Alliance for Biking & Walking

BICYCLING AND WALKING IN THE UNITED STATES

2012

BENCHMARKING REPORT





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PREFACE

Alliance for Biking & Walking

Alliance for Biking & Walking is the North American coalition of grassroots bicycling and walking advocacy organizations. Our mission is to create, strengthen, and unite state/provincial and local bicycle and pedestrian advocacy organizations. Since our founding in 1996, we have grown from 12 to nearly 200 member organizations representing 48 U.S. states, four Canadian provinces, and Mexico City.

In the last 16 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, strategic planning, and resources like this report.

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 by 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.

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



Advocacy leaders from across North America gathered for the 2010 Alliance Leadership Retreat in Chattanooga, TN.
Photo by Yvonne Bambrick

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.

The Benchmarking Project was also aligned with public health organizations and objectives. The process of benchmarking is designed to facilitate communities to build healthy and safe community environments. This is one of four key directions outlined by the U.S. Department of Health and Human

The process of benchmarking is designed to facilitate communities to build healthy and safe community environments.

Services as fundamental to bring prevention into our communities. Furthermore, it aligns with Centers for Disease Control and Prevention's (CDC) Winnable Battles to reduce motor vehicle injuries and increase physical activity. The partnerships addressed in this report among bicycle and pedestrian groups, health organizations, and transportation are necessary to address the infrastructure problems in our communities to improve public health, in the same way that municipal water systems and improved housing infrastructure helped remove infectious disease risks in the previous century.

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 50 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). The second full report was published in January 2010. This second report marked the first time we had in place a system to track usage and dissemination of report findings. To date, nearly 6,000 copies of the report have been downloaded or distributed. The 2010 report was cited or referenced in over 300 media stories, reports, plans, and articles.

This third full report builds upon our previous efforts to deliver timely data to help locals measure their progress and effectiveness, set new goals, and achieve greater results.

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 United States and eventually all of North America.



Photo by Teena Widman

EXECUTIVE SUMMARY

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 the 51 largest cities. This is the third biennial Benchmarking Report. The first report was published in 2007, the second in 2010, and the next report is scheduled for January 2014.

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 and city biennial 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.

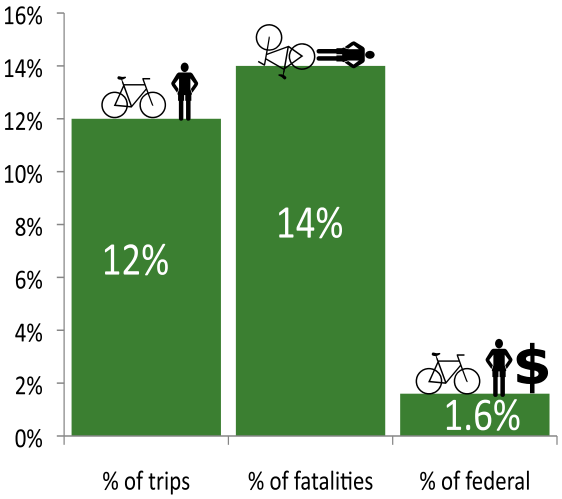
(3) Support Efforts to Increase Bicycling and Walking

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 two surveys for cities and states. In October 2010,

Levels of Bicycling and Walking, Bike/Ped Fatalities, and Bike/Ped Funding in the U.S.



Sources: NHTS 2009, FARS 2009, FHWA FMIS 2006-2011

Bicyclists and pedestrians make up 12% of all trips and account for 14% of traffic fatalities, yet just 1.6% of federal transportation funds go to these modes.

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

Mode of Travel	% of Commuters (1)		% of All Trips Nation-wide (2)
	Nation-wide	Major U.S. Cities	
	2.9%	4.9%	10.5%
	0.6%	0.9%	1.0%
	5.0%	17.2%	1.9%
 (3)	91.5%	77.0%	86.6%

Sources: (1) ACS 2009 (2) NHTS 2009 **Notes:** (3) This includes trips by private car and "other" means that are not public transportation, bicycling, or walking.

the Benchmarking Project 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 city and state surveys. The surveys complemented existing government data sources to create a comprehensive 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 2009, the percent of commuters who bicycle to work increased from 0.4% to 0.6% while the percent of commuters who walk to work decreased from 3.9% to 2.9%. According to the 2009 American Community Survey (ACS), 3.4% of commuters nationwide are bicyclists (0.55%) or pedestrians

Changes 2005-2010

	05/06	07/08	09/10
KEY FIGURES			
Percent of commuters who walk	2.5%	2.8%	2.9%
Percent of commuters who bicycle	0.4%	0.5%	0.6%
Percent of commuters who walk or bicycle	2.9%	3.3%	3.4%
Percent of traffic fatalities: ped	11.2%	11.3%	11.7%
Percent of traffic fatalities: bicycle	1.7%	1.8%	1.8%
Number of ped traffic fatalities	4,892	4,699	4,092
Number of bicycle traffic fatalities	786	701	630
Percent of fed. trans. $ to bike/ped	1.5%	1.2%	1.6%
Number of states/cities responding(2)	46/45	47/48	48/48
STATE POLICIES (Number of states with)			
Goal to increase walking	16(1)	22	35
Goal to increase bicycling	16(1)	21	35
Goal to decrease ped fatalities	18(1)	31	41
Goal to decrease bicycle fatalities	18(1)	31	38
Bicycle advisory committee	*	20	24
Pedestrian advisory committee	*	18	22
Bicycle master plan	*	27	27
Pedestrian master plan	*	24	25
Safe passing legislation	*	14	21
Complete streets policy	10	17	24
CITY POLICIES (Number of cities with)			
Goal to increase walking	25(1)	20	36
Goal to increase bicycling	25(1)	33	46
Goal to decrease ped fatalities	20(1)	19	31
Goal to decrease bicycle fatalities	20(1)	26	39
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Pedestrian advisory committee	*	31	26
Bicycle master plan	*	36	42
Pedestrian master plan	*	12	22
Complete streets policy	8	13	18
STATE PROVISIONS			
Per capita $ to bike/ped	$2.50	$1.29	$2.17
CITY PROVISIONS			
Per capita $ to bike/ped	$1.83	$1.49	$1.80
Miles bicycle facilities/sq. mile	1.3	1.4	1.8
Bike parking at transit/10K people	1.7	2.5	2.5
% buses with bike racks	69%	93%	95%
STATE EDUCATION & ENCOURAGEMENT (Number of states with)			
Annual state bike/ped conference	*	15	25
Drivers test questions on bicycling	*	23	32
Share the road/safety campaign	*	33	38
CITY EDUCATION & ENCOURAGEMENT (Number of cities with)			
Youth bike ed courses	*	29	38
Adult bike ed courses	*	33	41
Bike to Work Day events	*	37	43
Open street (ciclovia) initiatives	*	12	21
City-sponsored bike ride	*	23	32
OTHER			
States with dedicated advocacy org	32	35	43
Cities with dedicated advocacy org	32	34	36

(1) Walking and bicycling were combined in this survey (2) Number of states/cities who responded to the Benchmarking Report survey
*= Data unavailable

High to Low Ranking of Bicycling and Walking Levels

STATES	CITIES
1. Alaska	1. Boston
2. Vermont	2. Washington, DC
3. New York	3. San Francisco
4. Montana	4. Seattle
5. Oregon	5. New York
6. Hawaii	6. Portland, OR
7. Massachusetts	7. Minneapolis
8. South Dakota	8. Philadelphia
9. Wyoming	9. Honolulu
10. Maine	10. New Orleans
11. North Dakota	11. Baltimore
12. Pennsylvania	12. Chicago
13. Idaho	13. Oakland
14. Iowa	14. Denver
15. Washington	15. Sacramento
16. Colorado	16. Tucson
17. Wisconsin	17. Milwaukee
18. Minnesota	18. Atlanta
19. California	19. Cleveland
20. Illinois	20. Los Angeles
21. Nebraska	21. Miami
22. Utah	22. Long Beach
23. New Jersey	23. San Diego
24. New Hampshire	24. Detroit
25. Rhode Island	25. Columbus
26. Connecticut	26. Albuquerque
27. Kansas	27. Austin
28. New Mexico	28. Raleigh
29. Arizona	29. Colorado Springs
30. West Virginia	30. Mesa
31. Nevada	31. Omaha
32. Maryland	32. San Jose
33. Delaware	33. Louisville
34. Michigan	34. Fresno
35. Indiana	35. Virginia Beach
36. Virginia	36. Tulsa
37. Kentucky	37. Houston
38. Ohio	38. Phoenix
39. Louisiana	39. Indianapolis
40. Missouri	40. Las Vegas
41. Oklahoma	41. Kansas City, MO
42. Florida	42. El Paso
43. North Carolina	43. Memphis
44. South Carolina	44. Charlotte
45. Texas	45. San Antonio
46. Mississippi	46. Arlington, TX
47. Arkansas	47. Nashville
48. Georgia	48. Jacksonville
49. Tennessee	49. Dallas
50. Alabama	50. Oklahoma City
	51. Fort Worth

(2.86%). Residents of major U.S. cities are 1.7 times more likely to walk or bicycle to work than the national average. According to the 2009 National Household Travel Survey (NHTS) 1.0% of all trips are by bicycle and 10.5% 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 2009 ACS. Greater disparities are found among genders. According to the 2009 NHTS, 49% of walking trips are men and 51% are female, yet among bicycle trips, 76% are male and only 24% are female. A look at age reveals that while walking is generally distributed proportionately among age groups, youth under age 16 make up 39% of bicycle trips. This age group accounts for just 21% of the population.

Safety

In 2009, 4,092 pedestrians and 630 bicyclists were killed in traffic. This is down significantly from 2005 when 4,892 pedestrians and 786 bicyclists were traffic fatality victims. 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. Although just 10.5% of trips in the U.S. are by foot and 1.0% are by bicycle, 11.7% of traffic fatalities are pedestrians and 1.8% are bicyclists. In major U.S. cities, 12.7% of trips are by foot and 1.1% are by bicycle,

Source: 2007-2009 ACS **Notes:** This ranking is based on the combined bike and walk to work share from the 2007-2009 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.

yet 26.9% of traffic fatalities are pedestrians and 3.1% are bicyclists.

According to the 2007-2009 Fatality Analysis Reporting System (FARS) and the 2009 NHTS, seniors are the most vulnerable age group. While adults over 65 make up 10% of walking trips and 6% of bicycling trips, they account for 19% of pedestrian fatalities and 10% 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. This report marks a significant increase in planning for bicycling and walking over the last two years. Many states and cities have adopted new plans and goals to increase bicycling and walking and reduce fatalities. Overall, states and cities still rank poorly for funding bicycling and walking at a rate proportionate to active transportation levels.

Funding for Bicycling and Walking

2010 data from the Federal Highway Administration reveal that states spend just 1.6% of their federal transportation dollars on bicycling and walking. This amounts to just $2.17 per capita for bicycling and walking. About 40% 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.

Sources: FARS 2007-2009 ACS 2007-2009 **Notes:** This ranking is based on the fatality rate which is calculated by dividing the number of annual pedestrian and bicycle fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population walking and bicycling to work). The number one position indicates the safest state or city according to the fatality rate. View these data on pages 56-62 of this report.

Low to High Ranking of Bike/Ped Fatality Rates

STATES

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

CITIES

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

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

STATES	CITIES
1. Alaska	1. Washington, DC
2. Vermont	2. Minneapolis
3. Montana	3. Sacramento
4. Wyoming	4. Miami
5. Delaware	5. Tucson
6. New Mexico	6. Dallas
7. South Dakota	7. New Orleans
8. Rhode Island	8. Albuquerque
9. Kentucky	9. Nashville
10. Iowa	10. Oakland
11. Minnesota	11. Atlanta
12. North Dakota	12. Kansas City, MO
13. Indiana	13. Portland, OR
14. Washington	14. OmahaS
15. Pennsylvania	15. San Diego
16. New Hampshire	16. Philadelphia
17. Missouri	17. Raleigh
18. Tennessee	18. San Francisco
19. Idaho	19. Indianapolis
20. Maine	20. Houston
21. Florida	21. San Jose
22. Arizona	22. San Antonio
23. Georgia	23. Charlotte
24. Oregon	24. Denver
25. Massachusetts	25. Austin
26. Alabama	26. Milwaukee
27. North Carolina	27. Jacksonville
28. Louisiana	28. Memphis
29. Kansas	29. Long Beach
30. Colorado	30. Phoenix
31. Utah	31. Fresno
32. Hawaii	32. El Paso
33. Michigan	33. Seattle
34. California	34. Detroit
35. Connecticut	35. Colorado Springs
36. Nebraska	36. Louisville
37. New York	37. Columbus
38. Mississippi	38. Cleveland
39. West Virginia	39. Tulsa
40. Texas	40. Honolulu
41. Ohio	41. Los Angeles
42. Wisconsin	42. Boston
43. Arkansas	43. Fort Worth
44. Nevada	44. Mesa
45. Illinois	45. Baltimore
46. South Carolina	46. Chicago
47. New Jersey	47. Virginia Beach
48. Oklahoma	48. Arlington, TX
49. Virginia	49. Las Vegas
50. Maryland	50. New York

Planning and Legislation

Since the 2010 Benchmarking Report, there has been a 63% increase in the number of states that have published goals to increase bicycling and walking, and a 27% increase in the number of states that have published goals to reduce bicycle and pedestrian fatalities.

2011 League of American Bicyclist 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. Twenty-one states have 3-foot passing laws that require motorists to pass bicyclists at a safe distance of at least three feet (up from 14 as of the 2010 Benchmarking Report).

A survey of other policies found that 19 (of the 51 largest) U.S. cities and 26 states have adopted complete streets policies that require streets be built to accommodate all potential road users. Nearly half of states report having a bicycle and pedestrian advisory committee. And 38 states report having a publicly available bicycle map.

Cities were surveyed on a number of planning and policy initiatives. Forty-one cities report having a bicycle master plan, and 21 have a pedestrian master plan. Over half of cities have bicycle and pedestrian advisory committees.

(Continued page 16)

Source: FHWA FMIS 2006-2010 **Notes:** This ranking is based on the per capita spending of federal funds by states and cities on bicycling and walking using a 5-year average (2006-2010). 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 federal funding to bicycling and walking. Due to large amounts of deobligated funds in the 5-year period between 2006-2010, accurate funding estimates could not be obtained for Oklahoma City. View these data on pages 86-87 of this report.

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	Policy (1)	Education/ Encouragement (2)	Advocacy Capacity (3)
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 (page)	45-46	56-57	86	68, 72,80	111, 113	138

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, policies, education/ encouragement, and advocacy capacity. Below is an explanation for how the rankings 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 averaged over the most recent three years. The top 1/3 states and cities are those with the highest percentage of workers who commute by bicycle and foot. **Data source:** ACS 2007-2009.

Safety: This ranking is based on the bicycle and pedestrian fatality rate defined as number of annual bicycle and pedestrian deaths (using a 3-year average) divided by the population (weighted, or multiplied, by share of commuters who bicycle and walk to work). The top 1/3 states and cities are those with the lowest fatality rate, and thus the highest safety ranking. **Data Sources:** FARS 2007-2009, ACS 2009.

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.

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, walking, and trails; Bike/ Ped advisory committee; legal 2-abreast riding for bicycles; 3-foot/safe passing legislation; spending target; publicly available bicycle map; complete streets policy. **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; 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)

Education/Encouragement: This ranking is based on the total number of education/ encouragement programs and state/city events. **Those counted for states include:**

City Overview of Primary Benchmarking Indicators

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

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; bicycling enforcement as a policy academy requirement; bicycling enforcement in police continuing education; and existence of an annual statewide bike/ped conference. **Those counted for cities include:** Adult and youth bicycle education courses; Bike to Work Day events; open streets initiative; city-sponsored ride to promote bicycling/activity; public bike share program. **Data Source:** State and city surveys

Advocacy Capacity: This ranking is based on the 2010 per capita revenue of Alliance 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 Alliance advocacy organizations are marked by an empty circle. **Data Source:** Organization surveys (2)

Notes: (1) Because many states and cities have the same number of policies, policy rankings are not divided into even thirds. For states, those with more than 10 of the 14 policies considered are indicated with full circles; those with 8-10 policies are indicated with a half circle, and those with fewer than 8 policies are indicated with an empty circle. For cities, those with 10 or more of the 13 policies considered are indicated with full circles; those with 6-9 policies are indicated with a half circle, and those with 5 or fewer policies are indicated with an empty circle. (2) Because many states and cities have the same number of education and encouragement initiatives, these rankings are not divided into even thirds. For states, those with 6-7 of the 7 initiatives considered are indicated with full circles; those with 4-5 initiatives are indicated with a half circle, and those with 3 or fewer initiatives are indicated with an empty circle. For cities, those with 5-6 of the 6 initiatives considered are indicated with full circles; those with 3-4 initiatives are indicated with a half circle, and those with 2 or fewer initiatives are indicated with an empty circle. (3) 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	Policy (1)	Education/ Encouragement (2)	Advocacy Capacity (3)
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 (page)	45,47	59,62	87	69, 73	114	140

Infrastructure
City surveys examined current and planned bicycle and pedestrian infrastructure 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 1.8 miles of bicycle facilities (bike lanes, multi-use paths, and signed bicycle routes) per square mile—a 29% increase since the 2010 Benchmarking Report.

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. The number of cities that report having implemented innovative facilities has increased significantly in the last two years. Seventy-three percent of cities now report having implemented sharrows, or shared lane markings.

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. Forty-four cities report that 100% of their bus fleet have bicycle racks, a 19% increase over the past two years. Major U.S. cities report an average of 2.5 bicycle parking spaces at bus 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-eight cities report having youth bicycle education courses and 41 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 31% from two years ago. Surveys indicate a 40% increase in adult participation levels for bicycle educational courses over the last two years.

League of American Bicyclists' data indicate that almost all states (49) have information on bicycling in their state driver's manual, yet just 32 states have questions on bicycling on their state driver's exam. The majority of states (38) have a "Share the Road" or similar public safety campaign. Seventeen states report sponsoring a statewide ride to promote bicycling or physical activity.

The Alliance also collected data on professional education regarding bicycling and walking. Overall, these efforts are growing among states, but there is still great room for improvement. Only 20 states have bicycle enforcement as a police academy requirement. And, just 25 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, open street/ciclovia initiatives, and city-sponsored bicycle rides. Bike to Work Day is the most common encouragement event with 43 cities participating with an average of one participant for every 286 adults. Thirty-two cities sponsor rides to promote bicycling or physical activity with an average of one participant for every 350 residents. Twenty-one cities have open street (car-free or ciclovia) initiatives with an average of one participant for every 37 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. 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.



Photo by Dan Burden, Walkable and Livable Communities Institute

Surveys indicate that organizations serving cities earn significantly more per capita than their statewide counterparts. Local organizations earn an average of $0.15 per resident served while statewide organizations earn just $0.03 per resident. 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 1,522 residents. Statewide organizations have an average of one member per 4,975 residents. Similarly, statewide organizations operate with an average of 0.4 full-time-equivalent staff (FTE) per million residents served. Organizations serving cities average 2.2 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 car ownership 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.

Public Health Benefits

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.

Economic Benefits

To see how bicycling and walking influence the economic strength of communities, the Alliance surveyed numerous studies and data sources. Evidence suggests that bicycling and walking projects create 11-14 jobs per $1 million spent, compared to just 7 jobs created per $1 million spent with highway projects. Surveys show that facilities for bicycling and walking attract tourists, event participants, and business. In addition bicycling and walking are affordable investments that save commuters money and in turn equate to more money available for local economies.

Studies that have performed cost/benefit analysis on bicycling and walking facilities have found that these facilities have significant benefit for public health, traffic congestion, and air quality. The cost benefit ratio of Portland, OR's bicycle investments, looking at just

health and fuel savings, ranged from 3.8-to-1 to 1.3-to-1.

Conclusions

While many state and local communities are making sufficient efforts to promote bicycling and walking, much more work needs to be done. Barriers in staffing and funding remain a consistent limitation to promoting bicycling and walking. Bicycling and walking make up 11.5% of all trips, and 13.5% of traffic fatalities, and yet receive just 1.6% 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.



Photo by Frank Chan, San Francisco Bicycle Coalition



1: INTRODUCTION

Bicycling and walking are good for public health, good for the environment, good for local economies, and help create vibrant communities. This report shows that bicycling and walking are prudent investments that deliver greater returns, and create more jobs, than investing in motorized transportation. Bicycling and walking are also critical components of a healthy active lifestyle that promises to improve health, help protect against various diseases, reduce stress, and improve overall quality of life. For these reasons, government officials, elected representatives, and the media are taking an increased interest in active transportation.

Since publishing the first biennial Benchmarking Report in 2007, there have been many significant new efforts, programs, organizations, and policies promoting bicycling and walking in the United States. Since 2007, the Alliance's network has grown from 133 to nearly 200 grassroots bicycling and walking advocacy organizations.

In August 2008, the first public smart bike sharing program in the U.S. was launched in Washington, DC, and subsequent programs have sprung up in Boston, Chicago, Denver, Minneapolis, Nashville, San Antonio, and other cities.

In December 2009 the National Association of City Transportation Officials (NACTO) founded the Cities for Cycling project to document, promote, and implement the world's best bicycle transportation practices in U.S. cities.

The League of American Bicyclists has expanded its Bicycle Friendly Communities Program to make states, businesses, and universities eligible for "bicycle friendly" designation. In April 2011, the Pedestrian and Bicyclist Information Center awarded the inaugural Walk Friendly Community designations to 11 communities.

These efforts are receiving increasing support from people in the public eye. In February 2010, First Lady Michelle Obama launched her Let's Move campaign to reduce childhood obesity within one generation. Helping kids become more physically active is one of the program's main goals. In March 2010, U.S. Secretary of Transportation Ray LaHood came out as a champion of bicycling and walking and introduced a new policy that recommended "increased commitment to and investment in bicycle facilities and walking networks." In 2011, a survey of U.S. mayors revealed that they want more control of federal transportation money and 60% of mayors see bicycle and pedestrian projects as a major priority (Flusche 2011).

