requirement and 17 states include bicycling enforcement in their police continuing education training.

Bicycle and Pedestrian Conferences

Bicycle and pedestrian professionals need opportunities for continuing education, networking, and collaboration to further their work and profession. Many states now hold annual bicycle and pedestrian

Trailnet's (Missouri) Bicycle Safety Rodeos ensure that bicycles are in proper working order.

Photo courtesy of Trailnet

Bike/Ped Professional Education in States

State	Bicycling enforcement in POST (4)	Bicycling enforcement police academy requirement	Bicycling enforcement police continuing training	Existence of annual statewide bike/ped conference (6)
Alabama				
Alaska				
Arizona			✓	
Arkansas				
California				✓ (1)
Colorado				
Connecticut				
Delaware			✓	✓ (2)
Florida				✓
Georgia				(3)
Hawaii				
Idaho				
Illinois			✓	✓
Indiana	✓	✓	✓	✓ (2)
Iowa	✓	✓	✓	✓
Kansas				
Kentucky	✓	✓	✓	
Louisiana	✓	✓		(5)
Maine	✓		✓	✓
Maryland				✓
Massachusetts		✓	✓	✓
Michigan	✓			✓
Minnesota	✓			✓
Mississippi	✓	✓	✓	
Missouri	✓	✓	✓	✓
Montana				
Nebraska				
Nevada	✓	✓	✓	✓
New Hampshire	✓		✓	
New Jersey			✓	
New Mexico				
New York				
North Carolina				
North Dakota				
Ohio				
Oklahoma				
Oregon	✓	✓	✓	
Pennsylvania				
Rhode Island				
South Carolina				✓
South Dakota				
Tennessee				
Texas		✓	✓	
Utah				
Vermont		✓		
Virginia				
Washington	✓		✓	
West Virginia				✓
Wisconsin	✓		✓	✓
Wyoming	✓			
# of states responding yes	15	11	17	16
Mean/Average	No	No	No	No

States rank poorly for professional education on bicycling and walking.

Just 30% of states report that their police officer training includes bicycling enforcement. Only 11 states (22%) report that bicycling enforcement is a police academy requirement. Just 16 states report having a statewide bicycle and pedestrian conference.

Legend:
✓ = Yes

Sources: State surveys 2008/2009, LAB 2009 **Notes:** (1) Biennial. (2) 2009 will be first year. (3) Not annual, but one held in 2006. (4) POST stands for Police Officer Standards and Training. (5)Not annual, but one held in 2004. (6) Statewide bike/ped conference refers to an educational and networking event that brings together professionals working on bicycle and pedestrian issues including government officials, planners, educators, and advocates.

Secretary of Energy Steven Chu speaks at a 2009 Washington, DC, Bike to Work Day event.

Photo courtesy of the Washington Area Bicyclist Association

conferences or summits that provide bicycle and pedestrian professionals an opportunity for learning, networking, and planning. Sixteen states report having hosted a statewide bicycle and pedestrian conference. Fourteen of these are annual. Delaware and Indiana planned a statewide conference for the first time in 2009.

Educating the Public

Educating the public is a critical component of creating bicycle and pedestrian friendly communities. From street-side messages of share-the-road campaigns to driver's test questions, states and cities are working to promote the safety of the most vulnerable road users. For this section we relied on data from state surveys, the League of American Bicyclists' Bicycle Friendly States Program, and the National Center for Safe Routes to School. State benchmarks include whether or not states have a public safety (or "Share the Road") campaign, whether states include driver's manual and driver's test information on bicyclists, and the number of schools participating in National Walk and Bike to School Day, and whether or not a state has a state-sponsored ride to promote bicycling or physical activity (and how many participants). City education benchmarks include the

presence of youth and adult bicycle education courses and participation levels in these courses.

Share the Road Campaigns

"Share the Road" is perhaps the most common slogan used in bicycle education. Share the Road campaigns are widespread and can take many forms. Many states have Share the Road signs on roadways. Others have Share the Road bumper stickers. Some states have sophisticated campaigns with public service announcements including ads on buses, billboards, and radio messages. The basic message is always the same, encouraging bicyclists and motorists to obey traffic laws and show respect to other road users. Thirty-three states report having a Share the Road or similar public safety campaign.

Driver Education

Driver education is a unique opportunity to instill knowledge about traffic laws and safety that individuals will use to form habits and will take with them for years to come. The League of American Bicyclists' Bicycle Friendly State surveys collect information from states on whether or not information on bicycling is included in the state driver's manual and whether or not questions on sharing the roadway with bicyclists are included on the state driver's test. While 43 states include information on bicycling in their state driver's manual, less than half of states (23) include driver's test questions on bicyclists.

Bicycle Education

While nearly anyone who received a driver's license must have some form of driver's education before receiving a license, there is no education requirement to ride a bicycle. Yet there are skills involved with properly handling a bicycle in traffic. Bicycle education teaches youth and adults the rules of the road, how to properly handle a bicycle in traffic, and how to respectfully share the road with other users. The Alliance survey on youth and adult bicycle education courses reveals that 35 cities (69% of

Photo by Jason Vanderhill

66% of states have a Share the Road or similar public safety campaign.

Public Education and Events in States

State	Share the Road/ public safety campaign	Info on bicycling in driver's manual	Driver's test questions on bicycling	State-sponsored ride to promote bicycling/ activity	# of people who participated in state ride	# of schools participating in Walk to School Day
Alabama		✓			ø	14
Alaska	✓				ø	4
Arizona	✓	✓	✓		ø	106
Arkansas	✓				ø	8
California		✓		✓	(1)	342
Colorado	✓	✓			ø	93
Connecticut		✓			ø	10
Delaware	✓	✓		✓	120	7
Florida		✓	✓	✓	600	232
Georgia	✓	✓			ø	45
Hawaii	✓	✓	✓		ø	2
Idaho		✓			ø	40
Illinois	✓	✓	✓	✓	220	161
Indiana	✓	✓		(2)	*	9
Iowa	✓	✓	✓	(2)	20,000	14
Kansas		✓			ø	70
Kentucky	✓	✓	✓	✓	200	41
Louisiana	✓	✓			ø	17
Maine	✓	✓	✓	✓	625	21
Maryland	✓	✓			600 (3)	64
Massachusetts	✓			✓	300	51
Michigan		✓	✓		ø	193
Minnesota	✓	✓	✓	✓	125	14
Mississippi	✓	✓			ø	40
Missouri		✓	✓	✓	325	47
Montana		✓			ø	42
Nebraska		✓	✓		ø	34
Nevada	✓	✓	✓		ø	3
New Hampshire	✓	✓	✓	✓	1,400	15
New Jersey	✓	✓			ø	54
New Mexico					ø	58
New York	✓	✓	✓		ø	67
North Carolina	✓	✓	✓		ø	57
North Dakota		✓			ø	2
Ohio		✓			ø	39
Oklahoma	✓	✓			ø	69
Oregon	✓				ø	290
Pennsylvania		✓			ø	47
Rhode Island		✓		✓	120	7
South Carolina	✓	✓	✓	✓	75	177
South Dakota		✓	✓		ø	6
Tennessee	✓			✓	*	54
Texas	✓	✓	✓		ø	94
Utah	✓	✓	✓	✓	*	80
Vermont	✓	✓	✓	(2)	60	50
Virginia	✓				ø	38
Washington	✓	✓	✓		ø	47
West Virginia		✓			ø	16
Wisconsin	✓	✓	✓		2,000	66
Wyoming	✓	✓	✓	✓	ø	6
# of states responding yes	33	43	23	15	-	-
Mean/Average	Yes	Yes	No	No	1,667	61

Legend:
✓ = Yes
ø = Not applicable
* = Officials could not access data

Sources: State surveys 2008/2009, LAB 2009, National Center for Safe Routes to School **Notes:** (1) Not available for whole state. (2) State ride is sponsored by advocacy organization and not by the state. (3) 500 Cycle Across Maryland, 100 symposium.

Adult Bicycle Education Courses

City	Sponsor(s)	Participation - # of adults			# adults per 1 participant		
		2006	2007	2008	2006	2007	2008
Atlanta	NPO	*	110	274	*	3,106	1,247
Austin	NPO	50	50	80	11,545	11,545	7,215
Baltimore	NPO	*	*	30	*	*	16,149
Boston	NPO	*	*	200	*	*	2,483
Charlotte	NPO	*	*	*	*	*	*
Colorado Springs	-	*	12	20	*	24,343	14,606
Columbus	IND (10)	30	30	30	18,569	18,569	18,569
Dallas	NPO	-	66	124	-	13,716	7,300
Fort Worth	NPO	*	*	*	*	*	*
Honolulu	IND (10)	*	*	*	*	*	*
Houston	NPO	300	400	600	5,049	3,787	2,524
Indianapolis	NPO (2)	-	-	30	-	-	19,297
Kansas City, MO	NPO	-	120	-	-	2,754	-
Las Vegas	GO	*	*	*	*	*	*
Long Beach	GO and NPO	-	16	70	-	20,910	4,779
Los Angeles	NPO	*	*	*	*	*	*
Louisville		60	120	60	7,111	3,556	7,111
Memphis	NPO	*	*	*	*	*	*
Miami	GO (3)	16	-	17	17,441	-	16,415
Milwaukee	NPO	10	20	25	41,919	20,959	16,768
Minneapolis	GO (4)	*	*	335	*	*	849
Nashville	NPO	30	30	30	15,229	15,229	15,229
New York	NPO	101	429 (7)	945 (8)	63,083	14,852	6,742
Oakland	NPO and GO (3, 5)	*	35	114	*	7,997	2,455
Oklahoma City	Other	*	*	*	*	*	*
Omaha	NPO	10	-	-	28,076	-	-
Philadelphia	GO (3) and NPO	-	-	- (9)	-	-	-
Phoenix	NPO	*	*	*	*	*	*
Portland, OR	GO	*	*	*	*	*	*
San Diego	NPO	*	*	*	*	*	*
San Francisco	GO (6)	250	300	389	2,632	2,193	1,691
San Jose	GO (5) and NPO	200	200	200	3,505	3,505	3,505
Seattle	NPO	*	*	*	*	*	*
Tucson	GO	400	400	500	1,000	1,000	800
Washington, DC	GO and NPO	*	*	*	*	*	*
Mean/Average	-	121	146	204	8,773 (1)	6,230 (1)	4.016 (1)
Median	-	55	88	97	13,387	9,771	6,927
High	-	400	429	945	63,083	24,343	19,297
Low	-	10	12	17	1,000	1,000	800

Legend:
* = Officials could not access data
ø = Not applicable
= High value
= Low value

GO = Government organization
IND = Independent
NPO = Nonprofit organization
DOT = Department of transportation
PD = Police department

Source: City surveys 2008/2009 **Notes:** The following cities did not provide data on adult bicycle education participation: Albuquerque, Arlington, Chicago, Cleveland, Denver, Detroit, EL Paso, Fort Worth, Fresno, Honolulu, Jacksonville, Las Vegas, Los Angeles, Memphis, Mesa, New Orleans, Oklahoma City, Phoenix, Portland, Raleigh, Sacramento, San Antonio, San Diego, Seattle, Tulsa, and Virginia Beach. (1) Weighted average. (2) Bicycle clubs. (3) County. (4) And "other." (5) City. (6) SFMTA. (7) 231 plus an additional 198 training program participants. (8) 681, plus an additional 264 training program participants (9) New program. (10) League of American Bicyclists Cycling Instructor (LCI).

Thirty-five of the cities surveyed for this report say their city has adult bicycle education courses. Of these, 24 are sponsored by non-profit organizations and 11 are sponsored by government agencies (with some being sponsored by both and a couple by independent instructors). Since 2006, participation in these courses has been on the rise with the average number of participants increasing 69% in just two years. In 2008 these courses attracted an average of one person per 4,016 adults.

Adult Bike Ed is on the rise in major U.S. cities.

Youth(9) Bicycle Education Courses

City	Sponsor(s)	Participation - # of youth			# of youth per one participant		
		2006	2007	2008	2006	2007	2008
Atlanta	NPO	*	300	34	*	303	2,671
Baltimore	DOT	*	*	*	*	*	*
Boston	NPO	*	*	300	*	*	388
Charlotte	GO and NGO	*	*	*	*	*	*
Chicago	GO and NPO	*	*	*	*	*	*
Columbus	GO (10)	3,800	4,200	4,500	46	42	39
Denver	NPO	*	*	*	*	*	*
Fresno	NGO (2) and PD	*	*	*	*	*	*
Honolulu	GO (3)	5,000	5,000	5,000	12	12	12
Houston	PD	*	*	2,050	*	*	260
Indianapolis	GO and NPO	*	*	*	*	*	*
Kansas City, MO	NPO	*	*	200	*	*	536
Long Beach	GO	ø	ø	2070 (8)	ø	ø	60
Louisville	NPO	30	60	60	4,491	2,246	2,246
Mesa	SRTS	*	*	*	*	*	*
Milwaukee	GO (4) and NPO	500	800	1,025	326	204	159
Minneapolis	GO	125	150	180	534	445	371
Nashville	NPO	250	500	1,000	546	273	136
New York	GO and NPO	-	658	857	ø	2,892	2,221
Oakland	NPO and GO (7)	520	673	613	152	117	129
Omaha	NPO	1,000	1,000	1,000	94	94	94
Philadelphia	GO and NPO (5)	*	*	*	*	*	*
Portland, OR	GO	*	*	*	*	*	*
San Diego	NPO	*	*	*	*	*	*
San Francisco	GO (SFMTA)	*	2000	3000	*	54	36
San Jose	GO (7) and NPO	25,000	25,000	25,000	9	9	9
Seattle	NPO	*	*	*	*	*	*
Tucson	GO	*	*	*	*	*	*
Virginia Beach	GO (4)	*	*	*	*	*	*
Washington, DC	GO and NPO	*	*	*	*	*	*
Mean/Average	-	4,466	3,337	2,917	31 (1)	80 (1)	88 (1)
Median	-	520	737	1,000	152	161	148
High	-	25,000	25,000	25,000	4,491	2,892	2,671
Low	-	30	60	34	9	9	9

Legend:
* = Officials could not access this data
ø = Not applicable
= High value
= Low value

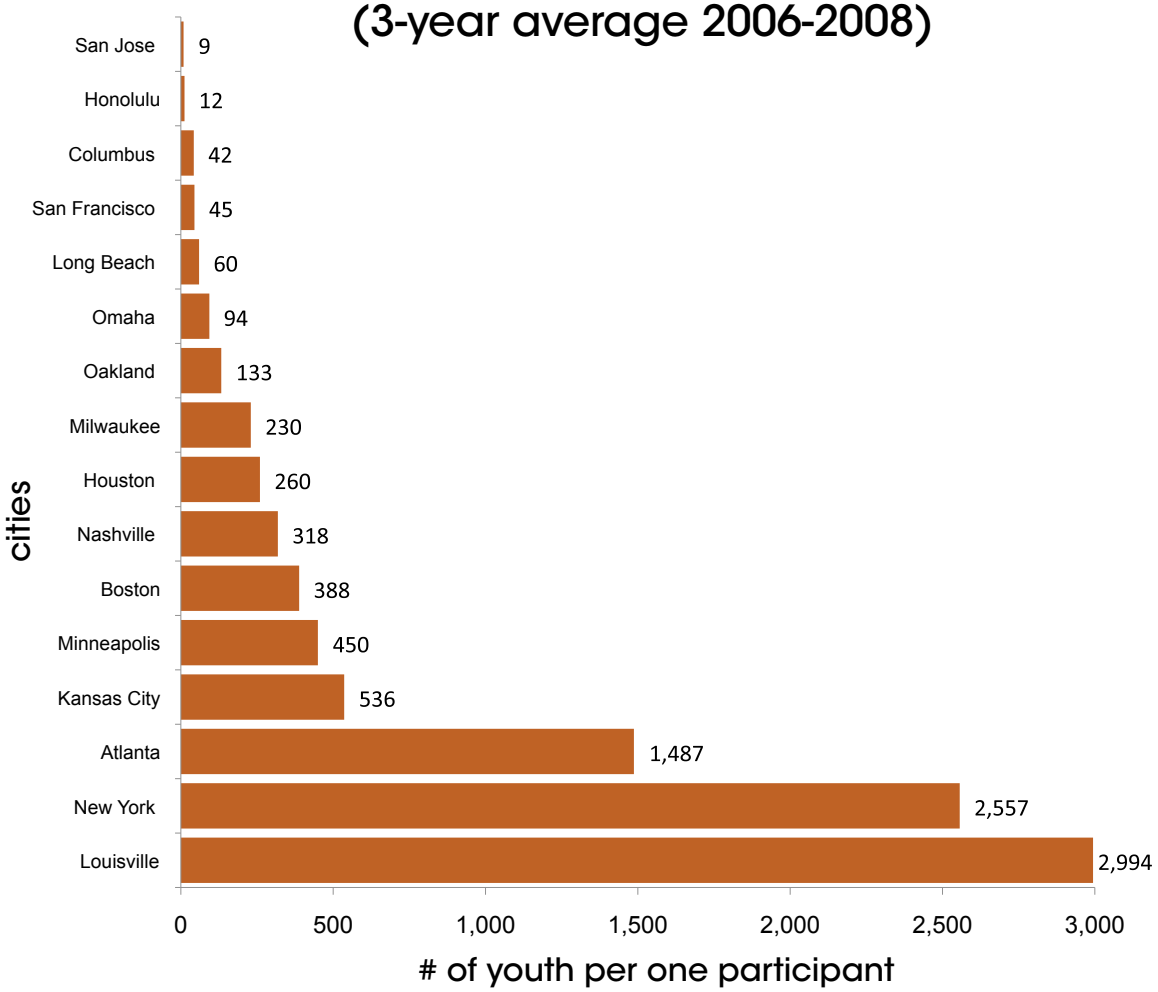
GO = Government organization
IND = Independent
NGO = Non-governmental organization
NPO = Nonprofit organization
DOT = Department of transportation
PD = Police department

Source: City surveys 2008/2009 **Notes:** No data on youth bicycle education participation for: Albuquerque, Arlington, Austin, Baltimore, Charlotte, Chicago, Cleveland, Colorado Springs, Dallas, Denver, Detroit, El Paso, Fort Worth, Fresno, Indianapolis, Jacksonville, Las Vegas, Los Angeles, Memphis, Mesa, Miami, New Orleans, Oklahoma City, Philadelphia, Phoenix, Portland, Raleigh, Sacramento, San Antonio, San Diego, Seattle, Tucson, Tulsa, Virginia Beach, and Washington, DC. (1) Weighted average. (2) Kiwanis. (3) City, run by Hawaii Bicycling League. (4) School district. (5) Philadelphia school district partners with the neighborhood bike work. (6) City parks. (7) City. (8) First year of program. (9) "Youth" includes all residents under age 18. (10) City neighborhood pride.

One of every 88 youth in the largest U.S. cities participate in a bicycle education course.

Thirty of the cities surveyed for this report have youth bicycle education courses in their city. Of these, 17 are sponsored by nonprofit organizations and 20 by government organizations (some are sponsored by both and/or other agencies). On average, only one out of 88 youth (under age 18) attend a youth bicycle education course in these cities.

Youth(3) Bicycle Education: Youth per One Participant
(3-year average 2006-2008)

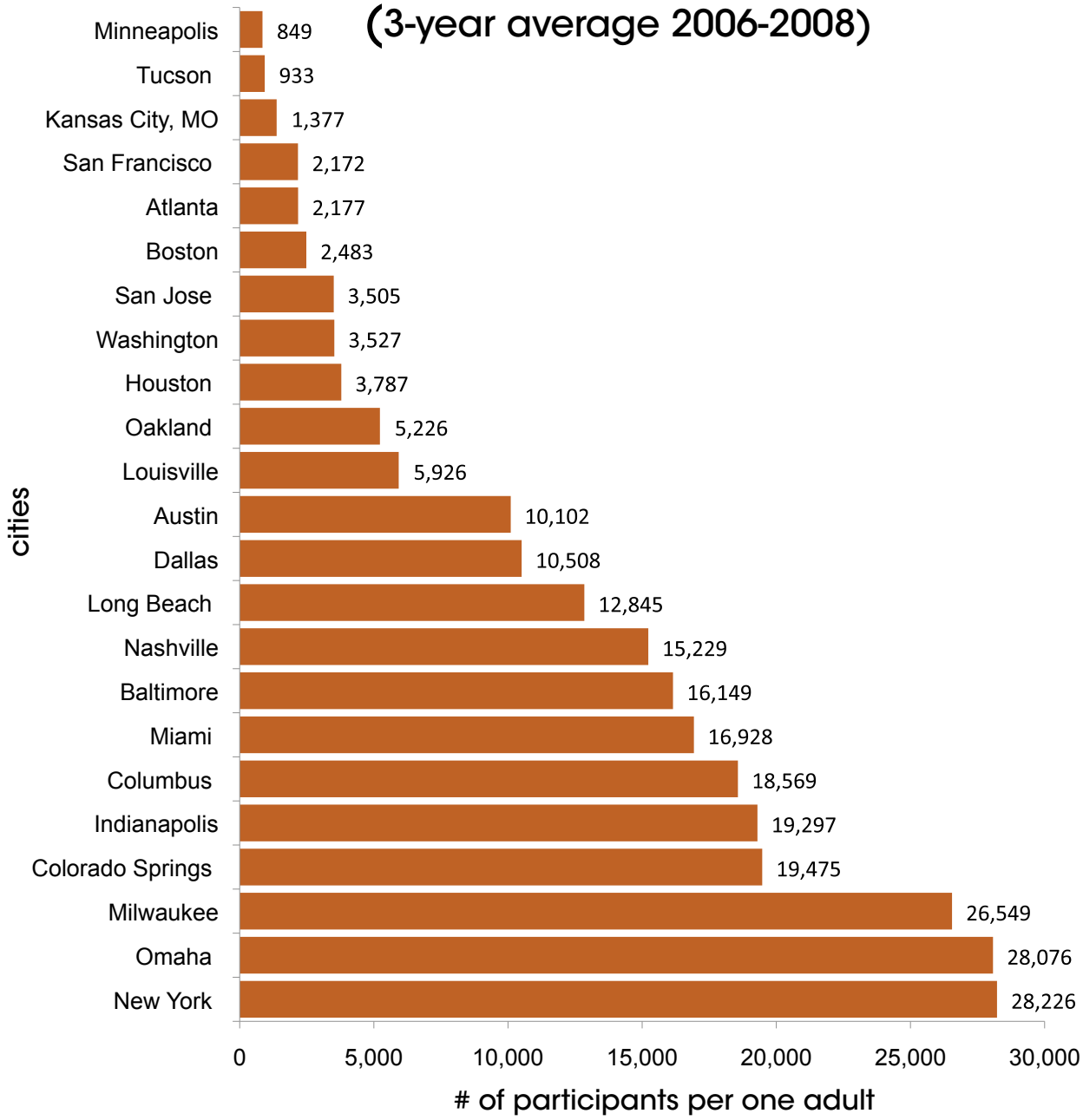


Sources: City surveys 2008/2009, ACS 2007 **Notes:** The following cities could not provide data for all three years and therefore averages were calculated using a 1- to 2-year average as noted in parentheses: Atlanta (2), Boston (1), Houston (1), Kansas City (1), Long Beach (1), New York (2), and San Francisco (2). The following cities did not provide data on youth bicycle education participation: Albuquerque, Arlington, Austin, Baltimore, Charlotte, Chicago, Cleveland, Colorado Springs, Dallas, Denver, Detroit, El Paso, Fort Worth, Fresno, Indianapolis, Jacksonville, Las Vegas, Los Angeles, Memphis, Mesa, Miami, New Orleans, Oklahoma City, Philadelphia, Phoenix, Portland, Raleigh, Sacramento, San Antonio, San Diego, Seattle, Tucson, Tulsa, Virginia Beach, Washington, DC. (3) "Youth" includes all residents under age 18.

One out of every nine youth in San Jose participate in bicycle education courses. Honolulu, Columbus, and San Francisco also lead other major U.S. cities in participation levels for youth bicycle education courses.

San Jose has highest participation levels in youth bicycle education.

Adult Bicycle Education: Adults Per One Participant (3-year average 2006-2008)



Source: City surveys 2008/2009 **Notes:** The following cities could not provide data for all three years and therefore averages were calculated using a 1-year average: Baltimore, Boston, Indianapolis, Minneapolis, Omaha, and Washington, DC. The following cities could not provide data for all three years and therefore averages were calculated using a 2-year average: Atlanta, Colorado Springs, Dallas, Kansas City, MO, Long Beach, Miami, and Oakland. The following cities did not provide data on adult bicycle education participation: Albuquerque, Arlington, Charleston, Chicago, Cleveland, Denver, Detroit, EL Paso, Fort Worth, Fresno, Honolulu, Jacksonville, Las Vegas, Los Angeles, Memphis, Mesa, New Orleans, Oklahoma City, Philadelphia, Phoenix, Portland, Raleigh, Sacramento, San Antonio, San Diego, Seattle, Tulsa, Virginia Beach.

cities surveyed) have adult bicycle education courses, and 30 cities (59% of cities surveyed) have youth bicycle education courses. These education courses vary in that some are sponsored by the local government, some by a local nonprofit or advocacy organization, some by the local police department, and others are the result of partnerships between multiple agencies. Surveys also reveal that city adult bicycle education courses averaged one participant per 4,016 adults and youth courses average one participant per 88 youth residents (in 2008).

Encouragement Programs and Events

Encouragement programs are those activities which support and promote bicycling and walking. There are many different types of encouragement activities, but this report looked at four specific types of common encouragement events: Bike to Work Day, Walk and Bike to School Day, city-sponsored bicycle rides, and car-free (or ciclovia/ Sunday parkways) events. This report also looked at participation levels of these efforts to establish benchmarks and baseline data to measure progress among cities going forward.

Bike to Work Day

Bike to Work Day is an annual event held on the third Friday in May throughout the U.S. and Canada. Since the League of American Bicyclists organized the first Bike to Work Day in 1956, the day has been a rallying point for bicycle advocates to promote bicycling as a healthy and fun alternative to driving. Local advocacy organizations and government agencies across North America organize bicycling encouragement and promotion events around Bike to Work Day including commuter challenges, organized rides, energizer stations (with coffee, breakfast treats, and bicycling literature), and more. Bike to Work Day is the most common encouragement activity among major U.S. cities with 38 cities reporting some organized event around this day. Both government and nonprofit organizations sponsor these events. San Francisco has more Bike to Work Day participants than any other major U.S. city: 75,000 participants, or one out of every nine residents, in 2008.

Bicycle Promotion in Cities

Over 75% of cities report hosting Bike to Work Day events.

Of all the bicycle promotion activities surveyed, Bike to Work Day events are the most common among major U.S. cities. Adult and youth bicycle education courses are also held in more than half of the cities surveyed. Ciclovia, or car-free, events are the newest trend in bicycle promotion and only 15 cities report having hosted this type of event.

City	Bicycle education courses		Bike to Work Day events	Ciclovia event	City-sponsored bicycle ride
	Youth	Adult			
Albuquerque					
Arlington, TX					
Atlanta	✓	✓	✓		
Austin		✓	✓		
Baltimore	✓	✓	✓	✓	✓
Boston	✓	✓	✓	✓	✓
Charlotte	✓	✓	✓		✓
Chicago	✓		✓	✓	
Cleveland					
Colorado Springs		✓	✓		
Columbus	✓	✓	✓		✓
Dallas		✓			✓
Denver	✓		✓		✓
Detroit			✓		
El Paso					
Fort Worth		✓			
Fresno	✓		✓		
Honolulu	✓	✓	✓	✓	✓
Houston	✓	✓	✓	✓	✓
Indianapolis	✓	✓	✓		
Jacksonville					
Kansas City, MO	✓	✓	✓	✓	
Las Vegas		✓	✓		✓
Long Beach	✓	✓	✓	✓ (1)	✓
Los Angeles		✓	✓		✓
Louisville	✓	✓	✓		✓
Memphis		✓			✓
Mesa	✓		✓		✓ (1)
Miami		✓	✓	✓	
Milwaukee	✓	✓			
Minneapolis	✓	✓	✓		✓
Nashville	✓	✓	✓		✓
New Orleans					
New York	✓	✓	✓	✓	✓
Oakland	✓	✓	✓		
Oklahoma City		✓	✓		
Omaha	✓	✓	✓		✓
Philadelphia	✓	✓	✓	✓	✓
Phoenix		✓	✓	✓	
Portland, OR	✓	✓	✓	✓	✓
Raleigh			✓		
Sacramento					
San Antonio					
San Diego	✓	✓	✓		
San Francisco	✓	✓	✓	✓	✓
San Jose	✓	✓	✓		✓
Seattle	✓	✓	✓	✓	
Tucson	✓	✓	✓		
Tulsa			✓		
Virginia Beach	✓		✓ (1)		
Washington, DC	✓	✓	✓	✓	✓
# of cities responding yes	30	35	38	15	23
Mean/Average	Yes	Yes	Yes	No	No

Legend: ✓ = Yes

Source: City surveys 2008/2009 **Note:** (1) New in 2009.

Bike to Work Day Events

City	Sponsor(s)	Participation - # of adults			# of adults per one participant		
		2006	2007	2008	2006	2007	2008
Atlanta	NPO	*	*	100	*	*	3,417
Austin	NPO	*	50	165	*	11,545	3,498
Baltimore	GO	*	250	250	*	1,938	1,938
Boston	GO (1)	*	*	3,000	*	*	166
Charlotte	GO (2)	*	*	*	*	*	*
Chicago	GO, NPO (3)	2,000	2,000	2,000	1,027	1,027	1,027
Colorado Springs	GO and NPO (1)	900	1,000	1,200	325	292	243
Columbus	NPO	50	50	450	11,141	11,141	1,238
Denver	GO	20,500	21,000	35,000	22	21	13
Detroit	NPO (2)	75	75	75	7,652	7,652	7,652
Fresno	GO (1)	200	350	400	1,623	927	812
Honolulu	GO (1) and NPO	200	200	200	1,464	1,464	1,464
Houston	GO (1)	276	321	350	5,488	4,718	4,328
Indianapolis	GO, NPO, (3)	*	435	500	*	1,331	1,158
Kansas City, MO	GO	250	500	1,100	1,322	661	300
Las Vegas	GO	*	*	*	*	*	*
Long Beach	GO and NPO (3)	*	*	150	*	*	2,230
Los Angeles	MTA	*	*	*	*	*	*
Louisville	GO	150	200	150	2,844	2,133	2,844
Mesa	GO	*	*	25	*	*	14,382
Miami	GO (4) (5)	*	*	*	*	*	*
Minneapolis	GO	300	400	2,500	948	711	114
Nashville	NPO	50	50	100	9,137	9,137	4,569
New York	NPO	*	*	750 (6)	*	*	8,495
Oakland	NPO, and GO	1,294	1,401	1,732	216	200	162
Oklahoma City	GO (1)	200	200	200	2,024	2,024	2,024
Omaha	NPO	330	400	600	851	702	468
Philadelphia	NPO	200	300	300	5,436	3,624	3,624
Phoenix	GO (1)	25	25	75	42,991	42,991	14,330
Portland, OR	GO	*	*	*	*	*	*
Raleigh	GO	50	63	75	5,454	4,329	3,636
San Diego	NPO	*	*	*	*	*	*
San Francisco	GO SF (4)	*	65,000	75,000	*	10	9
San Jose	GO (1) and NPO	13,000	14,000	15,000	54	50	47
Seattle	NPO	*	*	*	*	*	*
Tucson	GO	300	400	500	1,333	1,000	800
Tulsa	GO	*	*	*	*	*	*
Virginia Beach	NPO	*	*	*	*	*	*
Washington, DC	GO, NPO (3)	*	*	*	*	*	*
Mean/Average(6)	-	2,018	4,528	4,895	300 (7)	132 (7)	157 (7)
Median	-	225	336	400	1,544	1,398	1,464
High	-	20,500	65,000	75,000	42,991	42,991	14,330
Low	-	25	25	25	22	10	9

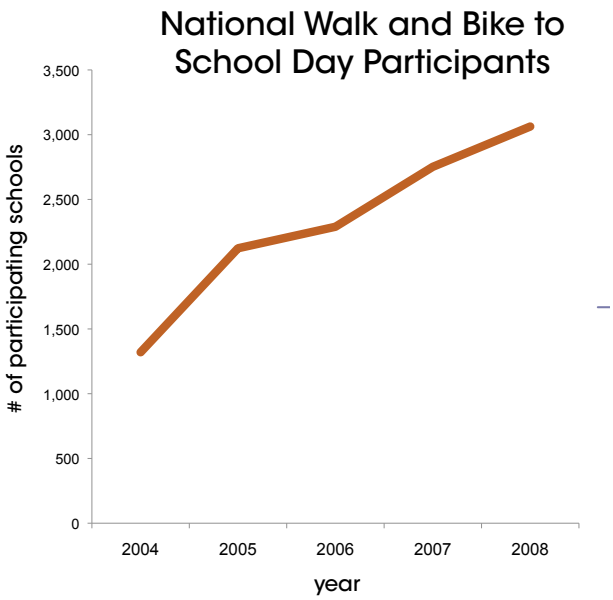
Legend:
* = Officials could not access data
ø = Not applicable
= High value = Low value

GO = Government organization
NGO = Non-governmental organization
NPO = Nonprofit organization
DOT = Department of transportation
PD = Police department

Source: City surveys 2008/2009 **Note:** The following cities did not report having Bike to Work Day events and are not included in this table: Albuquerque, Arlington, Cleveland, Dallas, El Paso, Fort Worth, Jacksonville, Memphis, Milwaukee, New Orleans, Sacramento, and San Antonio. (1) City. (2) Other. (3) Business. (4) Metropolitan planning organization. (5) County. (6) Answered 700-800. (7) Weighted average.