Public demand for bikeable and walkable places is also growing. A 2010 survey of 1,025 adults age 18 and older found that nearly half of drivers ages 18-34 are driving less. Nearly two-thirds reported they would drive less if transportation alternatives were more readily available. The cost of owning a car and concern for the environment were among the reasons younger drivers are leaving their cars parked (UPI 2010). A 2011 survey by the National Association of Realtors found that Americans favor walkable mixed-use neighborhoods with 56% of respondents selecting these neighborhoods over ones that require more driving between home, work, and other destinations (National Association of Realtors 2011).

Momentum is growing for bicycle and walking friendly communities. This report gives a good picture of how the landscape is changing for bicycling and walking. It shows which states and cities are making strides and which are setting the benchmarks. Most importantly, it serves as a tool for officials, advocates, researchers, and the media to track and support continued efforts to increase investment in bicycling, walking, safety, and public health.



Photo: Courtesy of Transportation for America

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 this biennial Benchmarking Report to measure progress over time of the most-populous 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.


Photo by Leslie Bloom

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 have existed are often not easily accessible to officials and advocates. One of the main 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 available from 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.

Make the Health Connection

The Centers for Disease Control and Prevention (CDC) has 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 (Frank et al., 2004; Goldberg 2007; Salems and Handy 2008; TRB 2005). The way communities are designed is inextricably linked to the amount of physical activity their 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 and 27% are one mile or less (NHTS). These are trips considered an easily bikeable or walkable 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 CDC 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 begins to reverse.

Study Area Populations

Rank	State	Population
1	California	36,961,664
2	Texas	24,782,302
3	New York	19,541,453
4	Florida	18,537,969
5	Illinois	12,910,409
6	Pennsylvania	12,604,767
7	Ohio	11,542,645
8	Michigan	9,969,727
9	Georgia	9,829,211
10	North Carolina	9,380,884
11	New Jersey	8,707,740
12	Virginia	7,882,590
13	Washington	6,664,195
14	Arizona	6,595,778
15	Massachusetts	6,593,587
16	Indiana	6,423,113
17	Tennessee	6,296,254
18	Missouri	5,987,580
19	Maryland	5,699,478
20	Wisconsin	5,654,774
21	Minnesota	5,266,215
22	Colorado	5,024,748
23	Alabama	4,708,708
24	South Carolina	4,561,242
25	Louisiana	4,492,076
26	Kentucky	4,314,113
27	Oregon	3,825,657
28	Oklahoma	3,687,050
29	Connecticut	3,518,288
30	Iowa	3,007,857
31	Mississippi	2,951,996
32	Arkansas	2,889,450
33	Kansas	2,818,747
34	Utah	2,784,572
35	Nevada	2,643,085
36	New Mexico	2,009,671
37	West Virginia	1,819,777
38	Nebraska	1,796,622
39	Idaho	1,545,801
40	New Hampshire	1,324,575
41	Maine	1,318,301
42	Hawaii	1,295,178
43	Rhode Island	1,053,209
44	Montana	974,989
45	Delaware	885,122
46	South Dakota	812,383
47	Alaska	698,473
48	North Dakota	646,844
49	Vermont	621,760
50	Wyoming	544,270

Rank	City	Population
1	New York	8,391,881
2	Los Angeles	3,831,880
3	Chicago	2,850,502
4	Houston	2,260,918
5	Phoenix	1,593,660
6	Philadelphia	1,547,297
7	San Antonio	1,373,677
8	San Diego	1,306,228
9	Dallas	1,299,590
10	San Jose	964,679
11	Detroit	910,848
12	San Francisco	815,358
13	Jacksonville	813,518
14	Indianapolis	807,640
15	Austin	790,593
16	Columbus	773,021
17	Fort Worth	731,588
18	Charlotte	704,417
19	Memphis	676,646
20	Boston	645,187
21	Baltimore	637,418
22	El Paso	620,440
23	Seattle	616,669
24	Denver	610,345
25	Nashville	605,466
26	Milwaukee	605,027
27	Washington, DC	599,657
28	Las Vegas	567,610
29	Portland, OR	566,606
30	Louisville	566,492
31	Oklahoma City	560,226
32	Tucson	543,907
33	Atlanta	540,932
34	Albuquerque	529,216
35	Kansas City, MO	482,228
36	Fresno	479,911
37	Mesa	467,178
38	Sacramento	466,685
39	Long Beach	462,594
40	Omaha	454,714
41	Virginia Beach	433,575
42	Miami	433,143
43	Cleveland	431,369
44	Oakland	409,151
45	Raleigh	405,197
46	Colorado Springs	399,803
47	Tulsa	389,369
48	Minneapolis	385,384
49	Arlington	380,072
50	Honolulu	374,658
51*	New Orleans	354,850

Source: 2009 ACS **Note:** * New Orleans is not currently the 51st largest U.S. city but was included in this report for consistency and continuity with the 2007 and 2010 Benchmarking Reports.

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 show data from this report 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, the 50 largest U.S. cities,

and New Orleans(1). The 51 largest cities were chosen for this study because these areas are the largest population areas of U.S. residents. 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.

National 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:

- American Community Survey (ACS) (2005-2009)
- American Public Transportation Association (APTA) (2010)
- Behavioral Risk Factor Surveillance System (BRFSS) (2009)
- Federal Highway Administration's FMIS (FHWA) (2004-2010)
- Fatality Analysis Reporting System (FARS) (2005-2009)
- League of American Bicyclists (LAB) Bicycle Friendly States Program (2011)
- National Center for Safe Routes to School (2011)
- National Complete Streets Coalition (2011)
- National Health Interview Survey (NHIS) (2005)
- National Health and Nutrition Examination Study (NHANES) (2005-2006)
- National Household Travel Survey (2001, 2009)

Note: (1) 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 was the only new city added for this report in 2010. 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. Throughout this report, the top 51 largest U.S. cities are also referred to as "major" or "largest" U.S. cities.



Photo by Jim Swanson

Primary Benchmarks in This Report

Input Benchmarks	
Policy (Chapter 4)	◆ funding levels (per capita and % of transportation dollars to bicycling and walking) ◆ 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
Programs (Chapter 5)	◆ adult and youth bicycle education courses participation (per capita) ◆ Bike to Work Day participation (per capita) ◆ open streets (ciclovia) initiatives participation (per capita) ◆ city/state-sponsored bicycle rides participation (per capita) ◆ Walk and Bike to School Day participation (per capita)
Advocacy (Chapter 6)	◆ presence of dedicated bike/ped advocacy organization ◆ capacity indicators of advocacy organization • membership (per capita) • income (per capita) • staff levels (per capita) • contacts (per capita)
Outcome Benchmarks	
Mode share (Chapter 2)	◆ share of commuters ◆ all trips ◆ demographics • age • gender • ethnicity • income
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

- National Transportation Enhancements Clearinghouse (2011)
- Rails-to-Trails Conservancy (2011)
- Safe Routes to School National Partnership (SRTSNP) State of the State's Report (2011)
- School Transportation News (2011)
- U.S. Census (1990, 2000)
- United States Historical Climatology Network (USHCN)
- Web-based Injury Statistics Query and Reporting System (WISQARS) (2009)

In some cases, data in this report come from individual independent studies. The sources for all data are identified throughout the report with accompanying charts, tables, and graphics. An overview of the national data sources used in this report can be found in Appendix 1 on page 199. Individual studies cited in this report can be referenced in the Bibliography on page 231.

State and City Surveys

Many of the variables this report measures are not currently available from other national sources. In these cases, the project team relied on surveys completed by city and state agencies for data on indicators such as miles of bicycle facilities, city and state education efforts, and policies. 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 2010. 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 2011, with the final data for 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 ultimate benchmarks to measure the progress of states and cities. We also measure a number of variables (called "input benchmarks" here) which we believe, and research has shown, influence levels of bicycling, walking, and safety. Input benchmarks are the factors that affect the outcome benchmarks. Policies, programs, and advocacy capacity are the three primary areas measured in this report. While likely no single policy or program measured here is solely 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 factors that may influence bicycling and walking including weather, residential



Cycle track in New York City. Photo courtesy of New York City DOT

density, and levels of car ownership. This report also includes data on public health, an 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 report for your city or state to see how you compare to others. 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:** Review 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. There are examples in this report of significant improvements in just a few short years. You will find which cities and states are leading in funding, safety, facilities, and other areas and 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 or digital format. 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.
6. **Share it:** Purchase extra hard copies of the report to give to your local elected and agency officials, organization leaders, and others who can use it. The report can be a great reason to have a meeting, talk about the current status, and improvements you can mutually strive for. It is always best to deliver the report in person. Also share the link to the Benchmarking Project Website with members, allies, and funders."

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.



Photo courtesy of Ernesto De Quesada

2: LEVELS OF BICYCLING AND WALKING

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 yearly estimates on the share of workers who usually commute by bicycle or foot. ACS data are available as 1-year estimates, 3-year estimates, and 5-year estimates. Five-year estimates provide the greatest accuracy, and 1-year estimates provide the most current data. In this report, 3-year estimates were used when comparing states and cities to provide a current, yet more accurate picture of levels of biking and walking. One-year estimates are used for national averages only. This report also includes the estimated bi-

(1) For a discussion of the challenges with determining accurate levels of bicycling and walking, see Appendix 3, page 202. 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. Idaho	3. Vermont
4. Colorado	4. Montana
5. Wyoming	5. Hawaii
6. California	6. South Dakota
7. Hawaii	7. Massachusetts
8. Alaska	8. Maine
9. Washington	9. Wyoming
10. Arizona	10. Pennsylvania
11. Minnesota	11. Iowa
12. Utah	12. North Dakota
13. New Mexico	13. Oregon
14. Wisconsin	14. Washington
15. Massachusetts	15. Wisconsin
16. Vermont	16. New Jersey
17. North Dakota	17. New Hampshire
18. Florida	18. Nebraska
19. Illinois	19. Illinois
20. South Dakota	20. Idaho
21. Nevada	21. Rhode Island
22. Nebraska	22. Minnesota
23. Maine	23. Colorado
24. New York	24. Connecticut
25. Pennsylvania	25. Utah
26. Michigan	26. West Virginia
27. Iowa	27. California
28. Indiana	28. Kansas
29. Kansas	29. Maryland
30. Delaware	30. Delaware
31. Louisiana	31. New Mexico
32. New Hampshire	32. Kentucky
33. Virginia	33. Michigan
34. Ohio	34. Nevada
35. New Jersey	35. Virginia
36. Rhode Island	36. Ohio
37. Maryland	37. Indiana
38. Connecticut	38. Arizona
39. Texas	39. Louisiana
40. South Carolina	40. Missouri
41. North Carolina	41. Oklahoma
42. Oklahoma	42. North Carolina
43. Kentucky	43. South Carolina
44. Missouri	44. Mississippi
45. Georgia	45. Arkansas
46. Mississippi	46. Texas
47. West Virginia	47. Georgia
48. Tennessee	48. Florida
49. Arkansas	49. Tennessee
50. Alabama	50. Alabama

cycling and walking mode share for all trips from the 2009 National Household Travel Survey (NHTS).

This report looks at the share of commuters who walk or bike to work using data from the 1990 and 2000 decennial Census, and annual ACS between 2005 and 2009, and the most recent 3-year average (2007-2009) and 5-year average (2005-2009) from the ACS. Although work trips account for only 16% of all trips (NHTS 2009), these data provide a glimpse into trends in bicycling and walking levels over the last 19 years.

Findings on Mode Share

The Alliance used 2009 ACS data to determine that nationwide, an average of 3.5% of commuters get to work by bicycle (0.6%) or foot (2.9%). In the major U.S. cities studied here, the share of commuters by bicycle and foot is higher at 5.9% (1.0% bicycling and 4.9% walking). People in major cities are 1.7 times more likely to bicycle to work, and 1.7 times more likely to walk to work, than their counterparts nationwide.

Since the 2010 Benchmarking Report, Oregon remains the state with the highest bicycle to work share at 2.1%. Portland retains the highest share of workers commuting by bicycle—5.5%—among cities in this study. Alabama, Arkansas, and Tennessee rank lowest in bicycle to work commute share with only 0.1% of work trips by bicycle. San Antonio, Oklahoma City, and Dallas

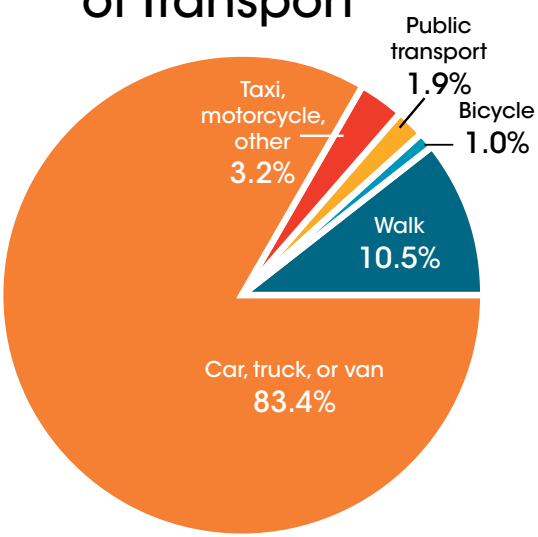
Tables to left: Source: 2007-2009 ACS **Notes:** This ranking is based on the 3-year average share of commuters who bicycle and walk to work. The state with the greatest share of commuters who bicycle or walk is ranked #1. The 50th position is the state with the least percentage of commuters who bicycle or walk. View these data on pages 45 and 46 of this report..

rank lowest among cities for bicycle work commute share with just 0.1% of work trips by bicycle.

Alaska and Boston remain the state and city with the highest pedestrian commute share (8.0% and 13.9% of all workers commute by foot, respectively). Alabama, with only 1.3% of work trips by foot, ranks lowest among states. Fort Worth has the lowest pedestrian commute share among cities—just 1.2% of work trips by foot.

According to 2009 NHTS estimates the total bicycle mode share for all trip purposes nationwide is 1.0%. In the largest metropolitan areas, 1.1% of all trips are by bicycle.

U.S. Trips by Mode of Transport



Source: NHTS 2009 (Graph above) and ACS 2007-2009 (ranking to right) **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 45 and 47 of this report. (1) For details and reliability of state and city level NHTS estimates, please see Appendix 3, page 202.

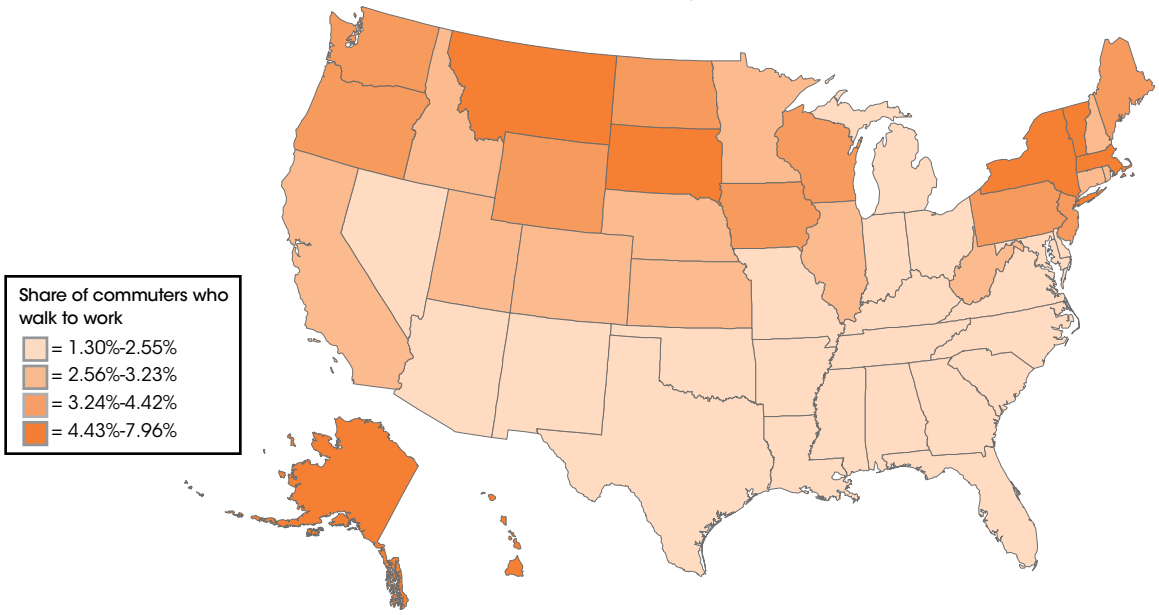
CITY RANKING

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

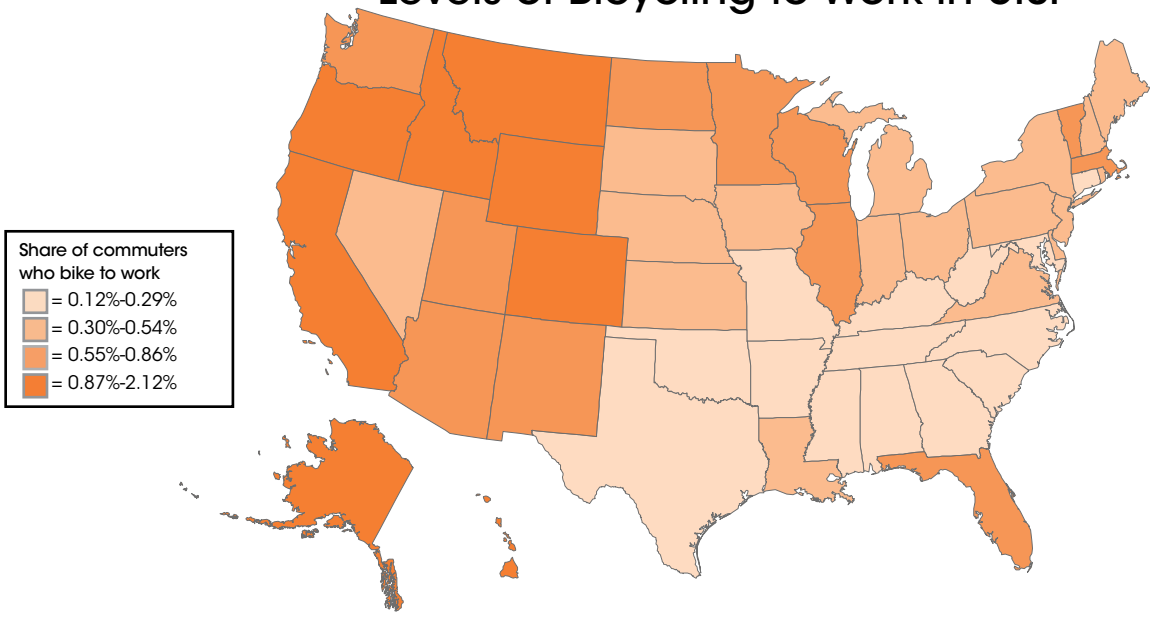
The share of commuters who walk and bicycle to work has grown in recent years.

Levels of walking to work increased in all but six states between 2005 and 2009. Levels of bicycling to work increased in all but four states during this time period. The southern U.S. remains the region with the lowest levels of bicycling and walking to work.

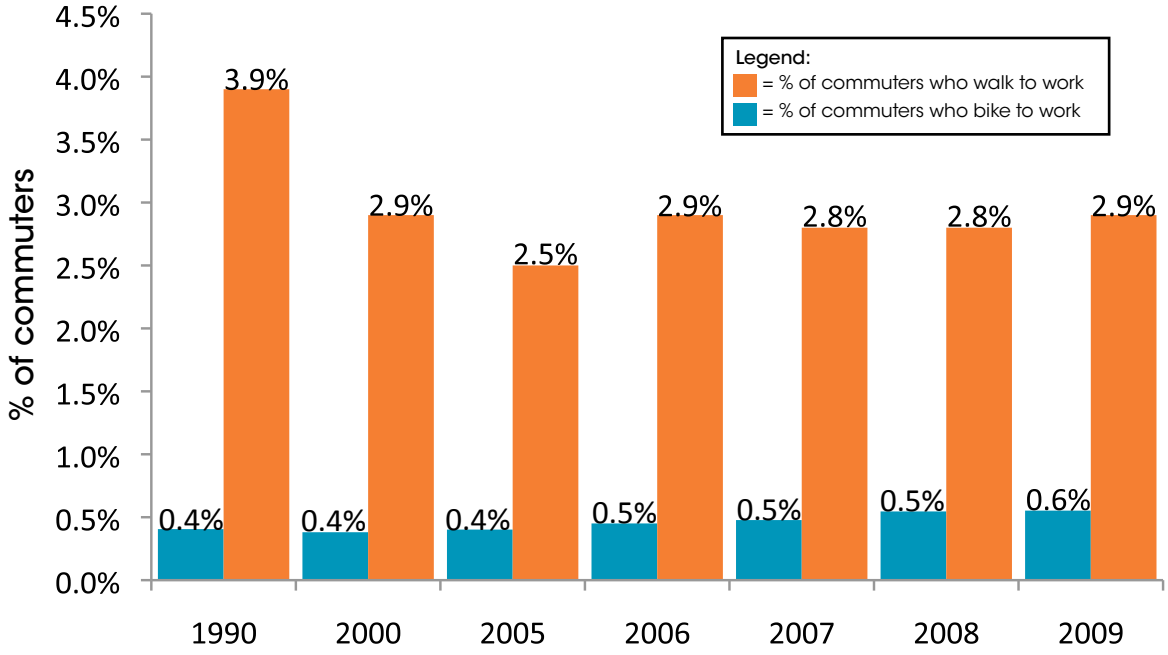
Levels of Walking to Work in the U.S.