Walk to School Day

Walk to School Day is an annual international event held the first Wednesday in October to promote and encourage kids bicycling and walking to school. The first Walk to School Day was in 1995 in Hertfordshire, England. By 2000 the first International Walk to School Day was held with events throughout Europe, Canada, and the U.S. Communities can choose to celebrate International Walk to School Day for a day, a week, or an entire month. Events can range from simply encouraging parents and children to bicycle or walk to school to an organized walk or bicycle to school parade with refreshments and prizes for children who participate. In 2008 over 3,000 schools from all 50 states participated in Walk to School Day. Only three of the major U.S. cities in this report did not have any schools registered for Walk to School Day (Minneapolis, Indianapolis, and Fresno). Portland, OR, and Detroit had more schools registered for Walk to School Day than any other major U.S. cities with 47 and 31 registered schools, respectively.



Source: NCSRTS 2009.

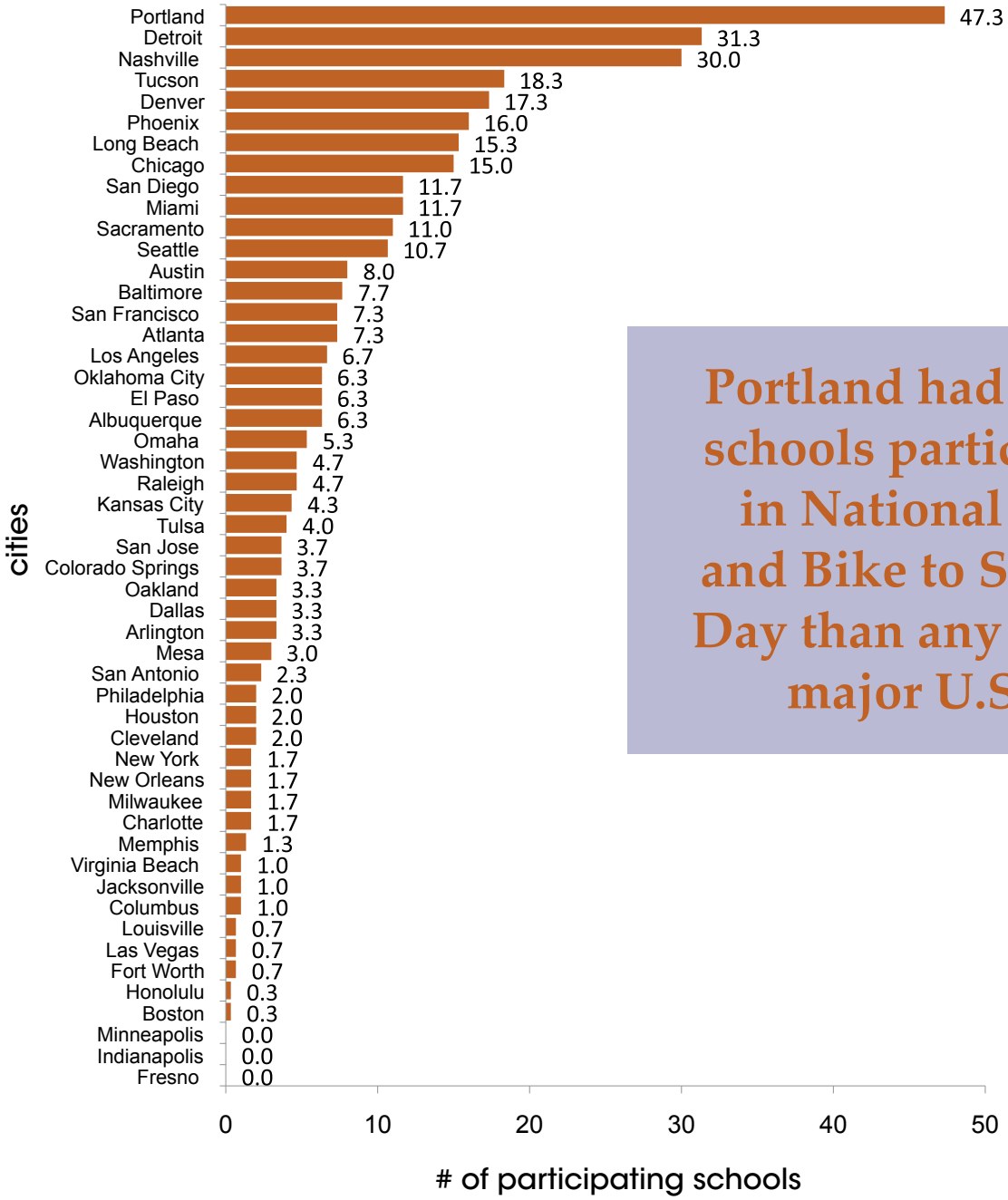
Car-Free Street Events

Although some cities like San Francisco have had car-free public space for decades, a new sort of car-free event has been sweeping North American cities in the last several years. These events often called "Sunday Parkways" or "Sunday Streets" are modeled after the successful Ciclovia program in Bogata, Columbia. These events temporarily shut down a portion of connected roadways to cars, and open these streets to people for bicycling, walking, running, skating, and a number of other organized activities. Fifteen cities report having hosted a car-free street/ciclovia event. New York's Summer Streets drew 150,000 people in 2008, more than any other ciclovia event. Phoenix had the most participants per capita at their ciclovia event with one out of every 20 residents participating. These high participation levels for relatively young events demonstrate a large interest in and latent demand for safe places to bicycle and walk.

Promotional Bicycle Rides

Promotional bicycle rides are another popular encouragement activity that many states, cities, and advocacy organizations sponsor. While temporary in nature, these events can promote bicycling as a healthy and fun way to get around, and can raise awareness

Number of Schools Participating in Walk and Bike to School Day
(3-year average 2006-2008)



Portland had more schools participate in National Walk and Bike to School Day than any other major U.S. city.

Source: NCSRTS 2009.

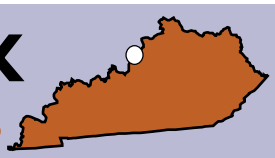
City-Sponsored Bicycle Rides

City (3)	Participation - # of people			# of people per one participant		
	2006	2007	2008	2006	2007	2008
Baltimore	*	*	25/wk	*	*	25498
Boston	*	*	600	*	*	1,022
Columbus	ø	ø	200 (1)	ø	ø	3,665
Dallas	3,000	3,000	3,000	413	413	413
Honolulu	4,000	3,500	3,400	88	101	104
Houston	*	2,500	3,758	*	819	545
Las Vegas	*	*	865	*	*	650
Long Beach	*	*	4,000	*	*	115
Los Angeles	1,200	1,700	2,300	3,172	2,239	1,655
Louisville	6,000	8,000	10,000	94	70	56
Minneapolis	*	4,700	3,400	*	75	103
Nashville	1,000	1,000	1,500	593	593	396
New York	70	120	60	118,208	68,954	137,909
Omaha	50	60	75	7,487	6,239	4,991
Philadelphia	*	2,400	3,100	*	604	468
San Francisco	2,000 (2)	2,000 (2)	2,000 (2)	382	382	382
San Jose	300	400	500	3,075	2,306	1,845
Washington, DC	ø	ø	3,000	ø	ø	196
Mean/Average	1,958	2,448	2,321	982 (4)	720 (4)	582 (4)
Median	1,200	2,200	2,150	593	599	507
High	6,000	8,000	10,000	118,208	68,954	137,909
Low	50	60	25	88	70	56

Legend:
* = Officials could not access data
ø = Not applicable
= High value
= Low value

Source: City surveys 2008/2009 **Notes:** (1) First year of this event. (2) Answered "thousands," represented as 2,000. (3) Denver, Portland, Mesa, and Memphis all responded "yes" to having a city-sponsored bicycle ride but could not access participation data; Mesa's ride is new. (4) Weighted average.

CLOSER LOOK



Louisville Mayor's Healthy Hometown Hike and Bike

Ten thousand people came out for the fourth annual Mayor's Healthy Hometown Hike and Bike in Louisville, Kentucky, Labor Day 2008—that's one participant for every 56 Louisville residents. According to Dirk Gowin with the City of Louisville, "One of the main reasons that the Mayor's Hike and Bike event is so successful is that we accommodate bicyclists of all levels. The entire route is approximately 15 miles in length, with frequent stops, and frequent opportunities to turn around and shorten the route if you are not able to complete the course. And, all signalized intersections are controlled by Louisville Metro Police. So we see riders from small kids on training wheels to racers."

Louisville Mayor Jerry Abramson (pictured center), joins thousands of area bicyclists for the 2009 Labor Day Mayor's Hike & Bike.

Photo courtesy of Louisville Metro

around local bicycle routes, issues, and groups. They are often an excellent entry point for new bicyclists who are not yet comfortable riding alone in traffic, but who will try out bicycling in a group ride setting. Promotional rides are also great opportunities for media coverage and forging new partnerships between bicycling and walking organizations and other government and community groups. Fifteen states and 23 cities report having government-sponsored rides to promote bicycling or physical activity. Iowa's RAGBRAI (Register's Annual Great Bicycle Ride Across Iowa) is an annual seven-day bicycle ride across the state that attracts 20,000 bicyclists, more than any other state ride.

Ciclovia/Car-free Events

City (2)	Participation - # of people			# of people per one participant		
	2006	2007	2008	2006	2007	2008
Baltimore	ø	ø	2,000 (1)	ø	ø	319
Boston	2,000	3,000	4,000	307	204	153
Kansas City, MO	ø	ø	3,600 (1)	ø	ø	122
Miami	ø	ø	2,800	ø	ø	125
New York	ø	250 (1) (3)	150,000	ø	33,098	55
Phoenix	*	*	75,000	*	*	20
Portland, OR	ø	ø	15,000 (1)	ø	ø	37
San Francisco	ø	ø	7,000 (1) (4)	ø	ø	109
Washington, DC	ø	ø	1,200	ø	ø	490
Mean/Average	ø	ø	28,9556	ø	ø	53 (5)
Median	ø	ø	4,000	ø	ø	116
High	ø	3,000	150,000	ø	33,098	490
Low	ø	250	1,200	ø	204	20

Source: City surveys 2008/2009 **Notes:** (1) First year of this event. (2) Chicago, Honolulu, Houston, Long Beach, Philadelphia, and Seattle reported having a ciclovia/car-free event but could not access data on participation; all other cities did not report having a ciclovia/care-free event. For Chicago 2008 was the first year of the event; for Long Beach 2009 was the first year of the event. (3) Answered "200-300." (4) Answered "several thousand." (5) Weighted average.

Legend:
* = Officials could not access data
ø = Not applicable
= High value
= Low value

Portland residents enjoy a street free of car traffic on one of the three Sunday Parkways events in 2009.

Photo by Greg Raisman

6: Grassroots Advocacy

Members of the San Francisco Bicycle Coalition successfully rallied to save a bike lane on Market Street that was threatened to be removed.

Photo by Kate McCarthy, San Francisco Bicycle Coalition

Growing the Movement

There is no doubt that bicycle and pedestrian advocacy is on the rise. When the Alliance for Biking & Walking (formerly known as the Thunderhead Alliance) was formed in 1996 as the North American coalition of state and local bicycle and pedestrian advocacy organizations, there were just 12 member organizations. Today the Alliance includes over 160 organizations representing 47 states and three Canadian provinces. The number of bicycle and pedestrian advocacy organizations has steadily increased through the Alliance's comprehensive organizational development efforts and in response to increasing traffic congestion, rising gas prices, safety risks, a growing obesity epidemic, and climate change.

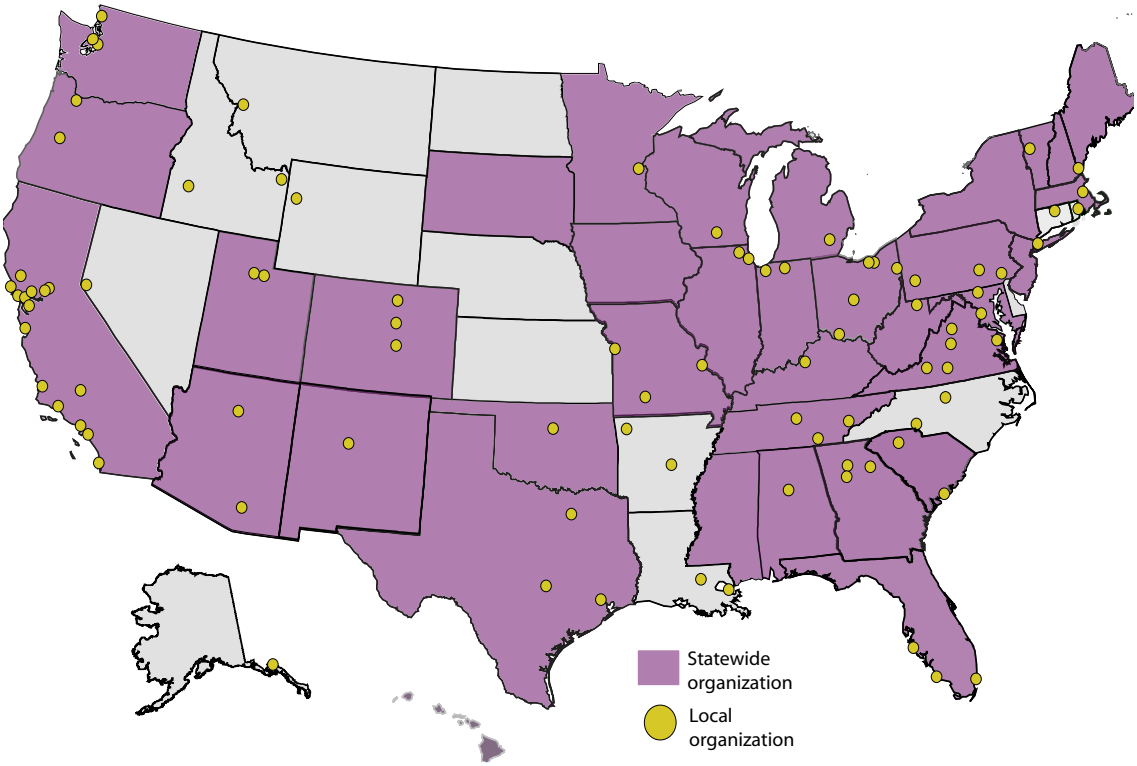
This upward trend in bicycle and pedestrian advocacy doesn't seem to be waning anytime soon. As these issues become more prevalent in mainstream public discourse, the Alliance is working with more emerging organizations and connecting their leaders with peers

around the country as they embark to transform their communities into more vibrant, healthy, and livable places.

Advocacy as an Indicator

The presence and strength of advocacy organizations in states and cities have been used as indicators to measure the state of bicycling and walking. Strong advocacy organizations are often necessary to local jurisdictions with hopes of passing and implementing progressive policies for bicycling and walking. Government and elected officials passionate about these issues often promote or work with emerging advocates, recognizing the need for increased citizen involvement in the public policy discourse. The presence and capacity of advocacy organizations are both indicators of the prominence of bicycling and walking in communities and are worth comparing to other bicycling and walking indicators. For this report, the Alliance for Biking & Walking only collected data from Alliance member organizations.

Alliance U.S. Bike/Ped Advocacy Organizations



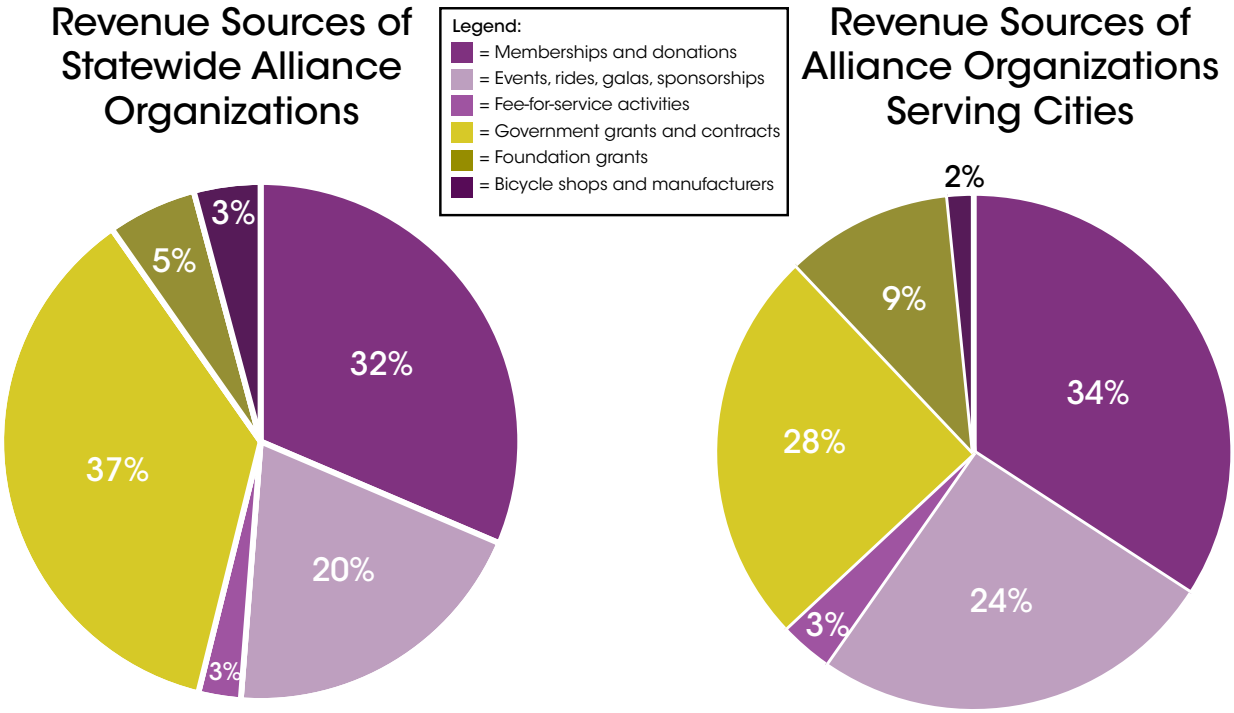
Source: Alliance for Biking & Walking July 2009

Proving Effectiveness

The Alliance's coalition of grassroots advocacy organizations is constantly influencing public policy and helping to create more bikeable and walkable communities. But can this be proven? Looking at data on capacity of advocacy organizations (page 135) shows there may be a connection between the advocacy capacity and bicycling and walking levels. Besides using these data to illustrate their effectiveness, Alliance leaders can also learn where they are successful and which areas need greater attention, thus refocusing limited resources for the greatest impact.

Measuring Advocacy Capacity

Measuring the capacity of advocacy organizations is not an easy thing to do. In this attempt, the Alliance distributed a survey to Alliance member organizations representing one of the 50 states or 51 cities in this report. Variables measured include revenue and revenue sources, membership, staffing, and media impressions. While these



(Graphs this page) Source: Organization surveys 2008/2009 **Note:** Graphs consider only Alliance organizations serving states and one of the 51 study-area cities; information not provided for Arkansas, Michigan, New Mexico, New York, and Ohio.

Advocacy Capacity RANKING

States(1)

1. Oregon
2. Maine
3. Hawaii
4. Colorado
5. Washington
6. Wisconsin
7. Virginia
8. Vermont
9. Iowa
10. Michigan
11. Massachusetts
12. Texas
13. Illinois
14. Rhode Island
15. Indiana
16. South Carolina
17. Missouri
18. Minnesota
19. South Dakota
20. Florida
21. Utah
22. New Hampshire
23. New York
24. Arkansas
25. Mississippi
26. Arizona
27. West Virginia
28. New Jersey
29. Oklahoma
30. Alabama
31. Ohio

Cities(2)

1. Seattle
2. San Francisco
3. Minneapolis
4. Colorado Springs
5. Chicago
6. Portland, OR
7. Atlanta
8. San Jose
9. New York
10. Washington, DC
11. Cleveland
12. Philadelphia
13. Milwaukee
14. Nashville
15. Louisville
16. Columbus
17. Austin
18. Albuquerque
19. Sacramento
20. Denver
21. San Diego
22. Los Angeles/ Long Beach
23. Boston
24. Kansas City, MO
25. Charlotte
26. Oakland
27. Dallas/Fort Worth
28. Miami
29. Omaha

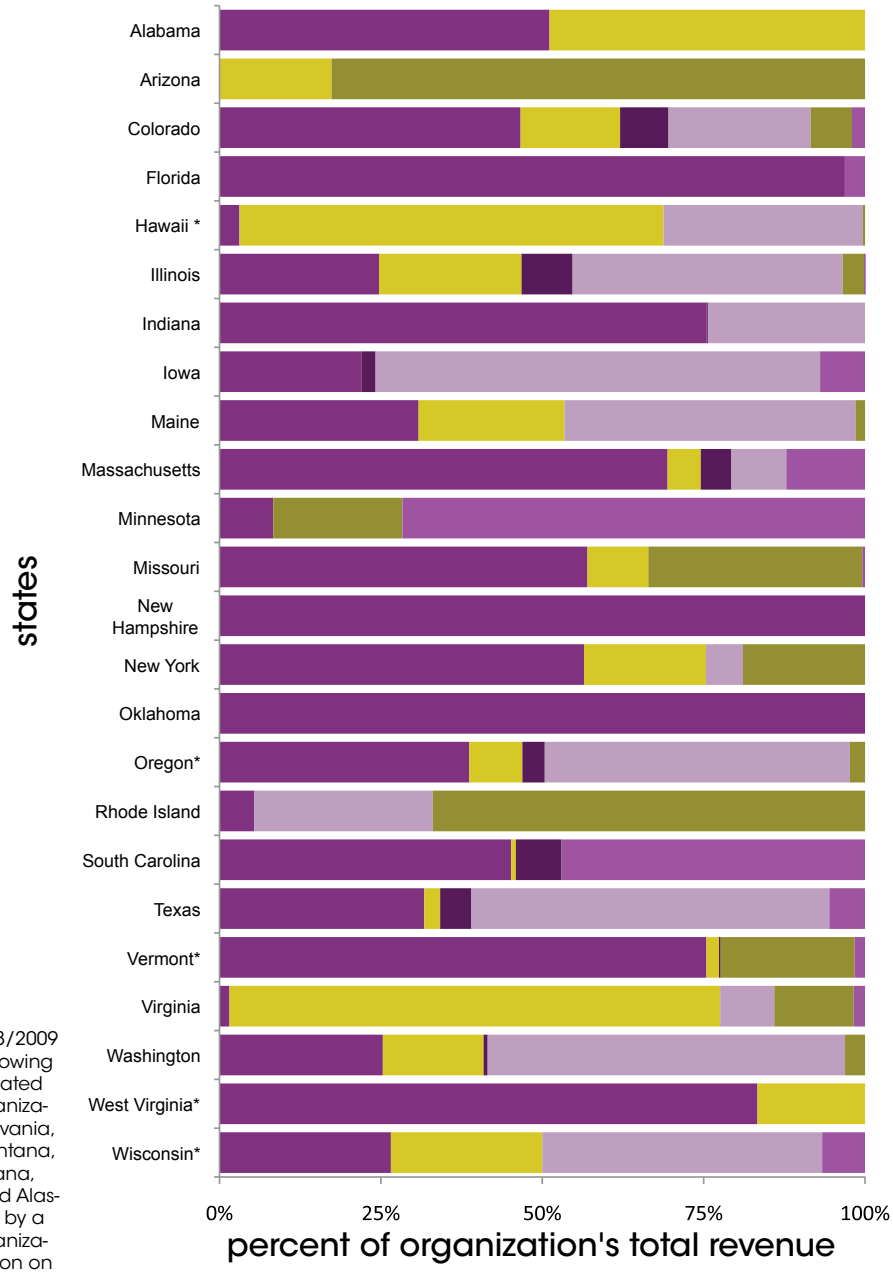
Source: Organization surveys 2008/2009 **Notes:** The rankings in the chart above are based upon the 2008 per capita income of advocacy organizations. States and cities represented by the advocacy organization with the highest per capita revenue are ranked #1 and so forth; Indiana and Michigan are ranked according to 2006 per capita revenue because 2008 data were unavailable. (1) As of January 2009, the following states were not served by a dedicated statewide Alliance advocacy organization: Wyoming, Tennessee, Pennsylvania, North Dakota, North Carolina, Montana, Nebraska, Nevada, Kansas, Louisiana, Idaho, Delaware, Connecticut, and Alaska. The following states are served by a statewide Alliance advocacy organization that did not complete an organization survey or did not provide data on revenue for this ranking: New Mexico, Maryland, Kentucky, California, and Georgia. (2) As of January 2009, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, Baltimore, Detroit, El Paso, Fresno, Honolulu, Indianapolis, Jacksonville, Las Vegas, Memphis, Mesa, Milwaukee, Oklahoma City, Phoenix, Portland, Raleigh, San Antonio, Tulsa, Tucson, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide data: Houston and New Orleans. View data on pages 117, 122, and 124 of this report.

variables are telling in some cases, they will not accurately reflect the full capacity of these organizations. Some organizations with strong leaders and a dedicated base, can and do win great victories for bicycling and walking with virtually no budget. However, in the Alliance's experience, organizations with sustainable revenue sources and budgets to employ full-time staff are the most self-sustaining and are able to accomplish more in the long term. Membership numbers and media impressions were included because they increase the political influence of an organization.

Organizations are represented in this section by the state or city they serve. In the cases where more than one advocacy organization serves a particular state or city, both organizations are represented separately by their city name and a number. Appendix 2 contains the list of 50 states and 51 cities studied in this report and identifies the advocacy organization(s) representing each city or state. To see which organization(s) are represented by these data, you can cross-reference the city or state with Appendix 2, page 162.

The data in this chapter measure the capacity of Alliance member organizations only. Although most state and local bicycle and pedestrian advocacy organizations are Alliance members, there are a few that are not. Also, many other organizations, individuals, and government officials advocate for bicycling and walking. This section is by no means an all-inclusive or definitive measurement of advocacy capacity across the U.S. In the scope

Revenue Sources of Statewide Alliance Organizations

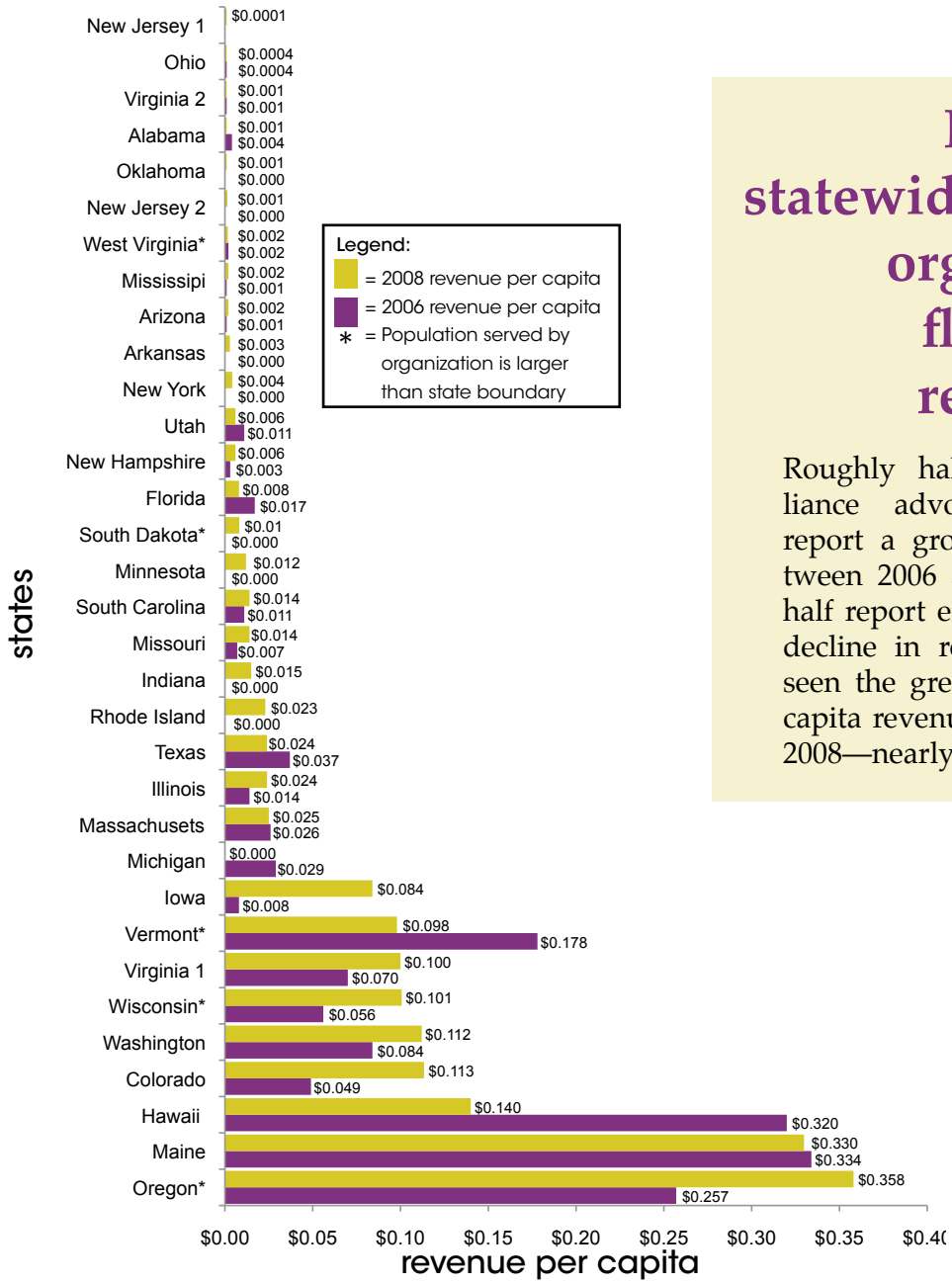


Legend: * = Population served by organization is larger than state boundary.

- Memberships and donations
- Events, rides, galas (inc. sponsorships)
- Fee-for-service activities
- Government grants and contracts
- Foundation grants
- Bike shops and manufacturers

Source: Organization surveys 2008/2009
Notes: As of January 2009, the following states were not served by a dedicated statewide Alliance advocacy organization: Wyoming, Tennessee, Pennsylvania, North Dakota, North Carolina, Montana, Nebraska, Nevada, Kansas, Louisiana, Idaho, Delaware, Connecticut, and Alaska. The following states are served by a statewide Alliance advocacy organization that did not provide information on organization revenue: Arkansas, South Darkota, Utah, Michigan, Mississippi, Ohio, New Jersey, New Mexico, Maryland, Kentucky, California, and Georgia. To see the organization and study area matches, please reference Appendix 2, page 162.

Per Capita Revenue of Statewide Alliance Organizations

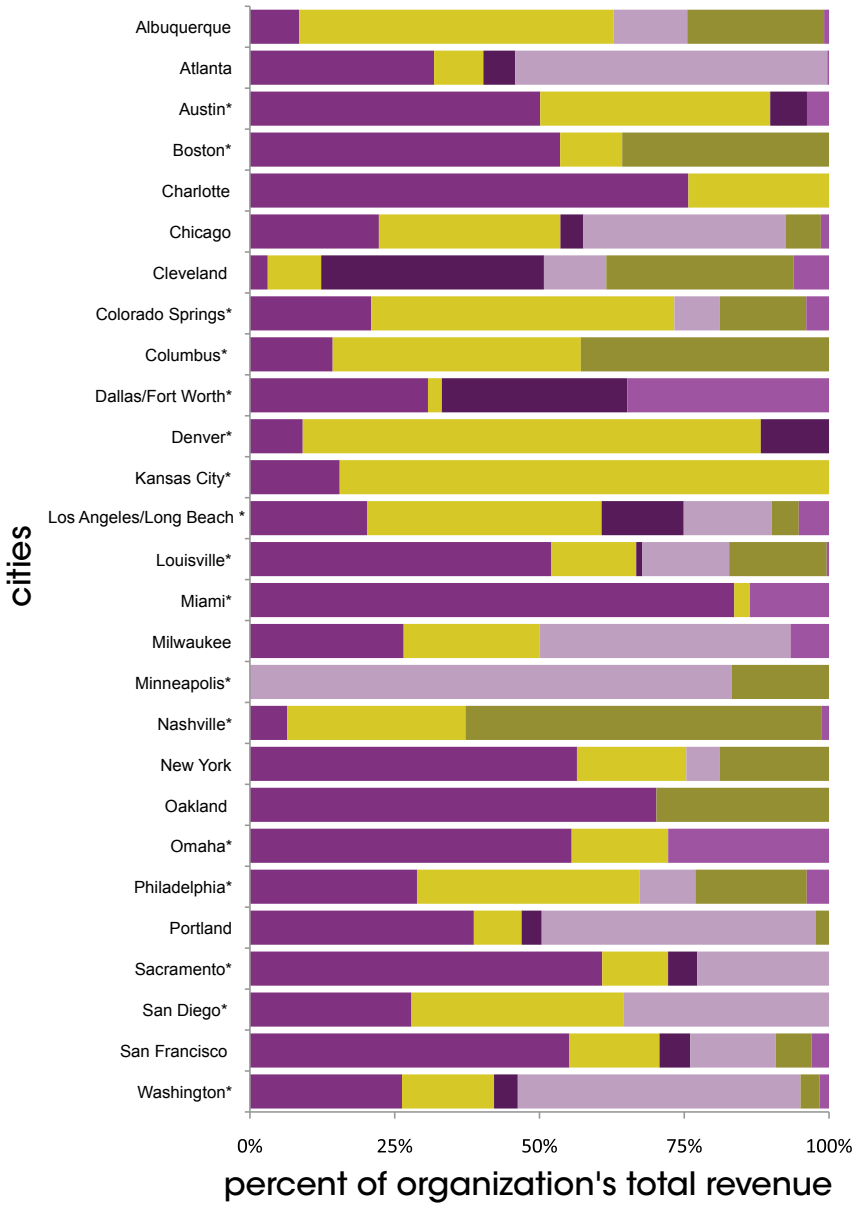


Revenue of statewide advocacy organizations fluctuates in recent years.

Roughly half of statewide Alliance advocacy organizations report a growth in revenue between 2006 and 2008. The other half report either no growth or a decline in revenue. Oregon has seen the greatest increase in per capita revenue between 2006 and 2008—nearly 16 cents per person.

Source: Organization surveys 2008/2009 **Notes:** Graph considers only Alliance organizations serving states. As of January 2009, the following states were not served by a dedicated statewide Alliance advocacy organization: Wyoming, Tennessee, Pennsylvania, North Dakota, North Carolina, Montana, Nebraska, Nevada, Kansas, Louisiana, Idaho, Delaware, Connecticut, and Alaska. The following states are served by a statewide Alliance advocacy organization who did not provide information on organization revenue: New Mexico, Michigan, Maryland, Kentucky, Indiana, California, and Georgia; Michigan only 2006 info, Rhode Island, New Jersey 2, and New Jersey 1 2008 only. Indiana 2008 figure is based on 2007 revenue because 2008 data were not available. States with numbers following indicate there is more than one statewide advocacy organization serving this state. To see the organization and study area matches, please reference Appendix 2, page 162.

Revenue Sources of Alliance Organizations Serving Cities



Source: Organization surveys 2008/2009 **Notes:** Graph considers only Alliance organizations serving one of the 51 largest cities. As of January 2009, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, Baltimore, Detroit, El Paso, Fresno, Honolulu, Indianapolis, Jacksonville, Las Vegas, Memphis, Mesa, Milwaukee, Oklahoma City, Phoenix, Portland, Raleigh, San Antonio, Tulsa, Tucson, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide this data: Houston, New Orleans, San Jose, and Seattle. Los Angeles/Long Beach and Dallas/Fort Worth are served by one organization and thus are combined on this graph.

of this report, measurements are limited to the capacity of Alliance member state and local bicycle and pedestrian advocacy organizations.

Revenue

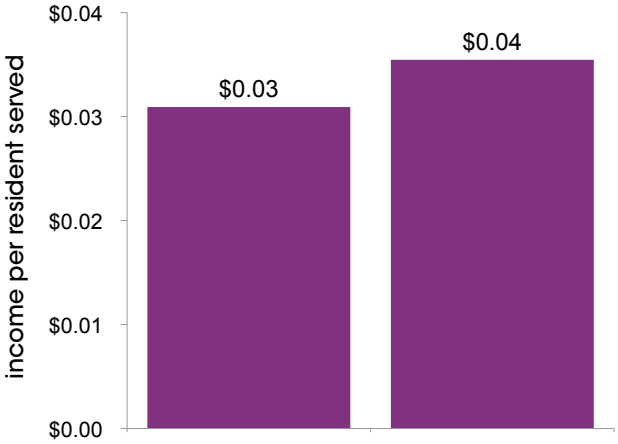
The Alliance for Biking & Walking asked its member organizations for their revenue sources from the most recent budget year. Data indicate that on average statewide advocacy organizations operate on three cents per capita. The state with the highest per capita income for an advocacy organization is Oregon with a budget of 36 cents per capita.

Organizations that represent cities have significantly higher incomes per capita. On average, organizations representing cities earn 20 cents per capita. Seattle ranks highest in per capita earnings of all cities surveyed at $1.50 per capita.

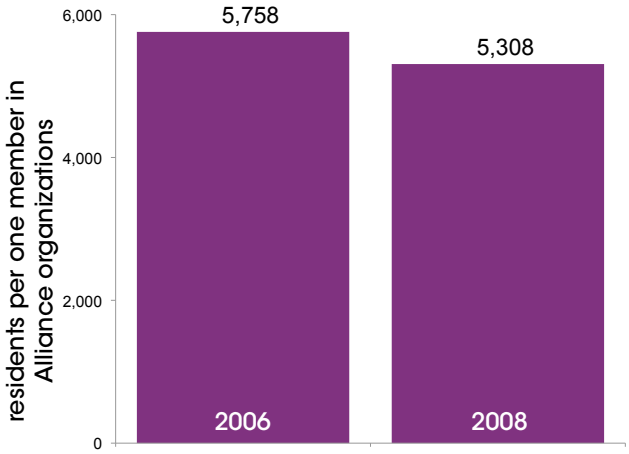
The range is wide among states and cities in part because some advocacy organizations are new and are being compared to longer-established organizations. Also, some organizations have full-time staff for fundraising while others are run by volunteers.

Both city and state organizations have diversified revenue mainly divided between memberships and donations, program fees and events, and government grants and contracts. Memberships

Per Capita Income of Alliance Advocacy Organizations



Number of Residents Per One Member in Alliance Advocacy Organizations

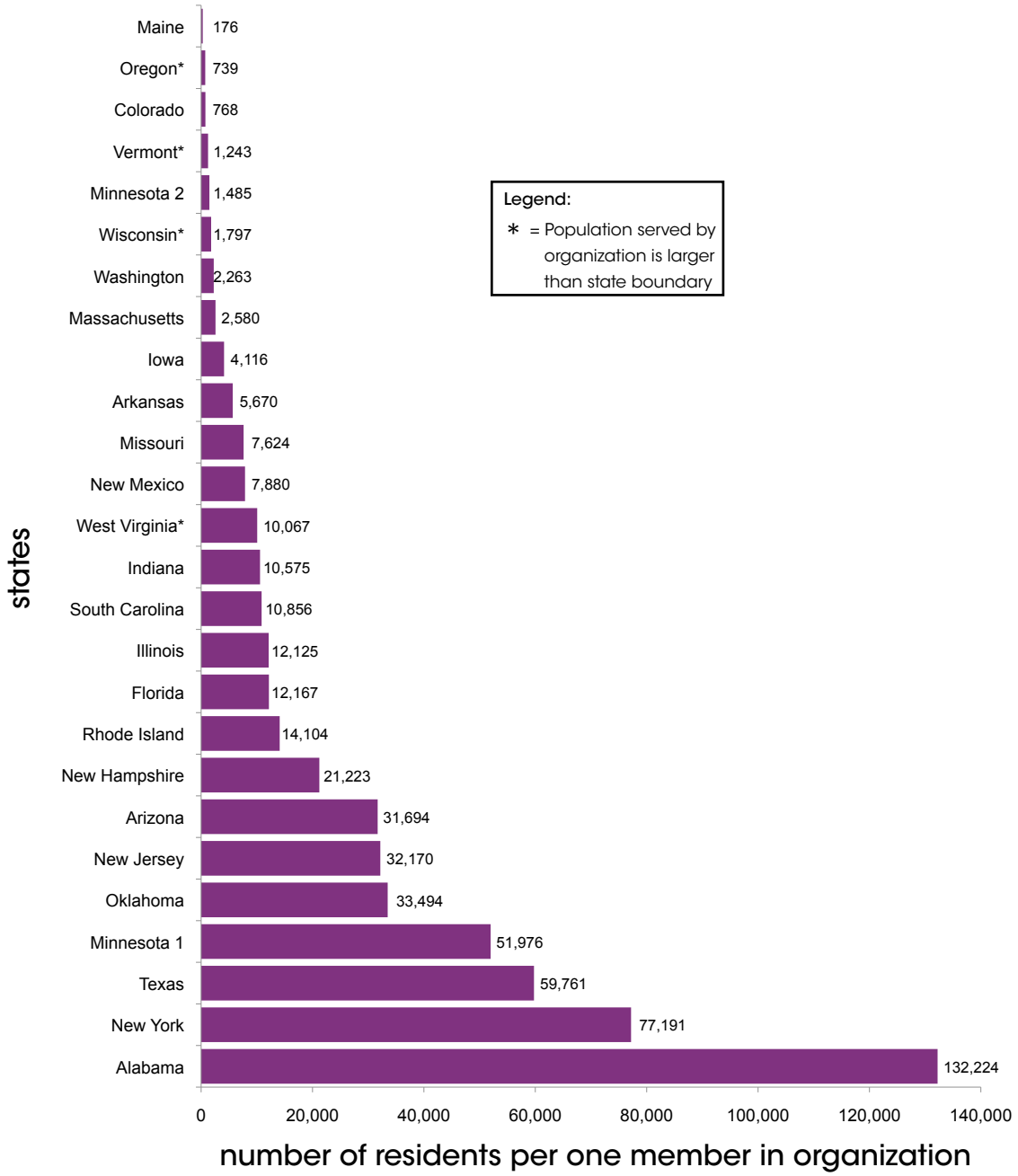


(Graphs this page) Source: Organization surveys 2008/2009
Note: Graphs consider only Alliance organizations serving states and one of the 51 study-area cities.

Transportation Alternatives mobilized New York City bicyclists into a powerful grassroots movement during the 2008 congestion pricing debate.

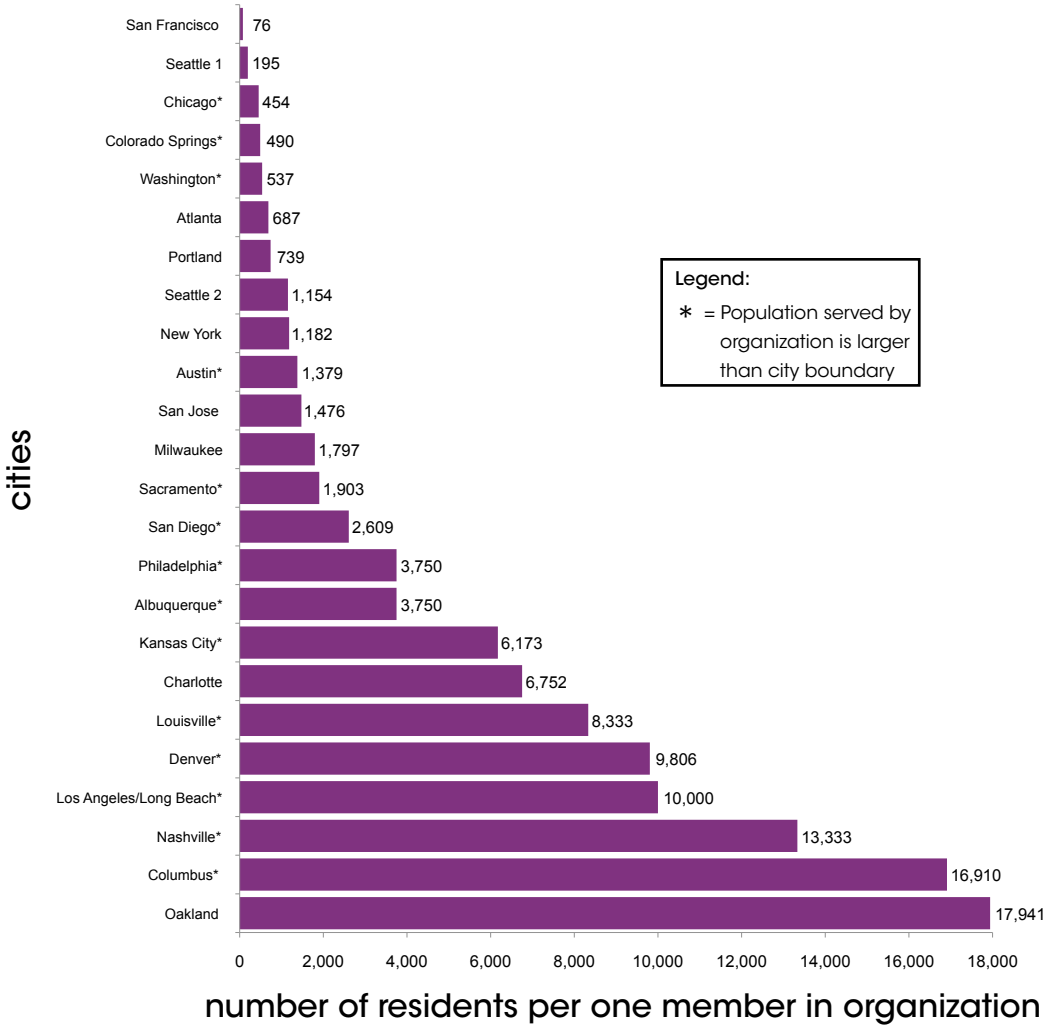
Photo courtesy of Transportation Alternatives

Number of Residents Per One Member in Statewide Alliance Organizations



Source: Organization surveys 2008/2009 **Notes:** This graph considers only Alliance organizations serving states; Mississippi, Ohio, Virginia, and South Dakota are not included because they have no members. As of January 2009, the following states were not served by a dedicated statewide Alliance advocacy organization: Wyoming, Tennessee, Pennsylvania, North Dakota, North Carolina, Montana, Nebraska, Nevada, Kansas, Louisiana, Idaho, Delaware, Connecticut, and Alaska. The following states are served by a statewide Alliance advocacy organization that did provide data on membership: Utah, Michigan, Maryland, Kentucky, California, and Georgia. States with numbers following indicate there is more than one statewide advocacy organization serving this state. To see the organization and study area matches, please reference Appendix 2, page 162.

Number of Residents Per One Member in Alliance Organizations Serving Cities



Source: Organization surveys 2008/2009 **Notes:** This graph considers only Alliance organizations serving one of the 51 largest cities. As of January 2009, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, Baltimore, Detroit, El Paso, Fresno, Honolulu, Indianapolis, Jacksonville, Las Vegas, Memphis, Mesa, Milwaukee, Oklahoma City, Phoenix, Portland, Raleigh, San Antonio, Tulsa, Tucson, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide data: Houston, New Orleans, and Cleveland. Omaha, New Orleans, and Boston are not listed here because they had 0 members in 2008. New Orleans noted that they have not collected membership since Katrina but were beginning to in November 2008. Cities with numbers following indicate there is more than one advocacy organization serving this city. To see the organization and study area matches, please reference Appendix 2, page 162.

San Francisco has the highest per capita membership of advocacy organizations serving cities, with one member for every 76 residents. Seattle and Chicago follow with one member for every 195 and 454 residents, respectively.

Local Alliance organizations average one member for every 1,549 residents.

Capacity of Statewide Alliance Organizations

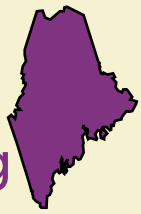
State	Population served		Annual per capita income			Staff per 1 million people	Membership	
	Larger than state boundary?	Total pop. served	2006	2007	2008		# of members	Residents per one member
Alabama	no	4,627,851	$0.004	$0.003	$0.001	0.0	35	132,224
Arizona	no	6,338,755	$0.001	$0.001	$0.002	0.0	200	31,694
Arkansas	no	2,834,797	$0.000	$0.003	$0.003	0.0	500	5,670
Colorado	no	4,861,515	$0.049	$0.064	$0.113	1.5	7,018	693
Florida	no	18,251,243	$0.017	$0.010	$0.008	0.1	1,500	12,167
Hawaii	yes	1,283,388	$0.320	$0.410	$0.070	1.5	310	4,140
Illinois	no	12,852,548	$0.014	$0.019	$0.024	0.2	1,060	12,125
Indiana	no	6,345,289	*	$0.015	*	0.2	600	10,575
Iowa	no	2,988,047	$0.008	$0.017	$0.008	0.8	726	4,116
Maine	no	1,317,207	$0.334	$0.338	$0.330	2.7	7,500	176
Massachusetts	no	6,449,755	$0.026	$0.024	$0.025	0.4	2,500	2,580
Michigan	no	10,071,822	$0.029	$0.033	*	0.2	*	*
Minnesota 1	no	5,197,621	$0.000	$0.000	$0.012	0.2	100	51,976
Minnesota 2	no	5,197,621	*	$0.144	$0.144	1.3	3500	1,485
Mississippi	no	2,918,785	$0.001	$0.001	$0.002	0.2	0	ø
Missouri	no	5,878,415	$0.007	$0.011	$0.014	0.1	771	7,624
New Hampshire	no	1,315,828	$0.003	$0.005	$0.006	1.1	62	21,223
New Jersey 1	no	8,685,920	*	$0.000	$0.001	0.0	270	32,170
New Jersey 2	no	8,685,920	*	$0.000	$0.000	0.0	0	ø
New Mexico	no	1,969,915	*	*	*	0.0	250	7,880
New York	no	19,297,729	$0.000	$0.004	$0.004	0.1	250	77,191
Ohio 1	no	11,466,917	$0.000	$0.000	$0.000	0.0	0	ø
Ohio 2	no	11,466,917	$0.000	$0.000	$0.000	0.0	210	54,604
Oklahoma	no	3,617,316	$0.000	$0.001	$0.001	0.0	108	33,494
Oregon	yes	3,700,000	$0.257	$0.332	$0.358	4.3	5,073	739
Rhode Island	no	1,057,832	*	*	$0.023	0.0	75	14,104
South Carolina	no	4,407,709	$0.011	$0.012	$0.014	0.2	406	10,856
South Dakota	no	796,215	$0.000	$0.001	$0.000	0.0	0	ø
Texas	no	23,904,380	$0.037	$0.037	$0.024	0.3	400	59,761
Utah	no	2,645,330	$0.011	$0.001	$0.006	0.0	*	*
Vermont	yes	600,000	$0.178	$0.097	$0.098	0.0	500	1,243
Virginia 1	no	7,712,091	$0.070	$0.139	$0.100	0.6	*	*
Virginia 2	no	7,712,091	$0.001	$0.001	$0.001	0.0	115	67,062
Washington	no	6,468,424	$0.084	$0.104	$0.112	0.6	2,858	2,263
West Virginia	yes	1,812,035	$0.002	$0.002	$0.002	0.0	180	10,067
Wisconsin	yes	5,601,640	$0.056	$0.075	$0.101	1.2	3,117	1,797
Mean/Average (1)	no	6,398,302	$0.028	$0.032	$0.034	0.3	1,218	5,222
Median	ø	5,197,621	$0.010	$0.011	$0.008	0.2	310	10,067
High	ø	23,904,380	$0.334	$0.338	$0.358	4.3	7,500	132,224
Low	ø	600,000	$0.000	$0.000	$0.000	0	0	176

Legend:
* = Officials could not access data
ø = Not applicable
= High value = Low value

Source: Organization surveys 2008/2009 **Notes:** As of January 2009, the following states were not served by a dedicated statewide Alliance advocacy organization: Wyoming, Tennessee, Pennsylvania, North Dakota, North Carolina, Montana, Nebraska, Nevada, Kansas, Louisiana, Idaho, Delaware, Connecticut, and Alaska. The following states are served by a statewide Alliance advocacy organization that did not complete an organization survey: Maryland, Kentucky, California, and Georgia. States with numbers following indicate there is more than one statewide advocacy organization serving this state. To see the organization and study area matches, please reference Appendix 2, page 162. (1) All averages are weighted by population except for population served and # of members.

CLOSER LOOK

Bicycle Coalition of Maine: Statewide Powerhouse for Bicycling



by Allison Vogt, Executive Director, Bicycle Coalition of Maine

The Bicycle Coalition of Maine is the strongest statewide advocacy organization based on a number of capacity measurements including membership and revenue. Allison Vogt of the Bicycle Coalition of Maine explains the philosophy behind their success.

The Bicycle Coalition of Maine's success in maintaining a strong and vibrant membership is rooted in our 17-year history of making Maine a better place to bicycle through a collaborative spirit and broad-based grassroots network.

Our membership represents the full spectrum of bicyclists in Maine; whether they bicycle for transportation, sport or just plain fun our members know that the Bicycle Coalition represents their interests.

We take the word "Coalition" in our name very literally and encourage and enable our members to work in their own local communities as part of our movement for better bicycling in Maine. Our strong member network, in combination with a strong presence at the state legislature and transportation agencies, is a proven formula for better bicycling in Maine.

A few of the Bicycle Coalition of Maine members and volunteers in "Team BCM" on the Trek Across Maine.

Photo courtesy of Bicycle Coalition of Maine

Bicycle Coalition of Maine has one member for every 176 Maine residents, more members per capita than any other statewide advocacy organization.

Capacity of Alliance Organizations Serving Cities

City	Population served		Annual per capita income			Staff per 1 million people	Membership	
	Larger than city boundary?	Total pop. served	2006	2007	2008		# of members	Residents per 1 member
Albuquerque	yes	750,000	*	$0.04	$0.05	0.1	200	3,750
Atlanta	no	432,511	$0.69	$0.48	$0.30	4.6	630	687
Austin	yes	2,000,000	$0.04	$0.05	$0.05	0.3	1,450	1,379
Boston	yes	800,000	$0.01	$0.02	$0.01	0.4	0	ø
Charlotte	no	675,229	$0.00	$0.01	$0.01	1.5	100	6,752
Chicago	yes	8,000,000	$0.28	$0.39	$0.43	3.0	6,023	455
Cleveland	no	395,310	$0.08	$0.23	$0.17	3.0	0	ø
Colorado Springs	yes	600,000	$0.04	$0.38	$0.45	4.4	1,224	490
Columbus	yes	732,974	$0.00	$0.06	$0.06	0.5	100	7,330
Denver	yes	588,349	$0.00	$0.02	$0.03	0.0	60	9,806
Dallas/ Fort Worth	yes	6,328,200	$0.00	$0.00	$0.00	0.0	48	131,838
Kansas City, MO	yes	2,000,000	*	*	$0.01	*	324	6,173
Los Angeles/Long Beach	yes	10,000,000	$0.02	$0.02	$0.03	0.3	1,000	10,000
Louisville	yes	1,000,000	$0.03	$0.07	$0.07	1.6	120	8,333
Miami	yes	2,400,000	$0.00	$0.00	$0.00	0.0	8	300,000
Milwaukee	yes	5,601,640	$0.06	$0.08	$0.10	1.3	3117	1,797
Minneapolis	no	271,203	$0.43	$0.77	$1.06	9.8	0	ø
Nashville	yes	1,000,000	$0.03	$0.05	$0.08	1.3	75	13,333
New Orleans	yes	728,452	*	*	*	0.0	0(1)	ø
New York	no	8,274,527	$0.21	$0.23	$0.24	1.8	7,000	1,182
Oakland	no	358,829	$0.00	$0.00	$0.01	0.0	20	17,941
Omaha	yes	500,000	$0.00	$0.00	$0.00	0.0	0	ø
Philadelphia	yes	4,500,000	$0.05	$0.06	$0.12	0.7	1,200	3,750
Portland	yes	3,700,000	$0.26	$0.33	$0.37	4.3	5,073	739
Sacramento	yes	2,304,411	$0.03	$0.04	$0.04	0.6	1,211	1,903
San Diego	yes	3,000,000	$0.01	$0.01	$0.03	0.3	1,150	2,609
San Francisco	no	764,976	$0.74	$0.97	$1.35	10.5	10,000	76
San Jose	yes	922,389	*	$0.22	$0.24	2.2	625	1,476
Seattle 1	yes	1,859,284	$1.22	$1.42	$1.50	5.4	9,500	196
Seattle 2	no	577,231	*	*	$0.43	8.7	500	1,154
Washington	yes	3,759,000	$0.15	$0.17	$0.20	1.4	7,000	537
Washington, DC	yes	3,759,000	$0.15	$0.17	$0.20	1.4	7,000	537
Mean/Average (2)	yes	2,413,694	$0.14	$0.18	$0.20	1.9	1,863	1,283
Median	ø	1,000,000	$0.04	$0.06	$0.08	1.3	500	2,256
High	ø	10,000,000	$1.22	$1.42	$1.50	10.5	10,000	300,000
Low	ø	271,203	$0.00	$0.00	$0.00	0	0	76

Legend:
* = Officials could not access data
ø = Not applicable
= High value
= Low value

Source: Organization surveys 2008/2009 **Notes:** As of January 2009, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, Baltimore, Detroit, El Paso, Fresno, Honolulu, Indianapolis, Jacksonville, Las Vegas, Memphis, Mesa, Milwaukee, Oklahoma City, Phoenix, Portland, Raleigh, San Antonio, Tulsa, Tucson, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide this data: Houston, New Orleans, and Cleveland. Seattle has more than one advocacy organization serving this state. To see the organization and study area matches, please reference Appendix 2, page 162. (1) Memberships have not been collected since Hurricane Katrina in 2005. A new membership drive began in August 2008. (2) All averages are weighted by population except for population served and # of members.

CLOSER LOOK

San Francisco Bicycle Coalition: 10,000 Members Strong

by Teri Gardiner and Kate McCarthy, San Francisco Bicycle Coalition

The San Francisco Bicycle Coalition (SFBC) has one member for every 76 residents, more members per capita than any other grassroots bicycling and walking advocacy organization. SFBC's Teri Gardiner and Kate McCarthy explain why.

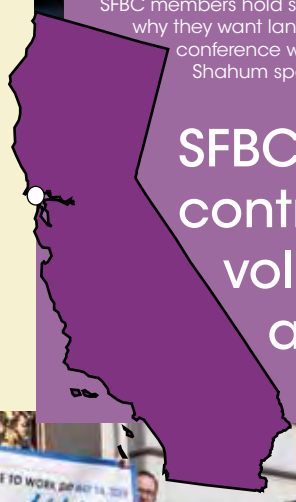
The San Francisco Bicycle Coalition understands that a relationship with a member starts long before they sign on the dotted line. Whenever we offer a free service, we also make a pitch for membership. Whether it is through our free valet bike parking, coffee on Bike to Work Day or our "Service Stations," where trained outreach volunteers offer a free service like pumping air for tires to evening bike commuters.

We regularly check in with our members with a comprehensive membership survey which helps us gauge whether we are informing them enough on the work we do, ensuring our campaigns are still relevant, and making sure they see the value of our work.

Our members are everything to us! We literally could not be doing our work without members; they donate more than 10,000 hours of volunteer time each year and 60% of our budget comes from our members.

Photo courtesy of Kate McCarthy

SFBC members hold signs telling city officials where and why they want lanes at 2009 Bike to Work Day press conference while Executive Director Leah Shahum speaks to the media.



SFBC's members contribute 10,000 volunteer hours annually.

Photo courtesy of Frank Chan, San Francisco Bicycle Coalition

and donations make up slightly more than a quarter of organizations' budgets on average, though this category is the primary revenue source for many smaller organizations with budgets under $100,000 a year.

Membership

Membership of advocacy organizations was another capacity factor surveyed. Statewide organizations averaged one member per 5,222 people. Maine has the highest rate of members to population with one member for every 176 Maine residents. Organizations serving cities have higher membership rates averaging one member per 1,283 residents. San Francisco has the highest membership rate with one member for every 76 residents. Seattle and Chicago rank second and third with one member for every 196 and 455, respectively.

7: Influencing Bicycling and Walking

Photo by Adrian Short

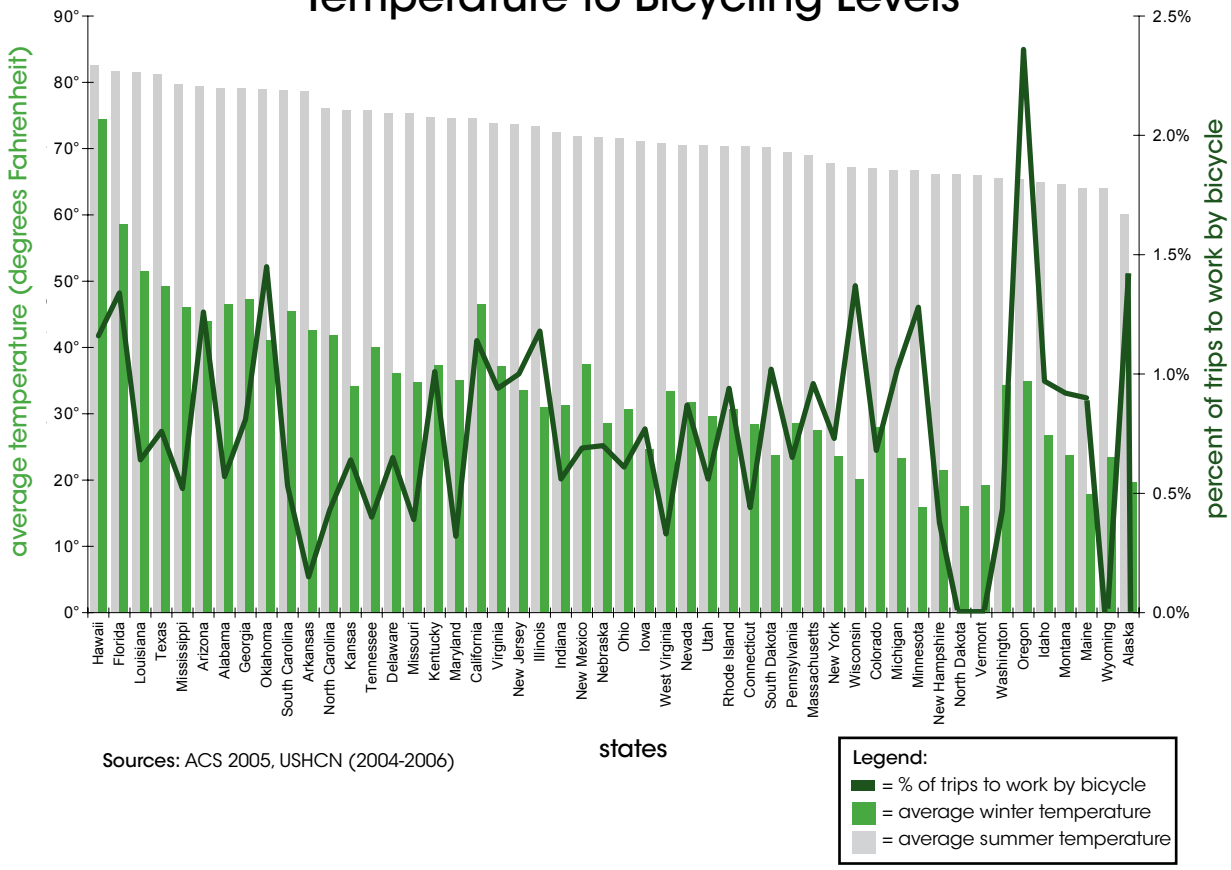
Studies show that a number of factors contribute to the choice to bicycle or walk. These include environmental influences such as weather, density, mix of uses, and infrastructure; socioeconomic and demographic factors such as age, gender, and car ownership; and other factors including education and existing levels of bicycling and walking. This chapter looks at a few potential relationships using data from previous chapters and additional data from the Census and American Community Survey. Also included is a closer look at Alaska, the state with the highest walking levels, and Portland, the city with the highest bicycling levels. These two examples demonstrate the complexity of factors that likely determine how many people bicycle and walk.

Environmental Influences

Weather

Does weather influence the choice to bicycle? The Alliance compared average summer and winter temperatures to bicycle share of work trips in 50 states and did not find any compelling evidence that weather is a major influence. Montana and Alaska, for example, are

Comparing Average Summer and Winter Temperature to Bicycling Levels



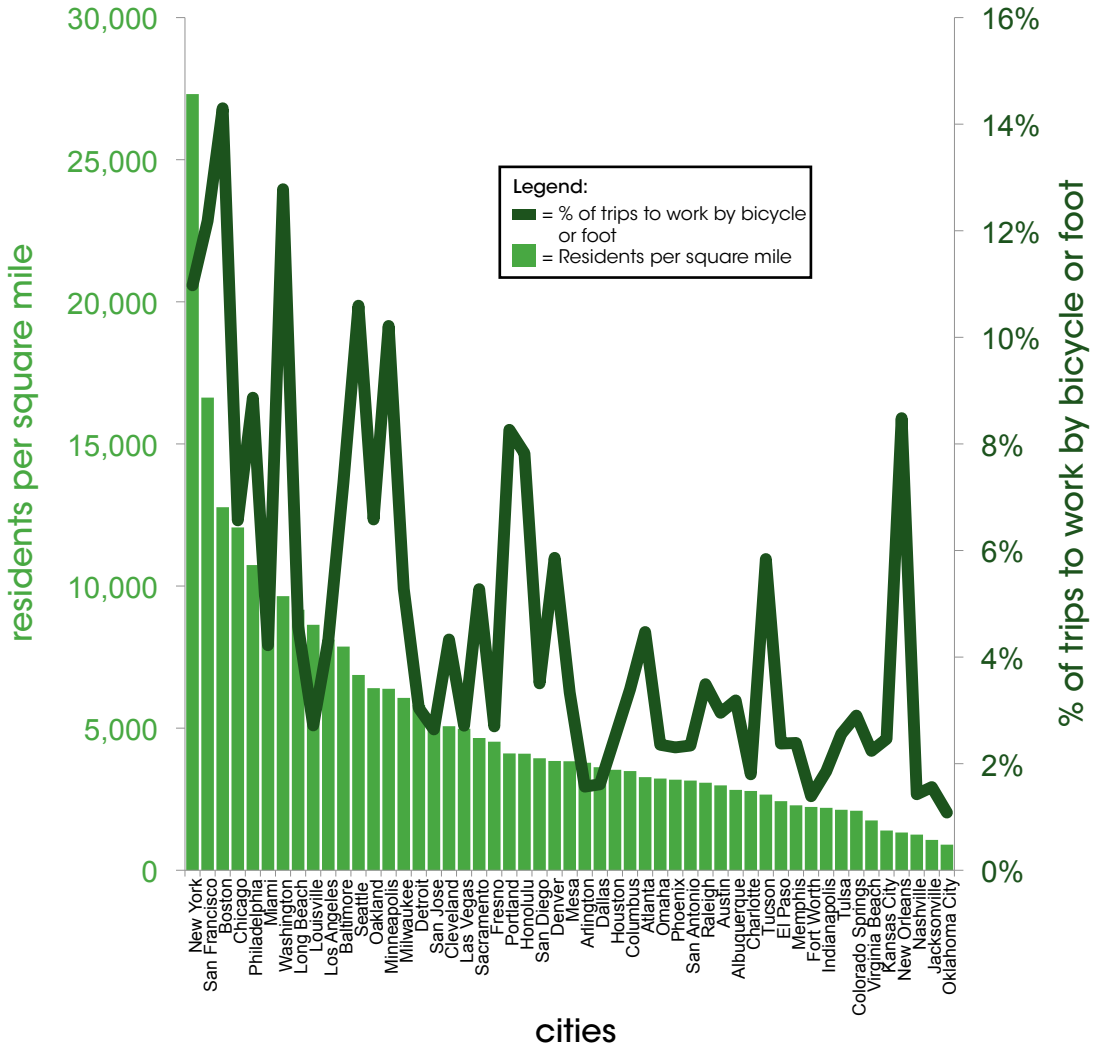
Sources: ACS 2005, USHCN (2004-2006)

among states with the coldest temperatures, yet are also among the states with the highest levels of bicycling. The lack of statistically significant evidence of weather's impact on bicycling levels has been noted in other studies (Pucher and Buehler, 2006) pointing out much higher rates of bicycling in countries such as Canada, with lower average year-round temperatures than in the U.S. It seems likely that excessive cold, heat, and rainfall do indeed deter bicycling to some unknown extent, especially among less dedicated bicyclists. According to a poll by the San Francisco Bicycle Coalition for their Report Card on Bicycling, 11% of respondents said that weather kept them from bicycling more than they do (down from 15% of respondents in 2006, two years earlier). Concerns about bicycle theft, safety, and lack of carrying capacity were the other top reasons cited for not bicycling more.