Levels of Bicycling to Work in U.S.



Share of Commuters Who Bicycle and Walk 1990-2009



Sources: U.S. Census 1990, 2000; ACS 2005, ACS 2006, ACS 2007, ACS 2008, ACS 2009

NHTS data for 2009 show that nationally 10.5% of all trips are by foot. This is up 18% from the 2001 level of 8.9%. Rates of walking in major metropolitan areas ("cities") are even greater. NHTS estimates that 12.7% of all city trips are by foot. This is up 15% from the 2001 level of 11% of all city trips.

The 2009 NHTS also asked respondents how many times they took a trip by bicycle or foot in the last week. Results indicate that 13% of people take at least one bicycle trip per week and 68% of people take at least one walking trip per week. These amount to over 4 billion bicycle trips and nearly 41 billion walking trips in 2009 in the United States.

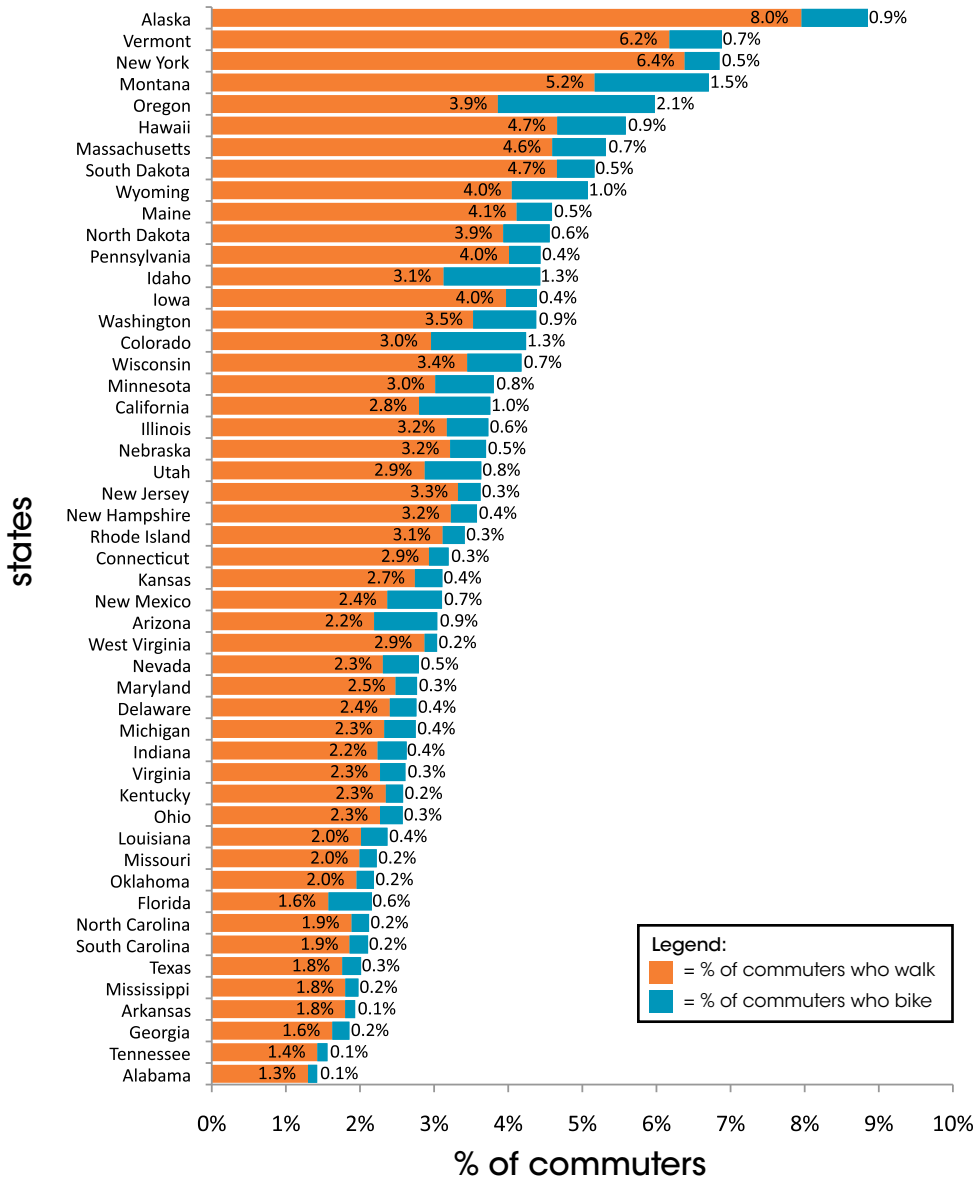
Trends in Bicycling and Walking Levels

The Alliance looked at data from the 1990 and 2000 decennial Census and annual American Community Surveys from 2005 through 2009 to examine trends in the share of commuters who bicycle or walk to work daily over the last two decades. (Find additional data on bicycling and walking levels over time in Appendix 4, page 205.)

The number of people who bicycle to work has increased steadily, rising 64% between 1990 and 2009 from 466,856 to 765,703 people who bicycle to work nationwide. The share of commuters who bicycle to work rose from 0.4% nationwide in 1990 and 2000 to 0.6% in 2009.

(Continued page 41)

Share of Commuters Who Walk and Bicycle in 50 States

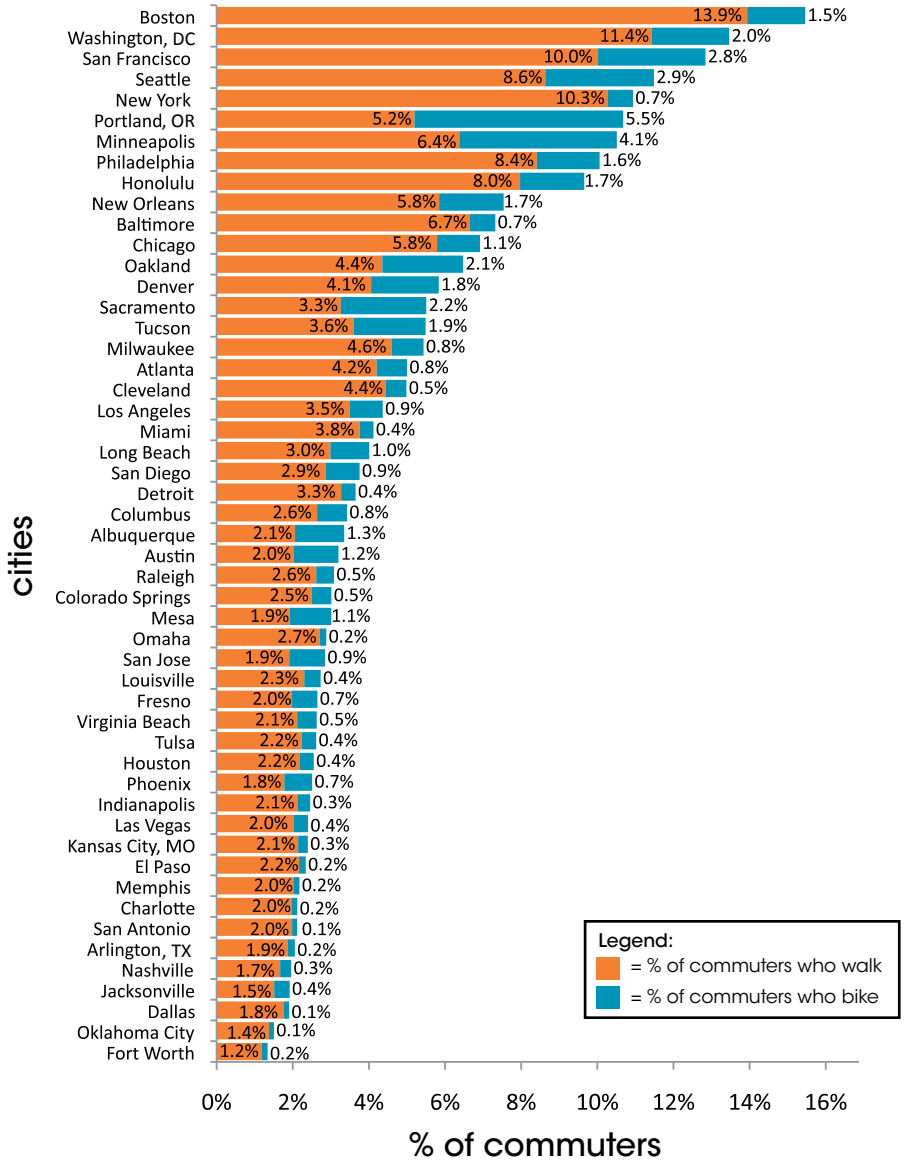


Source: 2007-2009 ACS (3-year average) **Note:** For a discussion of the challenges with determining accurate levels of bicycling and walking, see Appendix 3.

Alaska leads states for bicycle + walk to work mode share.

Alaska leads Vermont, New York, and Montana as the state with the highest percentage of commuters who bike or walk—8.9% of all commuters. 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 Walk and Bicycle in Largest U.S. Cities



Source: 2007-2009 ACS (3-year average) **Note:** For a discussion of the challenges with determining accurate levels of bicycling and walking, see Appendix 3.

Bicycling and walking mode share is significantly higher in cities. On average 5.8% of commuters in the largest U.S. cities bike or walk to work. Boston (15.4%) leads Washington, DC (13.4%), San Francisco (12.8%), and Seattle (11.5%) as the cities with the highest rate of bicycling and walking to work.

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

Looking Outside the Borders

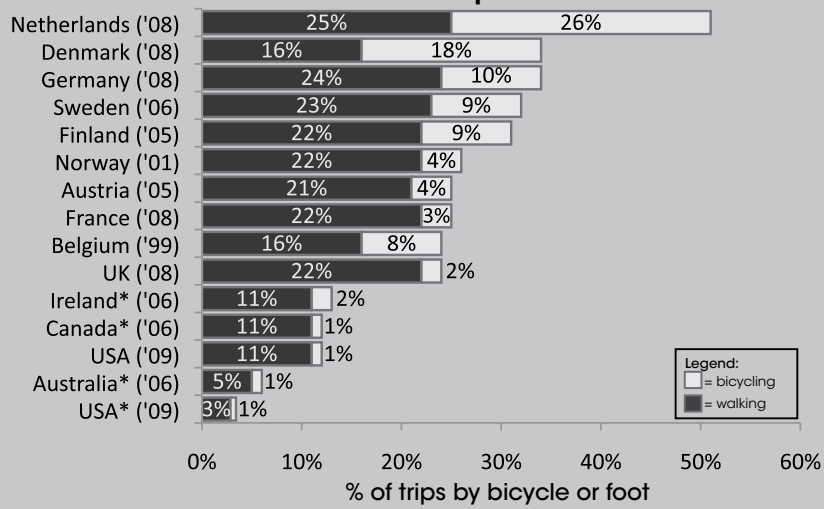
Bicycling and Walking Levels and Demographics

In our efforts to increase bicycling and walking in the United States, it is crucial to learn from the successful policies implemented in other countries, which have far higher levels of walking and bicycling as well as much better safety. A recent study by Pucher and Buehler (2010; chart this page) found that walking and cycling accounted for only about 12% of all trips in the United States in 2009, which is similar to levels in Ireland and Canada, but only about a third as much walking and cycling as many European countries.

With over a third of their trips by walking and cycling, countries like Sweden, Germany, Denmark, and the Netherlands set the standard for active travel in affluent countries with high levels of car ownership. With their bike mode shares of 9%-26%, the same four countries have roughly 10 times as much cycling as the U.S. Similarly, the U.S. has only about half as much walking as most European countries. The variation among countries is confirmed by large differences among cities in active travel rates, with American cities lagging far behind European cities (Pucher and Buehler 2008; chart page 37). In most large U.S. cities, the bicycle share of trips is less than 1%. Portland, Minneapolis, and Seattle have the highest bicycle to work share among cities: 5.5%, 4.1%, and 2.9%, respectively. By comparison, many cities in Germany, Denmark, and the Netherlands have bicycle trip shares over 10%.

Examining bicycling and walking levels by trip distance shows that in the U.S., 38% of trips shorter than 1.6 miles (2.5 km) were by walking or cycling in 2009. For the same trip distance, the percent of short trips by walking or cycling

Bike and Walk Share of Daily Trips in the USA, Canada, Australia, and 11 European Countries



Source: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391–414. **Note:** * denotes for the worktrip only, while other country surveys are for all trip purposes.

Bicycle Share of Trips

in 55 Cities in the U.S., Canada, Australia, UK, Germany, Denmark, and the Netherlands



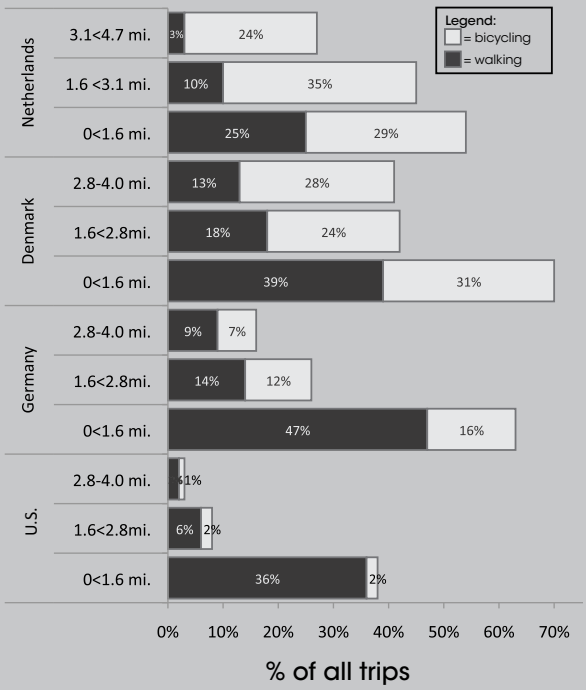
Cities in Europe with high levels of bicycling provide inspiration for making it a mainstream mode of travel.

Source: J. Pucher and R. Buehler, 2008. "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany," *Transport Reviews 28*(4), pp. 495–528. **Note:** UK data are for counties.



Photo by Kate McCarthy

Bicycling and Walking Levels by Trip Distance



Source: J. Pucher and R. Buehler, 2010 "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391–414. URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf

was 63% in Germany, 70% in Denmark, and 54% in the Netherlands (see chart this page). The variation between the U.S. and other countries is greatest when looking at longer trip distances. Bicycling and walking account for only 3% of trips of 2.8 to 4 miles (4.5-6.5 km) in the U.S., compared to 16% in Germany, 21% in Denmark, and 27% in the Netherlands. Thus, at every trip distance, walking and cycling rates are much higher in northern Europe than in the U.S.

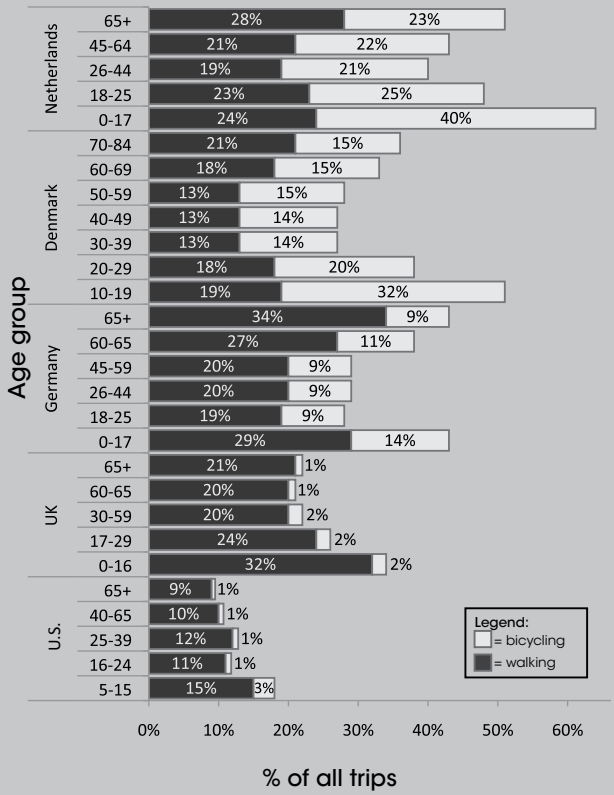
Perhaps the most striking differences among countries in walking and cycling rates are by age group. In Germany, Denmark, and the Netherlands, a high proportion of trips in all age categories are by walking or cycling (see chart page 39). In the U.S., only 18% of trips by children are made by walking or cycling, compared to 43% in Germany, 51% in Denmark, and 64% in the Netherlands. Similarly, only 10% of trips by American elderly are by walking or cycling, compared to 43% in Germany, 51% in Denmark, and 64% in the Netherlands. The much higher levels of walking and cycling in northern Europe provide important physical activity, mobility, and independence for all age groups, while children and seniors in the U.S. are often dependent on their families, neighbors, and friends for many trips they need to make.

Trends in bicycling and walking levels over the last 35 years vary greatly among

countries (see chart page 40). France and the UK, for example, suffered dramatic falls in walking and cycling, with roughly 50% declines in both countries. By comparison, walking and cycling levels have been roughly stable in the Netherlands, Denmark, and Germany, with declines in walking partly offset by increases in cycling. The much smaller declines in active transport in the Netherlands, Denmark, and Germany are due to far more car-restrictive policies in those countries since the 1970s, combined with a wide range of measures to encourage more walking and cycling. Car-restrictive measures have been far less common in France and the UK, and those two countries have also done less to promote walking and cycling through infrastructure, programs, and policies (Pucher and Buehler 2010). In addition, suburban and exurban sprawl has been more extensive in France and the UK than in the Netherlands, Denmark, and Germany.

It is more difficult to gauge walking and cycling trends in the U.S. because there was an important change in the national travel survey methodology in 2001 that raised the walk mode share by capturing previously unreported walk trips. The survey results in the chart on page 40 suggest slight increases in walking and cycling levels in the USA, but in fact, they have probably declined. For example, the U.S. Census, using a consistent methodology over time, reports a substantial decline in walking and cycling to work: from 7.9% in 1970 to only 3.3% in 2008 (USDOC 2010).

Bicycling and Walking Levels by Age



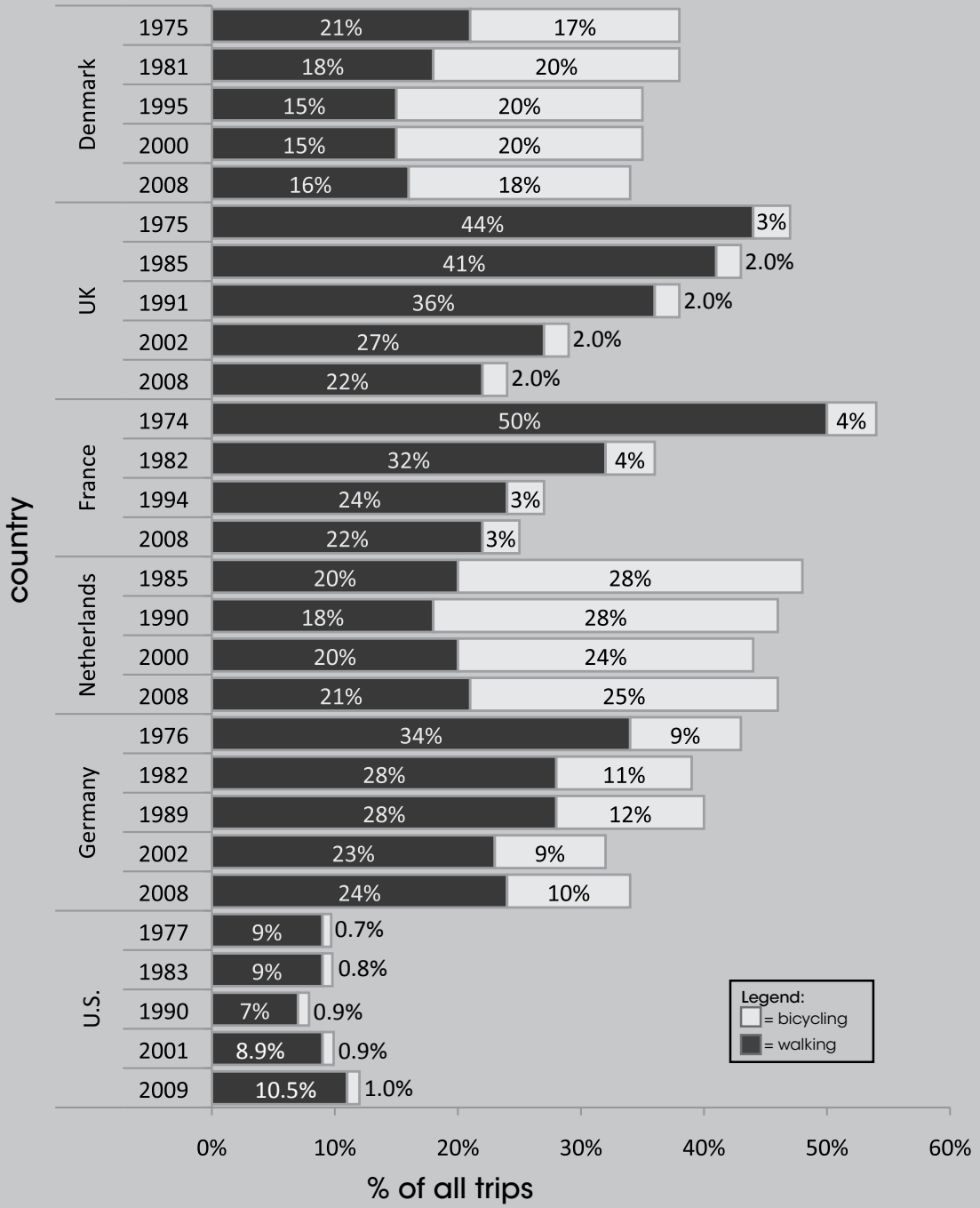
Source: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391–414. URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf **Note** (above) (1): Methods for NHTS changed in 2001. Thus the increase from 1990 to 2001 may be due to methods. Moreover, the long-term trend may also be skewed because of that.



Photo by Dan Burden, Walkable and Livable Communities Institute

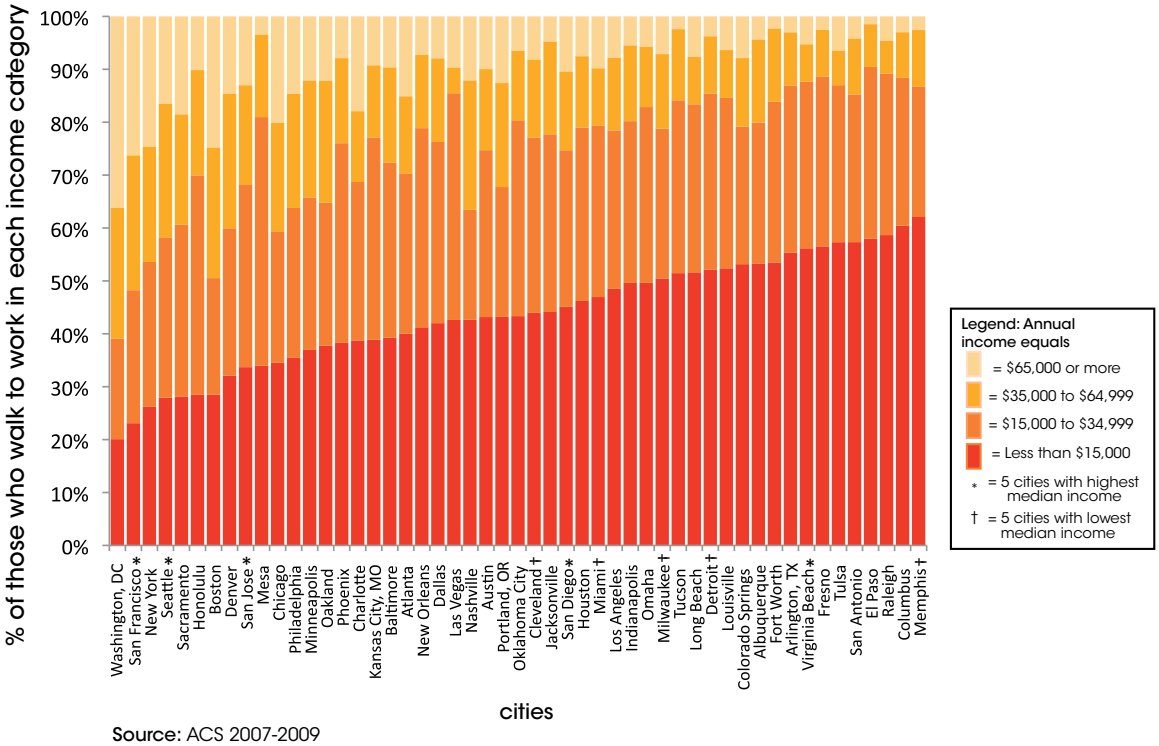
Trends in Cycling and Walking

Share of all daily trips in the U.S., Germany, the Netherlands, France, the UK, and Denmark, 1974-2009



Source: J. Pucher 1and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391–414. URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf. **Note:** Methods for NHTS (U.S.) changed in 2001. Thus the increase from 1990 to 2001 may be due to methods. Moreover, the long-term trend may also be skewed because of that.

Pedestrian Commuters by Income Classification



Source: ACS 2007-2009

During the same time period the number of people who walk to work fell 12% (from roughly 4.5 million people in 1990 to roughly 4.0 million people in 2009). The number of people who walk to work increased by just 5% between 2000 and 2009. The share of commuters who walk to work is now 2.9%, 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

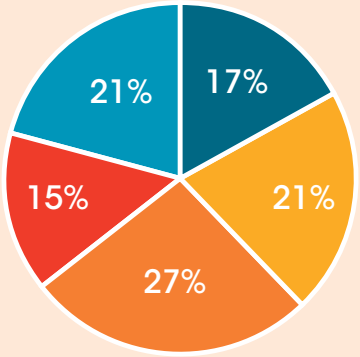
Bicyclist and Pedestrian Mode Share by Income Class

	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
Bicyclists	1.0%	1.2%	1.0%	0.9%	1.1%	1.1%
Pedestrians	16.3%	10.3%	8.9%	8.9%	10.2%	10.5%

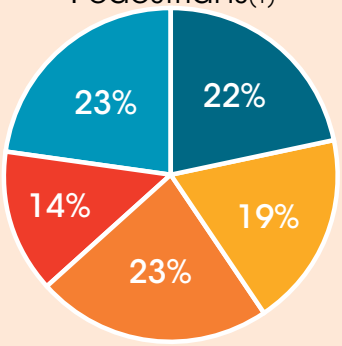
Source: NHTS 2009

A Look at Income

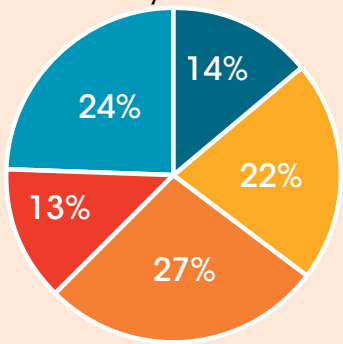
Income Distribution in U.S.(1)



Income Distribution of Pedestrians(1)



Income Distribution of Bicyclists



Legend: Total earnings =
- = Less than $20,000
- = $20,000-$39,999
- = $40,000-$74,999
- = $75,000-$99,999
- = $100,000+

Source: NHTS 2009 **Note:** (1) Numbers round up and so appear to add to 101%.

by children, for recreational purposes, or in combination with other modes of transportation are left out. Many local trip count efforts include demographic survey questions (including some referenced in Appendix 6 of this report). However, because there is no standardized format used for these local 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 2009 NHTS show that bicycling mode share is similar for all income classes. However, a closer look at data by trip purpose reveals the percent of bicycle trips for recreational purposes rises with increasing income, from 27% to 41%, while the percent of utilitarian trips falls correspondingly with increased income. Regardless of the reason for bicycle trips, these data show that bicycling levels are roughly evenly distributed among all income classes.

While bicycling is distributed evenly among all income groups, walking to work is mainly by lower income workers. Data from ACS reveal that nearly half of people who walk to work earn less than $15,000 per year. More than two-thirds of people who walk to work, on average, earn below $35,000 a year. Washington, DC, San Francisco, and New York City have the most even income distribution among people who walk to work, with all income groups well represented. Memphis and Columbus have the least equal distribution with walking concentrated mostly among low-income groups. The difference in average median income among cities 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. Na-



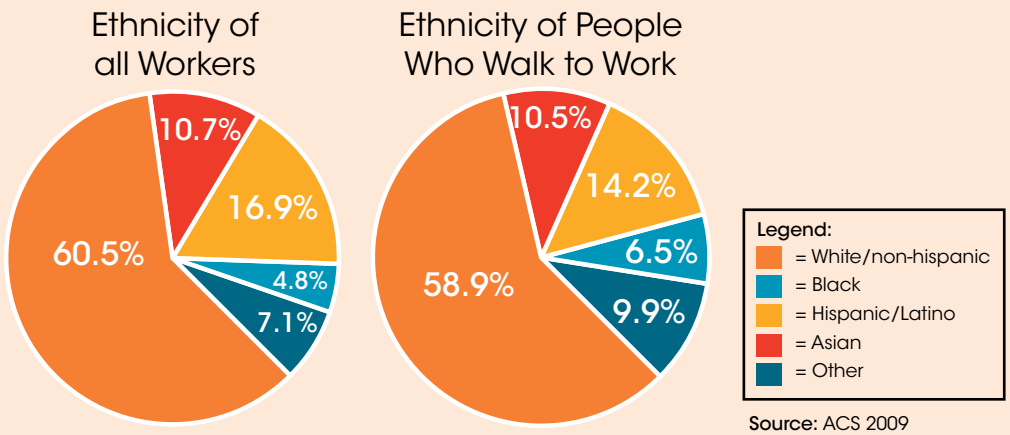
Photo by Ed Yourdon

tionwide, just 27% of bicycle commuters are women (up from 23% in 2007). Just 24% of all bicycle trips are female according to the 2009 NHTS. Men make up 73% of bicycle commuters and 54% of pedestrian commuters. Walking is more even between the sexes. Men comprise 49% of the population and the same percentage of all walking trips.

Massachusetts 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. Montana has the smallest gap among men (66%) and women (34%) bicyclists. Delaware has the largest gap between men (91%) and women (9%) bicyclists.

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 1/6 of cities surveyed, women walk to work at slightly higher rates. Philadelphia has the greatest percentage of pedestrian commuters who are women—55%. Mesa has the least percentage of pedestrian commuters who are women—30%.

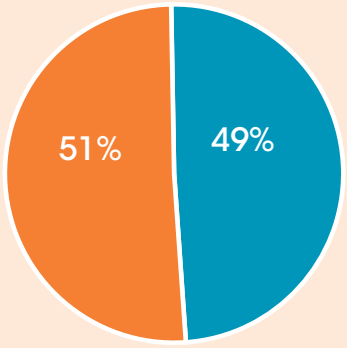
A Look at Ethnicity



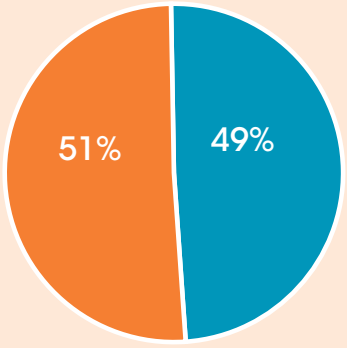
Source: ACS 2009

A Look at Gender

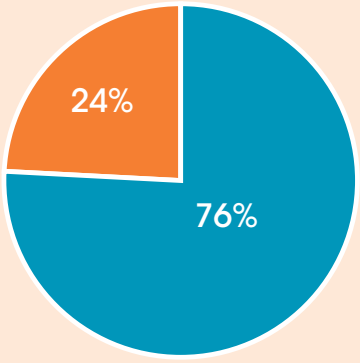
Gender Distribution in U.S.



Walk Trips by Gender



Bike Trips by Gender



Legend:
= Female
= Male

Source: NHTS 2009



Photo courtesy of Transportation for America

On average, men make up 76% of bicycle commuters in the U.S. and 72% in major U.S. cities. According to ACS data, the vast majority of bicycle commuters in Omaha, El Paso, and Dallas are male, making these the cities with the greatest gender divide among bicyclists. Because of low sample sizes, it is possible that there are more female commuters in these cities, but it is not reflected in the data.

Bicyclist and Pedestrian Ethnicity

ACS data reveal a fairly even distribution among bicyclists and pedestrians in regard to ethnicity. Asians, hispanics, and white/non-hispanic groups are slightly less likely to walk to work. African Americans/blacks are 35% more likely to walk to work, comprising 4.8% of the U.S. workers, but accounting for 6.5% of pedestrian commuters. "Other ethnicities" which include American Indian, Alaska Native, Native Hawaiian, Other Asian Pacific Islander, and other minority ethnicities alone are also more likely to walk to

(Continued page 48)

Bicycling to Work in States

States	% of commuters who bike to work	% men	% women
Alabama	0.1%	84%	16%
Alaska	0.9%	68%	32%
Arizona	0.9%	78%	22%
Arkansas	0.1%	74%	26%
California	1.0%	75%	25%
Colorado	1.3%	71%	29%
Connecticut	0.3%	75%	25%
Delaware	0.4%	91%	9%
Florida	0.6%	76%	24%
Georgia	0.2%	76%	24%
Hawaii	0.9%	71%	29%
Idaho	1.3%	70%	30%
Illinois	0.6%	77%	23%
Indiana	0.4%	73%	27%
Iowa	0.4%	71%	29%
Kansas	0.4%	75%	25%
Kentucky	0.2%	68%	32%
Louisiana	0.4%	79%	21%
Maine	0.5%	67%	33%
Maryland	0.3%	80%	20%
Massachusetts	0.7%	72%	28%
Michigan	0.4%	71%	29%
Minnesota	0.8%	70%	30%
Mississippi	0.2%	86%	14%
Missouri	0.2%	79%	21%
Montana	1.5%	66%	34%
Nebraska	0.5%	73%	27%
Nevada	0.5%	81%	19%
New Hampshire	0.4%	74%	26%
New Jersey	0.3%	80%	20%
New Mexico	0.7%	74%	26%
New York	0.5%	77%	23%
North Carolina	0.2%	80%	20%
North Dakota	0.6%	81%	19%
Ohio	0.3%	73%	27%
Oklahoma	0.2%	69%	31%
Oregon	2.1%	67%	33%
Pennsylvania	0.4%	73%	27%
Rhode Island	0.3%	69%	31%
South Carolina	0.2%	79%	21%
South Dakota	0.5%	72%	28%
Tennessee	0.1%	77%	23%
Texas	0.3%	78%	22%
Utah	0.8%	72%	28%
Vermont	0.7%	68%	32%
Virginia	0.3%	72%	28%
Washington	0.9%	70%	30%
West Virginia	0.2%	74%	26%
Wisconsin	0.7%	70%	30%
Wyoming	1.0%	75%	25%
Mean/Average (1)	0.5%	74%	26%
Median	0.4%	74%	26%
High	2.1%	91%	34%
Low	0.1%	66%	9%

Bicycling to Work in Cities

Cities	% of commuters who bike to work	% men	% women
Albuquerque	1.3%	69%	31%
Arlington, TX	0.2%	84%	16%
Atlanta	0.8%	71%	29%
Austin	1.2%	72%	28%
Baltimore	0.7%	77%	23%
Boston	1.5%	67%	33%
Charlotte	0.2%	82%	18%
Chicago	1.1%	76%	24%
Cleveland	0.5%	65%	35%
Colorado Springs	0.5%	74%	26%
Columbus	0.8%	76%	24%
Dallas	0.1%	91%	9%
Denver	1.8%	70%	30%
Detroit	0.4%	78%	22%
El Paso	0.2%	92%	8%
Fort Worth	0.2%	88%	12%
Fresno	0.7%	77%	23%
Honolulu	1.7%	72%	28%
Houston	0.4%	77%	23%
Indianapolis	0.3%	75%	25%
Jacksonville	0.4%	80%	20%
Kansas City, MO	0.3%	63%	37%
Las Vegas	0.4%	89%	11%
Long Beach	1.0%	85%	15%
Los Angeles	0.9%	80%	20%
Louisville	0.4%	62%	38%
Memphis	0.2%	51%	49%
Mesa	1.1%	84%	16%
Miami	0.4%	70%	30%
Milwaukee	0.8%	73%	27%
Minneapolis	4.1%	63%	37%
Nashville	0.3%	78%	22%
New Orleans	1.7%	76%	24%
New York	0.7%	75%	25%
Oakland	2.1%	66%	34%
Oklahoma City	0.1%	81%	19%
Omaha	0.2%	97%	3%
Philadelphia	1.6%	70%	30%
Phoenix	0.7%	84%	16%
Portland, OR	5.5%	62%	38%
Raleigh	0.5%	76%	24%
Sacramento	2.2%	67%	33%
San Antonio	0.1%	81%	19%
San Diego	0.9%	72%	28%
San Francisco	2.8%	70%	30%
San Jose	0.9%	79%	21%
Seattle	2.9%	68%	32%
Tucson	1.9%	71%	29%
Tulsa	0.4%	75%	25%
Virginia Beach	0.5%	53%	47%
Washington, DC	2.0%	67%	33%
Mean/Average (1)	0.9%	72%	28%
Median	0.7%	75%	25%
High	5.5%	97%	49%
Low	0.1%	51%	3%

Source: ACS 2007-2009 (3-year average) **Notes:** (1) All averages are weighted. (2) For some states and 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.

Legend:
= High value
= Low value

Walking to Work in States

State	% of commuters who walk to work	% men	% women	Percent of workers who walk to work by annual income (total = 100%)			
				<$15,000	$15,000-$34,999	$35,000-$64,999	$65,000+
Alabama	1.3%	60%	40%	51%	30%	13%	6%
Alaska	8.0%	63%	37%	34%	32%	22%	12%
Arizona	2.2%	58%	42%	44%	35%	14%	6%
Arkansas	1.8%	61%	39%	52%	28%	13%	6%
California	2.8%	53%	47%	43%	31%	15%	11%
Colorado	3.0%	56%	44%	48%	27%	16%	10%
Connecticut	2.9%	54%	46%	50%	24%	15%	10%
Delaware	2.4%	54%	46%	54%	22%	15%	9%
Florida	1.6%	56%	44%	45%	34%	14%	7%
Georgia	1.6%	59%	41%	46%	32%	13%	9%
Hawaii	4.7%	56%	44%	34%	40%	18%	8%
Idaho	3.1%	59%	41%	47%	32%	14%	7%
Illinois	3.2%	53%	47%	46%	26%	15%	12%
Indiana	2.2%	54%	46%	58%	26%	11%	5%
Iowa	4.0%	54%	46%	57%	24%	14%	5%
Kansas	2.7%	56%	44%	52%	29%	14%	5%
Kentucky	2.3%	57%	43%	55%	30%	10%	5%
Louisiana	2.0%	55%	45%	52%	31%	12%	5%
Maine	4.1%	55%	45%	48%	30%	16%	7%
Maryland	2.5%	51%	49%	48%	28%	14%	11%
Massachusetts	4.6%	48%	52%	42%	25%	19%	15%
Michigan	2.3%	53%	47%	58%	24%	12%	6%
Minnesota	3.0%	53%	47%	47%	26%	18%	9%
Mississippi	1.8%	62%	38%	54%	29%	11%	6%
Missouri	2.0%	57%	43%	53%	28%	13%	6%
Montana	5.2%	55%	45%	45%	30%	18%	7%
Nebraska	3.2%	56%	44%	49%	31%	15%	4%
Nevada	2.3%	53%	47%	40%	41%	12%	7%
New Hampshire	3.2%	52%	48%	50%	28%	14%	8%
New Jersey	3.3%	54%	46%	40%	33%	17%	10%
New Mexico	2.4%	57%	43%	47%	31%	15%	7%
New York	6.4%	50%	50%	35%	27%	19%	19%
North Carolina	1.9%	63%	37%	49%	32%	12%	7%
North Dakota	3.9%	57%	43%	46%	30%	16%	8%
Ohio	2.3%	53%	47%	57%	26%	12%	5%
Oklahoma	2.0%	61%	39%	54%	29%	12%	5%
Oregon	3.9%	52%	48%	46%	30%	15%	9%
Pennsylvania	4.0%	51%	49%	49%	28%	15%	8%
Rhode Island	3.1%	51%	49%	54%	21%	15%	10%
South Carolina	1.9%	58%	42%	55%	28%	10%	6%
South Dakota	4.7%	56%	44%	43%	34%	16%	6%
Tennessee	1.4%	61%	39%	55%	26%	13%	7%
Texas	1.8%	56%	44%	51%	31%	12%	6%
Utah	2.9%	52%	48%	62%	22%	12%	4%
Vermont	6.2%	50%	50%	50%	29%	14%	7%
Virginia	2.3%	58%	42%	45%	28%	14%	12%
Washington	3.5%	55%	45%	38%	33%	19%	10%
West Virginia	2.9%	57%	43%	57%	27%	12%	4%
Wisconsin	3.4%	53%	47%	53%	26%	14%	6%
Wyoming	4.0%	49%	51%	38%	35%	19%	9%
Mean/Average (1)	2.9%	54%	46%	46%	29%	15%	10%
Median	2.9%	55%	45%	49%	29%	14%	7%
High	8.0%	63%	52%	62%	41%	22%	19%
Low	1.3%	48%	37%	34%	21%	10%	4%

Legend:
= High value
= Low value

Source: ACS 2007-2009 **Notes:** (1) All averages are weighted.