Density

To examine the role of density in the choice to bicycle or walk in the U.S., the Benchmarking Project team compared residential density (persons/square mile) to the combined bicycling and walking to

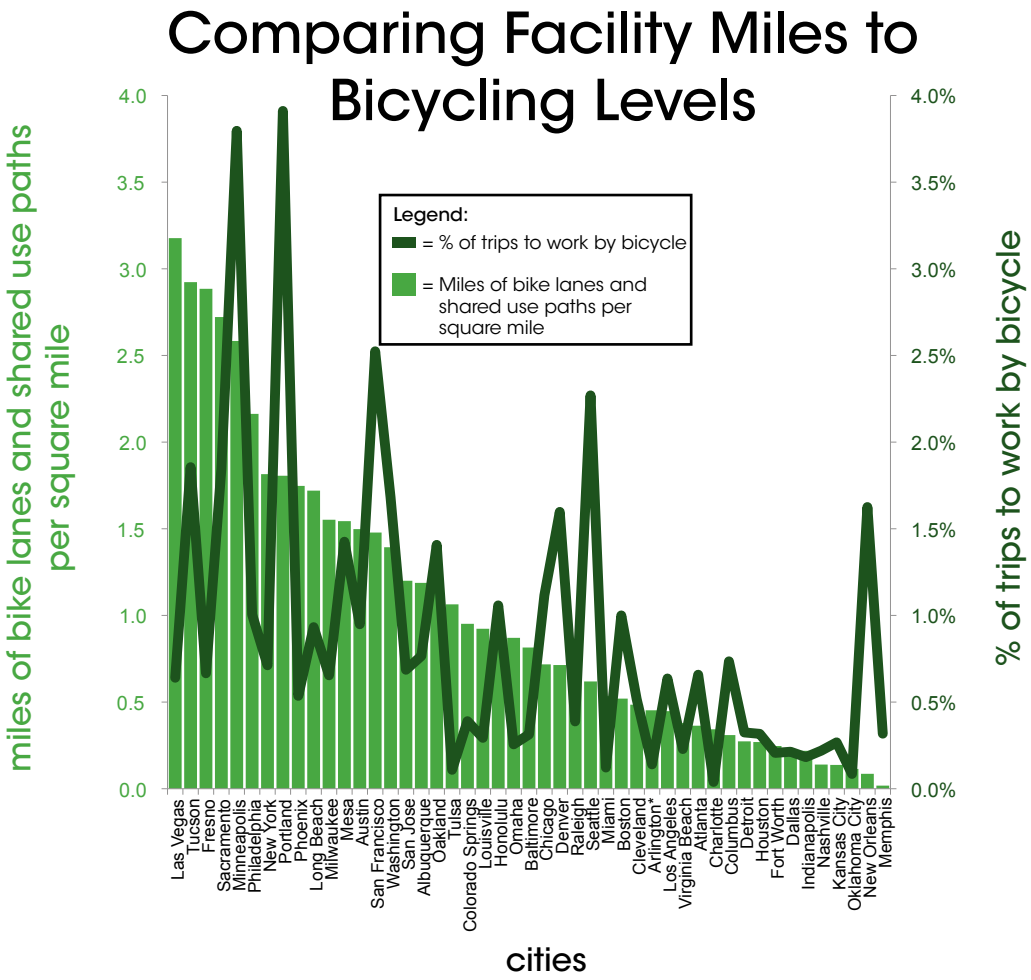
Residential Density and Bicycling and Walking Levels in Major U.S. Cities



Source: ACS 2007
r = 0.67

Cites with the most residents per square mile have higher levels of bicycling and walking, on average, than less dense cities. Boston, Washington, DC, San Francisco, and New York, the cities with the highest combined rates of bicycling and walking, are also among the top seven densest cities. The least dense cities, including Oklahoma City, Jacksonville, Nashville, and Kansas City, are among the cities with the lowest levels of bicycling and walking.

Denser cities have higher rates of bicycling and walking.



Sources: ACS 2007, City surveys 2008/2009 **Note:** Albuquerque and Sacramento facility data are based on 2007 figures because 2008 data were not reported. Data unavailable for San Antonio, San Diego, El Paso, and Jacksonville. * = Arlington figure represents bike lanes only. $r = 0.48$.

work mode share in major cities. Data indicate that denser cities have higher levels of bicycling and walking on average than less dense cities. The five cities with the highest combined levels of bicycling and walking are also among the top seven densest cities. This finding is in line with other studies (Pucher and Buehler, 2006) that suggest a correlation between density and bicycling and walking. Dense communities have shorter trip distances, which can thus be more easily covered by walking or bicycling.

Walking and Bicycle Facilities

The extent and quality of bicycle and pedestrian facilities almost certainly affect levels of bicycling and walking (Pucher et al., 2010), but the available data are limited and do not indicate an obvious rela-

tionship. Because there is no standard reporting requirement for government agencies to track bicycle and pedestrian facilities, many do not have accurate records. Also, the quality and accessibility of facilities are difficult to measure and may vary greatly from place to place. For example, a 12-foot-wide multi-use path on a major city bridge may be much more important for increasing bicycling and walking than a 4-foot-wide path through a small neighborhood. U.S. bicycle advocates commonly look to places like the Netherlands where cities have invested heavily in infrastructure for bicycling. These investments (including bike lanes, separated paths, and specialized signals and traffic signs for bicyclists) may contribute to a bicycling mode share that reaches between 30 to 50% in many Dutch cities (Pucher and Buehler, 2007 and 2008). This report compared miles of bicycle facilities per square mile to levels of bicycling in cities. Results suggest there may be a relationship between facilities and mode share. Although it is not true in every case, the general trend is that cities with higher levels of bicycling have more bicycle facilities per square mile than cities with lower bicycling levels

Socioeconomics and Demographics

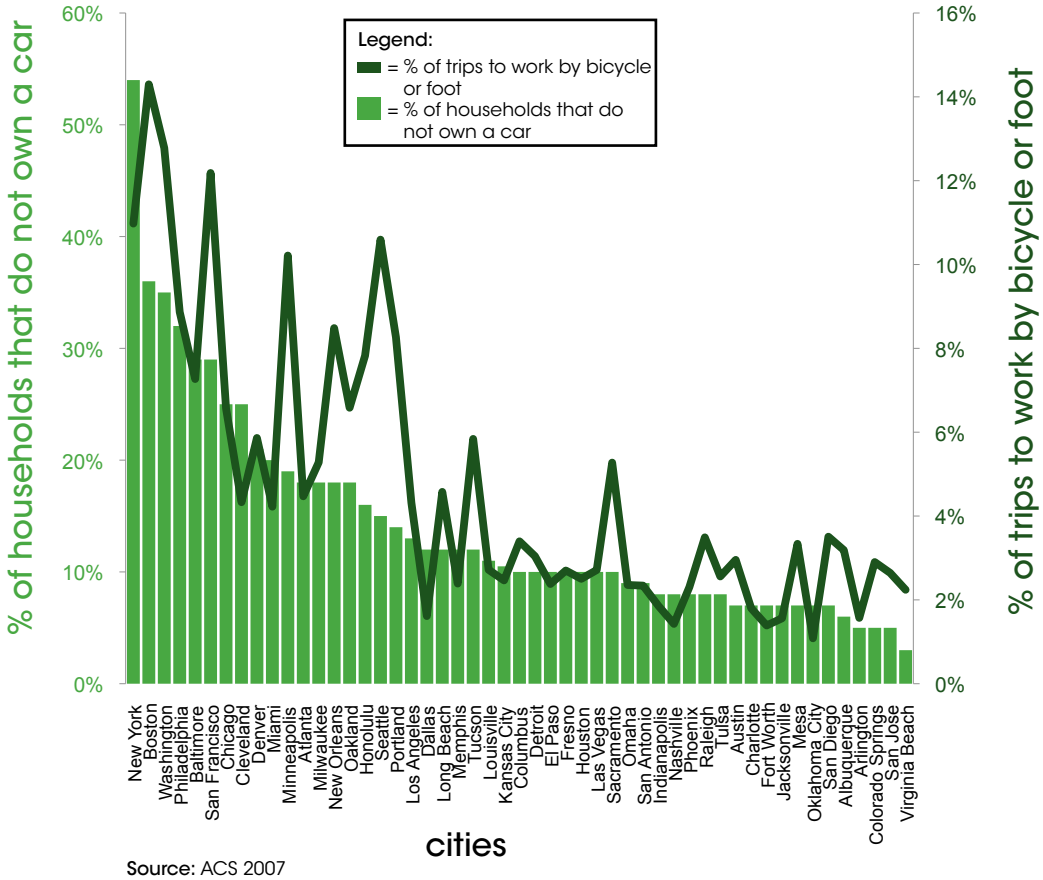
Income

Income could play a role in the decision to bicycle or walk. As graphs in Chapters 3 show, bicycling levels are fairly even among various income groups while the majority of pedestrians earn less than $35,000 a year. Among states, 30 to 60% of people who walk to work earn less than $15,000 a year. More than 2/3 of people who walk to work nationwide earn less than $35,000 a year. Although income may play a role in the decision to walk to work for some people, among states with higher levels of walking, such as New York, income levels are more evenly distributed among pedestrians. This suggests that income is not an important factor in the decision to walk in dense transit-oriented cities.

Car Ownership

Owning a car is definitely related to levels of walking and bicycling. According to the 2007 ACS, cities with the highest levels of bicycling and walking have the lowest car ownership rates. Although the statistical relationship is strong ($r = 0.81$), the causation might run in both directions. Those who walk or bicycle a lot are less likely to need or want a car. And those who do not own a car are more likely

Comparing Car Ownership to Bicycling and Walking Levels



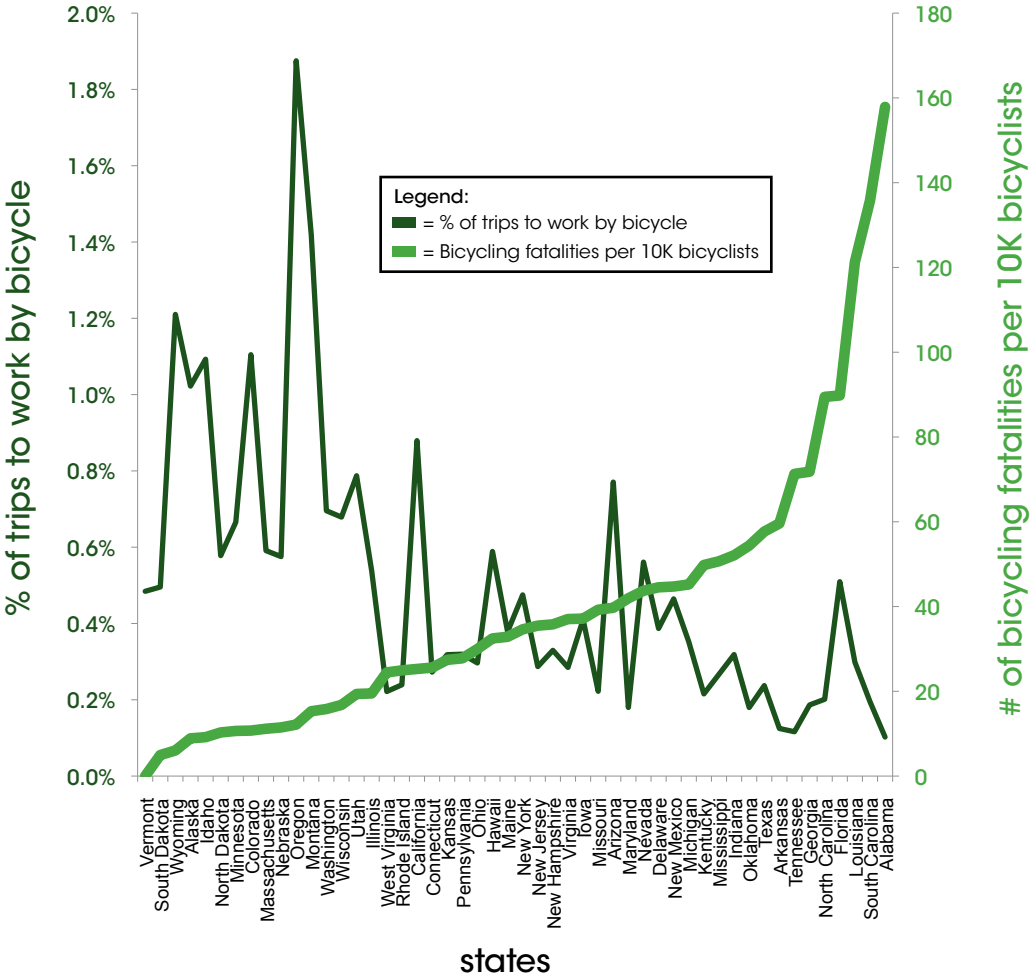
Source: ACS 2007
r = 0.81

to need to walk or bicycle for some trips. In any case, it is clear that high levels of car ownership are strongly related to low levels of walking and bicycling.

Levels of Bicycling, Walking, and Safety

To see how levels of bicycling and walking affect safety, the project team compared fatality data reported by cities to ACS 2007 bicycle and pedestrian mode share (trips to work). Results were consistent with previous research (Jacobsen, 2003) indicating a negative correlation between levels of bicycling and walking and fatality rates. Cities with the highest levels of bicycling generally have lower bicycle fatality rates. Cities with the highest rates of pedestrian fatalities are also among those with the lowest levels of walking. A possible

Relationship between Bicycle Fatalities and Bicycling Levels

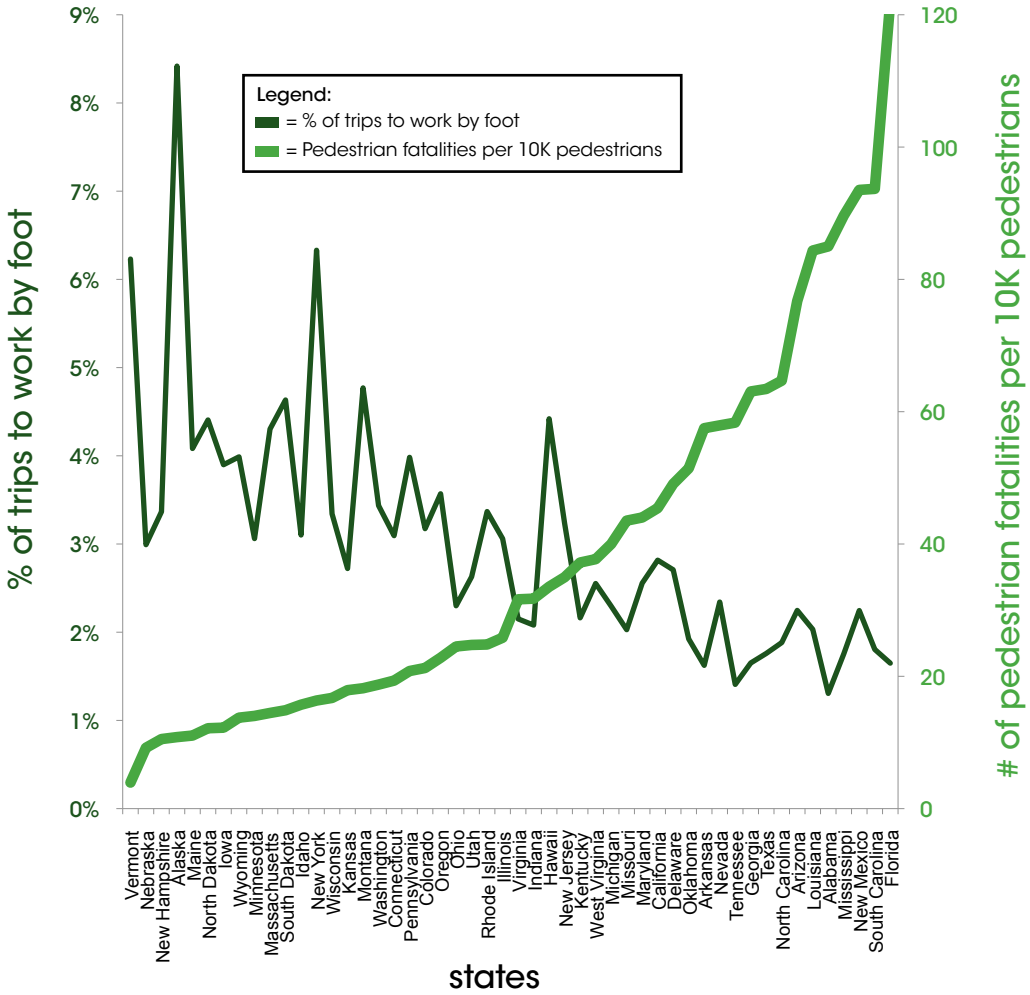


Sources: ACS 2007, FARS 2005-2007 **Notes:** Bicyclist fatality rate was calculated as the 3-yr average number of bicyclist fatalities (2005-2007) divided by the population times the bike to work share (to adjust for exposure). Because of the approximate nature of the exposure data and great fluctuations in fatality data from year to year, this rate should be seen as a rough estimate and not the literal number of fatalities per 10,000 bicyclists.
$r = -0.52$

Many studies show that bicycling safety increases greatly as bicycling levels rise (Jacobsen, 2003). For this illustration, bike to work mode share from ACS 2007 was compared to FARS bicycle fatality data (using a 3-year average number of fatalities). To figure the fatality rate, the project team divided the average number of bicyclist fatalities per year by the bike to work mode share times the population (to more accurately determine exposure levels). The result is a negative correlation ($r = -0.52$) that suggests greater bicycling levels may mean increased safety for bicyclists.

Bicycle safety increases with levels of bicycling.

Relationship between Pedestrian Fatalities and Walking Levels

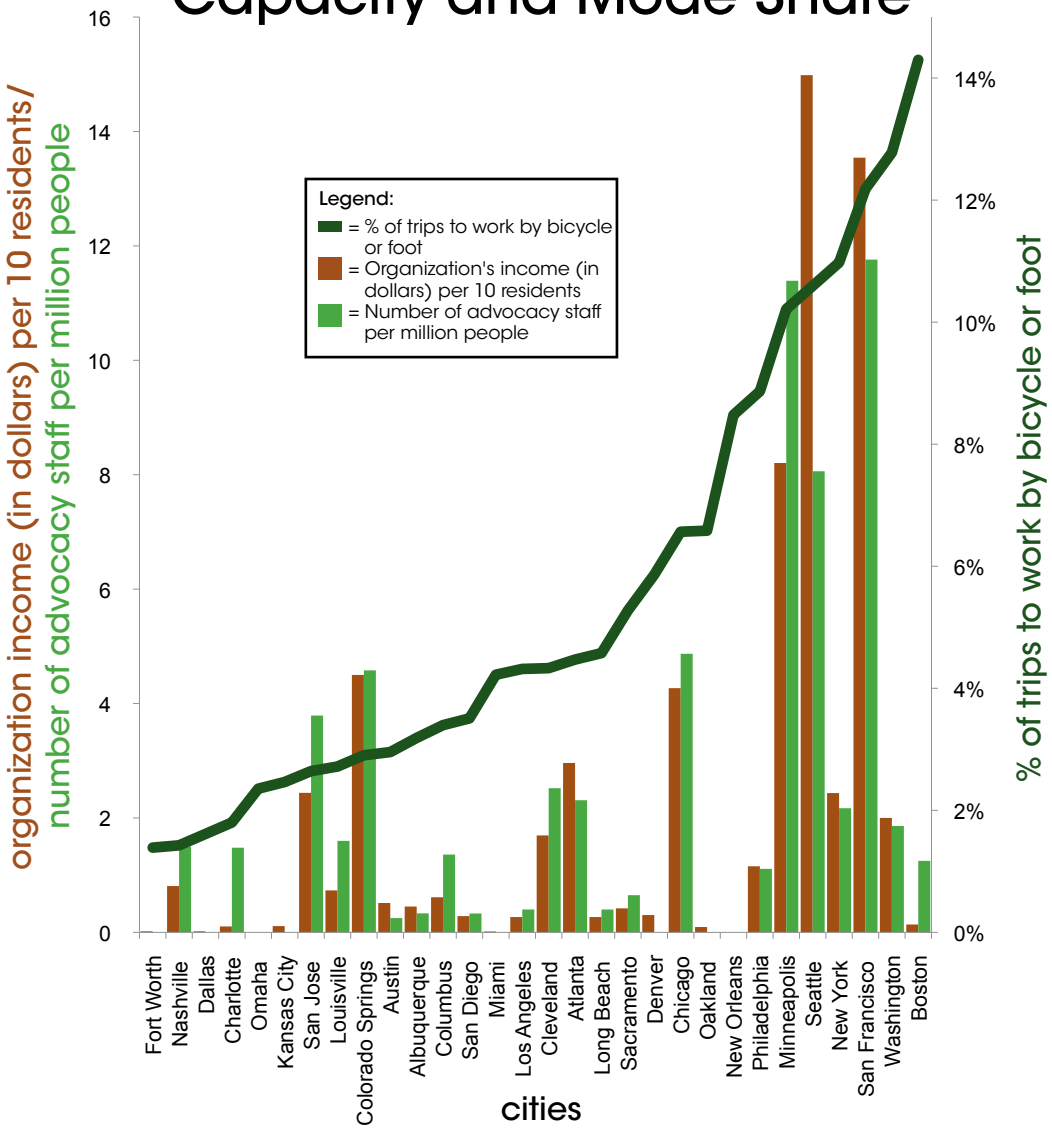


Sources: ACS 2007, FARS 2005-2007 **Notes:** Pedestrian fatality rate was calculated as the 3-yr average number of pedestrian fatalities (2005-2007) divided by the population times the walk to work share (to adjust for exposure). Because of the approximate nature of the exposure data and great fluctuations in fatality data from year to year, this rate should be seen as a rough estimate and not the literal number of fatalities per 10,000 pedestrians.
$r = -0.65$

Higher levels of walking contribute to pedestrian safety.

States with higher levels of walking have lower rates of pedestrian fatalities. For this illustration, pedestrian worker mode share from the ACS was compared to FARS data on pedestrian fatalities. To figure fatality rate, the project team divided the average number of pedestrian fatalities per year by the walk to work mode share times the population (to more accurately determine exposure levels). The result is a negative correlation ($r = -0.65$) that suggests greater walking levels may mean increased safety for pedestrians.

Relationship between Advocacy Capacity and Mode Share



Sources: ACS 2007, Organization surveys 2008/2009
$r = 0.52$ (organization income per 10 residents/bike + walk levels) $r = 0.47$ (organization staffing per million residents/bike + walk levels)

The Alliance compared the combined levels of bicycling and walking to work form the ACS 2007 to standardized income and staffing levels of Alliance organizations serving these cities. Positive correlations ($r = 0.52$ and $r = 0.47$) suggest that a relationship may exist between advocacy capacity and levels of bicycling and walking.

Advocacy capacity may be linked to higher levels of bicycling and walking.

explanation could be that in places where more bicyclists and pedestrians are present, motorists are more used to sharing the roadways with bicyclists and are more aware of pedestrians at crossings. Environmental factors that contribute to increased bicycling and walking (such as signed routes, bike lanes, and sidewalks) may also contribute to increased safety.

Advocacy and Education

Advocacy's Impact

Chapter 6 discussed the challenges presented by attempting to quantify advocacy. Every bicycle and pedestrian advocacy organization is different in structure and operations. A number of the organizations surveyed have been around for a decade or more, while others are only one to two years old. Some organizations are volunteer-run, while others have teams of full-time staff.

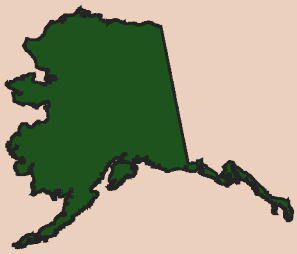
This report compared per capita income (organization revenue/ city population) and staffing levels of organizations to levels of bicycling and walking. Results indicate a positive correlation between levels of bicycling and walking to work and the standardized income ($r = 0.52$) and staffing levels ($r = 0.47$) of Alliance organizations. These are slightly weaker relationships than were present in the 2007 Benchmarking Report. This is likely due to the growth in advocacy organizations and the fact that newer organizations often have very low capacity. Although one cannot assume that advocacy capacity and bicycling and walking levels are causally related, comparing the two at least suggests that the presence of a strong advocacy organization can be an indicator of a city's bicycling and walking levels. Causation could go in either direction. Cities with higher bicycling and walking rates are likely to have more people supportive of advocacy, and cities with strong advocacy organizations are likely to experience growth in bicycling and walking.

Education's Impact

Another potential factor contributing to bicycling, walking, and safety is education. As demonstrated in Chapter 5, many advocacy organizations and government agencies sponsor education and encouragement efforts which may influence mode share and safety. Although some baseline data were collected for this report, there is still a severe deficiency in evaluation of these efforts. Because many cities and states could not provide data on participation levels, and many programs are brand new, it is difficult to explore potential relationships. The Benchmarking Project will continue to collect data on education and encouragement efforts and hopes to explore the relationship further in future benchmarking reports.

Looking to the Leaders

Case studies and closer looks at cities and states that have the highest bicycling and walking levels may help reveal what factors are most important. This report looks at two leaders—Alaska and Portland, OR—and explores what factors might influence their high levels of bicycling and walking. Both situations are very different and point to the potential complexity of factors that influence bicycling and walking.



CLOSER LOOK

Alaska's High Levels of Walking

by Bob Laurie, Bicycle/Pedestrian Coordinator, Alaska Department of Transportation

Alaska tops states for highest walk to work levels. But why? Many factors influence bicycling and walking levels, and while it is difficult to generalize about what factors are responsible for mode share levels in general, we can look at specific areas and determine what factors might be influencing bicycling and walking levels. In the case of Alaska, the high cost of owning and operating a car may be part of the answer. Bob Laurie, Bicycle/Pedestrian Coordinator with the Alaska Department of Transportation explored this issue and provides us with some interesting theories. The Alliance cautions that this analysis is not definitive and other factors such as size and density of towns, likely contribute to walking levels in Alaska. Further study would be necessary to validate any possible explanations presented here.

Background: Since 2005, the Alaska Division of Community and Regional Affairs has conducted a semi-annual survey of heating fuel and gasoline prices in 100 communities across the state. According to that survey, in July 2009 gas prices in Alaska ranged from $2.71/gal to $10.00/gal; the average (median) price in the 100 communities surveyed was $5.37/gal.

The U.S. Census Journey to Work survey asks a sample of respondents their "usual means" of getting to work the week previous to filling out the survey. The decennial Census information was targeted for collection the first week of April, asking the "usual means" for the last week of March. (In actuality, the survey week would vary but generally occur in late winter [for Alaska] or early spring.) We used the 2000 Census as it includes information for each community in Alaska. The American Community Survey, which includes the Journey to Work information (and is a year-round survey) has not collected enough samples yet to provide data beyond the largest few communities in the state.

The high costs of owning and operating a vehicle appears to be a prime factor in the high rates of walking in Alaska.

Pedestrians in Sitka, Alaska.

Photo Courtesy of South East Alaska Regional Health Consortium (SEARHC)

Summary: The high costs of owning and operating a vehicle appears to be a prime factor in the high rates of walking in Alaska. Generally, the higher the price of gasoline, the higher the rate of walking, as measured by the Census Journey to Work data. In addition, the communities with the highest rates of walking are *not* connected to the continental road system or have infrequent ferry service that does connect them. This means that the cost of acquiring a vehicle is much higher than found elsewhere. After a vehicle is purchased, there is the additional cost of delivering the vehicle by summer-only barge service.

Gas Prices: Data here suggest that the higher the price of gas in a community, the higher the rate of walking to work. This is illustrated in the two tables below. Eight of the eleven communities (that were

Communities with Highest Rates of Walking to Work

Community	Retail Gasoline price/gallon	% Walk to Work; 2000 Census	2000 Population	Continental Road System (C)/ Ferry (F)/ Bush (B) (1)
Chenega Bay	$7.34	94.1	86	F
Shishmaref	$7.39	79.3	562	B
Atqasuk	$4.10	74.2	228	B
Huslia	$5.95	72.7	293	B
Arctic Village	$10.00	72.3	152	B
Toksook Bay	$7.74	71.8	532	B
Wales	$7.73	69.0	152	B
Akutan	$3.25	67.4	713	F
Scammon Bay	$6.93	67.0	465	B
Kaltag	$4.75	66.7	230	B
Alatna	$7.00	66.7	35	B

Communities with Lowest Rates of Walking to Work

Community	Retail Gasoline price/gallon	% Walk to Work; 2000 Census	2000 Population	Continental Road System (C)/ Ferry (F)/ Bush (B) (1)
Wrangell	$3.44	9.7	2,308	F
Gustavus	$2.90	8.5	429	B
Juneau	$2.74	8.0	30,711	F
Healy	$3.08	6.7	1,000	C
Fairbanks	$2.94	6.4	30,224	C
Valdez	$3.37	6.3	4,036	C
Delta Junction	$3.16	6.3	840	C
Homer	$3.35	5.7	3,946	C
Anchorage*	$3.19	2.7	260,283	C
North Pole*	$3.51	2.5	1,570	C
Port Lions	$3.75	2.3	256	F

Sources: Alaska Division of Community and Regional Affairs Survey 2009, 2000 Census **Notes:** * = Gas prices collected in September, not part of DCRA survey. (1) Most of Alaska is not connected to North America's interconnected system of roadways. In this column C refers to towns connected to the Continental Road System (CRS). F refers to towns not connected to the CRS but connected by the Alaska State Marine Highway Ferries. B refers to towns connected to neither the CRS nor by ferry.

surveyed by DCRA) that have the highest rates of walking have gas prices above the state average of $5.37/gal; all 11 of the communities with the lowest rates of walking in Alaska have gas prices lower than the state average.

Access to Roads: It's also interesting to note that all of the communities that have the highest rates of walking are *not* on the continental road system; they either have no connection at all or have infrequent ferry service (Chenega Bay has "whistle stop" service once or twice a week in the summer, dropping to a couple of times per month in the winter; Akutan has once a month sailings in the summer, about four sailings per year). With one exception, the communities with the lowest rates of walking are either connected to the continental road system or have frequent (daily or nearly daily) ferry service.

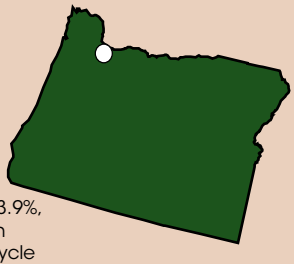
Climate: What doesn't seem to be a factor is the climate. Some of the highest rates of walking (again, as measured in late winter/early spring) can be found in some of the colder, windier, or wetter communities in the state, such as Arctic Village (72.3%; cold), Shishmaref (79.3%, cold/wind), Chenega Bay (94.1%; rain), Huslia (72.7%; cold). Some of the lowest rates of walking are also found in some of the colder, windier, or wetter communities, such as Wrangell (9.7%; rain), North Pole (2.5%; cold), Valdez (6.3%; rain/snow), or Anchorage (2.7%; cool winters).

Pedestrians in Tlingit village of Kake Alaska.

Photo Courtesy of South East Alaska Regional Health Consortium (SEARHC)

CLOSER LOOK

Portland's High Levels of Bicycling



According to the 2007 ACS, Portland represents the largest percent of trips to work by bicycling, 3.9%, and the largest percent growth in bicycle trips from 1990-2007, 348%. Why has Portland had such success increasing bicycling? The Alliance interviewed Scott Bricker, Executive Director of the Bicycle Transportation Alliance (BTA), on why bicycling is such a popular form of travel to work in Portland. The result is a discussion below of several factors, which are likely involved.

Portland, OR, has a long history of prioritizing bicycling dating back to the 1970s. The passage of Oregon's famous "Bicycle Bill" affected bicycling policy in the city, requiring that all transportation facilities be built with bicycle and pedestrian accommodations and requiring local jurisdictions to spend no less than 1% of transportation funding on bicycling. Congressman Earl Blumenauer, a past Portland City Council member, started the successful Portland bicycle program in 1990. Following this, in the 1990s, there was a large push to accelerate construction of bicycle facilities. By the 2000s, bicycle construction was more strategic, targeting specific uses in specific locations, including multi-use paths. Portland has also been a leader in trying out innovative bicycle facilities such as colored bike lanes, bike boxes, shared lane markings, and bicycle traffic signals.

More recently, Portland has been focusing its efforts around promoting education, encouragement, and community outreach. The city leads in bicycle promotion activities with active adult and youth bicycle education courses, Bike to Work Day and ciclovia events, and a city-sponsored bike ride (page 106). Additionally, Portland had the highest average number of schools to participate in National Walk

Family bicycling stops on one of Portland's bike boxes with colored bike lane.

Photo Courtesy of John Pucher

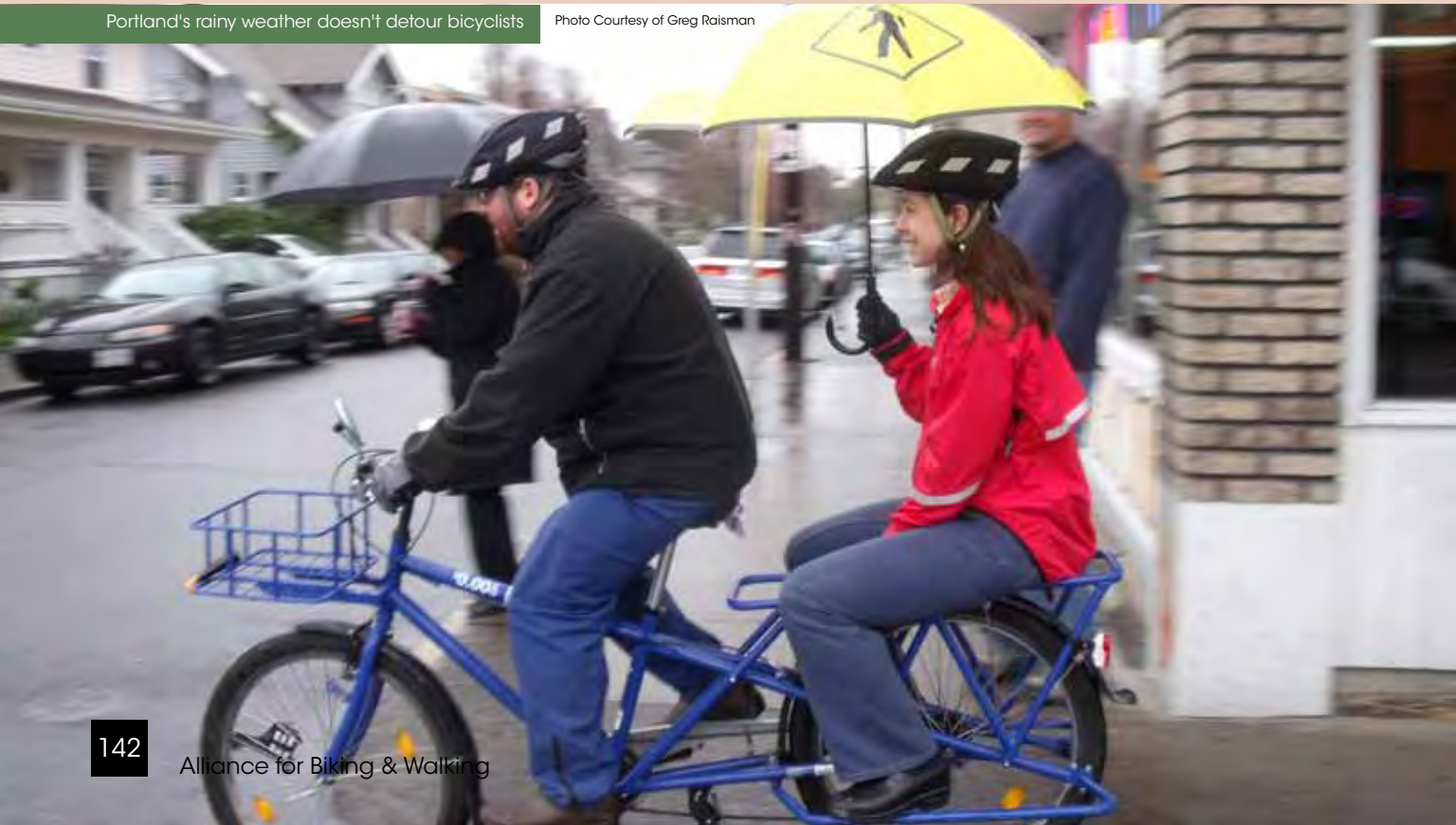
Portland, OR, has a history of prioritizing bicycling dating back to the 1970s.

and Bike to School day from 2006-2008 of major U.S. cities (page 109). The BTA "Bike Commute Challenge," a program incentivizing commuting to work by bicycle, demonstrates the potential impact of encouragement programs. Of the 11,000 people who logged their trips in September 2009, 2,800 were new bicycle commuters.

A cycle developed as Portland became a bicyclist town with more and more people who move to the city who care about bicycling. There are now more individuals and families riding by means of bicycles. Bicycling has become more visible because of the number of people bicycling and also because of the pro-bike policies of Portland. The city has also started replacing car parking with bike parking on main streets. Portland ranks in the top 10 safest major U.S. cities for bicycling with just 1.2 bicycle fatalities per 10K bicyclists (page 55).

Portland's high percentage of work trips by bicycle is likely a function of several factors. It is evident that bicycling has been a part of the city's culture for quite some time. Strong policies, investment in bicycling infrastructure, active education and encouragement programs, and support of residents has been influential in increasing bicycling levels. There is still work to be done to create even safer bicycling environments, but Portland will likely remian a progressive leader which other cities can look to for best practices and inspiration on bicycling policy.

Portland's rainy weather doesn't detour bicyclists Photo Courtesy of Greg Raisman

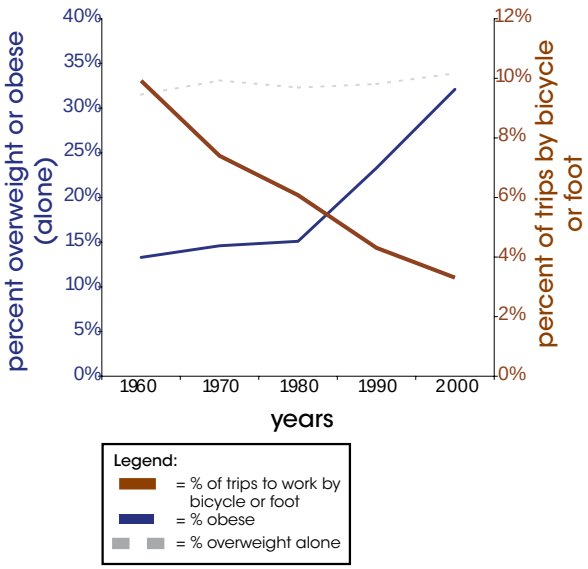


8: Impact of Bicycling and Walking on Public Health

Walking and bicycling have great potential to improve public health. In 2001, 41% of trips in the U.S. were shorter than two miles and 28% were shorter than one mile. Since bicycling can accommodate trips of up to two miles and most people can walk at least one mile, there is a lot of hope to use this form of travel in our communities. Still, Americans use their cars for 66% of trips up to one mile long and 89% of trips one to two miles long (Pucher and Dijkstra, 2003).

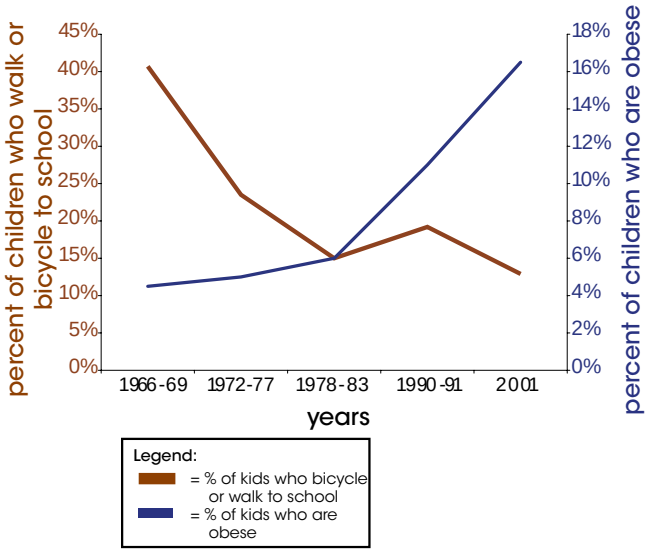
To continue to measure the potential impact of bicycling and walking levels on public health, this report analyzed data on a number of public health indicators to bike/ped mode share. Indicators include obesity and overweight levels (current and over time), physical activity levels, high blood pressure, and diabetes.

Change in Bicycling and Walking Rates vs. Adult Obesity and Overweight Rates



Sources: National Center for Health Statistics 2006, Census 1960,1970,1980,1990,2000; *r* = –0.86 (bicycle + walk/overweight) r = -0.79 (bicycle + walk/obesity)

Trend in Obese Children vs. Rate of Bicycling and Walking to School



Sources: CDC, NHANES, McDonald, Noreen 2007; r=-0.63

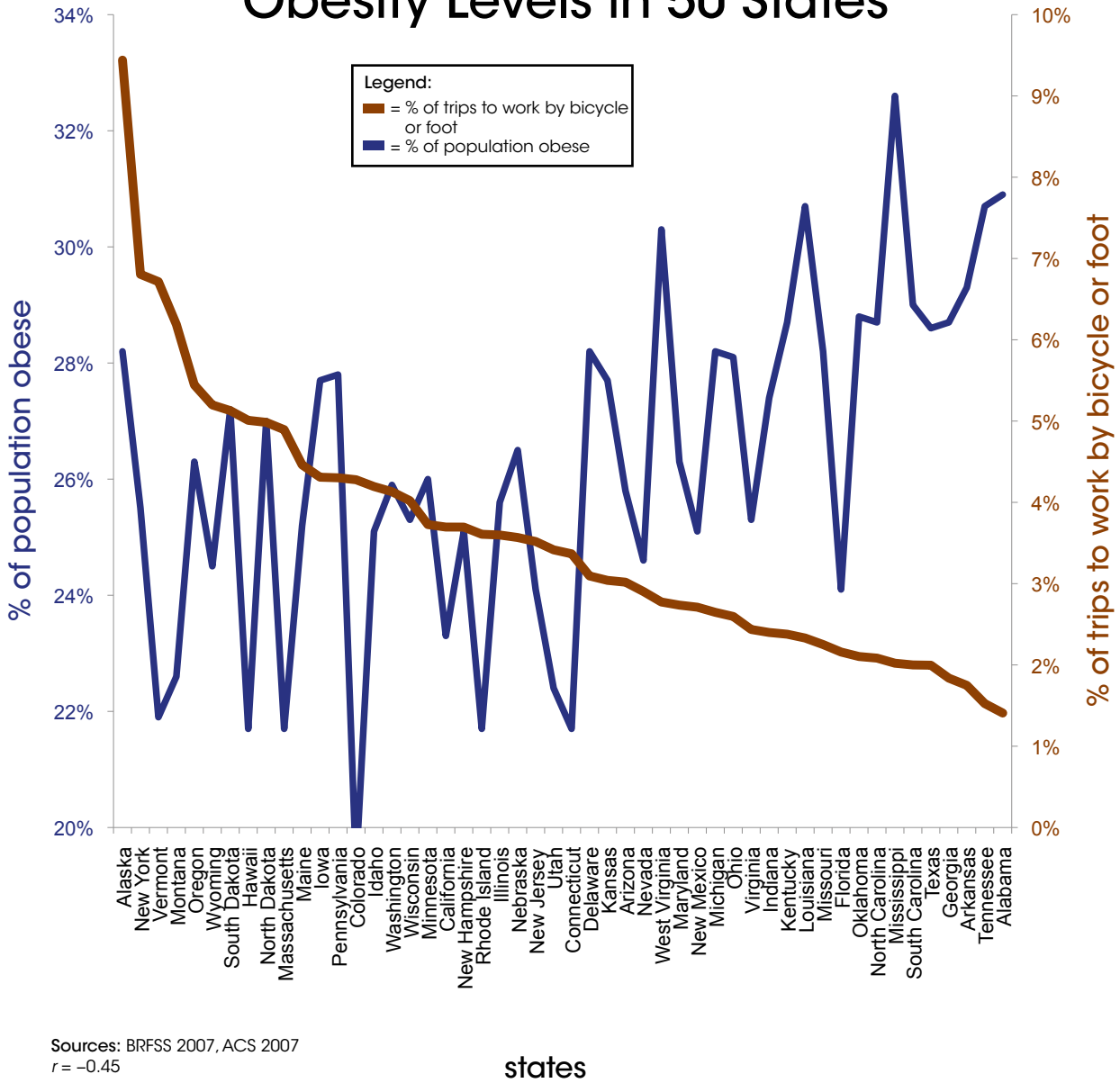
Bicycling, Walking, and Obesity

Trends Over Time

To compare rates of bicycling and walking with obesity trends, Census Journey to Work data for 1960 through 2000 were compared to overweight and obesity levels in the U.S. for the same time period. These data show that as bicycling and walking levels have plummeted, overweight levels have steadily increased and obesity levels have soared. The decrease in bicycling and walking may be even greater since these data do not take into account any trips besides work trips (walking and bicycling to school, for example, would not be counted here). Also, bicycling was not separated from "other"modes in early Census surveys, so 1960 and 1970 levels shown are for walking only. While bicycling and walking levels fell 67% between 1960 and 2000, obesity levels increased by 241%. Although these two trends are not the only factors involved, the correlation cannot be ignored.

This report also looked at data on childhood obesity prevalence from the CDC and the National Health and Nutrition Examination Survey (NHANES) data on levels of bicycling and walking to school (McDonald, Noreen, 2007) over a similar time period. The data demonstrate a parallel trend among schoolchildren in this time period.

Comparing Bicycling and Walking to Obesity Levels in 50 States

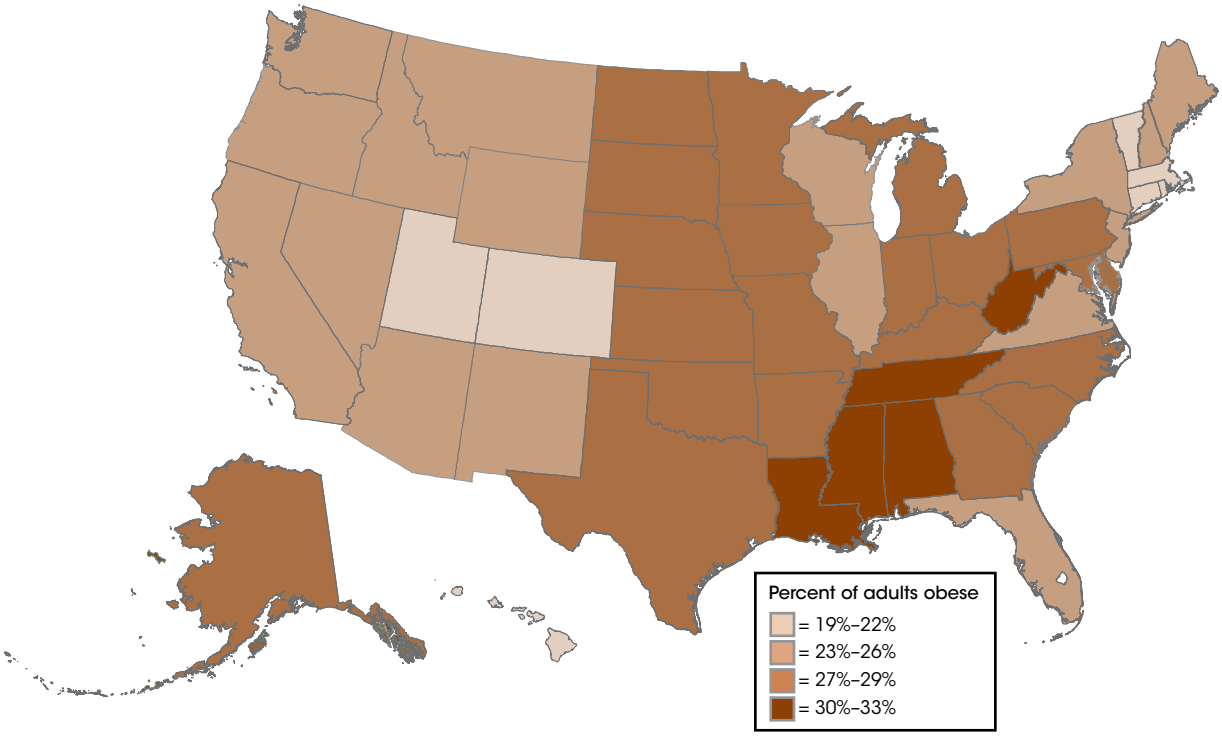


Sources: BRFSS 2007, ACS 2007
$r = -0.45$

States where bicycling and walking levels are lowest have the highest levels of obesity. Data are limited to bicycling and walking trips to work, but give an idea of the comparative rates of bicycling and walking in each state.

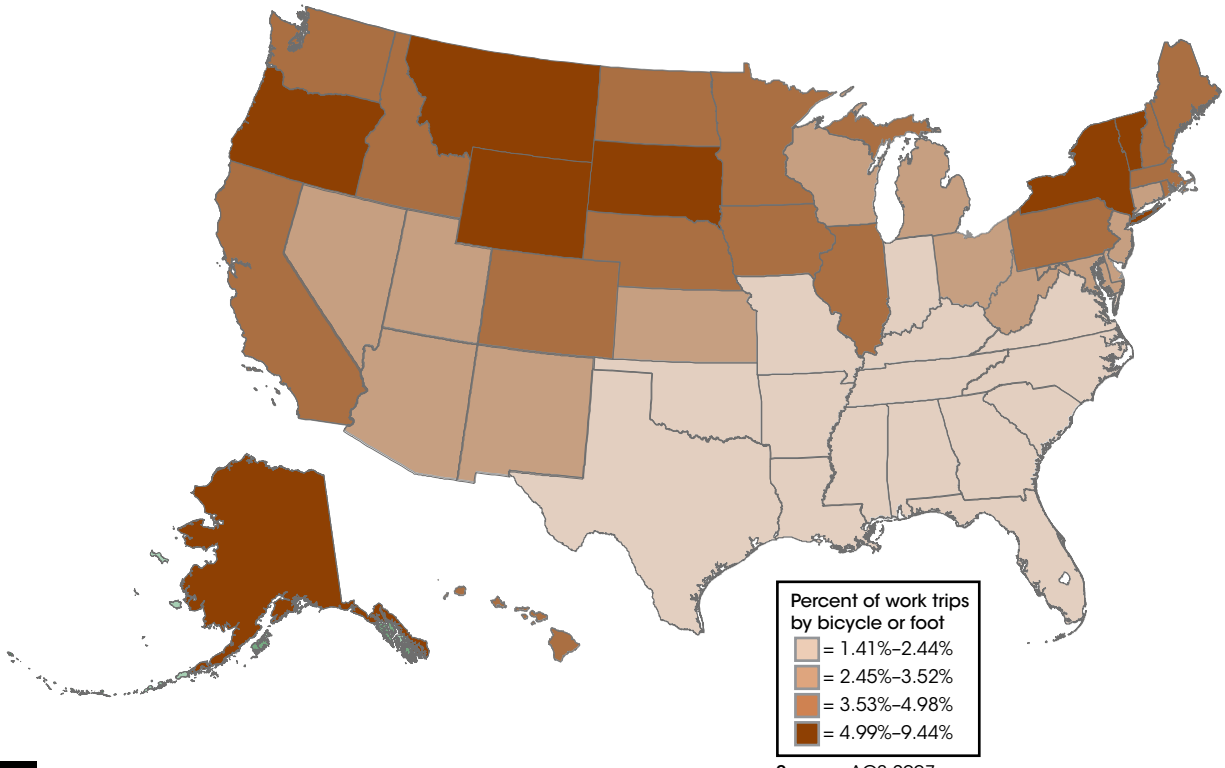
States with higher levels of bicycling and walking average lower obesity levels.

Obesity Levels



Source: BRFSS 2007

Levels of Bicycling and Walking to Work



Source: ACS 2007

Levels of bicycling and walking to school declined sharply while childhood obesity levels sharply increased. During the period between 1966 and 2001, the number of children who biked or walked to school fell 68%, while the percentage of obese children rose 367%.

Comparing Obesity Levels to Bicycling and Walking

The Alliance used ACS data on bicycling and walking to work, and Behavioral Risk Factor Surveillance System (BRFSS) data on obesity levels across states to compare current levels of obesity with bicycling and walking. The data indicate that states with the highest levels of bicycling and walking to work have lower levels of obesity on average.

Other Health Indicators

This report also compared rates of bicycling and walking to work to other health indicators including levels for physical activity, rates of high blood pressure, and diabetes. Data suggest a strong positive correlation between rates of bicycling and walking and levels of physical activity. States with the highest levels of bicycling and walking have a greater percentage of the population meeting the recommended 30-plus minutes a day of physical activity. A negative correlation exists between rates of bicycling and walking and high blood pressure and diabetes. States with higher levels of bicycling and walking have lower levels of both diabetes and high blood pressure on average.

Photo by David Niddrie - Bikkubarber@Flickr

Public Health in 50 States

State	% population overweight(1)	% population obese	% adults w/ 30+ min physical activity	% adults ever told have diabetes	% adults ever told have asthma	% adults ever told have hypertension
Alabama	67%	31%	42%	10%	9%	33%
Alaska	65%	28%	61%	6%	8%	25%
Arizona	63%	26%	52%	8%	9%	25%
Arkansas	65%	29%	46%	9%	7%	31%
California	59%	23%	50%	8%	8%	25%
Colorado	55%	19%	55%	5%	8%	21%
Connecticut	60%	22%	52%	7%	9%	26%
Delaware	65%	28%	48%	9%	8%	29%
Florida	62%	24%	47%	9%	6%	28%
Georgia	65%	29%	48%	10%	8%	30%
Hawaii	57%	22%	51%	8%	8%	29%
Idaho	63%	25%	56%	8%	9%	26%
Illinois	63%	26%	49%	9%	8%	28%
Indiana	63%	27%	48%	9%	9%	28%
Iowa	65%	28%	48%	7%	7%	27%
Kansas	64%	28%	49%	7%	8%	27%
Kentucky	69%	29%	44%	10%	9%	30%
Louisiana	66%	31%	39%	10%	6%	32%
Maine	63%	25%	56%	8%	10%	29%
Maryland	62%	26%	48%	8%	8%	29%
Massachusetts	59%	22%	51%	7%	10%	26%
Michigan	64%	28%	51%	9%	10%	29%
Minnesota	62%	26%	49%	6%	8%	21%
Mississippi	69%	33%	40%	11%	7%	34%
Missouri	63%	28%	49%	8%	9%	29%
Montana	62%	23%	58%	7%	9%	25%
Nebraska	65%	27%	52%	7%	8%	27%
Nevada	63%	25%	49%	8%	6%	27%
New Hampshire	62%	25%	54%	7%	10%	26%
New Jersey	62%	24%	48%	9%	8%	28%
New Mexico	61%	25%	53%	8%	9%	26%
New York	62%	26%	49%	8%	9%	27%
North Carolina	65%	29%	44%	9%	8%	29%
North Dakota	65%	27%	53%	6%	8%	26%
Ohio	63%	28%	50%	10%	9%	28%
Oklahoma	65%	29%	46%	10%	9%	32%
Oregon	62%	26%	56%	7%	10%	27%
Pennsylvania	63%	28%	50%	9%	9%	28%
Rhode Island	61%	22%	50%	7%	10%	28%
South Carolina	65%	29%	47%	10%	8%	30%
South Dakota	65%	27%	48%	7%	7%	26%
Tennessee	68%	31%	39%	12%	9%	34%
Texas	66%	29%	47%	10%	8%	28%
Utah	58%	22%	56%	6%	8%	20%
Vermont	59%	22%	58%	7%	10%	25%
Virginia	62%	25%	50%	8%	8%	27%
Washington	62%	26%	54%	7%	9%	25%
West Virginia	68%	30%	46%	11%	9%	33%
Wisconsin	62%	25%	55%	7%	9%	26%
Wyoming	63%	25%	57%	7%	8%	25%
Mean/Average (2)	63%	26%	49%	9%	8%	28%
Median	63%	16%	49%	8%	8%	27%
High	69%	33%	61%	12%	10%	34%
Low	55%	19%	39%	5%	6%	20%

Legend:
= High value
= Low value

Source: BRFSS 2007 **Notes:** (1) Percent overweight includes percent obese. (2) All averages are weighted.

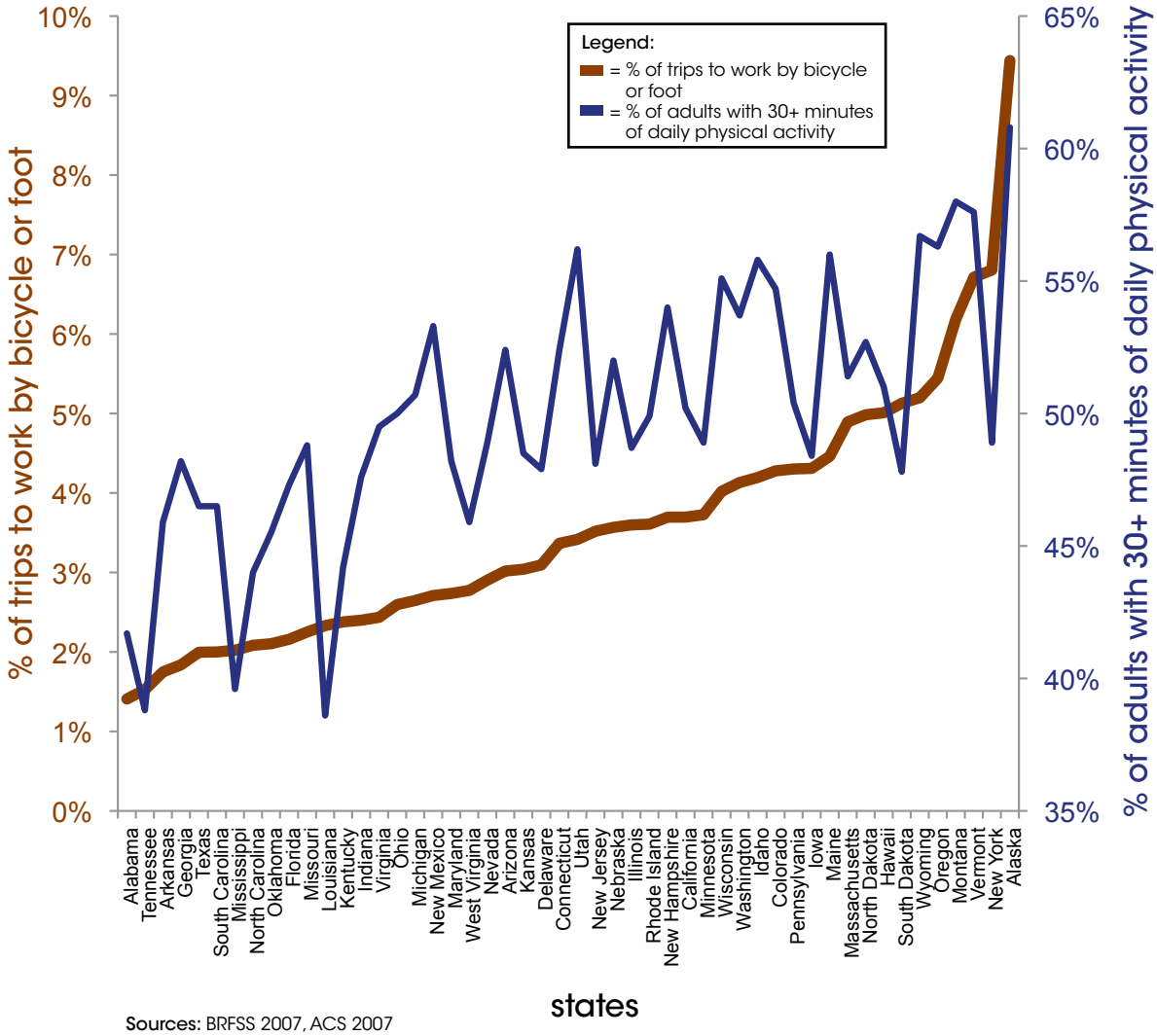
Public Health in U.S. Cities

City	% population overweight (1)	% population obese	% adults w/ 30+ min physical activity	% adults ever told have diabetes	% adults ever told have asthma	% adults ever told have hypertension
Albuquerque	59%	23%	57%	7%	9%	24%
Arlington, TX	66%	29%	47%	9%	9%	26%
Atlanta	61%	24%	51%	8%	8%	27%
Austin	54%	21%	51%	7%	7%	22%
Baltimore	63%	27%	49%	8%	9%	30%
Boston	56%	19%	52%	8%	10%	25%
Charlotte	53%	28%	45%	8%	7%	26%
Chicago	62%	25%	50%	9%	9%	27%
Cleveland	61%	27%	53%	9%	9%	28%
Colorado Springs	53%	19%	54%	5%	7%	20%
Columbus	64%	30%	49%	9%	8%	25%
Dallas	60%	23%	45%	9%	8%	23%
Denver	56%	19%	55%	5%	8%	21%
Detroit	69%	33%	49%	11%	11%	31%
El Paso	65%	26%	48%	11%	8%	24%
Fort Worth	66%	29%	47%	9%	9%	26%
Honolulu	56%	21%	50%	8%	8%	29%
Houston	66%	27%	48%	9%	9%	27%
Indianapolis	62%	27%	49%	8%	10%	27%
Jacksonville	62%	26%	46%	9%	7%	28%
Kansas City, MO	64%	28%	47%	8%	8%	26%
Las Vegas	64%	25%	47%	9%	7%	27%
Long Beach	61%	25%	47%	7%	6%	24%
Los Angeles	61%	25%	47%	7%	6%	24%
Louisville	68%	26%	49%	10%	7%	29%
Memphis	70%	35%	41%	11%	6%	34%
Mesa	63%	26%	52%	8%	8%	24%
Miami	62%	24%	44%	8%	5%	25%
Milwaukee	59%	25%	54%	5%	12%	26%
Minneapolis	61%	26%	50%	6%	8%	20%
Nashville	65%	27%	41%	9%	10%	28%
New Orleans	63%	31%	38%	9%	7%	29%
New York	60%	24%	48%	8%	8%	25%
Oakland	49%	15%	51%	6%	7%	24%
Oklahoma City	66%	29%	44%	9%	9%	29%
Omaha	64%	27%	52%	7%	8%	26%
Philadelphia	61%	26%	50%	9%	8%	28%
Phoenix	63%	26%	52%	8%	8%	24%
Portland, OR	61%	26%	56%	7%	9%	23%
Raleigh	64%	29%	45%	7%	7%	24%
San Antonio	69%	28%	53%	10%	8%	27%
San Diego	61%	23%	53%	8%	9%	27%
San Francisco	49%	15%	51%	6%	7%	24%
Seattle	58%	22%	53%	6%	8%	23%
Tucson	58%	25%	55%	9%	11%	26%
Tulsa	65%	29%	46%	10%	8%	30%
Virginia Beach	62%	29%	53%	8%	9%	28%
Washington, DC	61%	22%	47%	7%	8%	25%
Mean/Average (2)	61%	25%	49%	8%	8%	26%
Median	62%	26%	49%	8%	8%	26%
High	70%	35%	57%	11%	12%	34%
Low	49%	15%	38%	5%	5%	20%

Legend:
= High value
= Low value

Source: BRFSS 2007 **Notes:** Data unavailable for Fresno, Sacramento, and San Jose. (1) Percent overweight includes percent obese. (2) All averages are weighted.