Walking to Work in Cities

Cities (1)	% of commuters who walk to work	% men	% women	Percent of workers who walk to work by annual income (total = 100%)			
				<$15,000	$15,000-$34,999	$35,000-$64,999	$65,000+
Albuquerque	2.1%	49%	51%	53%	27%	16%	4%
Arlington, TX	1.9%	58%	42%	55%	32%	10%	3%
Atlanta	4.2%	62%	38%	40%	30%	15%	15%
Austin	2.0%	60%	40%	43%	32%	15%	10%
Baltimore	6.7%	46%	54%	39%	33%	18%	10%
Boston	13.9%	48%	52%	29%	22%	25%	25%
Charlotte	2.0%	61%	39%	39%	30%	13%	18%
Chicago	5.8%	48%	52%	35%	25%	20%	20%
Cleveland	4.4%	47%	53%	44%	33%	15%	8%
Colorado Springs	2.5%	57%	43%	53%	26%	13%	8%
Columbus	2.6%	60%	40%	60%	28%	9%	3%
Dallas	1.8%	48%	52%	42%	34%	16%	8%
Denver	4.1%	55%	45%	32%	28%	25%	15%
Detroit	3.3%	59%	41%	52%	33%	11%	4%
El Paso	2.2%	53%	47%	58%	32%	8%	1%
Fort Worth	1.2%	60%	40%	53%	30%	14%	2%
Fresno	2.0%	55%	45%	57%	32%	9%	3%
Honolulu	8.0%	53%	47%	28%	41%	20%	10%
Houston	2.2%	52%	48%	46%	33%	13%	8%
Indianapolis	2.1%	55%	45%	50%	31%	14%	5%
Jacksonville	1.5%	50%	50%	44%	34%	18%	5%
Kansas City, MO	2.1%	59%	41%	39%	38%	14%	9%
Las Vegas	2.0%	54%	46%	43%	43%	5%	10%
Long Beach	3.0%	55%	45%	52%	32%	9%	8%
Los Angeles	3.5%	52%	48%	48%	30%	14%	8%
Louisville	2.3%	47%	53%	52%	32%	9%	6%
Memphis	2.0%	59%	41%	62%	25%	11%	3%
Mesa	1.9%	70%	30%	34%	47%	16%	3%
Miami	3.8%	57%	43%	47%	32%	11%	10%
Milwaukee	4.6%	50%	50%	50%	28%	14%	7%
Minneapolis	6.4%	58%	42%	37%	29%	22%	12%
Nashville	1.7%	54%	46%	43%	21%	24%	12%
New Orleans	5.8%	60%	40%	41%	38%	14%	7%
New York	10.3%	49%	51%	26%	27%	22%	25%
Oakland	4.4%	53%	47%	38%	27%	23%	12%
Oklahoma City	1.4%	64%	36%	43%	37%	13%	7%
Omaha	2.7%	59%	41%	50%	33%	11%	6%
Philadelphia	8.4%	45%	55%	35%	28%	22%	15%
Phoenix	1.8%	58%	42%	38%	38%	16%	8%
Portland, OR	5.2%	53%	47%	43%	25%	20%	13%
Raleigh	2.6%	62%	38%	59%	31%	6%	5%
Sacramento	3.3%	51%	49%	28%	32%	21%	19%
San Antonio	2.0%	53%	47%	57%	28%	11%	4%
San Diego	2.9%	53%	47%	45%	30%	15%	10%
San Francisco	10.0%	54%	46%	23%	25%	25%	26%
San Jose	1.9%	54%	46%	34%	34%	19%	13%
Seattle	8.6%	53%	47%	28%	30%	25%	17%
Tucson	3.6%	54%	46%	51%	33%	13%	2%
Tulsa	2.2%	59%	41%	57%	30%	7%	6%
Virginia Beach	2.1%	58%	42%	56%	32%	7%	5%
Washington, DC	11.4%	50%	50%	20%	19%	25%	36%
Mean/Average (2)	4.9%	51%	49%	35%	28%	19%	18%
Median	**2.7%**	54%	46%	43%	31%	14%	8%
High	**13.9%**	**70%**	**55%**	**62%**	**47%**	**25%**	**36%**
Low	**1.2%**	**45%**	**30%**	**20%**	**19%**	**5%**	**1%**

Legend:
= High value
= Low value

Source: ACS 2007-2009 **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. (2) All averages are weighted.


Photo by Paul Dineen

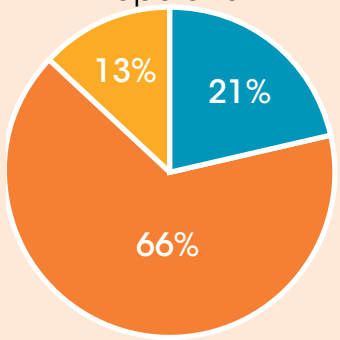
work comprising 7.1% of the working population and 9.9% of pedestrian commuters.

Age of Bicyclists and Pedestrians

It is no surprise that youth, who are not of legal driving age, make up a disproportionate amount of bicycling trips. National estimates from NHTS indicate that youth under age 16 make up 39% of bicycling trips, despite accounting for just 21% of the population. This age group accounts for 17% of walking trips. Adults over age 65 account for 13% of the population and make up 10% of all walking trips and 6% of all bicycling trips. The rest of people age 16-65 make up 66% of the population and account for 73% of all walking trips and 54% of trips by bicycle.

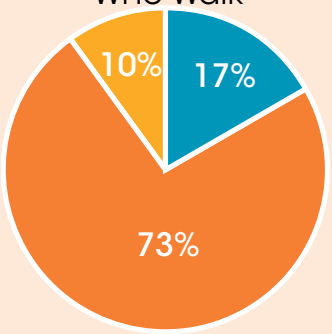
A Look at Age

Age of the U.S. Population



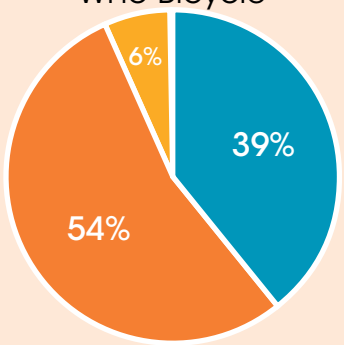
Source: ACS 2009

Age of People Who Walk



Source: NHTS 2009

Age of People Who Bicycle



Source: NHTS 2009
Note: (1) Numbers round down and so appear to equal 99%.

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



Photo by Eric Gilliland

3: SAFETY

While news headlines are filled with deaths of war and cancer victims, the public rarely hears reports on the more than 32,000 people who die each year in traffic crashes. In 2010, according to the National Highway Traffic Safety Administration (NHTSA), 32,788 people died on U.S. roadways. The death toll of pedestrians alone is equivalent to a jumbo jet full of passengers crashing roughly every month (Ernst 2011). Even though bicycle and pedestrian fatalities have been decreasing, bicyclists and pedestrians are still disproportionately at risk.

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. Data on bicycle and pedestrian injuries came from CDC's Web-based Injury Statistics Query and Reporting System (WISQARS).

FARS data indicate that bicyclists and pedestrians account for 13.5% of all traffic fatalities, despite the fact that they make up roughly 11.5% of all trips (according to NHTS estimates). In the 51 largest U.S. cities bicycling and walking account for 13.8% of all trips, yet bicyclists and pedestrians represent 30.0% of all traffic fatalities.

Victim Demographics

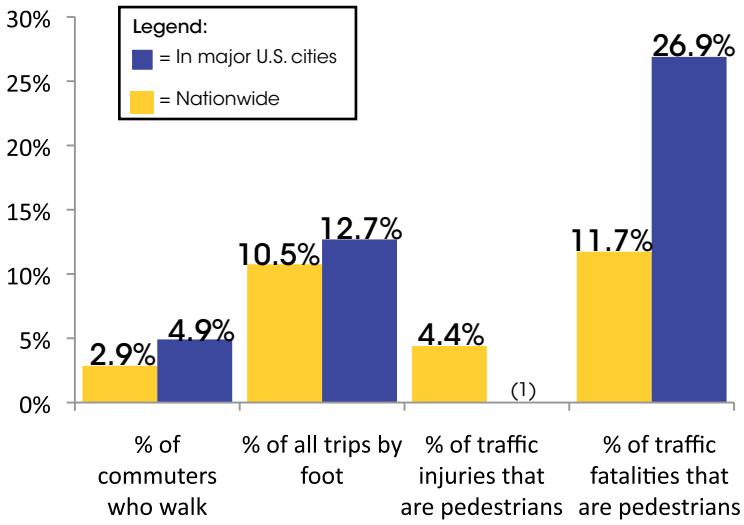
According to FARS, between 2007-2009, nearly one-quarter of all bicycle fatality victims are youth (under age 16) and seniors (over age 65). These age groups account for 26% of pedestrian fatalities. Seniors (over age 65) are at a disproportionate risk, accounting for just 10% of all walking trips and roughly 19% of pedestrian fatalities. Adults over age 65 make up 6% of all bicycling trips and account for roughly 10% of bicyclist fatalities.

In some areas the risk facing seniors is even greater. In Honolulu, where 46% of all traffic fatalities are pedestrians, 69% of victims are over age 65. Similarly in San Francisco, where 49% of all traffic fatalities are pedestrians, 50% 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?

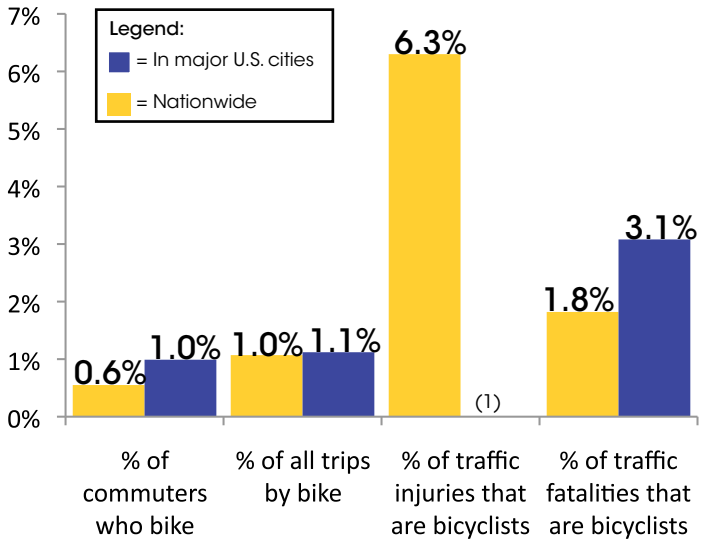
To understand bicycle and pedestrian safety in a city or state, it is not enough to

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



Sources: FARS 2009, NHTS 2009, ACS 2009, WISQARS 2009
Note: (1) City-level data for pedestrian injuries is unavailable.

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

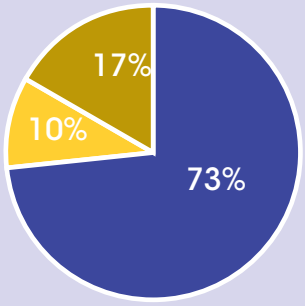


Sources: FARS 2009, NHTS 2009, ACS 2009, WISQARS 2009
Note: (1) City-level data for bicycle injuries is unavailable.

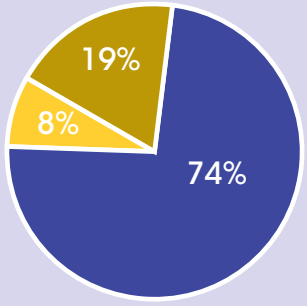
SAFETY DEMOGRAPHICS

Age and Risk

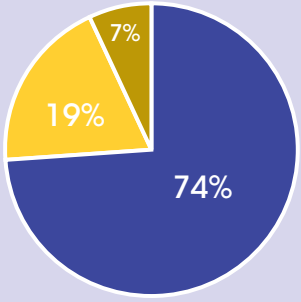
Pedestrians Age Distribution



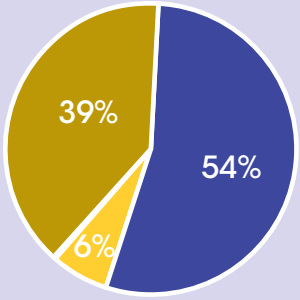
Pedestrians Injuries by Age(1)



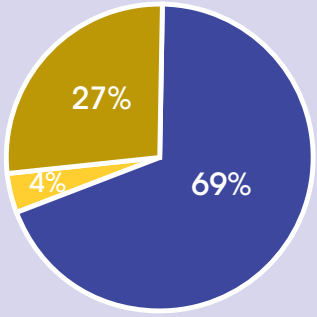
Pedestrian Fatalities by Age



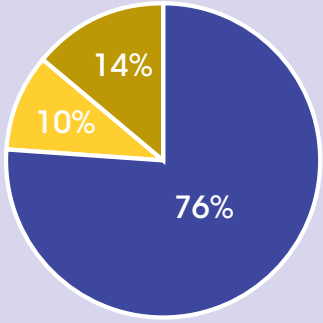
Cyclists Age Distribution



Cyclists Injuries by Age

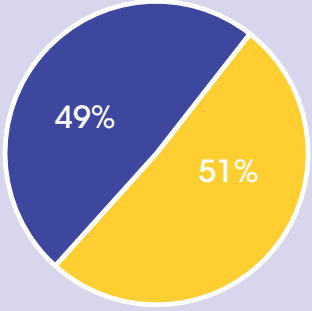


Cyclist Fatalities by Age

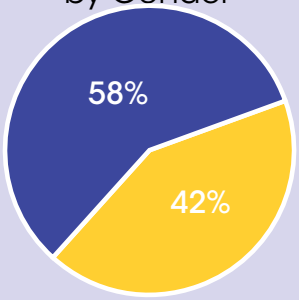


Sex and Risk

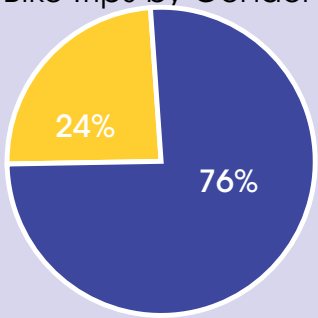
Walk Trips by Gender



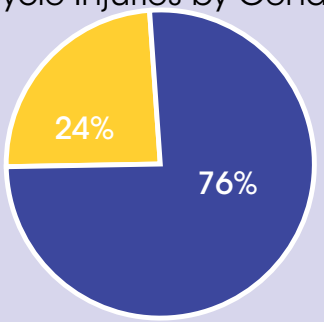
Pedestrian Injuries by Gender



Bike Trips by Gender



Bicycle Injuries by Gender



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

Source: NHTS 2009, WISQARS 2009, FARS 2007-2009

Sex Legend:
- = Male
- = Female

Source: NHTS 2009, WISQARS 2009

Note: (1) Numbers round up and so appear to add to 101%.

simply look at the number of fatalities. 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 1 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 number of annual bicycle and pedestrian fatalities by population (weighted, or multiplied, by share of the population biking and walking to work). Multiplying population times commuter mode share allows us to better estimate exposure levels for bicycling and walking. Unlike the ACS, national travel surveys including all trip purposes have sample sizes that are too small to disaggregate to the state and city level. Thus, our method is a rough approximation of exposure levels that takes both population and cycling levels into account. 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, 4.2 bicyclists are killed per year per 10,000 daily bicyclists. Bicy-

Safest Places to Bike RANKING

STATES	CITIES
1. South Dakota	1. Honolulu
2. Vermont	2. Milwaukee
3. Oregon	3. Omaha
4. Nebraska	4. Washington, DC
5. North Dakota	5. Portland, OR
6. Colorado	6. San Francisco
7. Montana	7. Sacramento
8. Wyoming	8. Boston
9. Idaho	9. Minneapolis
10. Washington	10. Austin
11. Massachusetts	11. San Jose
12. Wisconsin	12. Seattle
13. Rhode Island	13. Oakland
14. Minnesota	14. Philadelphia
15. Utah	15. Chicago
16. Hawaii	16. Denver
17. Maine	17. Atlanta
18. Alaska	18. Los Angeles
19. Pennsylvania	19. New Orleans
20. California	20. Tulsa
21. Illinois	21. Baltimore
22. West Virginia	22. Long Beach
23. Missouri	23. San Diego
24. Iowa	24. Albuquerque
25. New Mexico	25. Virginia Beach
26. Virginia	26. Tucson
27. Arizona	27. Mesa
28. Kansas	28. Columbus
29. New Hampshire	29. New York
30. Connecticut	30. Houston
31. New York	31. Oklahoma City
32. Kentucky	32. Detroit
33. Michigan	33. Indianapolis
34. Maryland	34. Kansas City, MO
35. Ohio	35. Cleveland
36. Indiana	36. Phoenix
37. New Jersey	37. Nashville
38. Nevada	38. El Paso
39. Oklahoma	39. Miami
40. Texas	40. Colorado Springs
41. Georgia	41. Raleigh
42. Tennessee	42. Louisville
43. Louisiana	43. Dallas
44. North Carolina	44. Fort Worth
45. Florida	45. Fresno
46. Alabama	46. Las Vegas
47. Arkansas	47. San Antonio
48. Delaware	48. Memphis
49. South Carolina	49. Jacksonville
50. Mississippi	50. Arlington, TX
	51. Charlotte

Sources: FARS 2007-2009, ACS 2007-2009 **Notes:** This ranking is based on the fatality rate which is calculated by dividing the number of annual bicycle fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population biking to work). View these data on pages 56 and 57 of this report.

Safest Places to Walk RANKING

STATES	CITIES
1. Vermont	1. Boston
2. Nebraska	2. Omaha
3. Alaska	3. Minneapolis
4. Wyoming	4. Colorado Springs
5. Iowa	5. New York
6. South Dakota	6. Seattle
7. North Dakota	7. Washington, DC
8. Maine	8. Cleveland
9. Massachusetts	9. Philadelphia
10. Minnesota	10. San Francisco
11. New Hampshire	11. Portland, OR
12. New York	12. Chicago
13. Wisconsin	13. Honolulu
14. Washington	14. Baltimore
15. Idaho	15. Oakland
16. Kansas	16. Milwaukee
17. Montana	17. Virginia Beach
18. Pennsylvania	18. Denver
19. Oregon	19. Tucson
20. Colorado	20. Sacramento
21. Illinois	21. San Diego
22. Connecticut	22. New Orleans
23. Utah	23. Mesa
24. Hawaii	24. Indianapolis
25. Ohio	25. Columbus
26. Indiana	26. Los Angeles
27. West Virginia	27. Atlanta
28. Rhode Island	28. Arlington, TX
29. Virginia	29. Long Beach
30. Kentucky	30. San Jose
31. New Jersey	31. Raleigh
32. Michigan	32. Las Vegas
33. Missouri	33. Fresno
34. California	34. Memphis
35. Oklahoma	35. Charlotte
36. Tennessee	36. San Antonio
37. Nevada	37. El Paso
38. Arkansas	38. Detroit
39. Maryland	39. Nashville
40. Delaware	40. Louisville
41. North Carolina	41. Houston
42. Texas	42. Miami
43. New Mexico	43. Kansas City, MO
44. Arizona	44. Austin
45. Georgia	45. Albuquerque
46. Mississippi	46. Oklahoma City
47. Alabama	47. Tulsa
48. South Carolina	48. Dallas
49. Louisiana	49. Phoenix
50. Florida	50. Jacksonville
	51. Fort Worth

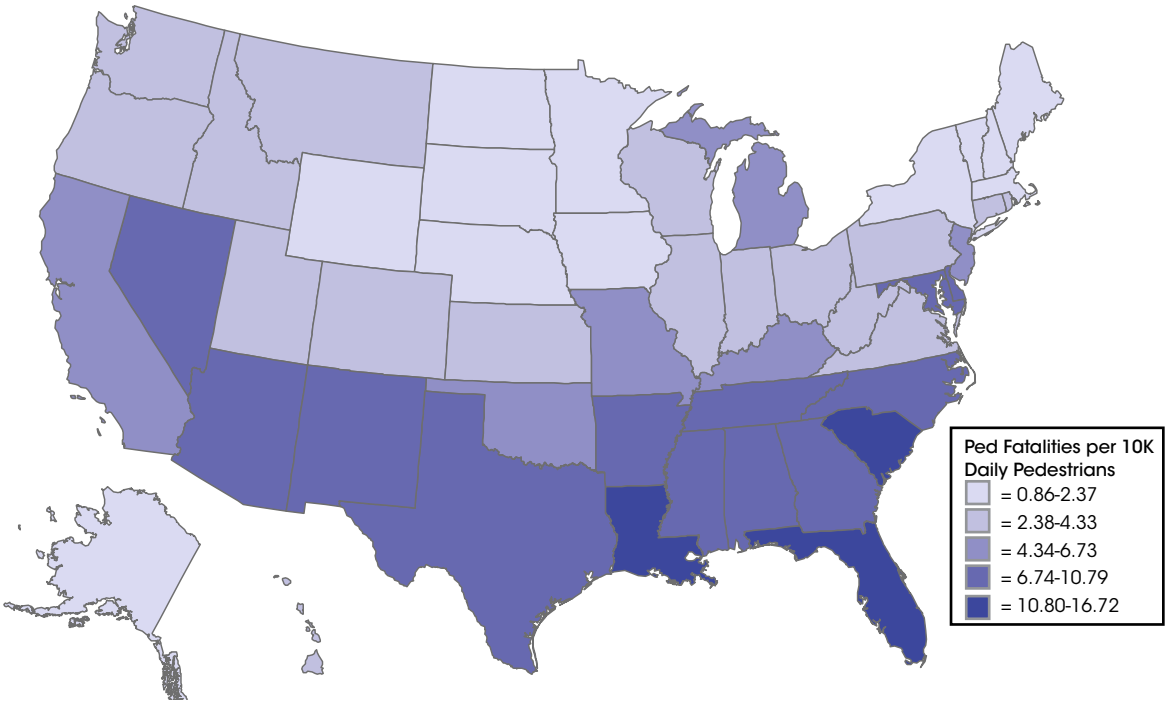
Bicyclist and pedestrian fatality risk is lower in major U.S. cities.

clists are safer in major U.S. cities(1) where the fatality rate is 2.4 fatalities per year per 10,000 daily bicyclists. South Dakota and Vermont are the safest states for bicycling with 0 deaths per 10,000 daily bicyclists. Mississippi is the most dangerous state for bicycling (14.1 deaths per 10,000 daily bicyclists) followed by South Carolina (13.5 deaths per 10,000 daily bicyclists). Honolulu, Milwaukee, and Omaha report no bicycle fatalities in the years studied. Washington, DC, Portland, OR, and San Francisco are the next safest cities for bicycling with fatality rates of 0.5, 0.9, and 0.9 deaths per 10,000 daily bicyclists, respectively. Charlotte, Arlington, TX, and Jacksonville are the least safe major cities for bicycling with 18.5, 14.5, and 14.2 bicyclists killed per 10,000 daily bicyclists, respectively.