Comparing Bicycling and Walking to Physical Activity Rates in 50 States

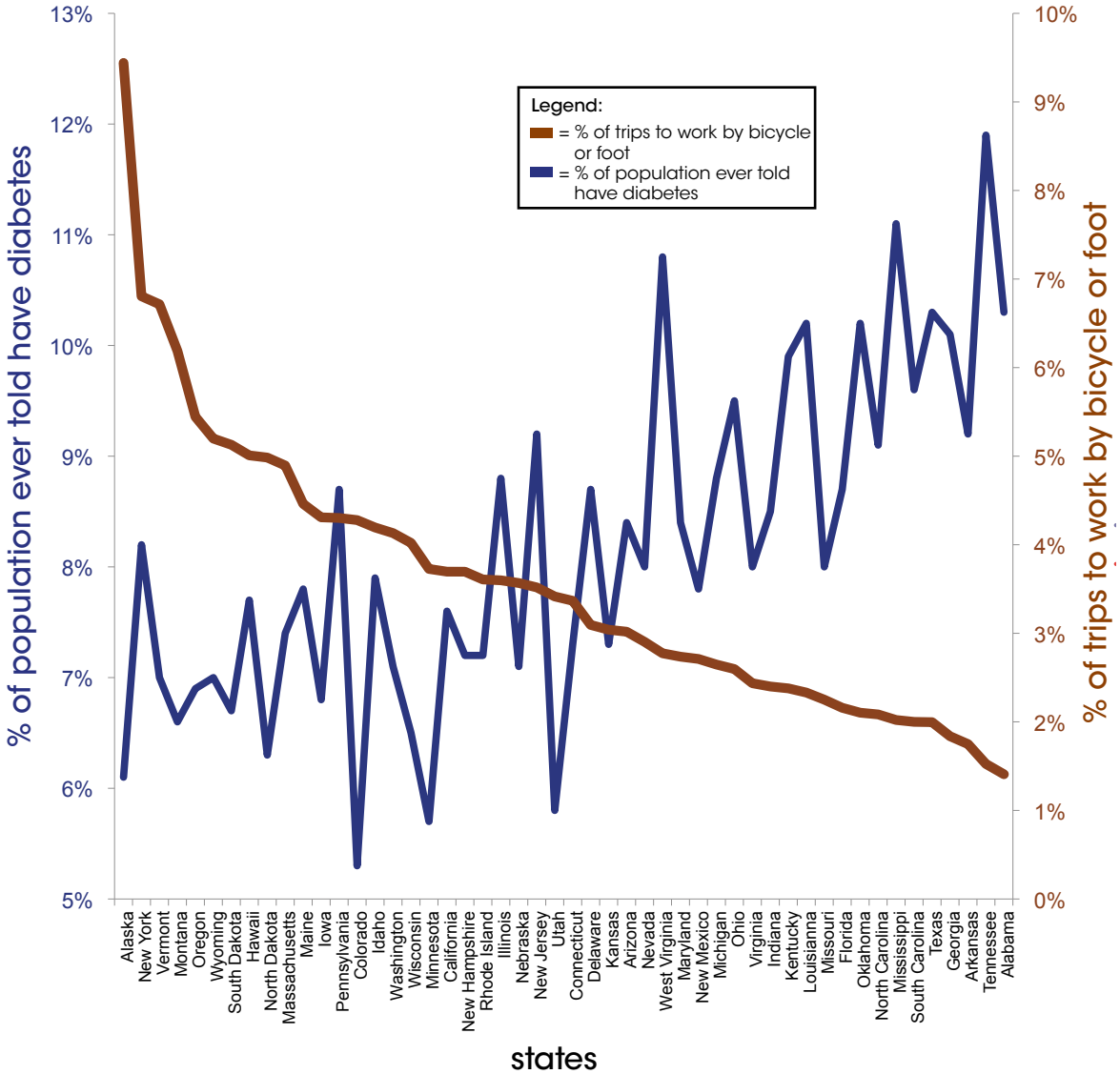


Sources: BRFSS 2007, ACS 2007
$r = 0.72$

States with higher levels of bicycling and walking have higher levels of physical activity.

A strong positive correlation exists between levels of adults with 30-plus minutes of daily physical activity and levels of bicycling and walking to work. Data indicate a positive relationship ($r = 0.72$) between the two, suggesting that bicycling and walking to work help populations meet recommended levels of physical activity.

Comparing Bicycling and Walking to Diabetes Rates in 50 States

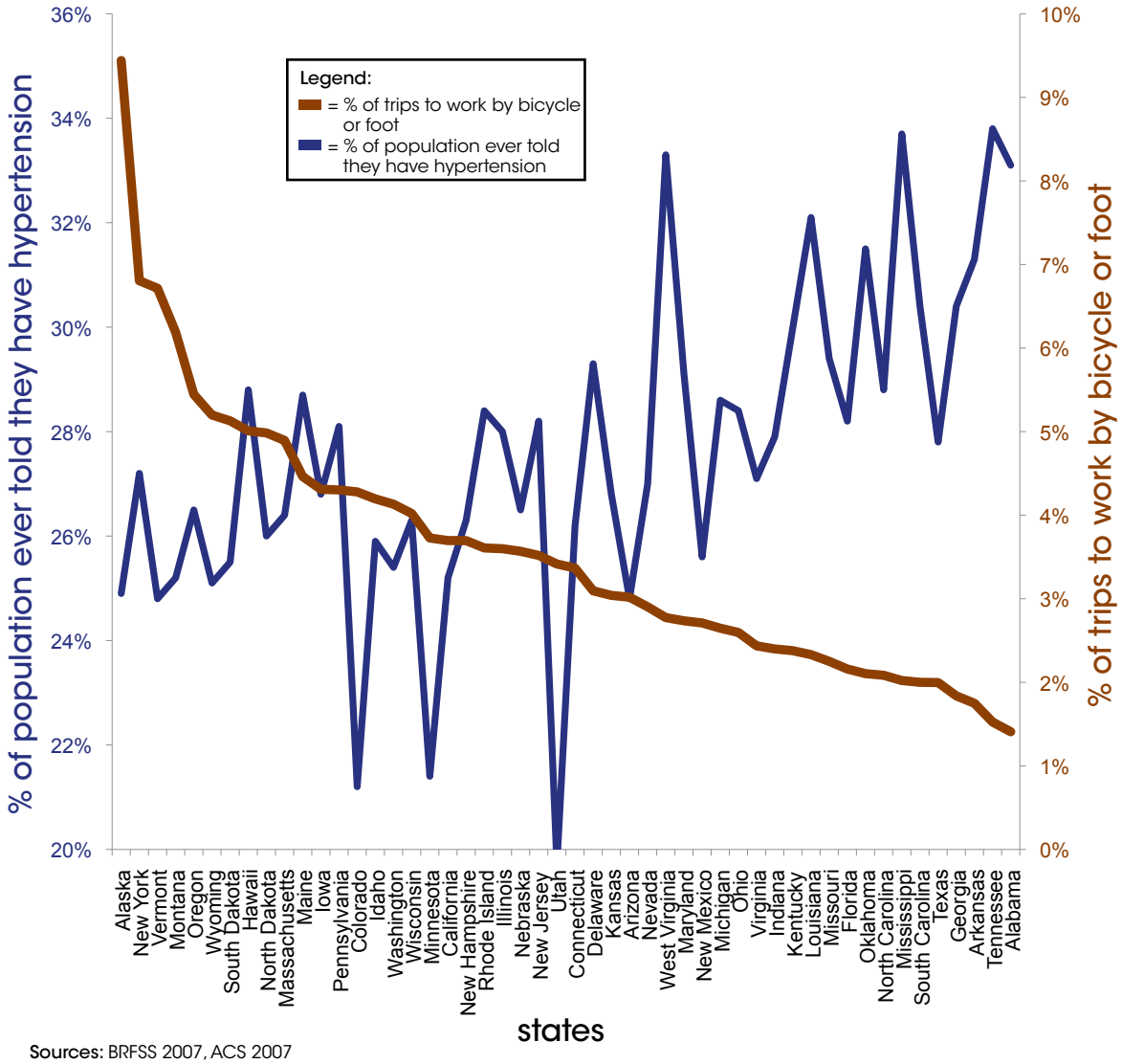


Sources: BRFSS 2007, ACS 2007
$r = -0.66$

Data suggest a negative correlation exists between rates of diabetes and levels of bicycling and walking ($r = -0.66$). According to data from BRFSS and ACS 2007, diabetes rates are highest among states with low levels of bicycling and walking.

Diabetes rates are lowest among states with high levels of bicycling and walking.

Comparing Bicycling and Walking to High Blood Pressure Rates in 50 States



Sources: BRFSS 2007, ACS 2007
$r = -0.54$

States with higher levels of bicycling and walking average lower levels of high blood pressure.

Data from BRFSS and ACS suggest a negative correlation between levels of high blood pressure and bicycling and walking ($r = -0.54$). This relationship is in line with other results indicating a similar negative correlation between bicycling and walking levels and levels of obesity and diabetes.

9: Conclusion

Photo by Juhan Sonin

In these times of high gas prices, a warming climate, increasing traffic congestion, and expanding waistlines, increasing bicycling and walking are goals that are clearly in the public interest. As this report shows, where bicycling and walking levels are higher, obesity, high blood pressure, and diabetes levels are lower. Higher levels of bicycling and walking also coincide with increased bicycle and pedestrian safety and higher levels of physical activity. Increasing bicycling and walking can help solve many of the largest problems facing our nation. As this report indicates, many states and cities are making progress toward promoting safe access for bicyclists and pedestrians, but much more remains to be done.

10% of trips in the U.S. are by bicycle or foot, yet bicyclists and pedestrians make up over 13% of traffic fatalities and receive just 1.2% of federal transportation dollars.

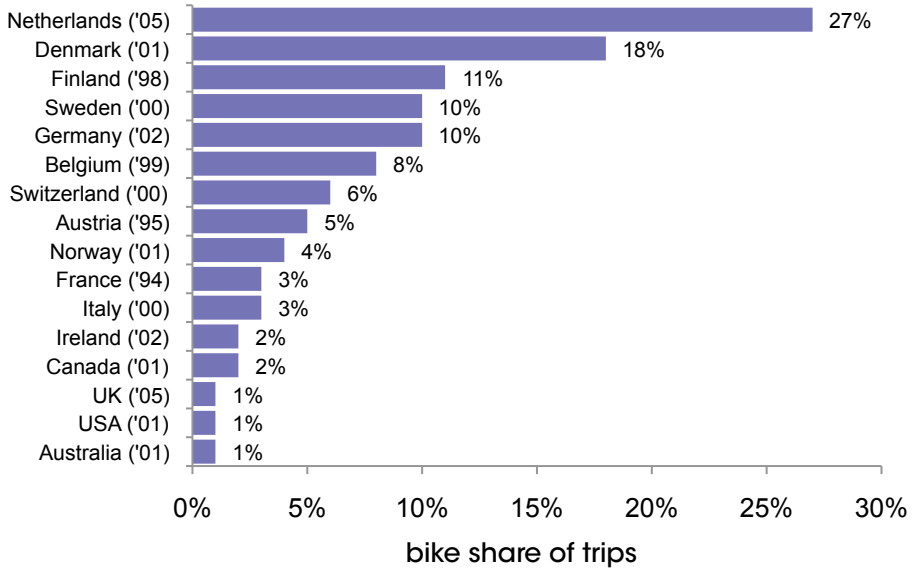
This report has highlighted numerous measures to promote bicycling and walking. As Chapter 7 discusses, there is no silver bullet in regard to making communities more bicycle and pedestrian friendly, and a variety of measures are likely needed. But just as it took a large investment of public money into roads, signals, signs, and education for

motorists, so too will it take an ongoing commitment of public investment in bicycling and walking to see major shifts toward these modes.

It is also crucial that the U.S. look to other countries to see what mode share levels are possible, and how other international cities have increased bicycling, walking, and safety. One such comparison by Pucher and Buehler (2008; chart this page) found the U.S. to have the second lowest bicycle share of trips when compared to several European countries, Canada, and Australia. Countries like the Netherlands and Denmark with 27% and 18% of trips by bicycle, respectively, are setting the benchmark for what is possible. The U.S. also lags far behind other countries in regards to walk share of trips (chart next page). Likewise, a look at international cities (Pucher and Buehler, 2008; chart page 156) shows U.S. cities far behind international peers. While benchmarking bicycling and walking in the U.S., it is important to keep an international perspective which reveals the great potential for improvement in this country.

Case studies show that the countries and cities that invest the most in bicycling and walking have higher bicycling and walking mode share, and are safer places to bicycle and walk (Pucher et al., 2010; Pucher and Buehler, 2007 and 2008). As this report shows, the U.S. overall has great disparities between bicycling and walking mode

Bicycle Share of Trips in Europe, North America, and Australia

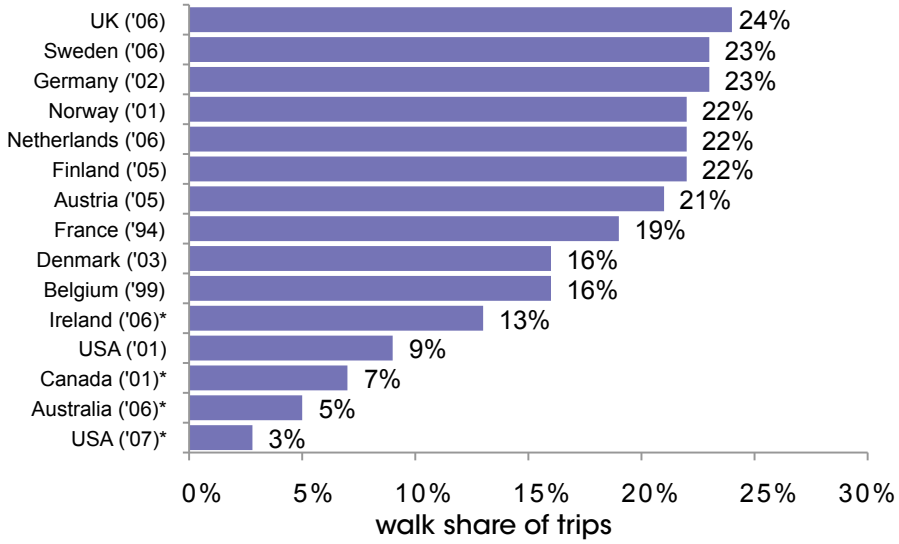


Source: John Pucher and Ralph Buehler, "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany," *Transport Reviews*, Vol. 28, No. 4, July 2008, pp. 495-528. Reprinted with permission of authors.

Bike rack by University Hospital of Copenhagen is at capacity. Roughly 1 in 3 trips are by bicycle in the city.

It is crucial that the U.S. looks to other countries to see what mode share levels are possible, and how other international cities have increased bicycling, walking, and safety.

Walk Share of Trips in Europe, North America, and Australia



Source: David Bassett, John Pucher, and Ralph Buehler, "Walking, Cycling, and Obesity Rates in Europe, North America, and Australia," *Journal of Physical Activity and Health*, Vol. 5, No. 6, November 2008, pp. 795-814 **Note:** * denotes data is for work trips only.

Bicycling Levels in International Cities

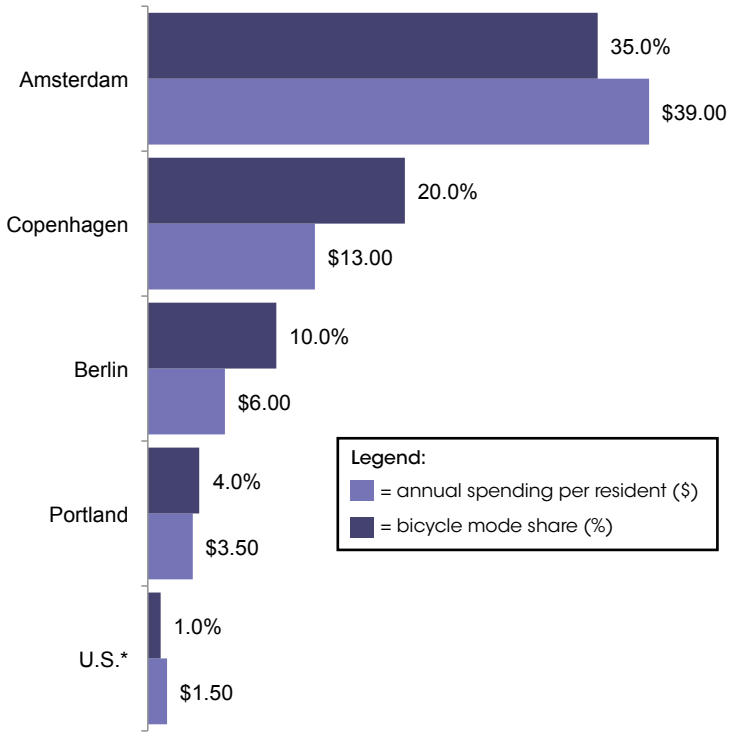
International cities with high levels of cycling provide inspiration for what mode share levels are possible.

Note: This graph reproduced with permission from John Pucher and Ralph Buehler, "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany," *Transport Reviews*, Vol. 28, No. 4, July 2008, pp.495-528.

share, safety, and funding. Ten percent of trips are by bicycle or foot, yet bicyclists and pedestrians make up over 13% of traffic fatalities and receive just 1.2% of federal transportation dollars. An international comparison of bicycle funding and mode share by Gotschi and Mills and Rails to Trails Conservancy (2008; chart this page) demonstrates that international cities that invest greater amounts per capita into bicycling have greater levels of bicycling. These cities provide strong evidence that in order to increase bicycling and walking, the U.S. must invest more heavily in these modes.

While greater investment in bicycling and walking is the primary recommendation of this report, there are many other measures that must be taken to simultaneously strengthen public policy, infrastructure, and behavior toward bicycling and walking. Over one-third of the U.S. population is under age 16 (cannot legally drive) or over age 65. Streets designed just to move cars are leaving behind the most vulnerable road users, often making them prisoners in their homes or completely reliant on others to drive them around. Less than half of states and major U.S. cities have adopted complete streets poli-

Bicycle Funding and Mode Share



Notes: This graph reproduced with permission from Thomas Gotschi and Kevin Mills, *Active Transportation for America—The Case for Increased Federal Investment in Bicycling and Walking*. Rails-to-Trails Conservancy, 2008. www.railstotrails.org/atfa; modified from John Pucher, et al., "At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany," *World Transport Policy & Practice*, 2007. *Spending data for the U.S. are for bicycling and walking combined.

Cities that invest greater amounts per capita into bicycling have greater levels of bicycling.

cies that require that roadways be designed and built with all users in mind. In the absence of a national complete streets policy, the Alliance encourages states and jurisdictions to pursue local policies to begin to transform their local transportation culture and guarantee access for all road users.

Other policies featured in this report, such as education for police officers and the inclusion of bicycling and walking safety in driver education, are also key to shifting toward a bicycle and pedestrian friendly culture. Adult and youth education programs, public awareness campaigns such as "Share the Road," and other promotional efforts can also help raise awareness and change attitudes around bicycling and walking.

Many of the benchmarks featured in this report contribute to making communities more bicycle and pedestrian friendly by changing the built environment, culture, attitudes, and behaviors. But continuous evaluation of efforts to promote bicycling and walking is key to better understanding the relationships between levels of bicycling and walking, safety, policies, provisions, advocacy capacity, and other measures. Benchmarking is a necessary process to better understand these relationships, identify the most strategic areas on which to focus resources, and ultimately to increase these forms of active transportation.

Photo by David Gartner

Through researching and compiling data for this report, the Alliance has identified several places in need of improved data collection.

- Accurate data on state and local bicycling and walking levels are the key outcome indicator needed to measure success, and yet none currently exists. The ACS is an annual survey that measures share of commuters by bicycle or on foot, but no existing survey collects data on all trip purposes with enough samples to evaluate the local level. The NHTS should be funded to allow for greater sample size at the local level and to be conducted more regularly—every seven years is not frequent enough. The Alliance encourages the federal government to fund yearly or biennial travel surveys to more accurately measure progress in this area.

- Funding data on bicycling and walking are recorded by the State Highway Authority for the Federal Highway Administration (FHWA). Differences in project coding methods means that data on funding are not always accurate and comparable between states. For example, a project that contains bicycle and pedestrian components that are a small amount of the total project cost might not be coded as a bicycle and pedestrian project at all in one location, but another location might break the project out into its parts. Also, some projects are coded by county, some by standard place code, and some by urbanized area. The differences in coding make it difficult to identify which projects are in certain cities. If projects that spanned a county also included codes for the cities affected by the project, it would be easier to obtain accurate spending data at the local level. The Alliance encourages the FHWA to set standards for coding projects so that spending on bicycling and walking can be more accurately tracked.

- The FHWA should develop a better method of tracking federal safety funding and what percentage of this funding in each state is being used for bicycle and pedestrian projects. With the great disparities that exist between bicycle and pedestrian mode share and fatality rates, it is essential that officials and advocates push for a fair share for safety. But accurate data are necessary to measure this.

- Many states and cities were unable to provide data on quantities of bicycle and pedestrian infrastructure such as miles of sidewalks, bike lanes, trails, and number of bicycle racks. The Alliance recommends that the FHWA develop standards for this and require states and local jurisdictions to conduct audits and report on bicycle and pedestrian facilities (and gaps) every one to two years.

- States and cities should be required to produce a document every one to two years indicating the shortfall in funding needed to complete their bicycle and pedestrian system. This would provide vital

data on cost needs, something that has existed for highways and bridges, but not for bicycle and pedestrian facilities.

- Tracking of participation levels in education and encouragement events is sparse. Evaluation is a key component to measuring the success or impact of these efforts. The Alliance encourages all states and cities to track participation levels and other outcomes associated with these encouragement and education programs.

In the future, the Alliance hopes to expand the Benchmarking Report to include other measures affected by bicycling and walking such as greenhouse gas emissions. The Alliance also hopes to include other countries and international cities for comparison purposes, to help demonstrate the giant leaps that U.S. states and cities must take to meet the ambitious goals they are setting (for increasing bicycling and walking mode share).

In the meantime, this report provides plenty of examples of states and cities that are leaders in a variety of efforts to promote bicycling and walking. Appendix 5, page 171, contains a number of resources and models from cities and states in this report. These are presented so that states and cities can have models to look to for inspiration when working towards their goals.

The Benchmarking Report should be used as a tool by cities and states to learn what works best to promote bicycling and walking and what is possible here in the U.S. States and cities can learn from each other's successes and failures and set their goals accordingly. The Alliance encourages all state and city officials to take an active role in benchmarking their efforts to promote bicycling and walking. Even smaller cities that are not included in this report can collect data from their city and compare it to the progress in their own community. There is no doubt that government officials and advocates seeking to grow bicycling and walking have a lot of work ahead of them. But it is crucial for advocates and officials to take the time to evaluate their efforts. While many international benchmarking efforts require huge investments of government time and money to participate, the Alliance's Benchmarking Project is a free service that requires a relatively small amount of time to complete a survey every two years. With more officials and advocates taking the time to fully participate, this project will become a better source of information and a stronger benchmarking tool for everyone.

If you would like more information about this report, please contact the Alliance at benchmarking@PeoplePoweredMovement.org.

Appendix 1: Overview of Data Sources

Data Source	Description	Method of Data Collection	Frequency of Data Collection	Last Date of Availability (1)
ACS	American Community Survey: a survey conducted by the U.S. Census Bureau that anually collects year round data	Similar to Census long form; (about three million households)	Continuous	2007
APTA	American Public Transportation Association—Public Transportation Vehicle Database: collects and summarizes data on transit agency vehicles	Data are from the National Transit Database (NTD) report published by the U.S.Federal Transit Administration (FTA). APTA supplements these data with special surveys.	Yearly	2008
BRFSS	Behavioral Risk Factor Surveillance System: from Centers for Disease Control and Prevention (CDC); statewide health information	Telephone health survey	Continuous	2007
Census	From U.S. Census Bureau	Mailed forms, and house visit for nonresponders	Every 10 years	2000
FARS	Fatality Analysis Reporting System: federal database of the National Highway Traffic Safety Administration (NHTSA) of vehicle injuries and fatalities	FARS analyst from each state collects data from governments	Yearly	2008
FHWA - FMIS	Federal Highway Administration (FHWA) Fiscal Management Information System (FMIS)	Data reported to FHWA from state and local government agencies	Continuous	2008
LAB	League of American Bicyclists: Bicycle Friendly State program surveys collect information on statewide policies, education, enforcement, and other efforts aimed at bicycle promotion	Online surveys sent to state bicycle and pedestrian coordinators	Yearly	2009
NCSRTS	National Center for Safe Routes to School: (Walk To School Day Participation) tracks numbers of schools signed up to participate (Safe Routes to School [SRTS] National Program): Quarterly SRTS Program Tracking Brief provides information about state SRTS programs	(Walk to School Day): online form completed by event organizer (SRTS National Program): questionnaires to state Safe Routes to School Coordinators	(Walk to School Day): Continuous (SRTS National Program): Quarterly	2009
NCSC	National Complete Streets Coalition: tracks and assists with complete streets policies	Monitors adoption of policies through network, media, etc.	Continuous	2009
NHANES	National Health and Nutrition Examination Survey: studies designed to assess the health and nutritional status of adults and children in the U.S.; program of the National Center for Health Statistics (NCHS) and the CDC	Interviews and physician examinations	Continuous	2005-2006
NHIS	National Health Interview Survey: estimates of broad range of health measures	Interviews at households	Yearly	2005
NHTS	National Household Travel Survey: inventory of daily and long-distance travel; NHTS is a national survey, and analysis below the national level have problems with small samples; also, NHTS data is reported by metropolitan areas so data shown for cities are estimates only	Survey of 26,000 households (additional 44,000 from nine "add-on" areas); collected by the FHWA	Every 5-7 years since 1969	2001-2002
NTEC	National Transportation Enhancements Clearinghouse: sponsored by the FHWA and Rails to Trails Conservancy, reports on funded projects	Information comes from funded Transportation Enhancement (TE) projects	Yearly	2008
RTC	Rails to Trails Conservancy: tracks current information about the trails movement and rail-trail use at the national and state level	Monitors rail trails through media, interviews with trail managers, and network	"Periodically"	2/2009
SRTSNP	Safe Routes to School National Partnership: monitors and collects benchmarking data on the national Safe Routes to School program and produces quarterly "State of the States" report	Secondary data collection: from the Federal Highway Administration and other sources	Quarterly	2009
STN	School Transportation News: inventory of U.S. transportation data elements on a state-by-state basis, specifically including student enrollment and school bus information	Surveys to the pupil transportation section of state departments of education	Yearly	2008
USHCN	United States Historical Climatology Network: daily and monthly meteorological data	1,000 observing stations	Continuous	2004-2005

(1) Latest data of availability as of summer 2009.

Appendix 2:
Organization and Study Area Matches

State	Alliance organization
Alabama	Alabama Bicycle Coalition
Alaska	NRO (2)
Arizona	NRO
Arkansas	Bicycle Advocacy of Central Arkansas
California	California Bicycle Coalition
Colorado	Bicycle Colorado
Connecticut	NRO
Delaware	NRO
Florida	Florida Bicycle Association
Georgia	Georgia Bikes! (1)
Hawaii	Hawaii Bicycle Coalition
Idaho	NRO
Illinois	League of Illinois Bicyclists
Indiana	Bicycle Indiana
Iowa	Iowa Bicycle Coalition
Kansas	NRO
Kentucky	Bicycling Kentucky (1)
Louisiana	NRO
Maine	Bicycle Coalition of Maine
Maryland	One Less Car (1)
Massachusetts	MassBike
Michigan	League of Michigan Bicyclists
Minnesota	1-Bicycle Alliance of Minnesota 2- Parks and Trails Council of Minnesota
Mississippi	Bike Walk Mississippi
Missouri	Missouri Bicycle Federation
Montana	NRO
Nebraska	NRO
Nevada	NRO
New Hampshire	Bike-Walk Alliance of NH
New Jersey	1- New Jersey Bicycle Coalition 2-Jersey Off Road Bicycle Association
New Mexico	Bicycle Coalition of NM
New York	NY Bicycling Coalition
North Carolina	NRO (2)
North Dakota	NRO
Ohio	Bike Walk Ohio
Oklahoma	Oklahoma Bicycling Coalition
Oregon	Bicycle Transportation Alliance (3)
Pennsylvania	NRO (2)
Rhode Island	Greenways Alliance of Rhode Island
South Carolina	Palmetto Cycling Coalition
South Dakota	South Dakota Bicycle Coalition
Tennessee	NRO (2)
Texas	BikeTexas
Utah	Utah Bicycle Coalition
Vermont	Vermont Bicycle and Pedestrian Coalition
Virginia	1-BikeWalk Virginia 2-Virginia Bicycling Federation
Washington	Bicycle Alliance of Washington
West Virginia	Mountain State Wheelers Bicycle Club
Wisconsin	Bicycle Federation of Wisconsin (3)
Wyoming	NRO

City	Alliance organization
Albuquerque	Bike ABQ
Arlington, TX	NRO
Atlanta	Atlanta Bicycle Campaign
Austin	Austin Cycling Association
Baltimore	NRO
Boston	LivableStreets Alliance
Charlotte	Charlotte Area Bicycle Alliance
Chicago	Active Transportation Alliance
Cleveland	Walk+Roll (1) Cleveland Bikes (1)
Colorado Springs	Trails and Open Space Coalition (Pikes Peak Area Bikeways Coalition)
Columbus	Consider Biking
Dallas	BikeDFW
Denver	BikeDenver
Detroit	NRO
El Paso	NRO
Fort Worth	BikeDFW
Fresno	NRO
Honolulu	Hawaii Bicycling League
Houston	Bike Houston (1)
Indianapolis	NRO
Jacksonville	NRO
Kansas City, MO	Kansas City Bicycle Club
Las Vegas	NRO
Long Beach	Los Angeles County Bicycle Coalition
Los Angeles	Los Angeles County Bicycle Coalition
Louisville	Bicycling for Louisville
Memphis	NRO (2)
Mesa	NRO
Miami	Green Mobility Network
Milwaukee	Bicycle Federation of Wisconsin (3)
Minneapolis	St. Paul Smart Trips
Nashville	Walk/Bike Nashville
New Orleans	New Orleans Metro Bicycle Coalition
New York	Transportation Alternatives
Oakland	Walk Oakland Bike Oakland
Oklahoma City	NRO
Omaha	Bikeable Communities
Philadelphia	Bicycle Coalition of Greater Philadelphia
Phoenix	NRO
Portland, OR	Bicycle Transportation Alliance (3)
Raleigh	NRO
Sacramento	Sacramento Area Bicycle Advocates
San Antonio	NRO
San Diego	San Diego County Bicycle Coalition
San Francisco	San Francisco Bicycle Coalition
San Jose	Silicon Valley Bicycle Coalition
Seattle	1-Cascade Bicycle Club 2- Feet First
Tucson	NRO
Tulsa	NRO (2)
Virginia Beach	NRO
Washington, DC	Washington Area Bicyclist Association

Notes: These tables show 50 states and the 51 cities that were the study areas of this report. In Chapters 6 and 7 these organizations are cited by the state or city they represent for ease of comparison (and because not all organizations contain their city or state in their organization's name). NRO = No Representative Organization as of January 2009. (1) This organization did not provide data for this report and thus was not included in report illustrations and comparisons. (2) This state/city has formed a new Alliance advocacy organization since the time of data collection for this report. (3) This statewide organization also dedicates significant time and resources into a city and are representative of both the state and a city in this report. NRO = No Representative Organization. States and cities with NRO do not have an Alliance member organization dedicated to bicycle and/or pedestrian advocacy in their area.

Appendix 3:
Challenges with Trip Data

Determining How Many People Bike and Walk

The question of how many people bicycle or walk is not easily answered with the limited data available. The most reliable source of information on how many people bike or walk comes from the U.S. Census Journey to Work data (and annual American Community Survey). However, census figures are limiting and inaccurate for a number of reasons. The Census Bureau only collects data on the main mode of transportation to work. This measure excludes trips of individuals not in the workforce, such as children or retirees. Moreover other trip purposes, such as shopping and recreational outings, are not captured. Additionally, the Census Bureau only reports the main mode of transportation to work, thus excluding many walk and bike trips used for shorter segments of commutes, for example walk trips to transit stops or if someone walks from the parking garage to work, and also misses people who walk or bicycle one or two days a week.

Comparing Data from the Census and ACS Surveys

It is also not completely accurate to compare data from the decennial Census to the annual American Community Survey. While the decennial Census is taken in April, ACS data are collected throughout the year. The time of year the Census data are collected might influence reported bike and walk share of work trips. This is particularly true in cities such as Minneapolis and Boston which can still be cold in April. Although the decennial Census has a larger sample size, in this case, the ACS may more accurately reflect bicycle travel because it is collected throughout the year.

The biggest difference in the surveying between the ACS and the Census is that the ACS is done every year instead of every decade. However, the Census provides detailed socioeconomic data and for much smaller areas. There are differences in the ACS and the Census when it comes to residence rules, universes, and reference periods. However, comparisons can generally be made for most population and housing subjects. For some categories such as disability, income, and employment status, the U.S. Census Bureau recommends not comparing or comparing with caution. But according to the Bureau,

the category "means of transportation to work" is comparable from the ACS to the Census and between the different years of the ACS. http://www.census.gov/acs/www/UseData/Comparison_Guidance.htm#transport.

Bicycle and Pedestrian Travel Data for All Trip Purposes from NHTS

The National Household Travel Study (NHTS) is another source of data on daily travel, sponsored by the Bureau of Transportation Statistics and the Federal Highway Administration. The NHTS attempts to collect data on all trips, not just trips to work. However, because it is a national survey, analysis below the national level have problems with small sample sizes. It is also difficult to extract data for cities from this source as it uses Metropolitan Statistical Areas (MSAs) which often stretch beyond city boundaries. Also, the NHTS is only collected every 5 to 7 years. Due to these limitations, NHTS data on city and state levels should be considered as rough estimates for walking and bicycling in these areas.

The NHTS methodology includes a brief phone survey that gathers basic demographic information and asks the person if he or she is willing to keep a travel diary for a day to record all trips by members of the household, including children. Travel diaries are mailed to the household and NHTS officials follow up to answer any questions. Survey participants then receive a follow-up call from NHTS to collect information from the travel diary. They are asked a number of questions on their travel behavior during their assigned travel day and during the last week including questions like how many times they went for a walk or bike ride, how long did they spend bicycling or walking, and (if they drive) how many minutes it takes them to walk from where they park to their workplace. To view the most recent complete NHTS questionnaire, visit http://nhts.ornl.gov/2008/doc/NHTS_2008_Questionnaire.pdf.

Other Trip Count Efforts

Because of the serious gap in reliable data on bicycling (and walking) trips, there have been numerous efforts to create a more reliable means to measure travel. Barnes and Krizek (2005) developed a formula for determining total bicycling trips by multiplying the commute share by 1.5 and adding 0.3%. Some cities have done their own travel counts in an attempt to determine the share of all bicycle trips. Of all cities surveyed, 24 reported having conducted some type

of bicycle count at least once (Atlanta, Austin, Baltimore, Boston, Charlotte, Chicago, Columbus, Dallas, Denver, Honolulu, Houston, Long Beach, Louisville, Memphis, Minneapolis, New York, Oakland, Philadelphia, Portland, San Diego, San Francisco, San Jose, Tucson, and Washington, DC). Seven of these cities (Chicago, Columbus, Denver, Minneapolis, New York, Portland, San Francisco, and Seattle) reported having done an "all-trips" count to determine bicycle mode share.