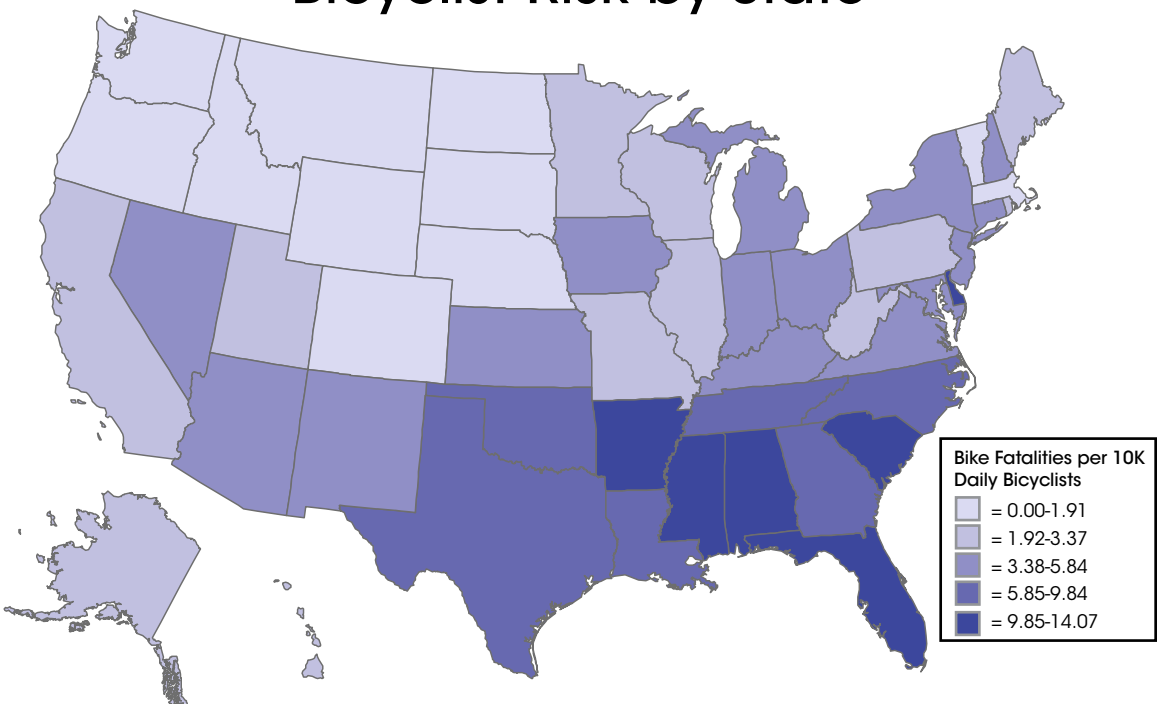
Pedestrians are similarly safer in major U.S. cities where 4.0 pedestrian fatalities occur each year for every 10,000 daily pedestrians. In states, there are 5.0 pedestrian deaths per 10,000 daily pedestrians. Vermont is also the safest state for walking with 0.9 pedestrian

Sources: FARS 2007-2009, ACS 2007-2009 **Notes:** This ranking is based on the fatality rate which is calculated by dividing the number of annual pedestrian fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population walking to work). View these data on pages 56 and 62 of this report. (1) Percentage of fatalities that are bicyclists in cities is greater than nationwide, but a higher number of people biking in cities makes the fatality rate lower for cities than nationwide.

Pedestrian Risk by State



Bicyclist Risk by State



Source: FARS 2007-2009, ACS 2007-2009 **Notes:** These maps use a fatality rate calculated by dividing the number of annual bicycle and pedestrian fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population biking and walking to work—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.



Photo by Kate McCarthy

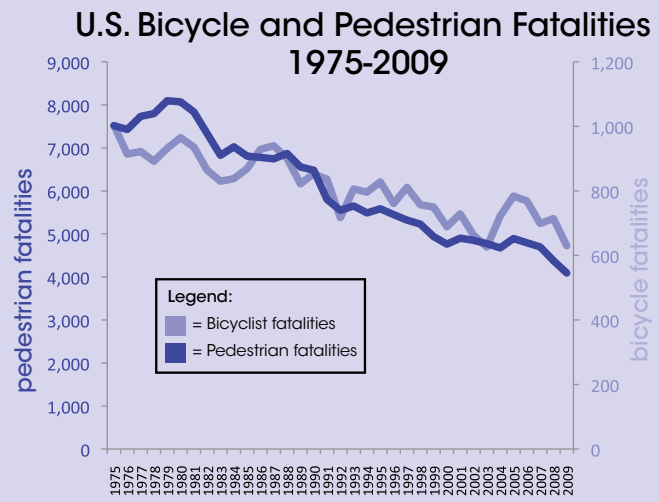
deaths per 10,000 daily pedestrians. Florida (17.0 deaths per 10,000 daily pedestrians) is followed by Louisiana (12.0 deaths per 10,000 daily pedestrians), and South Carolina (11.7 deaths per 10,000 daily pedestrians) as the least safe states for walking. Boston, Omaha, and Minneapolis have the lowest pedestrian fatality rates among major U.S. cities with 0.9, 1.6, and 1.6 pedestrian deaths per 10,000 daily pedestrians, respectively. Fort Worth has the highest pedestrian fatality rates with 20.0 pedestrian deaths per 10,000 daily pedestrians.

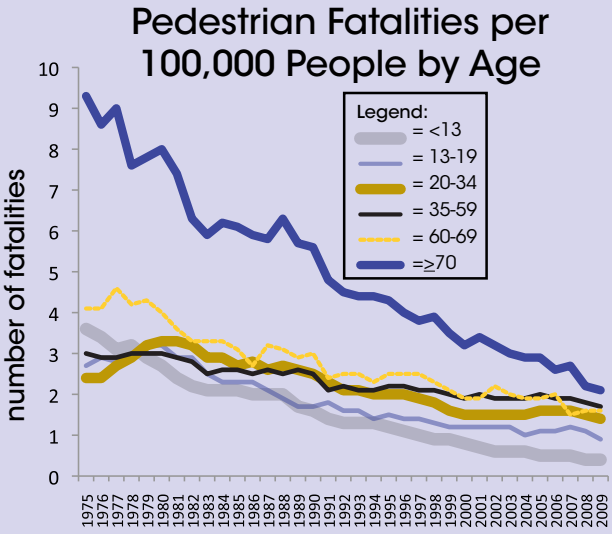
Emerging Trends

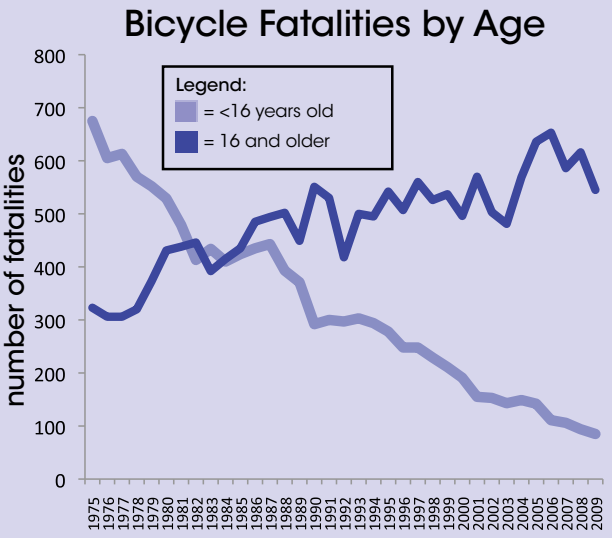
Traffic fatalities are on the decline throughout the U.S., including those involving bicyclists and pedestrians. Between 1995 and 2009 the number of

(Continued page 64)

Fatality Trends







Source: FARS 1975-2009

Pedestrian Safety in States

12% of all traffic fatalities in the U.S. are pedestrians.

State	Annual reported pedestrian fatalities (1)	Ped. fatalities per 10K daily peds (1,2)	% Of all traffic fatalities that are pedestrians (1)	% Of pedestrian fatalities	
				Under age 16	Over age 65
Alabama	67.0	11.0	6.9%	5%	13%
Alaska	8.3	1.5	12.0%	16%	8%
Arizona	131.7	9.1	14.0%	5%	17%
Arkansas	42.0	8.1	6.9%	7%	13%
California	611.0	5.9	17.4%	7%	24%
Colorado	49.3	3.3	9.4%	7%	20%
Connecticut	35.0	3.4	12.8%	7%	30%
Delaware	17.3	8.2	14.7%	4%	13%
Florida	495.3	17.0	17.0%	5%	19%
Georgia	150.3	9.4	10.2%	6%	10%
Hawaii	21.0	3.5	17.8%	0%	48%
Idaho	12.7	2.6	5.4%	13%	37%
Illinois	139.0	3.4	13.0%	9%	18%
Indiana	54.3	3.8	6.8%	10%	21%
Iowa	20.3	1.7	5.0%	16%	20%
Kansas	20.3	2.6	5.1%	7%	26%
Kentucky	50.3	5.0	6.1%	8%	11%
Louisiana	108.3	12.0	11.9%	10%	6%
Maine	11.0	2.0	6.6%	6%	21%
Maryland	115.0	8.1	19.7%	7%	12%
Massachusetts	63.3	2.1	16.8%	5%	34%
Michigan	121.0	5.2	12.4%	8%	16%
Minnesota	33.3	2.1	7.2%	15%	24%
Mississippi	55.3	10.4	7.0%	7%	14%
Missouri	70.0	5.9	7.4%	9%	15%
Montana	13.7	2.7	5.6%	12%	22%
Nebraska	7.3	1.3	3.2%	5%	23%
Nevada	47.7	7.8	15.2%	7%	17%
New Hampshire	9.3	2.2	7.4%	11%	43%
New Jersey	147.0	5.1	23.2%	6%	22%
New Mexico	43.3	9.1	11.4%	5%	9%
New York	293.0	2.3	23.6%	6%	31%
North Carolina	159.3	9.0	10.8%	7%	10%
North Dakota	5.0	2.0	4.2%	13%	7%
Ohio	97.3	3.7	8.4%	12%	16%
Oklahoma	49.3	6.8	6.6%	8%	8%
Oregon	44.7	3.0	10.7%	3%	19%
Pennsylvania	140.7	2.8	10.0%	9%	28%
Rhode Island	13.7	4.2	18.9%	7%	39%
South Carolina	99.3	11.7	10.3%	5%	11%
South Dakota	7.0	1.9	5.3%	0%	24%
Tennessee	66.3	7.4	6.1%	10%	17%
Texas	396.3	9.1	11.9%	8%	11%
Utah	27.7	3.5	10.1%	12%	20%
Vermont	3.3	0.9	4.7%	0%	30%
Virginia	78.7	4.4	9.0%	4%	19%
Washington	61.3	2.6	11.6%	7%	23%
West Virginia	20.3	3.9	5.2%	7%	15%
Wisconsin	49.7	2.5	7.8%	11%	26%
Wyoming	3.7	1.7	2.5%	9%	9%
Mean/Average (3)	ø	5.2	11.7%	7%	19%
Median	49.3	3.7	9.4%	7%	19%
High	611.0	17.0	23.6%	16%	48%
Low	3.3	0.9	2.5%	0%	6%

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

Sources: FARS 2007-2009, ACS 2007-2009 **Notes:** (1) All fatality data are based on the 3-year average number of fatalities from 2007-2009. (2) Pedestrian fatality rate was calculated by dividing the number of annual pedestrian fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population walking to work—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 States

State	Annual reported bicycle fatalities (1)	Bicycle fatalities per 10K daily bicyclists (1,2)	% Of all traffic fatalities that are bicyclists (1)	% Of bicycle fatalities (1)	
				Under age 16	Over age 65
Alabama	6.3	10.9	0.6%	32%	0%
Alaska	1.7	2.7	2.4%	20%	0%
Arizona	21.7	3.9	2.3%	11%	15%
Arkansas	4.3	11.3	0.7%	23%	0%
California	105.7	3.0	3.0%	13%	15%
Colorado	11.0	1.7	2.1%	27%	6%
Connecticut	4.0	4.3	1.5%	33%	8%
Delaware	4.0	12.6	3.4%	33%	17%
Florida	117.3	10.8	4.0%	5%	13%
Georgia	18.7	8.3	1.3%	14%	7%
Hawaii	3.0	2.5	2.5%	0%	0%
Idaho	3.7	1.8	1.5%	9%	18%
Illinois	21.7	3.0	2.0%	18%	5%
Indiana	13.3	5.3	1.7%	25%	8%
Iowa	4.7	3.7	1.1%	14%	14%
Kansas	4.3	4.2	1.1%	15%	15%
Kentucky	4.7	4.7	0.6%	21%	0%
Louisiana	15.7	9.8	1.7%	11%	6%
Maine	1.7	2.7	1.0%	0%	0%
Maryland	8.0	4.9	1.4%	21%	4%
Massachusetts	9.0	1.9	2.4%	22%	4%
Michigan	20.3	4.8	2.1%	15%	13%
Minnesota	9.0	2.2	1.9%	19%	22%
Mississippi	7.3	14.1	0.9%	23%	5%
Missouri	4.7	3.4	0.5%	29%	7%
Montana	2.7	1.8	1.1%	25%	0%
Nebraska	1.3	1.5	0.6%	25%	0%
Nevada	7.7	6.0	2.4%	26%	4%
New Hampshire	2.0	4.3	1.6%	50%	0%
New Jersey	15.0	5.6	2.4%	20%	9%
New Mexico	5.7	3.8	1.5%	6%	24%
New York	40.7	4.4	3.3%	13%	11%
North Carolina	22.0	10.0	1.5%	5%	5%
North Dakota	0.7	1.6	0.6%	0%	0%
Ohio	18.0	5.1	1.6%	15%	9%
Oklahoma	6.0	7.0	0.8%	22%	17%
Oregon	11.0	1.4	2.6%	6%	18%
Pennsylvania	14.3	2.7	1.0%	23%	0%
Rhode Island	0.7	2.1	0.9%	0%	0%
South Carolina	15.3	13.5	1.6%	9%	9%
South Dakota	0.0	0.0	0.0%	ø	ø
Tennessee	7.3	8.7	0.7%	41%	5%
Texas	49.7	7.9	1.5%	17%	7%
Utah	5.0	2.4	1.8%	33%	13%
Vermont	0.0	0.0	0.0%	ø	ø
Virginia	10.3	3.8	1.2%	13%	0%
Washington	10.7	1.9	2.0%	6%	9%
West Virginia	1.0	3.3	0.3%	0%	33%
Wisconsin	8.7	2.1	1.4%	19%	4%
Wyoming	1.0	1.8	0.7%	0%	0%
Mean/Average (3)	ø	4.8	1.8%	14%	10%
Median	7.3	3.8	1.5%	16%	6%
High	117.3	14.1	4.0%	50%	33%
Low	0.0	0.0	0.0%	0%	0%

Bicyclists account for 2% of all traffic fatalities in U.S.

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

Sources: FARS 2007-2009, ACS 2007-2009 **Notes:** (1) All fatality data are based on the 3-year average number of fatalities from 2007-2009. (2) Bicyclist fatality rate was calculated by dividing the number of annual bicycle fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population biking to work—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.



Photo by Kate McCarthy

Bicycle Safety in Cities

City	Annual reported bicycle fatalities (1)	Bicycle fatalities per 10K daily bicyclists (1.2)	% Of all traffic fatalities that are bicyclists (1)	% Of bicycle fatalities (1)	
				Under age 16	Over age 60
Albuquerque	2.0	2.9	4.2%	17%	17%
Arlington , TX	1.0	14.5	3.6%	0%	0%
Atlanta	0.7	1.5	1.2%	0%	0%
Austin	1.0	1.1	1.6%	0%	0%
Baltimore	1.0	2.4	2.3%	0%	33%
Boston	1.0	1.0	4.1%	0%	0%
Charlotte	2.0	18.5	3.0%	0%	0%
Chicago	4.7	1.5	2.7%	21%	14%
Cleveland	1.3	5.7	3.6%	25%	0%
Colorado Springs	1.3	6.5	6.1%	0%	0%
Columbus	2.0	3.3	3.5%	0%	17%
Dallas	1.7	8.7	1.2%	60%	20%
Denver	1.7	1.5	4.1%	20%	20%
Detroit	1.7	4.8	1.5%	20%	0%
El Paso	0.7	6.2	1.4%	0%	50%
Fort Worth	1.0	8.8	1.5%	33%	0%
Fresno	3.3	10.4	9.9%	20%	10%
Honolulu	0.0	0.0	0.0%	ø	ø
Houston	3.7	4.3	1.6%	0%	18%
Indianapolis	1.3	4.9	1.8%	25%	0%
Jacksonville	4.7	14.2	3.7%	0%	21%
Kansas City, MO	0.7	5.5	1.1%	0%	0%
Las Vegas	2.3	10.7	5.8%	14%	0%
Long Beach	1.3	2.8	4.1%	0%	25%
Los Angeles	6.3	1.9	2.4%	5%	21%
Louisville	2.0	8.2	2.9%	0%	0%
Memphis	1.3	12.5	1.3%	50%	0%
Mesa	1.7	3.3	5.3%	20%	40%
Miami	1.0	6.4	2.0%	0%	0%
Milwaukee	0.0	0.0	0.0%	ø	ø
Minneapolis	1.7	1.0	7.6%	0%	20%
Nashville	1.0	5.7	1.5%	33%	0%
New Orleans	1.3	2.2	3.3%	0%	0%
New York	19.7	3.5	7.1%	10%	12%
Oakland	1.0	1.2	3.1%	0%	0%
Oklahoma City	0.3	4.6	0.5%	0%	0%
Omaha	0.0	0.0	0.0%	ø	ø
Philadelphia	3.3	1.3	3.2%	10%	0%
Phoenix	6.7	5.7	4.0%	5%	5%
Portland, OR	2.7	0.9	9.4%	0%	0%
Raleigh	1.3	7.1	4.3%	0%	0%
Sacramento	1.0	1.0	2.9%	0%	33%
San Antonio	2.0	11.3	1.7%	17%	0%
San Diego	3.3	2.9	3.9%	10%	0%
San Francisco	2.0	0.9	4.7%	0%	0%
San Jose	1.0	1.1	2.2%	33%	0%
Seattle	2.0	1.1	8.1%	0%	0%
Tucson	3.3	3.2	6.7%	40%	0%
Tulsa	0.3	2.2	0.6%	0%	100%
Virginia Beach	0.7	3.0	2.4%	0%	0%
Washington, DC	0.7	0.5	1.9%	0%	0%
Mean/Average (3)	2.2	2.4	3.1%	11%	10%
Median	1.3	3.1	2.9%	0%	0%
High	19.7	18.5	9.9%	60%	100%
Low	0.0	0.0	0.0%	0%	0%

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

Honolulu, Milwaukee, and Omaha have the lowest number of annual reported bicycle fatalities (0) among the largest U.S. cities. Fresno has the greatest percentage of fatalities that are bicyclists: 9.9% of traffic fatalities are bicyclists although only 0.7% of commuters bicycle to work.

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

Sources: FARS 2007-2009, ACS 2007
Notes: (1) All fatality data are based on the 3-year average number of fatalities from 2007-2009. (2) Bicyclist fatality rate was calculated by dividing the number of annual bicycle fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population biking to work). (3) All averages are weighted by population except annual reported bicycle fatalities.

Looking Outside the Borders

Pedestrian and Bicyclist Fatalities and Injuries

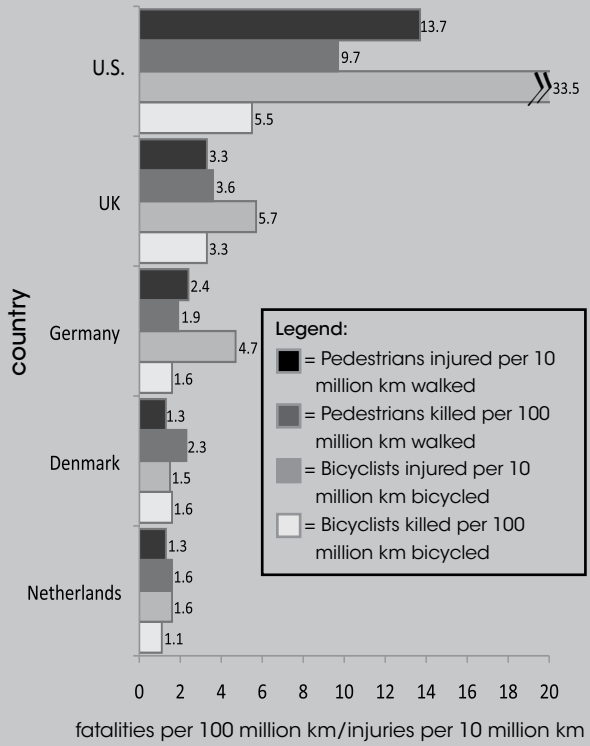
In an effort to foster safety for bicycling and walking, it is also crucial that the U.S. look to other countries to see what safety levels have been achieved. One such comparison by Pucher and Buehler (2010; chart this page) found that the U.S. has the highest rates of bicyclist and pedestrian injuries and fatalities when compared to four other developed countries: the UK, Germany, Denmark, and the Netherlands.

The bicyclist fatality rate, calculated as bicyclists killed per 100 million km bicycled, is 1.7 times greater in the U.S. than any of the other four countries. For every 100 million km bicycled in the U.S. there are 5.5 bicyclist fatalities. The UK has the next highest bicycle fatality rate with 3.3 bicyclist fatalities per 100 million km cycled. The U.S. also leads the UK for bicyclist injuries. In the U.S., there are 33.5 bicyclists injured per 10 million km bicycled. This is nearly six times the U.K. rate of 5.7 bicyclists injured per 10 million km bicycled. The Netherlands is the safest country for cycling, with by far the lowest fatality and injury rates.

Pedestrian fatality rate was calculated with a similar method—pedestrians killed per 100 million km walked. The U.S. pedestrian fatality rate of 9.7 fatalities for every 100 million km walked is 2.7 times greater than that of any other country studied. The UK is again behind the U.S. with 3.6 pedestrian fatalities per 100 million km walked. More than 13 pedestrians are injured for every 10 million km walked in the U.S. This compares to 3.3 pedestrian injuries in the UK The Netherlands also leads other countries in pedestrian safety having the lowest rate of pedestrian fatalities and injuries.

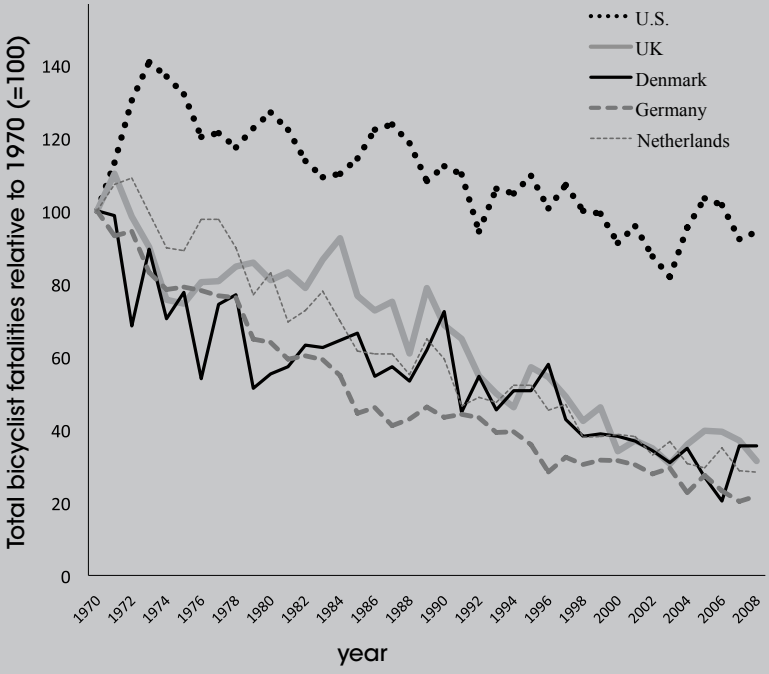
An examination of bicyclist and pedestrian fatalities since 1970 reveals that other countries are experiencing the same decline in fatalities as the U.S. The U.S., UK, Denmark, Germany, and the Netherlands have all seen a general downward trend in number of bicyclist and pedestrian fatalities over the last four decades. However, the U.S. again lags behind international peers with the least decline while the Netherlands has seen the greatest decline in fatalities.

Bicyclist and Pedestrian Fatality and Injury Rates

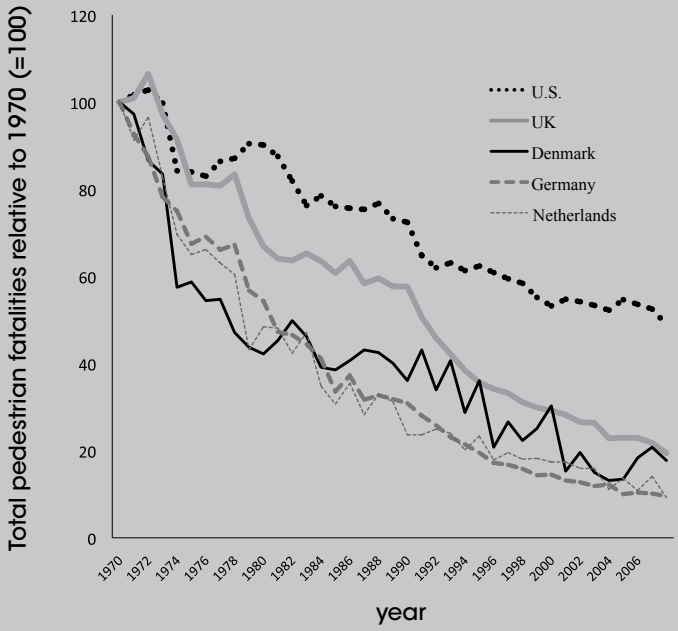


Source: John Pucher and Ralph Buehler, "Walking and Cycling for Healthy Cities," Built Environment, Vol 36, No. 5, December 2010, pp. 391-414. URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf

Trend in Bicyclist Fatalities



Trend in Pedestrian Fatalities



Source: John Pucher and Ralph Buehler, "Walking and Cycling for Healthy Cities," Built Environment, Vol 36, No. 5, December 2010, pp. 391-414.
URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf.

Bicyclist and pedestrian fatalities have declined much more in other countries than in the U.S.



Photo by Daniel Lobo

Pedestrian Safety in Cities

Pedestrians account for 27% of traffic fatalities in major U.S. cities.

Despite comprising 5% of trips to work and nearly 13% 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. Boston has the lowest pedestrian fatality rate.

City	Annual reported pedestrian fatalities (1)	Ped. fatalities Rate per 10K daily peds (1,2)	% Of all traffic fatalities that are pedestrians (1)	% Of pedestrian fatalities (1)	
				Under age 16	Over age 60
Albuquerque	12.3	11.3	26.1%	0%	16%
Arlington, TX	5.0	7.0	18.1%	7%	7%
Atlanta	14.7	6.4	25.4%	16%	2%
Austin	17.7	11.0	29.0%	2%	11%
Baltimore	14.3	3.4	32.3%	7%	16%
Boston	8.3	0.9	34.2%	0%	32%
Charlotte	12.3	8.9	18.5%	3%	8%
Chicago	46.7	2.8	27.3%	14%	21%
Cleveland	4.3	2.3	11.7%	0%	23%
Colorado Springs	1.7	1.7	7.6%	20%	20%
Columbus	12.3	6.0	21.6%	5%	3%
Dallas	33.0	14.4	24.1%	6%	10%
Denver	12.7	5.1	31.4%	5%	26%
Detroit	29.3	9.8	26.9%	6%	13%
El Paso	12.3	9.2	25.5%	8%	22%
Fort Worth	17.3	20.0	25.7%	8%	12%
Fresno	8.3	8.8	24.8%	12%	12%
Honolulu	8.7	2.9	45.6%	0%	69%
Houston	51.3	10.4	23.0%	8%	8%
Indianapolis	10.3	6.0	14.2%	10%	16%
Jacksonville	23.0	18.7	18.1%	4%	13%
Kansas City, MO	11.0	10.6	18.9%	18%	6%
Las Vegas	9.7	8.4	24.0%	3%	28%
Long Beach	10.0	7.2	30.9%	10%	17%
Los Angeles	86.0	6.4	31.9%	6%	22%
Louisville	13.3	10.2	19.5%	13%	5%
Memphis	12.0	8.8	12.1%	6%	11%
Mesa	5.3	6.0	17.0%	0%	6%
Miami	17.0	10.4	34.7%	6%	31%
Milwaukee	11.7	4.2	33.0%	17%	26%
Minneapolis	4.0	1.6	18.2%	0%	25%
Nashville	10.0	9.9	14.8%	3%	10%
New Orleans	12.3	5.9	30.8%	8%	5%
New York	148.7	1.7	53.9%	6%	35%
Oakland	7.3	4.1	22.9%	18%	0%
Oklahoma City	9.3	12.1	13.0%	14%	4%
Omaha	2.0	1.6	9.4%	0%	0%
Philadelphia	32.0	2.5	31.1%	15%	28%
Phoenix	42.3	14.9	25.1%	7%	12%
Portland, OR	7.7	2.6	27.1%	4%	22%
Raleigh	8.7	8.2	28.3%	15%	8%
Sacramento	8.7	5.7	24.8%	4%	23%
San Antonio	24.7	9.1	20.5%	3%	16%
San Diego	21.7	5.8	25.6%	3%	29%
San Francisco	20.7	2.5	48.8%	3%	50%
San Jose	13.7	7.4	29.7%	5%	34%
Seattle	10.0	1.9	40.5%	0%	43%
Tucson	10.3	5.3	20.7%	6%	29%
Tulsa	12.0	13.8	23.4%	8%	8%
Virginia Beach	4.3	4.7	15.5%	0%	23%
Washington, DC	14.0	2.0	39.3%	7%	29%
Mean/Average (3)	18.8	4.0	26.9%	7%	21%
Median	12.0	6.0	24.8%	6%	16%
High	148.7	20.0	53.9%	20%	69%
Low	1.7	0.9	7.6%	0%	0%

Legend:
= High value
= Low value

Sources: FARS 2007-2009, ACS 2009
Notes: (1) All fatality data in this table are based on the 3-year average number of fatalities from 2007-2009. (2) Pedestrian fatality rate was calculated by dividing the number of annual pedestrian fatalities (averaged between 2007-2009) by population (weighted, or multiplied, by share of the population walking to work). (3) All averages are weighted by population except for annual reported pedestrian fatalities.

State Safety Policies and Funding

State	Percent of traffic fatalities bike/ped (1)	State Highway Safety Funds(2)		Emphasized in state highway safety plan	
		% to bike/ ped	amt. per capita	Bicycling	Walking
Alabama	7.5%	0.01%	$0.00		
Alaska	14.4%	0.00%	$0.00	✓	✓
Arizona	16.3%	0.00%	$0.00		
Arkansas	7.6%	0.00%	$0.00	✓	✓
California	20.5%	0.52%	$0.01	✓	✓
Colorado	11.6%	0.00%	$0.00	✓	✓
Connecticut	14.3%	0.00%	$0.00	✓	✓
Delaware	18.1%	0.00%	$0.00		✓
Florida	21.0%	4.30%	$0.15	✓	✓
Georgia	11.5%	0.00%	$0.00	✓	✓
Hawaii	20.3%	0.00%	$0.00		
Idaho	6.9%	0.00%	$0.00	✓	✓
Illinois	15.1%	0.00%	$0.00	✓	✓
Indiana	8.4%	0.00%	$0.00	✓	✓
Iowa	6.1%	0.00%	$0.00		
Kansas	6.2%	0.00%	$0.00		
Kentucky	6.7%	0.00%	$0.00		
Louisiana	13.6%	0.00%	$0.00	✓	✓
Maine	7.6%	0.00%	$0.00	✓	✓
Maryland	21.1%	0.00%	$0.00		✓
Massachusetts	19.2%	0.00%	$0.00	✓	✓
Michigan	14.4%	0.20%	$0.01	✓	✓
Minnesota	9.2%	0.17%	$0.01		
Mississippi	7.9%	0.00%	$0.00		
Missouri	7.9%	0.00%	$0.00	✓	✓
Montana	6.7%	0.00%	$0.00		
Nebraska	3.8%	0.00%	$0.00		
Nevada	17.7%	0.00%	$0.00		✓
New Hampshire	9.0%	0.00%	$0.00	✓	✓
New Jersey	25.6%	0.21%	$0.00	✓	✓
New Mexico	12.9%	0.00%	$0.00	✓	✓
New York	26.9%	0.00%	$0.00		✓
North Carolina	12.3%	0.52%	$0.01	✓	✓
North Dakota	4.8%	0.00%	$0.00		
Ohio	10.0%	0.05%	$0.00	✓	✓
Oklahoma	7.4%	0.00%	$0.00		
Oregon	13.4%	0.00%	$0.00		
Pennsylvania	11.0%	0.00%	$0.00	✓	✓
Rhode Island	19.8%	0.00%	$0.00		
South Carolina	11.9%	0.00%	$0.00	✓	✓
South Dakota	5.3%	0.00%	$0.00		
Tennessee	6.8%	0.00%	$0.00		
Texas	13.4%	0.00%	$0.00	✓	✓
Utah	12.0%	0.00%	$0.00	✓	✓
Vermont	4.7%	0.00%	$0.00		
Virginia	10.2%	0.56%	$0.01	✓	✓
Washington	13.6%	3.23%	$0.04	✓	✓
West Virginia	5.5%	0.00%	$0.00		
Wisconsin	9.1%	0.00%	$0.00		
Wyoming	3.2%	0.00%	$0.00	✓	✓
Mean/Average (3)	13.6%	0.40%	$0.01	Yes	Yes
Median	11.3%	0.00%	$0.00	Yes	Yes
High	26.9%	4.30%	$0.15	ø	ø
Low	3.2%	0.00%	$0.00	ø	ø

Legend:
✓ = Yes
= High value
= Low value

Sources: FARS 2007-2009, FHWA FMIS 2006-2010, LAB 2011 **Notes:** (1) Fatality data in this table are based on the 3-year average number of fatalities from 2007-2009. (2) State highway funds represent funding from the federal Highway Safety Improvement Program (HSIP).

bicyclists killed in traffic in the U.S. decreased by 27%. Pedestrian fatalities fell 24% over the same period. Pedestrian fatalities have experienced a steady decline with 2009 being a record low year for fatalities.

When looking at trends in bicycle and pedestrian fatalities over the last three decades, pedestrian fatalities have steadily declined in every age group. While bicycle fatalities among children under 16 have declined sharply in this time period, fatalities in the 16 and older age group have steadily increased. However, these charts do not take into account the change in number of people who bike or walk in these age groups. For example, the number of children who bicycle or walk to school has decreased 75% between 1966 and 2009. When walking and cycling levels have declined at such rates, then reduced fatalities do not necessarily suggest safer walking and cycling.

Safety Policy

Though almost all of the policies discussed in the following chapter could impact safety, this chapter takes a closer look at state highway safety policy. The federal Highway Safety Improvement Program (HSIP) is a federal funding program that aims to reduce traffic deaths and injuries through infrastructure-related improvements. States must have a state highway safety plan to be eligible for these funds. Twenty-seven states emphasize bicycling in their state highway safety plan and 31 states emphasize walking. However, the rate at which states obligate safety funds to bicycling and walking is disproportionately low compared to the percent of traffic fatalities these modes represent. While 13.6% of traffic fatalities are bicyclists or pedestrians, just 0.4% of state highway safety funds are directed at these modes. This amounts to just one cent per capita toward bicycle and pedestrian safety from this fund.



Photo by Dan Burden, Walkable and Livable Communities Institute



Green bike lane in New York City, Photo by Payton Chung

4: POLICIES

Research shows that better policies for bicycling and walking lead to higher levels of bicycling and walking (Pucher and Buehler 2007 and 2008, Pucher et al., 2010). The cities and countries that have invested most heavily in these modes see the greatest share of trips by bicycle and foot (Gotschi and Mills 2009).

For benchmarks in this chapter the Alliance relied on state and city surveys, the National Transportation Enhancements Clearinghouse, 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 and 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. Respondents received follow-up only where data appeared inconsistent. Whenever possible, a note is included at the bottom of tables and illustrations noting cities and states that were unable to supply data.

This chapter 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.



Photo by Greg Dunham

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 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 states or cities publish goals to increase bicycling and walking and decrease crashes, they are making public commitments to progress for which success can be easily measured. Since the 2010 Benchmarking Report, states and cities have improved in this area with several adopting new goals in the last two years. Thirty-four states report they have published goals for increasing *both* bicycling and walking. Mississippi has a goal to increase walking only. 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 and 20 states as of the 2010 Benchmarking Report.

Similarly, more cities have now adopted goals to increase bicycling and walking. Of the cities surveyed, 36 have goals to increase walking and 46 have goals to increase bicycling. Two years ago just 20 and 33 of these cities reported having such goals, respectively.

States and cities are also increasing their commitment to bicycling and walking safety. Forty-one states report having adopted goals to decrease pedestrian fatalities and 38 have goals to decrease bicycle fatalities. Of the cities surveyed, 39 have adopted goals to reduce bicycle fatalities and 31 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 communities' visions for the future and their road maps for achieving their goals. Roughly half of cities and states have adopted master plans for bicycling and walking as of this report. Twenty-four states have bicycle and pedestrian master plans. Hawaii, Minnesota, and Nevada have bicycle master plans only. Rhode Island has a pedestrian master plan only. Colorado is currently developing a bicycle and pedestrian master plan, and Hawaii is currently developing a pedestrian master plan. Twenty-one of the cities surveyed have bicycle and pedestrian master plans. Twenty more have bicycle master plans only.

Many states and cities have also adopted master plans for trails and mountain biking. Two-thirds of states report having adopted a trail master plan. Florida, Kansas, New Jersey, and Virginia have mountain bike plans. Florida's mountain bike plan is included in its state trail plan. Twenty-seven cities have trail master plans. Three of these focus on mountain biking. (For links to sample bicycle and pedestrian master plans, see Appendix 5, pages 213 and 214).

(Continued page 70)

Planning for Bicycling and Walking in States

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	Trails	Mountain Bikes	
Alabama					✓★	✓★	✓		
Alaska	✓	✓	✓	✓	✓	✓	✓		
Arizona	✓	✓	✓	✓	✓	✓	✓		✓
Arkansas			✓★	✓★					
California	✓	✓	✓	✓					✓
Colorado	✓	✓	✓	✓	(1)	(1)	✓		
Connecticut			✓	✓	✓	✓	✓		✓
Delaware	✓★	✓★	✓	✓	✓	✓★	✓		✓
Florida	✓★	✓★	✓	✓			✓	✓(2)	✓★
Georgia	✓	✓	✓	✓	✓	✓			✓★
Hawaii	✓★	✓	✓★		✓	(1)	✓		
Idaho	✓	✓	✓	✓	✓	✓			
Illinois	✓	✓	✓	✓					✓
Indiana	✓★	✓★			✓	✓	✓		
Iowa			✓	✓			✓		✓
Kansas	✓★	✓★	✓★	✓★	✓	✓	✓	✓	
Kentucky	✓	✓	✓	✓					✓(3)
Louisiana			✓	✓	✓	✓			
Maine	✓	✓	✓	✓			✓		✓
Maryland	✓	✓	✓	✓	✓	✓	✓		✓
Massachusetts	✓	✓	✓	✓	✓	✓	✓		✓
Michigan	✓	✓	✓	✓			✓		
Minnesota	✓	✓	✓	✓	✓		✓		✓
Mississippi	✓								✓★
Missouri			✓	✓					
Nebraska	✓	✓					✓		✓
Nevada		✓	✓	✓	✓		✓		✓
New Hampshire					✓	✓	✓		
New Jersey	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York	✓★	✓★	✓	✓	✓	✓	✓		✓
North Carolina	✓	✓	✓	✓	✓	✓	✓		✓(3)
North Dakota									
Ohio	✓★	✓★	✓★	✓★			✓		
Oklahoma							✓		
Oregon	✓	✓	✓	✓	✓ ★	✓★	✓		✓
Pennsylvania	✓	✓	✓	✓	✓	✓	✓		✓
Rhode Island	✓	✓★	✓★			✓	✓		✓★
South Carolina			✓	✓			✓		(4)
South Dakota	✓	✓	✓	✓			✓		
Tennessee	✓	✓	✓	✓	✓	✓	✓		✓★
Texas			✓	✓					✓
Utah	✓	✓	✓	✓	✓	✓			
Vermont	✓	✓	✓	✓	✓	✓	✓		
Virginia	✓	✓	✓	✓			✓	✓	
Washington	✓★	✓★	✓★	✓★	✓★	✓★			
West Virginia	✓	✓	✓	✓					
Wisconsin	✓	✓	✓	✓	✓	✓	✓		
Wyoming			✓		✓★	✓★			
# of states responding yes	35	35	41	38	27	25	33	4	24
Mean /Average	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No

Legend (this page and next):
✓= Yes/has policy
★= New policy since 2010 Benchmarking Report

Source: State surveys 2010/2011 **Notes:** No data received from Montana and New Mexico and therefore these states are not shown on this table; 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) In progress. (2) State trail master plan includes mountain bike trails. (3) Bicycle only. (4) Formerly had committee that has since dissolved.

Planning for Bicycling and Walking in Cities

City	Published Goals:				Master Plan Adopted			Advisory Committee	
	To Increase Walking	To Increase Bicycling	Decrease Ped. Fatalities	Decrease Bicycle Fatalities	For bicycling	For walking	For trails (or mnt. bikes)	For bicycling	For walking
Albuquerque	✓	✓	✓	✓			✓	✓	✓
Arlington, TX	✓★	✓★	✓★	✓★	✓	✓★	✓	✓	✓
Atlanta	✓	✓			✓	✓			
Austin	✓	✓	✓	✓	✓	✓		✓	
Baltimore	✓★	✓★			✓		✓(1)	✓	
Boston		✓		✓★	✓			✓	
Charlotte	✓	✓	✓	✓	✓		✓	✓	
Chicago		✓		✓	✓			✓	✓
Colorado Springs		✓			✓		✓	✓★	
Columbus	✓★	✓	✓★	✓	✓	✓★		✓	✓
Dallas	✓★	✓		✓★	✓		✓	✓	
Denver	✓	✓			✓	✓		✓	
El Paso	✓	✓	✓	✓	✓	✓	✓		
Fort Worth		✓★		✓★	✓★				
Fresno	✓	✓	✓	✓	✓★	✓★	✓(1)	✓	✓
Honolulu		✓	✓	✓	✓			✓	
Houston		✓		✓	✓		✓	✓	✓
Jacksonville	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kansas City, MO	✓	✓	✓	✓	✓	✓	✓	✓	✓
Las Vegas	✓	✓	✓	✓	✓	✓	✓		
Long Beach	✓	✓	✓	✓	✓				
Los Angeles	✓★	✓★	✓★	✓★	✓			✓	✓
Louisville	✓	✓	✓	✓				✓	✓
Memphis	✓★	✓★	✓★	✓★			✓		
Mesa		✓	✓	✓				(2)	
Miami		✓		✓	✓★		✓	✓	
Milwaukee		✓		✓	✓			✓	✓
Minneapolis	✓★	✓	✓★	✓★	✓★	✓★	✓	✓	✓
Nashville	✓★	✓★	✓★	✓★	✓	✓	✓	✓	✓
New Orleans			✓★	✓★	✓★	✓★			
New York	✓	✓	✓	✓	✓		✓		
Oakland	✓	✓	✓	✓	✓	✓		✓	✓
Oklahoma City		✓		✓	✓		✓	✓	✓
Omaha	✓★	✓★					✓	✓	✓
Philadelphia	✓★	✓★	✓	✓	✓	✓★	✓(1)		
Phoenix	✓	✓	✓	✓	✓		✓	✓	
Portland, OR	✓	✓	✓	✓	✓	✓	✓	✓	✓
Raleigh	✓★	✓	✓★	✓	✓		✓	✓	✓
Sacramento	✓	✓	✓	✓	✓	✓		✓	✓
San Antonio		✓★			✓★			✓★	✓★
San Diego	✓	✓		*	✓				
San Francisco	✓	✓	✓	✓	✓	✓		✓	✓
San Jose	✓★	✓★	✓	✓	✓	✓	✓	✓	✓
Seattle	✓	✓	✓	✓	✓	✓		✓	✓
Tucson	✓	✓			✓		✓	✓	✓
Tulsa	✓	✓					✓	(2)	(2)
Virginia Beach	✓	✓	✓	✓	✓	✓★	✓	✓	✓
Washington, DC	✓	✓	✓	✓	✓	✓		✓	✓
# of cities responding yes	36	47	31	39	41	21	27	36	26
Mean/Average	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Source: City surveys 2010/2011 **Notes:** For legend, see previous page. The following top 51 population cities did not respond to these survey questions: Cleveland, Detroit, and Indianapolis; Responses of "na" and "unknown" were taken to mean "no." Cities with combined bike/ped master plans have both columns marked; cities with separate bike and ped master plans have respective columns marked. Cities with combined bike/ped advisory committees have both columns marked; cities with separate bike and ped advisory committees have respective columns marked. (1) Mountain bike plan. (2) A previously formed advisory committee has since dissolved.