San Francisco provides an example of the discrepancies in travel counts and methods to determine bicycling (and walking) mode share. The Barnes and Krizek formula indicates that 4.1% of all trips in San Francisco are by bicycle. This number is higher than the NHTS estimate of 0.93% of all trips represented by bicyclists. According to the 2000 Census, 1.98% of work trips are by bicycle. The Census Bureau's American Community Survey (ACS) 2007 data show bike to work share in San Francisco as 2.52%. And a city-commissioned study shows bicycling mode share is 6%. The study commissioned by San Francisco is more likely correct, because of a larger sample size and more robust methods, but because there is a lack of standardized trip counts for multiple cities, the Alliance could not extrapolate a formula for all bicycle trips to apply across cities and states.

Prospective Solutions

The National Bicycle and Pedestrian Documentation Project (NBPD), coordinated by the Institute of Transportation Engineers, is attempting to address the gap in accurate and comparable trip count data. NBPD sets detailed standards and guidelines and provides tools for performing bicycle and pedestrian counts and surveys in communities and collects data from communities in a centralized database. By using the same methodologies, NBPD can compare progress of cities and better identify factors that influence bicycling and walking levels. To date, NBPD has collected counts from over 50 organizations and 500 locations. More widespread and consistent participation from local agencies could help this tool reach its full potential.

Another potential solution is for the federal government to fund more regular travel surveys. Currently the National Household Travel Survey is only done every several years and low sampling on the local level makes comparisons inaccurate. There is currently discussion in Congress about adding funding for improved data collection at the federal level as part of the next federal transportation bill.

This sort of investment in surveying bicycling and walking levels is crucial to evaluating the impact of investments and efforts toward increasing these modes.

Applications

Collection of bicycling and walking data would assist transportation planners, public health officials, and elected officials in making informed decisions. Transportation planners would receive information regarding the impact of bicycling and walking facilities, and be able to put information on injuries in perspective with information on the levels of bicycling and walking. A robust data collection system could help public health officials target and assess community-level interventions for physical activity and injury prevention efforts. Elected officials would have access to the same types of data that exist for motor vehicles, including information on the cost of the projects and the subsequent effect on bicycling and walking.

The World Health Organization Regional Office for Europe has developed a promising tool, the Health Economic Assessment Tool (HEAT) for bicycling,* that could further inform decisions about bicycling and walking infrastructure by providing an estimate for the economic value of positive health effects of bicycling. HEAT for bicycling requires information on the number of trips done by bicycle and the average trip distance, and, based on these inputs and best-evidence default values, the economic savings resulting from reduced mortality due to regular physical activity from commuter bicycling is estimated. This tool could be used to estimate the value of health effects of current levels of bicycling, calculate the health-related economic benefits when planning new bicycling infrastructure, or provide input into more comprehensive cost-benefit analyses. If bicycling and walking data collection was as robust as other modes of transportation, it would assist professionals and the public to make better informed decisions about the design of their communities.

* http://www.euro.who.int/transport/policy/20081219_1

Appendix 4: Additional Data on Bicycling and Walking Commute Trends

Bicycle to Work Levels by City 1990-2007

City	# of people who bicycled to work					% Change '90-'07
	1990	2000	2005	2006	2007	
Albuquerque	2,174	2,408	1,918	2,857	1,878	–14%
Arlington, TX	661	294	433	137	256	–61%
Atlanta	487	562	955	1,108	1,367	181%
Austin	1,885	3,280	4,654	3,468	3,833	103%
Baltimore	761	824	1,018	552	824	8%
Boston	2,456	2,705	2,377	3,495	2,900	18%
Charlotte	335	417	481	118	133	–60%
Chicago	3,307	5,956	7,812	11,193	13,736	315%
Cleveland	234	379	603	715	777	232%
Colorado Springs	679	964	1,088	1,140	751	11%
Columbus	1,212	1,242	2,131	1,803	2,598	114%
Dallas	772	721	1,029	957	1,234	60%
Denver	1,980	2,652	3,814	4,988	4,657	135%
Detroit	340	507	547	928	812	139%
El Paso	666	246	700	440	313	–53%
Fort Worth	382	303	645	335	612	60%
Fresno	1,352	1,232	1,218	2,058	1,294	–4%
Honolulu	2,376	2,155	2,504	2,690	1,833	–23%
Houston	2,707	3,859	2,468	4,151	3,029	12%
Indianapolis	595	805	346	782	680	14%
Jacksonville	1,852	1,486	899	1,958	1,148	–38%
Kansas City, MO	233	257	50	119	558	139%
Las Vegas	883	814	866	759	1,646	86%
Long Beach	1,959	1,351	1,261	1,016	1,911	–2%
Los Angeles	9,607	9,052	9,821	10,664	11,081	15%
Louisville	211	489	658	347	753	257%
Memphis	352	304	214	403	864	145%
Mesa	1,898	2,240	1,485	1,285	3,137	65%
Miami	895	700	783	445	187	–79%
Milwaukee	903	833	1,290	1,154	1,629	80%
Minneapolis	3,014	3,856	4,589	4,835	7,198	139%
Nashville	361	386	448	355	659	83%
New Orleans	1,689	2,187	1,712	1,500	1,672	–1%
New York	9,643	15,024	16,468	19,953	26,243	172%
Oakland	1,758	2,085	2,529	3,690	2,278	30%
Oklahoma City	291	266	422	876	217	–25%
Omaha	243	269	217	555	479	97%
Philadelphia	3,637	4,908	4,778	6,403	5,753	58%
Phoenix	5,168	5,146	3,940	4,175	3,751	–27%
Portland, OR	2,453	4,775	8,942	11,477	10,987	348%
Raleigh	510	508	540	526	722	42%
Sacramento	2,971	2,252	3,305	2,455	3,710	25%
San Antonio	593	788	669	447	822	39%
San Diego	6,111	4,214	3,602	4,981	5,340	–13%
San Francisco	3,634	8,302	7,053	8,938	10,514	189%
San Jose	2,486	2,638	1,622	1,903	3,033	22%
Seattle	4,179	5,943	6,963	7,330	7,336	76%
Tucson	4,957	4,791	5,230	3,774	4,393	–11%
Tulsa	361	385	456	113	201	–44%
Virginia Beach	912	719	1,230	1,240	526	–42%
Washington, DC	2,292	3,035	4,336	5,667	4,871	113%
Mean/Average	1,989	2,233	2,447	2,848	3,098	61%
Median	1,282	1,098	1,246	1,263	1,638	35%
High	9,643	15,024	16,468	19,953	26,243	348%
Low	211	246	50	113	133	–79%

Legend:
= High value
= Low value

Sources: U.S. Census 1990, 2000; ACS 2005, 2006, 2007

Bicycle to Work Levels by State 1990-2007

State	# of people who bicycled to work					% Change '90-'07
	1990	2000	2005	2006	2007	
Alabama	1,781	1,414	1,814	1,315	2,027	14%
Alaska	1,717	1,583	2,629	2,604	3,370	96%
Arizona	22,134	22,209	20,014	20,412	21,407	–3%
Arkansas	1,022	1,511	2,040	1,953	1,510	48%
California	130,706	120,567	109,912	128,960	144,406	10%
Colorado	13,140	16,905	21,344	25,686	27,014	106%
Connecticut	2,855	2,875	4,398	4,557	4,689	64%
Delaware	1,131	851	1,186	1,775	1,572	39%
Florida	40,726	39,294	33,705	43,651	41,649	2%
Georgia	4,807	5,588	6,543	6,835	8,077	68%
Hawaii	6,100	4,888	4,057	4,758	3,694	–39%
Idaho	3,509	3,942	6,589	5,133	7,626	117%
Illinois	13,922	18,406	22,126	28,073	32,313	132%
Indiana	6,150	7,725	11,363	11,164	9,407	53%
Iowa	4,369	5,244	7,992	7,321	6,192	42%
Kansas	3,181	2,966	3,567	4,624	4,375	38%
Kentucky	1,595	2,609	2,062	2,389	4,016	152%
Louisiana	6,089	6,648	5,064	6,428	5,525	–9%
Maine	1,455	1,402	1,801	2,652	2,435	67%
Maryland	4,715	4,843	4,744	7,545	5,006	6%
Massachusetts	11,285	12,355	11,967	16,778	18,803	67%
Michigan	9,196	10,034	12,294	15,263	15,487	68%
Minnesota	8,450	10,096	13,766	16,660	17,838	111%
Mississippi	1,519	1,112	1,318	1,541	3,157	108%
Missouri	2,941	3,937	5,003	4,920	6,115	108%
Montana	3,209	4,049	7,296	6,048	6,535	104%
Nebraska	2,814	2,547	3,558	4,366	5,227	86%
Nevada	4,483	4,545	4,533	6,490	6,862	53%
New Hampshire	1,721	1,218	1,355	1,584	2,235	30%
New Jersey	9,183	9,142	10,596	13,382	11,834	29%
New Mexico	4,389	4,287	4,218	4,795	4,025	–8%
New York	20,159	25,036	28,987	36,279	41,879	108%
North Carolina	7,136	6,840	7,947	10,172	8,383	17%
North Dakota	1,030	1,011	1,397	1,703	1,943	89%
Ohio	7,703	9,535	12,050	10,938	15,679	104%
Oklahoma	2,721	2,910	3,641	3,157	2,942	8%
Oregon	13,647	17,172	25,477	28,979	32,937	141%
Pennsylvania	12,556	14,001	14,560	18,092	18,361	46%
Rhode Island	1,041	1,338	1,140	1,194	1,203	16%
South Carolina	4,598	3,874	4,270	5,340	3,830	–17%
South Dakota	1,258	950	1,581	2,760	2,014	60%
Tennessee	1,818	2,330	1,916	2,697	3,226	77%
Texas	18,460	21,551	22,938	23,514	25,483	38%
Utah	5,010	5,267	7,103	7,567	9,806	96%
Vermont	1,054	977	1,635	1,497	1,579	50%
Virginia	9,068	7,930	8,366	8,243	10,797	19%
Washington	13,170	16,205	19,255	21,790	21,491	63%
West Virginia	530	755	506	872	1,635	208%
Wisconsin	11,802	11,635	17,264	20,066	19,062	62%
Wyoming	1,509	1,353	1,673	2,850	3,310	119%
Mean/Average	9,337	9,770	10,698	12,461	13,297	42%(1)
Median	4,598	4,843	5,064	4,628	6,192	62%
High	130,706	120,567	109,912	128,960	144,406	208%
Low	530	755	506	872	1,203	–39%

Legend:
= High value
= Low value

Sources: U.S. Census 1990, 2000; ACS 2005, 2006, 2007

Walking to Work Levels by City 1990-2007

City	# of people who walked to work					% Change '90-'07	% Change '00-'07
	1990	2000	2005	2006	2007		
Albuquerque	5,358	5,785	5,173	5,274	5,938	11%	3%
Arlington, TX	6,836	2,761	1,425	1,836	2,602	–62%	–6%
Atlanta	6,453	6,261	6,068	9,350	7,922	23%	27%
Austin	8,058	8,995	6,374	7,901	8,099	1%	–10%
Baltimore	22,906	17,727	13,819	20,549	18,302	–20%	3%
Boston	39,450	36,323	31,769	39,913	40,598	3%	12%
Charlotte	4,623	4,269	4,762	5,712	5,973	29%	40%
Chicago	76,041	67,556	63,580	64,866	67,084	–12%	–1%
Cleveland	8,964	7,080	6,471	7,133	5,726	-36%	–19%
Colorado Springs	4,370	4,514	4,661	3,760	4,841	11%	7%
Columbus	13,494	11,743	5,528	10,017	9,406	–30%	–20%
Dallas	12,050	10,466	9,675	10,400	8,089	–33%	–23%
Denver	12,345	12,112	12,967	11,448	12,434	1%	3%
Detroit	10,919	8,977	6,759	8,457	6,793	–38%	–24%
El Paso	5,917	4,075	4,531	5,020	5,303	–10%	30%
Fort Worth	4,627	4,036	3,004	5,777	3,500	–24%	–13%
Fresno	3,732	3,222	3,094	4,052	3,951	6%	23%
Honolulu	12,494	11,404	12,004	11,633	11,725	–6%	3%
Houston	23,194	19,413	16,357	22,455	20,901	–10%	8%
Indianapolis	8,825	7,705	6,722	6,656	6,237	–29%	–19%
Jacksonville	8,272	7,705	6,722	6,506	4,934	–40%	–36%
Kansas City, MO	5,838	4,731	4,796	4,255	4,584	–21%	–3%
Las Vegas	4,634	4,545	4,541	4,978	5,326	15%	17%
Long Beach	6,185	4,674	3,766	5,244	7,468	21%	60%
Los Angeles	63,885	53,386	52,416	58,869	64,134	0%	20%
Louisville	4,346	4,539	3,426	4,273	6,219	43%	37%
Memphis	6,569	5,300	5,508	5,575	5,631	–14%	6%
Mesa	3,322	3,794	4,083	4,666	4,207	27%	11%
Miami	6,144	4,646	7,203	3,870	6,269	2%	35%
Milwaukee	16,051	11,770	9,586	12,776	11,516	–28%	–2%
Minneapolis	14,798	13,488	11,004	13,735	12,169	–18%	–10%
Nashville	6,485	6,509	4,815	5,758	3,620	–44%	–44%
New Orleans	9,762	9,822	7,479	3,915	7,055	–28%	–28%
New York	340,077	332,264	323,712	355,154	378,073	11%	14%
Oakland	7,787	6,355	4,898	7,970	8,379	8%	32%
Oklahoma City	4,093	3,714	3,316	4,398	2,539	–38%	–32%
Omaha	5,445	4,659	3,952	5,279	3,925	–28%	–16%
Philadelphia	66,446	51,564	43,259	44,102	45,003	–32%	–13%
Phoenix	12,874	12,998	10,730	12,991	12,383	–4%	–5%
Portland, OR	12,058	14,192	11,076	14,264	12,232	1%	–14%
Raleigh	4,087	4,383	2,913	3,549	5,768	41%	32%
Sacramento	5,416	4,602	6,905	5,586	6,888	27%	50%
San Antonio	12,244	10,679	7,873	13,614	12,451	2%	17%
San Diego	27,250	21,172	10,938	22,632	16,465	–40%	–22%
San Francisco	37,611	39,192	36,629	37,934	40,241	7%	3%
San Jose	6,495	6,170	6,131	8,183	8,645	33%	40%
Seattle	20,250	23,291	20,737	26,686	26,907	33%	16%
Tucson	7,237	7,438	7,256	9,942	9,434	30%	27%
Tulsa	4,995	4,195	3,440	3,504	4,510	–10%	8%
Virginia Beach	7,373	4,369	3,429	8,257	4,621	–37%	6%
Washington, DC	35,978	30,785	24,905	33,625	32,163	–11%	4%
Mean/Average	20,876	19,046	17,297	19,888	20,180	–6.2%	5%
Median	7,923	7,259	6,597	7,936	7,262	–8%	3%
High	340,077	332,264	323,712	355,154	378,073	43%	60%
Low	3,322	2,761	1,425	1,836	2,539	–62%	–44%

Legend:
= High value
= Low value

Sources: U.S. Census 1990, 2000; ACS 2005, 2006, 2007

Walking to Work Levels by State 1990-2007

State	# of people who walked to work					% Change '90-'07	% Change '00-'07
	1990	2000	2005	2006	2007		
Alabama	32,873	25,360	23,230	22,003	25,887	–21%	2%
Alaska	26,927	21,298	19,368	28,841	27,750	3%	30%
Arizona	54,648	58,015	54,084	63,952	62,419	14%	8%
Arkansas	27,058	21,915	19,301	21,851	19,651	–27%	–10%
California	469,867	414,581	384,989	440,072	462,555	–2%	12%
Colorado	69,041	65,668	66,273	73,495	77,613	12%	18%
Connecticut	61,484	44,348	33,775	52,221	53,229	–13%	20%
Delaware	12,862	9,637	7,159	10,865	11,001	–14%	14%
Florida	145,269	118,386	121,370	137,621	134,794	–7%	14%
Georgia	72,640	65,776	54,467	74,829	71,522	–2%	9%
Hawaii	31,935	27,134	19,369	30,287	27,727	–13%	2%
Idaho	20,091	20,747	21,841	23,073	21,645	8%	4%
Illinois	225,942	180,119	151,285	171,224	183,864	–19%	2%
Indiana	84,324	69,184	54,512	65,675	61,439	–27%	–11%
Iowa	76,572	58,088	46,469	56,101	58,839	–23%	1%
Kansas	45,346	33,271	33,761	36,467	37,420	–17%	12%
Kentucky	54,938	42,494	30,024	37,637	40,320	–27%	–5%
Louisiana	48,216	40,184	32,101	32,165	37,577	–22%	–6%
Maine	30,813	24,700	23,204	27,536	26,257	–15%	6%
Maryland	83,417	64,852	56,401	73,327	71,127	–15%	10%
Massachusetts	161,820	134,566	114,505	133,638	136,920	–15%	2%
Michigan	125,501	101,506	79,324	99,422	101,010	–20%	–0%
Minnesota	105,328	84,148	70,164	83,377	82,058	–22%	–2%
Mississippi	27,142	21,868	15,274	21,646	20,750	–24%	–5%
Missouri	66,553	55,631	48,382	57,187	55,818	–16%	0%
Montana	27,022	23,336	21,160	24,302	21,982	–19%	–6%
Nebraska	36,914	28,003	23,631	31,898	27,182	–26%	–3%
Nevada	24,866	24,875	26,044	25,553	28,654	15%	15%
New Hampshire	23,137	18,545	18,381	23,634	22,824	–1%	23%
New Jersey	156,523	121,305	122,068	141,051	133,200	–15%	10%
New Mexico	21,923	21,435	21,064	19,117	19,460	–11%	–9%
New York	575,089	511,721	469,473	547,956	558,152	–3%	9%
North Carolina	96,614	74,147	53,946	73,056	78,373	–19%	6%
North Dakota	24,111	16,094	13,492	13,505	14,814	–39%	–8%
Ohio	156,648	125,882	97,639	134,493	121,594	–22%	–3%
Oklahoma	39,782	32,796	27,643	32,813	31,494	–21%	–4%
Oregon	53,953	57,217	54,015	68,134	62,702	16%	10%
Pennsylvania	304,589	229,725	201,199	234,674	228,848	–25%	–0%
Rhode Island	20,727	18,717	12,701	15,426	16,929	–18%	–10%
South Carolina	50,538	42,567	27,136	35,316	35,438	–30%	–17%
South Dakota	22,578	16,786	15,277	17,092	18,828	–17%	12%
Tennessee	50,773	39,689	36,376	39,065	39,075	–23%	–2%
Texas	202,494	173,670	148,535	195,559	189,007	–7%	9%
Utah	25,080	28,523	23,991	32,864	32,736	31%	15%
Vermont	19,001	17,554	16,563	19,650	20,312	7%	16%
Virginia	97,766	80,487	63,042	87,750	81,547	–17%	1%
Washington	91,475	89,739	83,595	99,717	106,144	16%	18%
West Virginia	29,511	21,059	18,135	23,118	18,828	–36%	–11%
Wisconsin	130,136	100,301	79,439	99,410	93,824	–28%	–6%
Wyoming	11,051	10,548	11,319	8,244	10,908	–1%	3%
Mean/Average	89,058	74,564	65,330	78,358	78,441	–12%	4%
Median	53,953	42,567	33,775	39,065	40,320	–16%	2%
High	575,089	511,721	469,473	547,956	558,152	31%	30%
Low	11,051	9,637	7,159	8,244	10,908	–39%	–17%

Legend:
= High value
= Low value

Sources: U.S. Census 1990, 2000; ACS 2005, 2006, 2007

Appendix 5: Additional Resources

Advocacy Organizations:

State and Local Advocacy Organizations:

• See www.PeoplePoweredMovement.org to find your state or local bicycle and pedestrian advocacy organization

National Advocacy Organizations:

• **Adventure Cycling Association**: http://www.adventurecycling.org
• **Alliance for Biking & Walking:** http://www.PeoplePoweredMovement.org
• **America Bikes:** http://www.americabikes.org
• **America Walks:** http://www.americawalks.org
• **Association of Pedestrian and Bicycle Professionals:** http://ww.apbp.org
• **Bikes Belong Coalition**: http://www.bikesbelong.org
• **International Mountain Bicycling Association:** http://ww.imba.com
• **League of American Bicyclists**: http://www.bikeleague.org
• **National Center for Bicycling and Walking:** http://www.bikewalk.org
• **National Complete Streets Coalition:** http://www.completestreets.org
• **Rails to Trails Conservancy**: http://www.railtrails.org
• **Safe Routes to School National Partnership:** http://www.saferoutespartnership.org

Education:

Share the Road:

• **Colorado (3-2-1 Courtesy Code):** http://bicyclecolo.org/page.cfm?PageID=1030
• **Maine (Share the Road):** http://www.bikemaine.org/share_the_road.htm
• **Minnesota (Share the Road):** http://www.sharetheroadmn.org
• **New York City (Give Respect/Get Respect):** http://bit.ly/6tp1C
• **San Francisco (Coexist):** http://www.sfbike.org/?coexist
• **South Carolina (Share the Road):** http://www.pccsc.net/sharetheroad.php

Model Bicycle Education Programs:

• **Arizona Bike Safety Classes:** http://www.dot.pima.gov/tpcbac/SafetyClasses.htm
• **Arizona Education Guides:** http://www.azbikeped.org/education.html
• **Delaware:** http://bit.ly/mBFKZ
• **Connecticut:** http://bit.ly/3xxH0T
• **Florida:** http://www.floridabicycle.org/programs/education.html
• **Hawaii:** http://www.hbl.org/?q=node/126
• **Illinois:** http://www.bikelib.org/
• **Indiana:** http://www.bicycleindiana.org/education.html
• **Iowa:** http://www.iowabicyclecoalition.org/node/99
• **Kansas:** http://ksdot.org/burRail/bike/default.asp
• **Maine:** http://www.bikemaine.org/education.htm
• **Michigan:** http://www.lmb.org/pages/About/About.htm

- **Minnesota:** http://www.bikemn.org/
- **New York:** http://www.bikenewyork.org/education/classes/savvy.html
- **Oklahoma:** http://okbike.org/index.php?option=com_content&task=section&id=6&Itemid=35
- **Oregon:** http://www.ashland.or.us/News.asp?NewsID=512
- **Texas:** http://www.biketexas.org/content/view/908/789/
- **Vermont:** http://www.vtbikeped.org/what/safety.htm
- **Washington:** http://www.washcobtc.org/programs/index.php
- **West Virginia:** http://www.wvcf.org/home/

Encouragement:

Ciclovias/Sunday Parkways:

- **Baltimore:** http://www.baltimorespokes.org/article.php?story=20070821100331287
- **Chicago:** http://www.activetrans.org/openstreets
- **Cleveland:** http://www.clevelandbicycleweek.org/events/bike-work-day
- **Denver:** http://www.drcog.org/btwd2009/
- **Los Angeles:** http://bit.ly/6DkTd
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/biketoworkday2009.htm
- **Miami:** http://bikemiamiblog.wordpress.com/
- **New York:** http://www.nyc.gov/html/dot/summerstreets/html/home/home.shtml
- **Oakland:** http://www.oaklandpw.com/page125.aspx
- **Portland:** http://www.portlandonline.com/Transportation/index.cfm?c=46103
- **San Francisco:** http://sundaystreetssf.com/
- **Seattle:** http://www.seattlecan.org/summerstreets/

Promotional Rides:

- **Chicago's Bike the Drive:** http://www.bikethedrive.org
- **Iowa's Register's Annual Great Bicycle Ride Across Iowa:** http://ragbrai.com
- **Louisville's Mayor's Healthy Hometown Hike and Bike:** http://bit.ly/188Kob

Healthy and Active Living:

- **Active Living Research:** http://www.activelivingresearch.org/
- **Centers for Disease Control and Prevention**: http://www.cdc.gov/HealthyYouth/index.htm
- **Kaiser Permanente's Thrive Campaign:** http://thrivewithkp.org/
- **Robert Woods Johnson Foundation Active Living by Design**: http://www.activelivingbydesign.org

Maps:

- **Arizona Bicycle Maps:** http://www.dot.pima.gov/tpcbac/Publications.html#map
  and http://www.azbikeped.org/maps.htm
- **Colorado:** http://bicyclecolo.org/page.cfm?PageID=626
- **Delaware:** http://bit.ly/2yvA13
- **Denver:** http://www.bikedenver.org/maps/
- **Illinois:** http://www.dot.state.il.us/bikemap/STATE.HTML
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/IWantTo/existingbikelanes.htm
- **Maine:** http://www.exploremaine.org/bike/bike_tours.html
- **Michigan:** http://bit.ly/caNrl

- **Milwaukee:** http://www.ci.mil.wi.us/maps4460.htm
- **Minneapolis:** http://www.ci.minneapolis.mn.us/bicycles/where-to-ride.asp
- **Minnesota:** http://www.dot.state.mn.us/bike/
- **New Hampshire:** http://www.nh.gov/dot/nhbikeped/maps.htm
- **New Jersey:** http://www.njbikemap.com/
- **New York:** http://www.nycbikemaps.com/
- **North Carolina:** http://www.ncdot.org/it/gis/DataDistribution/BikeMaps/
- **Ohio:** http://www.noaca.org/bikemaps.html
- **Oklahoma:** http://www.oklahomabicyclesociety.com/Maps/maphome.htm
- **Oregon:** http://www.oregon.gov/ODOT/HWY/BIKEPED/maps.shtml
- **Philadelphia:** http://www.bicyclecoalition.org/resources/maps
- **Portland:** http://bit.ly/lEzWp
- **San Francisco:** http://www.sfbike.org/?maps
- **Seattle:** http://www.cityofseattle.net/transportation/bikemaps.htm
- **Washington, DC:** http://www.waba.org/areabiking/maps.php
- **Wisconsin:** http://www.dot.wisconsin.gov/travel/bike-foot/bikemaps.htm

Master Plans:

Bicycle & Pedestrian Master Plans:

- **Arizona:** http://www.azbikeped.org/statewide-bicycle-pedestrian-intro.html
- **Atlanta:** http://www.atlantaregional.com/html/1769.aspx
- **Fort Collins:** http://www.fcgov.com/transportationplanning/tmp.php
- **Las Vegas:** http://www.rtcsouthernnevada.com/mpo/cycling/
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/bikefriendly.htm
- **Nashville:** http://bit.ly/2mXigT
- **Nevada:** http://www.bicyclenevada.com/
- **Oakland:** http://www.oaklandpw.com/page123.aspx
- **Raleigh:** http://bit.ly/lgZHj
- **Seattle:** http://www.seattle.gov/transportation/pedestrian_masterplan/

Bicycle Master Plans:

- **Austin:** http://www.ci.austin.tx.us/bicycle/
- **Baltimore:** http://www.ci.baltimore.md.us/government/planning/bikeplan.php
- **Chicago:** http://bike2015plan.org/
- **Columbus:** http://www.altaprojects.net/columbus/
- **Dallas:** http://www.dallascityhall.com/pwt/bike_links.html
- **Delaware:** http://bit.ly/1qfa1T
- **Denver:** http://bit.ly/LPBc5
- **Fresno:** http://bit.ly/11E7HM
- **Honolulu:** http://www.honolulu.gov/dts/bikeway/cov-toc.pdf
- **Kansas City:** http://www.kcmo.org/pubworks.nsf/web/kcbike1?opendocument
- **Los Angeles:** http://www.labikeplan.org/
- **Long Beach:** http://bit.ly/vFOTi
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/
- **Minneapolis:** http://www.ci.minneapolis.mn.us/bicycles/bicycle-plans.asp
- **New York:** http://www.nyc.gov/html/dcp/html/bike/mp.shtml

- **Oahu:** http://www.oahubikeplan.org/
- **Portland:** http://bit.ly/17AeXX
- **Raleigh:** http://bit.ly/23D28Y
- **Sacramento County:** http://saccountybikeplan.webexone.com/login.asp?loc=&link=
- **San Diego:** http://bit.ly/1271Kl
- **San Francisco:** http://www.sfmta.com/cms/bproj/bikeplan.htm
- **Seattle:** http://www.cityofseattle.net/transportation/bikemaster.htm

Pedestrian Master Plans:

- **Austin:** http://www.ci.austin.tx.us/bicycle/ped_sum.htm
- **Arlington:** http://www.ci.arlington.tx.us/highlights/highlights_planning.html
- **Chicago:** http://bit.ly/UEurn
- **Denver:** http://www.denvergov.org/TabId/395511/default.aspx
- **Kansas City:** http://www.kcmo.org/planning.nsf/plnpres/walkability
- **Minneapolis:** http://bit.ly/TFTqB
- **Oakland:** http://www.oaklandnet.com/government/Pedestrian/index.html
- **Portland:** http://www.portlandonline.com/transportation/index.cfm?c=37064
- **San Diego:** http://bit.ly/WsW5r
- **San Francisco:** http://www.sfmta.com/cms/wproj/28717.html
- **Seattle:** http://www.seattle.gov/transportation/pedestrian_masterplan
- **Washington:** http://www.tooledesign.com/projects/dc

Statistics/Studies:

General Information:

- **Bikes Belong:** http://www.bikesbelong.org/statistics
- **Federal Highway Administration:** http://www.fhwa.dot.gov/environment/bikeped
- **Fietsberaad (Netherlands)**: http://www.fietsberaad.nl/index.cfm?lang=en&section=Kennisbank
- **League of American Bicyclists:** http://www.bikeleague.org/resources/reports/
- **Pedestrian and Bicycle Information Center**: http://www.pedbikeinfo.org
- **Rails to Trails Conservancy:** http://www.railstotrails.org/ourWork/advocacy/activeTransportation
- **Victoria Transport Policy Institute:** http://www.vtpi.org/

Mode Share (Bicycle and Pedestrian Counts):

- **National Bicycle and Pedestrian Documentation Project**: http://ww.altaplanning.com

Retailers/Industry:

- **Bikes Belong Coalition**: http://www.bikesbelong.org
- **National Bicycle Dealers Association:** http://ww.nbda.com

Policies:

Advisory Committees:

- **Arizona Bicycle Advisory Committee:** http://www.dot.pima.gov/tpcbac/
- **Arlington Bicycle Advisory Committee:** http://www.bikearlington.com/bikeadv.cfm

- **Baltimore Bicycle and Pedestrian Advisory Committee:** http://bit.ly/jcQ1Q
- **California Bicycle Advisory Committee:** http://www.dot.ca.gov/hq/tpp/offices/bike/cbac.html
- **City of Columbus Bikeway Advisory Committee:** http://www.bicyclecolumbus.com/
- **Denver Bicycling Advisory Committee:** http://bit.ly/QUqTZ
- **Fresno Bicycle/Pedestrian Advisory Committee:** http://bit.ly/1yWDmp
- **Fort Worth Bicycle and Pedestrian Advisory Committee:** http://bit.ly/4oErlO
- **Houston Bicycle Advisory Committee:** http://www.bikehouston.org/
- **Los Angeles Bicycle Advisory Committee:** http://www.bicyclela.org/AdvisoryBoard.htm
- **Miami-Dade Bicycle Pedestrian Advisory Committee:** http://bit.ly/OR5pP
- **Minneapolis Bicycle Advisory Committee:** http://bit.ly/1a4qt4
- **Nashville Bicycle Pedestrian Advisory Committee:** http://bit.ly/4wYc6A
- **Nevada:** http://www.bicyclenevada.com/board.html
- **Oakland Bicycle Advisory Committee:** http://www.oaklandpw.com/Page124.aspx
- **Omaha Bicycle Advisory Committee:** http://bit.ly/o9llI
- **San Antonio Bicycle Mobility Advisory Committee:** http://bit.ly/7tSSsv
- **San Francisco Bicycle Plan:** http://www.sfgov.org/site/bac_index.asp?id=11525
- **San Jose Bicyclist and Pedestrian Program:** http://bit.ly/tdtvF
- **Tucson Bicycle Advisory Committee:** http://www.dot.pima.gov/tpcbac/

Complete Streets:

- **Advice on complete streets campaigns:** http://www.PeoplePoweredMovement.org/contact
- **The latest complete streets news:** http://www.completestreets.org

Model Complete Streets Policies:

- **Guide to Complete Streets Campaigns:** http://www.peoplepoweredmovement.org/publications
- **Examples of Complete Streets Policies and Guides:** http://bit.ly/5Iy15q
- **Chicago:** http://bit.ly/27HVSK
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/Complete+Streets/

Police on Bicycles:

- **International Police Mountain Biking Association:** http://ww.ipmba.org

Safe Passing Laws:

- **3FeetPlease.com:** http://www.3feetplease.com/
- **Arizona:** http://azbikelaw.org/articles/ThreeFoot.html
- **Austin:** http://www.atxbs.com/?q=taxonomy/term/846
- **Delaware:** http://bikedel.blogspot.com/2009/07/three-foot-passing-law-passes-senate.html
- **Louisiana:** http://www.louisiana3feet.com/
- **Maine:** http://www.bikemaine.org/ld1808_about.htm
- **New Jersey:** http://www.njbike.org/Safe.html
- **New Orleans:** http://bit.ly/eVzY4
- **Oklahoma City:** http://bit.ly/46paAG
- **Texas:** http://www.biketexas.org/content/view/1229/896/
- **Tennessee:** http://www.tennessee3feet.org/

Mandatory Helmet Laws:

- **Bicycle Helmet Safety Institute:** http://www.helmets.org/mandator.htm
- **Arguments/Case Study Against Mandatory Bicycle Helmet Laws:** http://bit.ly/1mu8N
- **LAB Helmet Law Position:** http://www.helmets.org/labposit.htm
- **Arguments Against Mandatory Helmet Laws:** http://bit.ly/1d1nR2
- **NHTSA Arguments for Mandatory Helmet Laws:** http://bit.ly/s5DhX

Safe Routes to School:

- **Safe Routes to School National Partnership:** www.saferoutespartnership.org
- **The National Center for Safe Routes to School** www.saferoutesinfo.org
- **Progress Reports:** http://www.saferoutesinfo.org/resources/tracking-reports.cfm

Model Safe Routes to School Programs:

- **Boston:** http://www.walkboston.org/work/safe_routes.htm
- **California:** http://www.saferoutestoschools.org
- **Colorado:** http://www.dot.state.co.us/bikeped/SafeRoutesToSchool.htm
- **Connecticut:** http://www.ctsaferoutes.ct.gov/
- **Delaware:** http://deldot.gov/information/community_programs_and_services/srts
- **Denver:** http://www.denvergov.org/DenverSafeRoutestoSchool/tabid/427939/Default.aspx
- **Florida:** http://www.dot.state.fl.us/Safety/SRTS_files/SRTS.shtm
- **Fort Collins:** http://www.fcgov.com/saferoutes/
- **Illinois:** http://www.dot.il.gov/saferoutes/saferouteshome.aspx
- **Indiana:** http://www.in.gov/indot/2956.htm
- **Iowa:** http://www.iowadot.gov/saferoutes/
- **Kansas:** http://www.ksdot.org/burTrafficEng/sztoolbox/default.asp
- **Kentucky:** http://www.saferoutes.ky.gov/
- **Louisiana:** http://www.dotd.louisiana.gov/planning/highway_safety/safe_routes/
- **Maine:** http://www.bikemaine.org/safeways/index.html
- **Massachusetts:** http://www.commute.com/schools.shtml
- **Michigan:** http://www.saferoutesmichigan.org/
- **Minnesota:** http://www.dot.state.mn.us/saferoutes/
- **Mississippi:** http://bit.ly/1iQixg
- **Missouri:** http://www.modot.mo.gov/safety/saferoutestoschool.htm
- **Montana:** http://www.mdt.mt.gov/pubinvolve/saferoutes/
- **Nebraska:** http://www.saferoutesne.com/
- **New Jersey:** http://www.state.nj.us/transportation/community/srts/
- **New Mexico:** http://www.nmshtd.state.nm.us/main.asp?secid=15411
- **New York:** http://bit.ly/XVFMv
- **North Carolina:** http://www.ncdot.org/transit/bicycle/saferoutes/SafeRoutes.html
- **Oklahoma:** http://www.okladot.state.ok.us/srts/index.php
- **Portland:** http://www.portlandonline.com/TRANSPORTATION/index.cfm?c=40511
- **South Carolina:** http://www.scdot.org/community/saferoutes.shtml
- **Texas:** http://www.saferoutestx.org/
- **Wisconsin:** http://www.dot.wisconsin.gov/localgov/aid/saferoutes.htm

Provisions:

Bicycle Parking:

- **APBP's Bicycle Parking Guidelines**: http://www.apbp.org/?page=Publications
- **Minneapolis:** http://www.ci.minneapolis.mn.us/bicycles/bikeparking.asp
- **StolenBicycleRegistry.com:** http://www.stolenbicycleregistry.com/links.php

Bicycle and Pedestrian Facility Design:

- **Bicycle Facility Design**: http://www.bicyclinginfo.org/engineering/
- **Pedestrian Facility Design**: http://www.walkinginfo.org/engineering/
- **Public Rights-of-Way Accessibility Guidelines:** http://www.access-board.gov/prowac/

Sharrows:

- **San Francisco:** http://www.sfmta.com/cms/bproj/22747.html
- **Seattle:** http://www.cityofseattle.net/transportation/sharrows.htm

Appendix 6: Overview of Other Benchmarking Efforts

The Alliance for Biking & Walking's Benchmarking Project is the only focused effort to set benchmarks for bicycling and walking in the U.S. using data from all 50 states and at least the 50 largest cities. Other benchmarking efforts from abroad and within the U.S. have provided examples and inspiration for this project.

Benchmarking Efforts Abroad

Cycling and walking benchmarking efforts have been in place longer in many other countries than in the U.S. England, Scotland, and the Netherlands all have completed benchmarking projects. More than 100 cities and regions in 20 European countries have participated in **BYPAD (Bicycle Policy Audit)**, developed by an international consortium of bicycle experts as part of a European Union-funded project. Velo Mondial completed a national bicycling benchmark program with five participating countries (Czech Republic, England, Finland, Scotland, and the Netherlands) that compared bicycling policies at the national level. Another multi-nation benchmarking project is the Urban Transport Benchmarking Initiative that uses benchmarking to compare European Union cities around six transport themes (Behavioral and Social Issues in Public Transport, City Logistics, Cycling, Demand Management, Public Transport Organization and Policy, and Urban Transport for Disabled People).

Benchmarking Bicycling in the U.K.

One benchmarking project by the **Cyclist's Touring Club (CTC)** investigated up to 10 cities per year between 2001 and 2003. The CTC investigated bicycling policy and practice in each city including how bicycling is promoted and integrated into wider transportation plans. Participating jurisdictions completed a self-auditing questionnaire, received site visits from project staff to review the self-audit and create long-range action plans, and attended group workshops to collaborate with other jurisdictions. The CTC formulated and disseminated a comprehensive list of "Best Practices" to help each area make better plans for bicycling. These "Best Practice" resources and photographs are located in a searchable database on CTC's website.

Dutch Benchmarking Sophistication

The Dutch have sophisticated benchmarking techniques which utilize advanced technology. The **Cycle Balance**, a project of the **Dutch Cyclists Union (Feitsersbond)**, began in 1999 and aims to, "stimulate local authorities to adopt a (still) better cycling policy.... The secondary objective of the project is to enhance the position and strength of the local Cyclists Union branches."

The Cycle Balance assesses 10 dimensions of local conditions for bicyclists including: directness, comfort (obstruction), comfort (road surface), attractiveness, competitiveness compared to the car, bicycle use, road safety of bicyclists, urban density, bicyclists' satisfaction, and bicycling policy on paper. To measure these 10 dimensions they use questionnaires for the municipalities, a questionnaire on bicyclists' satisfaction, data from national databases, and the Quick Scan Indicator for Cycling Infrastructure.

The Quick Scan Indicator for Cycling Infrastructure selects 12 to 16 routes at random to sample. The routes go from randomly selected houses to destinations and vice versa. Meanwhile, the project's specially designed bicycles register data such as time, distance, speed, sound, and vibrations onto a laptop computer. From these results they can determine frequency of stops, waiting time, type of road surface, maneuvers and obstacles, and use the collected data to measure the competitiveness of a bicycle. No other study surveyed uses this level of sophistication to measure environmental conditions for bicycling with a standardized methodology. In the end, Cycle Balance presents a report to the municipality with an assessment of bicycling conditions in all 10 dimensions. The Alliance looks forward to emulating their thoroughness and sophisticated techniques as the Benchmarking Project expands in scope.

Tracking Progress in Copenhagen

Copenhagen's Bicycle Account is an effort by the **City of Copenhagen** to track and assess its bicycling development. Since 1995 the city has published a report every two years that looks at the city's bicycling conditions and new initiatives as well as the way in which the Copenhageners themselves perceive bicycling facilities and safety. The most recent report from 2008 (the eighth of its kind) reports on data from telephone interviews with 1,025 randomly selected Copenhagen residents as well as data from the DTU Transport Survey of Transport Behaviour. The report allows the city to track its own prog-

ress toward increasing bicycling, bicyclists' safety, and bicyclists' satisfaction.

Benchmarking Toronto against Other World Cities

In 2008, the **Toronto Coalition for Active Transportation (TCAT)** released a benchmarking report that compared Toronto's bicycling progress to other world cities. The report highlighted bicycling mode share, funding, infrastructure, and gender of bicyclists. By comparing Toronto to other world cities leading in bicycling, TCAT made the case for increased investment in bicycling. Their report is a model for other cities on how to glean information for this Benchmarking Report and other sources to highlight the strengths, weaknesses, and opportunities in regard to bicycling and walking.

50 Largest Cities with "Bicycle Friendly" Status

Platinum:
Portland

Gold:
Tucson (East Pima Region)
San Francisco
Seattle

Silver:
Austin
Chicago
Colorado Springs
Minneapolis
San Francisco (Presidio)

Bronze:
Columbus
Denver
Louisville
Mesa
Milwaukee
New York
Philadelphia
San Jose
Tulsa
Washington, DC

Benchmarking Efforts in the U.S.

Bicycle Friendly Community Awards

Although they don't use the term "benchmarking," the **League of American Bicyclists (LAB)** has created a system for scoring cities based on a measure of "bicycle-friendliness." The **Bicycle Friendly Communities** program began in 1995 and is an awards program that recognizes municipalities that actively support bicycling. Cities interested in receiving a "Bicycle Friendly Community" designation submit a two-part application to the League. The application is scored by a committee that consults with national and local bicyclists. The first part of the application is a general community profile that determines whether a city meets basic eligibility requirements. If they do, they are notified and then submit part two of the application process, which is a detailed audit of their efforts to increase bicycling and safety. Since its redesign and relaunch in 2003, 274 municipalities have applied for Bicycle Friendly Community designation and 113 communities have been awarded in that time. Currently 108 are designated. (Five didn't renew.)

LAB's Bicycle Friendly Community program includes Bronze, Silver, Gold, and Platinum levels awarded based on how communities score in five categories including engineering, educa-

tion, encouragement, enforcement, and evaluation. This program has been extremely valuable to incite a spirit of competition among communities to be designated "Bicycle Friendly." The program also forces communities to complete an in-depth application, which gives them an opportunity to evaluate where they stand and causes them to gather data on bicycling in their community.

Benchmarking State Policies

The **National Center for Bicycling and Walking (NCBW)** conducted a one-time study between December 2002 and February 2003 to evaluate state Departments of Transportation (DOTs) accommodating bicycles and pedestrians. **"The Benchmarking Project"** focused on data from questionnaires sent to the Bicycle and Pedestrian Coordinator of state DOTs. NCBW identified four benchmarks: presence of statewide long-range plan for bicycle/pedestrian elements, accommodating bicycles into all transport projects, accommodating pedestrians into all state highway projects, and other special programs.

NCBW assessed whether each state met national standards for these Benchmarks. Results were reported as "Yes" or "No" for each state meeting all or part of the benchmark, and summarized by each benchmark. They concluded that most state DOTs did not meet the benchmarks they identified for bicycle and pedestrian planning, accommodation (design), and special programs. All four of the benchmarks they identified are addressed in some way in Chapter 5 of this report. Although the Alliance's surveys did not frame questions in the same way, its review and discussion of complete streets policies, Safe Routes to School, and other bicycle and pedestrian policies address many of the same issues covered in NCBW's report.

Since the release of the 2007 Benchmarking Report, the **League of American Bicyclists** has begun a **Bicycle Friendly States** program that also compares all 50 states to each other on a number of indicators of "bicycle friendliness." The Bicycle Friendly States scoring system is based on 75 items that evaluate how committed the states are to bicycling. The six main areas the questionnaire covers are legislation, policies and programs, infrastructure, education and encouragement, evaluation and planning, and enforcement. The League released their second annual ranking of Bicycle Friendly States in 2009. The League hopes this will promote bicycling by listing which states recognize and support bicycling as an active form of transportation and recreation. States may also apply for awards under this program to receive further recognition for their bicycling efforts. Upon win-

Links to Other Benchmarking Efforts

Abroad:

Europe: BYPAD—Bicycle Policy Audit
http://www.bypad.org/citymap.phtml?id=548&sprache=en
Europe: Velo Mondial
http://www.velomondial.net/page_display.asp?pid=14
Europe: Urban Transport Benchmarking Initiative
http://www.transportbenchmarks.eu/
UK: Cyclists Touring Club Benchmarking
http://www.ctc.org.uk/desktopdefault.aspx?tabid=3774
Netherlands: The Cycle Balance
http://www.fietsersbond.nl
Copenhagen's Bicycle Account
http://cphbikeshare.com/files/Bicycle%20Account%202008.pdf
Toronto: Benchmarking Toronto's Bicycle Environment
http://www.torontocat.ca/main/node/454

U.S.—National

Bicycle Friendly Communities Program
http://bit.ly/16G4lT
National Center for Bicycling and Walking
http://www.bikewalk.org/pdfs/ncbwpubthereyet0203.pdf
PBIC's Walkability and Bikeability Checklist
http://www.walkinginfo.org/library/details.cfm?id=12
http://www.bicyclinginfo.org/library/details.cfm?id=3
Bicycle and Pedestrian Documentation Project
http://bikepeddocumentation.org/
The College Sustainability Report Card
http://www.greenreportcard.org/report-card-2008/schools
Walk Score
http://www.walkscore.com/

U.S.—Local

New York's Bicycling Report Card
http://transalt.org/files/newsroom/magazine/2008/winter/06-08.pdf
San Francisco's Report Card on Bicycling
http://www.sfbike.org/?reportcard
Oregon's Bicycle Friendly Communities Report Card
http://www.bta4bikes.org/at*work/reportcard.php
Seattle's Report Card on Bicycling
http://www.cascade.org/advocacy/bicycle_report_card.cfm
Virginia Benchmarking Bicycling and Walking
http://www.bikewalkvirginia.org/advocacy.asp

ning awards, states may also receive technical assistance, feedback, and training to further their bicycling plans.

Evaluating Walkability and Bikeability of Communities

The **Pedestrian and Bicycle Information Center's Walkability and Bikeability checklists** are another means of evaluating conditions for bicycling and walking. These checklists are community tools that allow individuals to subjectively score their communities. The document invites individuals to go for a walk or bicycle ride with survey in hand and to rate their experience on a scale of 1 to 5 while checking off potential problems. The document then goes through each question and offers potential solutions to common problems and also provides a list of resources at the end. This survey could be useful for community stakeholders wishing to gain insight into "bikeability" or "walkability." It could also be used by advocates in coordinated education efforts or to raise public perception of a problem area.

Looking at Universities

The **College Sustainability Report Card** is an effort to compare and evaluate campus and endowment sustainability activities at colleges and universities in the United States and in Canada. The categories include administration, climate change and energy, food and recycling, green building, student involvement, transportation, endowment transparency, investment priorities, and shareholder engagement. The report relies on data from publicly available documentation, and from three surveys sent to school administrators. In total, 289 of the 300 schools included in the project (over 96 percent) responded to at least one survey. As of the most recent survey, just 11% of schools earned an "A" grade in transportation. Key findings in the transportation category included:

- Bicycle-sharing programs have been instituted at 31 percent of schools.
- Car-sharing programs are available at 35 percent of schools.
- Reduced-fare passes for public transit are offered at 50 percent of schools.
- Hybrid or other alternative-energy vehicles are used in 66 percent of school fleets.
- The average grade for the Transportation category was "C+."

Although bicycling is a small component of this overall survey, there may be potential for future cooperation between the Benchmarking

Project and this effort to collect more information and set benchmarks for how universities are promoting bicycling and walking.

Walk Score Ranking of Cities

Cities

1. San Francisco
2. New York
3. Boston
4. Chicago
5. Philadelphia
6. Seattle
7. Washington, DC
8. Long Beach
9. Los Angeles
10. Portland, OR
11. Denver
12. Baltimore
13. Milwaukee
14. Cleveland
15. Louisville
16. San Diego
17. San Jose
18. Las Vegas
19. Fresno
20. Sacramento
21. Albuquerque
22. Atlanta
23. Detroit
24. Dallas
25. Tucson
26. Houston
27. Columbus
28. Phoenix
29. Austin
30. Mesa
31. El Paso
32. San Antonio
33. Fort Worth
34. Kansas City
35. Memphis
36. Oklahoma City
37. Indianapolis
38. Charlotte
39. Nashville
40. Jacksonville

National Bicycle and Pedestrian Documentation Project

While not a benchmarking project per se, the **National Bicycle and Pedestrian Documentation Project (NBPD)** is addressing a critical component of all benchmarking efforts for bicycling and walking: trip counts. A more accurate and standardized way of measuring bicycling and walking trips would result in far more accurate benchmarking results. The National Bicycle and Pedestrian Documentation Project, coordinated by the Institute of Transportation Engineers, sets detailed standards and guidelines and provides tools for performing bicycle and pedestrian counts and surveys in communities. The objectives of the project are to:

(1) *Establish a consistent national bicycle and pedestrian count and survey methodology, building on the "best practices" from around the country, and publicize the availability of this free material for use by agencies and organizations online.*

(2) Establish a national database of bicycle and pedestrian count information generated by these consistent methods and practices.

(3) Use the count and survey information to begin analysis on the correlations between various factors and bicycle and pedestrian activity. These factors may range from land use to demographics to type of new facility.

As of the publication date of this report, the project has collected counts from over 50 organizations and 500 locations. NBPD has had a great variety of cities submit data. Large cities like San Jose, New York, Boston, and Portland have sent counts as well as smaller cities like San Rafael. Like the Alliance's Benchmarking Project, NBPD is working toward improving data collection and consistency in order to better understand influences and improve facilities and programs.

Scoring Walkability

Since the release of the 2007 Benchmarking Report, a new effort has launched to measure the walkability of cities. **Walk Score**, launched in July 2007, is a tool that "helps people find walkable places to live." Walk Score calculates the walkability of an address, or city, using a patent-pending system for measuring walkability. The calculator locates nearby stores, restaurants,

schools, parks, etc., to determine how close destinations are and determine how easy it is to get places by walking.

Since its launch, almost 6 million addresses have been served and Walk Score has been featured in over 500 newspaper articles and 50 TV segments. According to Walk Score, "Our vision is for every property listing to read: Bedrooms: 3 Baths: 2 Walk Score: 84. We want walkability and transportation costs to be a key part of choosing where to live." Walk Score has also used its methods to rank the 40 largest U.S. cities on walkability.

Local Efforts

Efforts to measure the state of bicycling locally have also been undertaken by local advocacy organizations. Alliance member organizations including Transportation Alternatives (New York City), San Francisco Bicycle Coalition, the Bicycle Transportation Alliance (Oregon), Cascade Bicycle Club, and BikeWalk Virginia have all created report cards for rating their communities at least once. The results of these efforts are that communities receive credit for areas where they are doing well, and areas needing improvement are identified. Report cards also serve as a benchmarking tool for cities to evaluate themselves and to use these data to measure progress over time.

Transportation Alternatives Bicycling Report Card

Transportation Alternatives (T.A.), the New York City bicycle, pedestrian, and transit-advocacy organization, has the longest running report card for bicycling among U.S. cities. In 2009, T.A. published their 12th annual **NYC Bicycling Report Card**, assigning three grades to eight "bicycle basics" including bicycling environment, safety, and parking among others. T.A. assigns one grade based on government effort and one grade based on their assessment of the reality on the streets. A third grade is assigned by an Internet public opinion poll that received 1,200 responses for the last report. According to T.A., the purpose of the report card is "to provoke and encourage our politicians and government agencies to make NYC safer and more convenient for current bicyclists and more inviting for future ones." This report card provides a useful and provoking annual assessment of bicycling conditions and progress being made toward a more bicycle friendly New York City.

San Francisco Bicycle Coalition Report Card on Bicycling

In 2006, the **San Francisco Bicycle Coalition (SFBC)**, San Francisco's bicycle advocacy organization, published its first **Report Card on Bicycling**. Unlike T.A.'s Bicycling Report Card, SFBC relied completely on survey responses from bicyclists in San Francisco. The survey was answered by 1,151 individuals and addressed topics such as bicycling environment, safety, theft, and transit connections. The survey also collected information on topics such as frequency and types of bicycle trips and what prevents people from bicycling more than they do. The SFBC gave San Francisco a "B–" overall and included recommendations for the city to improve the score. According to the SFBC, the report card is "an instrument to hold (our) local decision makers accountable for their stated commitments to boosting bicycling rates and safety and making bicycling a mainstream transportation mode." In 2008 the SFBC published their second biennial report card after surveying over 1,800 San Francisco bicyclists during April 2008. In addition to the survey results, this second report also included a variety of other measurements and statistics from local sources.

BTA's Bicycle Friendly Communities Report Card

The **Bicycle Transportation Alliance (BTA)**, Oregon's statewide bicycle advocacy organization, produced its first **Bicycle-Friendly Community Report Card** in 2002. Grades were given to 20 of Oregon's largest communities based on such things as quality and quantity of bicycle facilities, encouragement of bicycling, established safety programs, and feedback from community bicycle riders. The 20 communities received a letter grade ranging from A– to D–. A discussion highlighted the good, the bad and the opportunities to increase bicycling in various Oregon regions. According to the BTA, their report was "designed to help communities assess their commitment to bicycling as both recreation and transportation."

Cascade Bicycle Club's Report Card on Bicycling

Seattle had their first ever **Report Card on Bicycling** published in 2009 by the **Cascade Bicycle Club**. The report card, largely modeled after SFBC's efforts, reports on both local bicycling data from government sources and on the results of a local survey of 600 Seattle residents. The report card grades Seattle on four categories: Participation, Network, Support Facilities, and Safety. Each of these categories was further divided into subcategories derived from surveys and government data. Each subcategory grade determined the category

grades; and the grades of the four categories were averaged to give Seattle an overall grade of "B." According to the Cascade Bicycle Club, "ultimately, the findings identified in this Report Card will drive Cascade's future advocacy efforts to ensure that our cyclists' concerns are at the forefront of our agenda."

Benchmarking across the State of Virginia

Most recently, in Virginia, **BikeWalk Virginia**, in cooperation with the Virginia Department of Health, Virginia Department of Motor Vehicles (DMV), and Virginia Department of Transportation (VDOT), released the first-ever comprehensive report of bicycling and pedestrian planning, resources, accommodations, and safety in the state of Virginia. The report was funded by a DMV safety grant. BikeWalk Virginia surveyed 39 cities, 95 counties, and 157 incorporated towns in Virginia. They developed a new measure, the Virginia Active Transportation Index (VATI), to provide a "comprehensive picture of biking and walking resources in each locality." Each locality was scored (from 0 to a perfect score of 11) on the index based on the number of resources they reported, which included: comprehensive transportation plan, bicycle plan, pedestrian plan, greenway plan, bicycle advisory committee, pedestrian advisory committee, greenway advisory committee, law requiring persons 14 and under to wear a helmet, paved bicycle trails, and striped bike lanes. Findings also include identification of localities that reported receiving an Enhancement Grant from the Virginia Department of Transportation. According to BikeWalk Virginia, "The report established a valid benchmark against which progress in expanding resources can be measured." The organization plans to conduct continuing surveys and update the report every two years.

Benchmarking Together

All efforts described above provide inspiration or direct knowledge to inform the Alliance's Benchmarking Project. The Alliance will continue to track other benchmarking efforts and encourage local communities to use the results of this report to support their own benchmarking efforts.

Bibliography

402 Safety Funds, http://safety.fhwa.dot.gov/state*program/section402/index.htm.

5 E's: Creating Your Action Plan: The 5E's for Safe Routes to School, Safe Routes to School National Partnership, http://www.saferoutespartnership.org/local/4191/4219?tid=21841.

Barnes, Gary, and Kevin Krizek, "Tools for Predicting Usage and Benefits of Urban Bicycle Network Improvements," Minnesota Department of Transportation, Research Services Section, December 2005.

Bassett, David R., John Pucher, Ralph Buehler, Dixie L. Thompson, and Scott E. Crouter, "Walking, Cycling, and Obesity Rates in Europe, North America, and Australia," *Journal of Physical Activity and Health, 5*, 2008, pp. 795–814.

"Benchmarking Toronto's Bicycle Environment: Comparing Toronto to other World Cities," Toronto Coalition for Active Transportation, April 25, 2008.

"Bicycle Commuter Tax Provision"; League of American Bicyclists, http://www.bikeleague.org/news/100708adv.php.

"Bicycle Friendly Communities: Enhancing Cities Through Cycling," *American Bicyclist,* League of American Bicyclists, March/April 2007.

Bicycle Policy Audit (BYPAD), http://www.bypad.org.

"Bikeability Checklist—How bikeable is your community?" Pedestrian and Bicycle Information Center, www.bicyclinginfo.org/cps/checklist.htm.

Borgman, Frank, "The Cycle Balance: Benchmarking local cycling conditions," Published in: Rodney Tolley (ed.), *Sustaining sustainable transport: Planning for walking and cycling in urban environments* , Cambridge (UK), Woodhead Publishing Limited, 2003.

Bradley, Jennifer, "A Small-town or Metro Nation?," Brookings Institute, October 2008.

Christie, Les, "Cities are hot again," CNNMoney.com, June 2006.

"College Sustainability Report Card," Sustainable Endowments Institute, http://www.greenreportcard.org/report-card-2009.

"Comparison of Bike Parking Policies," Massachusetts Bicycle Coalition, http://www.massbike.org/bikelaw/parkcomp1.htm.

"Copenhagen City of Cyclists: Bicycle Account 2008," City of Copenhagen, August 2009. http://cphbikeshare.com/files/Bicycle%20Account%202008.pdf.

CTC Benchmark Project; www.ctc.org.uk/DesktopDefault.aspx?TabID=3774; Summary presented at 2003 VeloCity Conference found at http://www.ctc.org.uk/resources/Benchmarking/2003VelocityBM.pdf.

Deichmeister, Jayne, Benjamin Dows, and Kimberly Likens Perry, "Biking and Walking Resources in Virginia: Part I," BikeWalk Virginia, September 2, 2009.

Dougherty, Conor, "Cities Grow at Suburbs' Expense During Recession," *The Wall Street Journal*, July 2009.

"Evaluating Nonmotorized Transport: Techniques for Measuring Walking and Cycling Activity and Conditions," *Transportation Demand Management (TDM) Encyclopedia*, Victoria Transport Policy Institute, March 2007, http://www.vtpi.org/tdm/tdm63.htm#*Toc121444872.

"Examples of Complete Streets Policies and Guides," National Complete Streets Coalition, http://www.completethestreets.org.

Goldeberg, David, et al., *New Data for a New Era: A Summary of the SMARTARQ Findings: Linking Land Use, Transportation, Air Quality and Health in the Atlanta Region.*

Goldeberg, David, et al., *SMARTRAQ Summary Report. New Data for a New Era: A Summary of the SMARTRAQ Findings Linking Land Use, Transportation, Air Quality, and Health in the Atlanta Region*, January 2007.

Gotschi, Thomas, and Kevin Mills, *Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking*, Rails-to-Trails Conservancy, 2008, http://www.railstotrails.org/atfa.

Heart and Stroke Foundation 2005 Report Card on Canadians' Health—Has the Suburban Dream Gone Sour?, Press Release from the Heart and Stroke Foundation, www.heartandstroke.ca, February 10, 2005.

"History of Safe Routes to School," from the website of the National Center for Safe Routes to School, www.saferoutesinfo.org.

I*nterim Program Guidance, The Congestion Mitigation and Air Quality (CMAQ) Improvement Program under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users,* http://www.fhwa.dot.gov/environment/cmaq06gd.pdf, October 31, 2006.

International Walk to School in the U.S., National Center for Safe Routes to School, http://www.walktoschool-usa.org.

Jacobsen, P.L., "Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling," *Injury Prevention, 9*, 2003, pp. 205–209.

Law, Patrick, "Seacoast Rides," *The Wire*, May 16, 2007.

League of American Bicyclists Bicycle Friendly Communities, www.bicyclefriendlycommunity.org/pdf/bfc*application*1.pdf, Report of 2006 Bicycle Friendly Communities at http://www.bicyclefriendlycommunity.org/Images/bfc*pdf*pages/bicycle*friendly*community*case*study.pdf.

"Making the Grade 2009: T.A.'s 12th Annual Bicycling Report Card," *Reclaim Magazine*, Winter 2009.

McDonald, Noreen C., "Active Transportation to School: Trends Among U.S. Schoolchildren, 1969–2001," *American Journal of Preventive Medicine, 32 (6)*, 2007, pp. 509–516.

National Bicycle and Pedestrian Documentation Project: Instructions, Alta Planning + Design, Inc., August 2005, http://www.altaplanning.com/nbpd/NDP_Instructions090205.pdf.

National Bicycle and Pedestrian Documentation Project: Description, Alta Planning + Design, Inc., August 2005, http://www.altaplanning.com/nbpd/NDP_Description090205.pdf.

National Center for Health Statistics, *Health, United States, 2006: With Chartbook on Trends in the Health of Americans*, Hyattsville, MD: 2006, 57 (further cites Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Examination Survey, and National Health and Nutrition Examination Survey).

NHTS, National Household Travel Survey, U.S. Department of Transportation and Federal Highway Administration, 2001.

Pedroso, Margo, *Safe Routes to School Federal Program State of the States Report* , Safe Routes to School National Partnership, November 2009, http://www.saferoutespartnership.org/state/5043.

Pucher, John, and Lewis Dijkstra, "Promoting Safe Walking and Cycling to Improve Public Health: Lessons from The Netherlands and Germany," *American Journal of Public Health, 93 (9)*, September 2003, pp. 1509-1506. Accessible at: http://policy.rutgers.edu/faculty/pucher/AJPHfromJacobsen.pdf.

Pucher, John, and John L. Renne, "Socioeconomics of Urban Travel: Evidence from the 2001 NHTS," *Transportation Quarterly, 57 (3)*, Summer 2003, pp. 49–77. Accessible at: http://policy.rutgers.edu/faculty/pucher/TQPuchRenne.pdf.

Pucher, John, and Ralph Buehler, "Why Canadians cycle more than Americans: A Comparative Analysis of Bicycling Trends and Policies," *Transport Policy, 13*, 2006, pp. 265–279. Accessible at: http://policy.rutgers.edu/faculty/pucher/TransportPolicyArticle.pdf.

Pucher, John, and Ralph Buehler, "At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany," *World Transport Policy and Practice, 13 (3)*, December 2007, pp. 8–57. Accessible at: http://www.eco-logica.co.uk/pdf/wtpp13.3.pdf.

Pucher, John and Ralph Buehler, "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany," *Transport Reviews, 28 (4)*, July 2008, pp. 495–528. Accessible at: http://policy.rutgers.edu/faculty/pucher/Irresistible.pdf.

Pucher, John and Ralph Buehler, "Integration of Bicycling and Public Transport in North America," *Journal of Public Transportation, 12 (3)*, November 2009, pp. 79–104. http://policy.rutgers.edu/faculty/pucher/PUCHER_BUEHLER.pdf.

Pucher, John, Jennifer Dill, and Susan Handy, "Infrastructure, Programs and Policies to Increase Bicycling: An International Review," *Preventive Medicine, 48 (2)*, February 2010.

Report Card on Bicycling: Seattle 2009, Cascade Bicycle Club, 2009, http://www.cascade.org/advocacy/bicycle_report_card.cfm.

Report Card on Bicycling: San Francisco 2006, San Francisco Bicycle Coalition, May 2006, http://www.sfbike.org/?reportcard.

Report Card on Bicycling: San Francisco 2008, San Francisco Bicycle Coalition, May 2008, http://www.sfbike.org/?reportcard.

Safe Routes to School: http://safety.fhwa.dot.gov/saferoutes.

Safe Routes to School Federal Program: State of the States, Safe Routes to School National Partnership, July 2009.

Summer 2009 SRTS Program Tracking Brief , National Center for Safe Routes to School, June 2009, http://www.saferoutesinfo.org/resources/tracking-reports.cfm.

StolenBicycleRegistry.com, http://www.stolenbicycleregistry.com/links.php.

Surface Transportation Program (STP), http://www.fhwa.dot.gov/Tea21/factsheets/stp.htm.

"Survey of EMS Bike Teams," International Police Mountain Biking Association (IPMBA), 2002, http://www.ipmba.org/survey-2002-results-ems.htm.

"The Bicycle as a Vehicle," Massachusetts Bicycle Coalition, http://www.massbike.org/bikelaw/vehicle.htm.

The Bicycle-Friendly Communities Report Card: A Comparative Look at the Quality of Bicycling in Oregon's Cities, Bicycle Transportation Alliance, Portland, OR, 2002.

Taylor, Neil, Transport and Travel Research, Ltd., *The Urban Transport Benchmarking Initiative: Year Three Final Report*, Cycling Scotland, July 31, 2006, http://www.transport-benchmarks.org.

Transportation Research Board (TRB), *Does the Built Environment Influence Physical Activity: Examining the Evidence,* TRB Special Report 282, 2005.

U.S. Centers for Disease Control and Prevention, "Kids Walk-to-School: Then and Now—Barrier and Solutions," www.cdc.gov/nccdphp/dnpa/kidswalk/then*and*now.htm, Accessed: June 21, 2007.

Velo Mondial, *National Cycling Benchmark Policies,* http://www.velomondial.net/page_display.asp?pid=14.

"Walkability Checklist: How walkable is your community?," Partnership for a Walkable America, www.walkableamerica.org/checklist-walkability.pdf.

Walkscore, http://www.walkscore.com/how-it-works.shtml.

"Walk to School Campaign History," Living Streets, http://www.walktoschool.org.uk/content/campaign_history.php.

Made possible in part by:

$29.95

PeoplePoweredMovement.org