Advisory Committees
In many states and cities, bicycle and pedestrian advisory committees assist with the planning, development, prioritizing, 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 to review and make recommendations to city or state staff and planners about facilities, programs, and issues relating to bicycling and walking in their state/community. Twenty-six cities and 24 states that were surveyed report having a bicycle and pedestrian advisory committee. Ten cities have bicycle advisory committees only as do the states of Kentucky and North Carolina.

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. According to the National Complete Streets Coalition (as of September 2011), 26 states and 19 of the 51 cities in this report have adopted local complete

Before: Incomplete Street

After: Complete Street

6th Avenue South in Seattle, WA, photos by Seattle Department of Transportation





Complete Streets Policies



Source: National Complete Streets Coalition, September 2011 **Note:** Only cities out of the 51 cities included in this report are included on this map. As of August 2011 there are 283 local jurisdictions with written policies—see www.CompleteStreets.org for details. California has an existing Complete Streets policy from 2001, but new policies were also adopted in 2008 and 2010.

streets policies. This is up from 2007 when just 10 states and 8 of the 51 cities had adopted complete streets policies. In total, there were 283 local complete streets policies in the U.S. as of August 2011. (For links to complete streets resources and model policies, see Appendix 5, page 214.)

Bicycle Level of Service

Level of Service (LOS) is a rating system used by transportation engineers, planners, and authorities to evaluate the speed, convenience, and comfort of roadway facilities. LOS most often assigns a letter grade to roadways, making the rating easy to understand. LOS has been used traditionally in highway planning, and the values assigned to roads can affect funding and other policy decisions. Although traditional LOS models have not included ratings for bicycling and walking, multimodal LOS models are becoming more common in some places. According to data from the League of American Bicyclists, 17 states use the bicycle LOS rating to assess roads.

Bicycle Parking Requirements

Over 1.5 million bicycles are stolen in the United States each year (www.stolenbicycleregistry.com/links.php). In a 2008 survey of roughly 1,800 San Francisco bicyclists, the number one reason bicyclists cited why they don't bicycle more was fear of theft (Report Card on Bicycling: San Francisco 2008).

A lack of safe places to park a bicycle is a barrier to increasing bicycling (Hunt and Abraham 2007). Many cities have taken steps to overcome this barrier by requiring businesses and new developments, parking garages, and public events to include bicycle
(Continued page 74)

Over 1/2 of states have now adopted a complete streets policy.



Green bike lane on Fell Street in San Francisco, CA.
Photo by Frank Chan, San Francisco Bicycle Coalition

State Policies

State	Publicly available bicycle map	Complete Streets Policy	Use Bicycle Level of Service to Assess Roads (1)
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	✓		
# of states responding yes	38	26	17
Mean/Average	Yes	No	No

Sources: NCSC September 2011, LAB 2011 **Notes:** Legend next page. (1) State uses a bicycle level of service or similar model to assess bicycling conditions of roads.

City Policies

City	Driver Enforcement		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	✓★	*	✓	✓★		✓		
Atlanta	✓	(3)	✓	✓	✓	✓		
Austin	✓	*	✓		✓	✓		✓★
Baltimore	✓★	$57	✓		✓★	✓		✓★
Boston	✓★	*	✓			✓★		
Charlotte	✓★	*	✓		✓	✓		✓
Chicago	✓	*	✓★		✓★	✓		✓
Colorado Springs	✓★	*	✓					✓
Columbus	*	ø	✓	✓	✓★	✓★		✓
Dallas	✓	$175 (4)	✓					
Denver		ø	✓		✓★	✓★	✓★	✓★
Detroit(2)	✓	ø	✓					
El Paso	✓★	*	✓★		✓★	✓★		
Fort Worth		ø	✓		✓★	✓★		
Fresno	✓	$300	✓		✓★	✓	✓★	
Honolulu	✓	$97	✓					✓
Houston	✓	*	✓	✓★	✓★	✓★		
Indianapolis(2)		ø						
Jacksonville	✓★	*	✓★	✓★	✓★	✓★	✓★	
Kansas City, MO	✓	$60	✓	✓	✓	✓		
Las Vegas	✓	$300	✓					✓★
Long Beach	✓	$159	✓					
Los Angeles	✓★	$175	✓			✓		
Louisville	✓★	$60	✓	✓	✓★	✓		✓
Memphis	✓	*	✓★			✓★		
Mesa	✓	*	✓	✓★	✓★	✓		
Miami	✓★	*	✓					✓
Milwaukee	✓	*	✓		✓	✓		
Minneapolis	✓	$178	✓	✓	✓	✓		
Nashville	✓	$50	✓			✓★	✓	✓★
New Orleans		ø	✓			✓★		
New York	✓★		✓	✓★	✓	✓★		✓
Oakland	✓★	$201	✓		✓	✓	✓	
Oklahoma City	✓★	$94	✓					
Omaha	✓★	$73	✓★			✓★		
Philadelphia		ø	✓	✓★	✓★	✓★		✓
Phoenix	✓	*	✓★					
Portland, OR	✓	$287	✓		✓	✓		
Raleigh	✓	*	✓			✓		
Sacramento	✓★	*	✓★			✓★		✓
San Antonio	✓★	$200	✓★			✓★		
San Diego	✓★	$200	✓	✓★	✓	✓★		✓
San Francisco	✓★	$149		✓	✓	✓	✓	✓
San Jose	✓	*	✓		✓★	✓	✓★	
Seattle	✓★	$124	✓★	✓★		✓★		✓
Tucson	✓	$115	✓		✓	✓	✓	
Tulsa	✓	*	✓					
Virginia Beach	✓★	$35	✓	✓★	✓★	✓		
Washington, DC	✓	$250	✓		✓	✓		✓★
# of cities responding yes	43	ø	47	15	28	39	9	19
Mean/Average	Yes	$152	Yes	No	Yes	Yes	No	No

Sources: City surveys, NCSC September 2011 **Notes:** Answers marked as "unknown" on surveys were taken to mean "no." Cleveland did not provide data for the 2008/2009 or 2010/2011 surveys and is not included in this table. (1) Complete streets data from the National Complete Streets Coalition. (2) City did not respond to 2010/2011 survey; data from the 2008/2009 city survey. (3) varies. (4) answered "$150-200."

Legend: (this page and previous)

✓ = Yes/has legislation or policy

★ = New policy since 2010 Benchmarking Report

ø = Not applicable

* = Officials could not access data

parking. Of the cities surveyed for this report, 76% (39 cities) require bicycle parking in new buildings. This is a 70% increase from 2 years ago when just 23 cities reported having this policy. Twenty-eight cities report that they require bicycle parking in buildings/garages—up from just 15 cities 2 years ago. Just nine cities require secure or valet bicycle parking at public events.

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 number 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. Ninety-two percent of responding cities (47 cities) reported having minimum car parking requirements. By masking the true cost of land and parking space, these policies can often negatively affect land-use development that promotes bicycling and walking and lead to sprawl (Shoup 2005). On the flip side, 15 cities (up from six as of the 2010 report) 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 laws protecting both bicyclists and pedestrians and the enforcement of these laws. Although it is commendable to have laws that protect bicyclists, pedestrians, and other road users, these laws are less effective if not 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, surveys asked cities if they cite drivers for not yielding to bicyclists and pedestrians. Forty-three of the cities surveyed report that their city fines motorists for not yielding to bicyclists and pedestrians when nonmotorized users have the right of way. Of the cities that do enforce not yielding to bicycles and pedestrians, fines range from $35 to $300. The average fine for motorists is $152.

Safe Routes to School Policies

Through the 2005 federal transportation act, $978 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. As of March 2011 all states have a full-time Safe Routes

to School coordinator in place. Three of these states (Illinois, Maine, and South Dakota) have interim coordinators.

States were asked what percentage of their schools participate in Safe Routes to School programs. According to this survey, on average, 14% of public schools are engaged in a Safe Routes to School program. Nevada has the highest participation rate with 39% of schools involved with Safe Routes programs. Oklahoma reported the lowest participation rate with just 1% of schools involved with Safe Routes.

Funding SRTS

The Alliance asked states if they use any additional funding sources for SRTS besides federal SRTS dollars. Eighteen 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.

School Siting Policies

The Alliance also asked cities and states whether they 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 (McDonald 2007). These same conditions may negatively influence participation in after school and weekend activities at the school grounds (such as science club, scouts, arts and cultural enrichment, sports, etc.). Twenty-five states have minimum acreage policies for school siting. These policies vary but on average require a minimum



Photo courtesy of the Missouri Bicycle and Pedestrian Federation

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

of 10 acres for elementary schools, 20 acres for middle schools, and 30 acres for high schools, plus 1 acre for every 100 students. Thirty cities reported having a policy that places children in schools for other reasons besides prox-

(Continued page 78)

State Safe Routes to School Policies

States	Full-time SRTS coordinator?	Standard SRTS curriculum for all schools	Training for all instructors on curriculum	Percentage of state's schools participating in SRTS program?	Policy requiring minimum acreage for school siting? (1)	State provides additional funding above and beyond fed SRTS funds?
Alabama	✓		✓	*	✓	
Alaska	✓	✓		*	✓	
Arizona	✓	✓	✓	12%	✓	
Arkansas	✓			*		
California	✓			25%	✓	✓
Colorado	✓	✓	✓	*		
Connecticut	✓			5%	✓	*
Delaware	✓	✓	✓	20%	✓	✓
Florida	✓	✓	✓	30%		
Georgia	✓	✓	✓	14%	✓	
Hawaii	✓			17%	✓	
Idaho	✓			13%	✓	✓
Illinois	✓(2)			10%		✓★
Indiana	✓			25%	✓	✓★
Iowa	✓	✓	✓	18%		
Kansas	✓			8%		✓
Kentucky	✓	✓		13%	✓	✓
Louisiana	✓			*		
Maine	✓(2)	✓	✓	25%	✓	✓
Maryland	✓	✓	✓	8%		✓★
Massachusetts	✓	✓	✓	26%		
Michigan	✓	✓	✓	14%		✓★
Minnesota	✓			5%		✓★
Mississippi	✓	✓	✓	10%	✓	
Missouri	✓	✓		13%	✓	✓★
Montana	✓			*		*
Nebraska	✓			*		
Nevada	✓		✓	39%		✓
New Hampshire	✓	✓	✓	5%	✓	
New Jersey	✓	✓	✓	*		✓
New Mexico	✓			*		*
New York	✓	✓		*	✓	
North Carolina	✓			7%	✓	
North Dakota	✓			5%		✓
Ohio	✓			*	✓	
Oklahoma	✓	✓		1%	✓	✓
Oregon	✓	✓	✓	12%		
Pennsylvania	✓			*		
Rhode Island	✓			16%	✓	
South Carolina	✓			14%		
South Dakota	✓(2)			*		
Tennessee	✓			10%		
Texas	✓	✓	✓	16%		✓
Utah	✓	✓	✓	15%	✓	
Vermont	✓	✓	✓	20%		
Virginia	✓			*	✓	
Washington	✓	✓	✓	5%	✓	✓
West Virginia	✓			10%	✓	
Wisconsin	✓	✓	✓	14%		
Wyoming	✓	✓	✓	*	✓	
# of states responding yes	46	25	22	ø	25	18
Mean/Average	Yes	ø	No	14%	ø	No

Source: State surveys, 2010/2011, LAB 2011, SRTSNP September 2011, Council on Educational Facility Planners International 2003 Brief on Educational Facilities Issues **Notes:** Legend next page. (1) 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. (2) Interim coordinator.

Safe Routes to School in Cities

Cities	Total number of students (K-12) (1)	# of bike parking spaces at public schools	# of bike parking spaces per 1,000 students	Existence of policy:	
				requiring minimum acreage for school siting (2)	placing children in schools for any reason other than proximity to home
Albuquerque	*	*	*	*	*
Arlington, TX	62,500	*	*	✓	✓
Atlanta	*	*	*	✓	
Austin	*	*	*	*	*
Baltimore	*	*	*	*	*
Boston	55,000	*	*	*	✓
Charlotte	*	1,700	*	✓	✓
Chicago	384,909	*	*		✓
Colorado Springs	*	*	*	✓	*
Columbus	49,861	*	*	✓	✓
Dallas	107,000	900	8	✓	✓
Denver	79,423	644	8	*	✓
El Paso	*	*	*	*	*
Fort Worth	120,000	*	*		
Fresno	220,000	150	1	✓	✓
Honolulu	*	*	*	*	*
Houston	*	*	*	*	*
Jacksonville	93,346	5,000	54	✓	✓
Kansas City, MO	32,497	270	8	✓	✓
Las Vegas	*	*	*		✓
Long Beach	88,186	*	*	*	*
Los Angeles	578,524	*	*		✓
Louisville	99,819	*	*	✓	✓
Memphis	*	*	*		
Mesa	65,500	5,700	87		
Miami	30,565	*	*		✓
Milwaukee	87,000	*	*		✓
Minneapolis	35,453	1,656	47	*	✓
Nashville	73,653	*	*	✓	✓
New Orleans	38,000	*	*		✓
New York	873,512	*	*		✓
Oakland	46,900	*	*		✓
Oklahoma City	*	*	*	*	*
Omaha	75,000	475	6		✓
Philadelphia	154,500	*	*		✓
Phoenix	285,700	16,000	56		
Portland, OR	*	*	*		✓
Raleigh	143,710	100	1	✓	✓
Sacramento	*	*	*	*	*
San Antonio	*	*	*	*	✓
San Diego	125,571	*	*	✓	✓
San Francisco	*	100	*		✓
San Jose	163,000	*	*		
Seattle	46,522	1,200	26	✓	✓
Tucson	*	*	*	*	*
Tulsa	*	*	*	*	✓
Virginia Beach	69,365	*	*	✓	✓
Washington, DC	72,327	350	5		
Mean/Average	145,245	2,446	26	No	Yes
Median	83,212	772	8	No	Yes
High	873,512	16,000	87	ø	ø
Low	30,565	100	1	ø	ø

Legend (this page and previous):
- ✓ = Yes/has policy
- ★ = New policy since 2010 Benchmarking Report
- ø = Not applicable
- * = Officials could not access data

Source: City surveys, 2010/2011 **Notes:** Cleveland, Detroit, and Indianapolis did not respond to requests for data and are not included in this table. (1) Number refers to all public school students, not number of SRTS participants. (2) 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 or bikeable.



Photo courtesy of the Safe Routes to School National Partnership

imity to their homes. Desegregation busing, the practice of assigning and busing students to schools to diversify student demographics, is one common policy that forces children to attend schools outside of their neighborhood consequently making walking and biking to school more difficult.

Bike Parking at Schools

The Alliance also asked cities how many bike parking spaces were at public schools. Cities averaged 26 school bike parking spaces per 1,000 students. Phoenix reported 16,000 bicycle parking spaces at schools—more than any other city. Mesa, AZ, had the highest rate of bicycle parking at schools with 87 spots per 1,000 students.

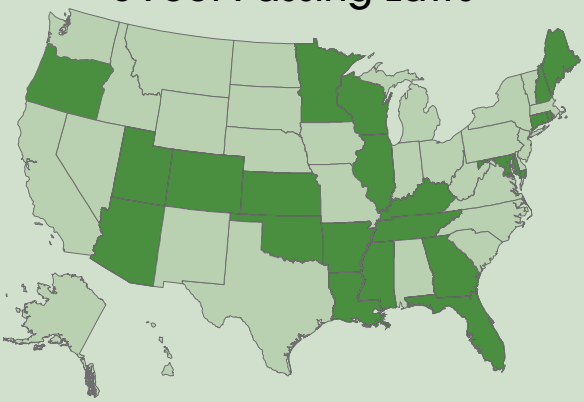
Spending Targets

Spending targets are goals set by states and cities for how much money, or what percentage of transportation spending, will be allocated to bicycling and walking. Most states and cities report that they do not have spending targets for bicycling and walking. Just 11 states (Connecticut, Hawaii, Iowa, Maine, Michigan, North Carolina, Oklahoma, Oregon, South Carolina, Virginia, and Washington) report having spending targets—up from eight states as of the 2010 report. Thirteen cities (Albuquerque, Austin, Cleveland, Colorado Springs, Columbus, Fresno, Honolulu, Las Vegas, Louisville, Nashville, Phoenix, Portland, and Washington, DC) report having spending targets—up from seven cities as of the 2010 Benchmarking Report. 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.

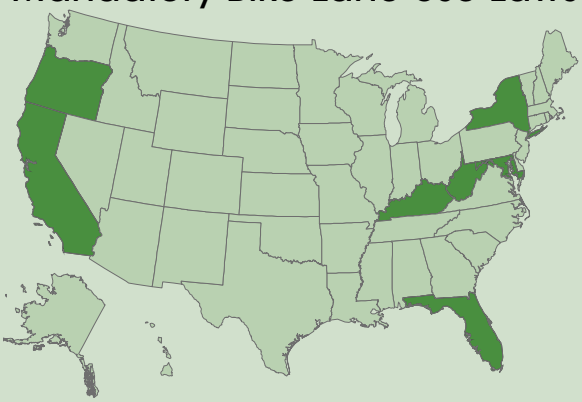
(Continued page 81)

State Bicycle Policies

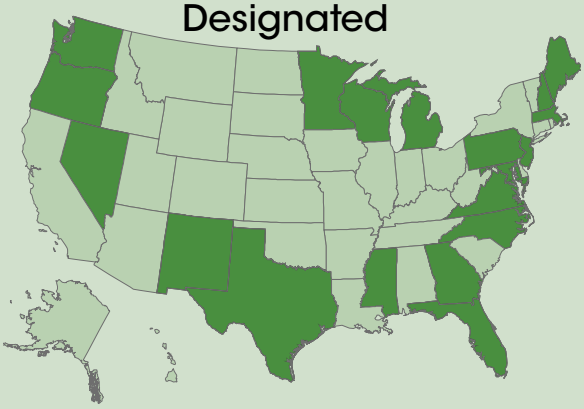
3-Foot Passing Laws



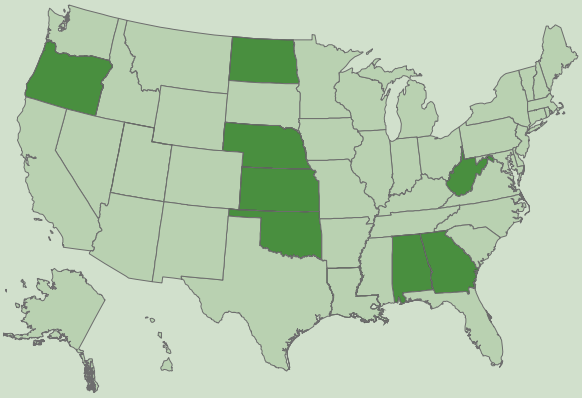
Mandatory Bike Lane Use Laws



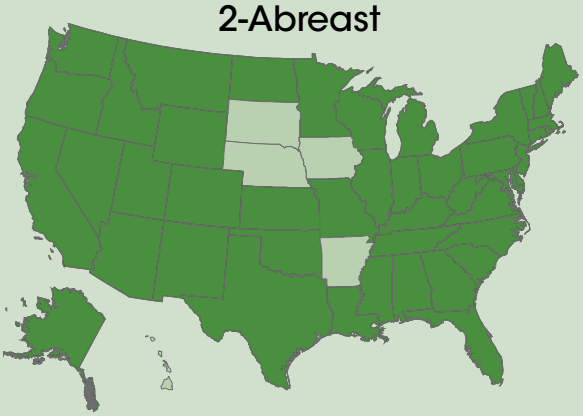
U.S. Bike Routes Officially Designated



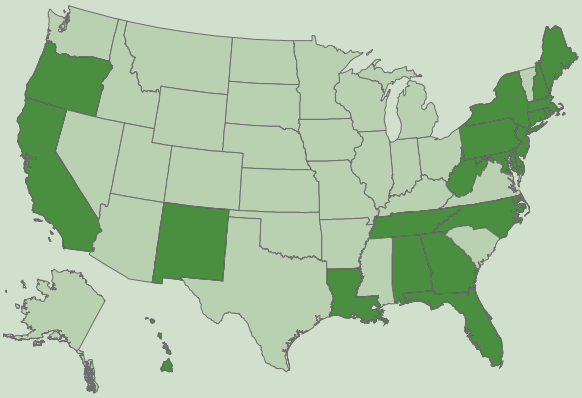
Mandatory Sidepath Use Law



Bicycles Can Legally Ride 2-Abreast



Mandatory Youth Helmet Laws



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

Source: LAB 2011

State Legislation Relating to Bicycling

State	Legal 2-abreast riding for bicycles	3-foot passing distance for cars	Legally signal w/ right hand	Text messaging banned	Handheld cell phones banned	Bicyclist allowed full use of lane in presence of:		Mandatory youth helmet policy	Age?
						Sidepath	Bike lane		
Alabama	✓						✓	✓	< 6
Alaska	✓			✓		✓	✓		ø
Arizona	✓	✓	✓			✓	✓		ø
Arkansas		✓		✓	(1)	✓	✓		ø
California	✓		✓	✓	✓	✓		✓	< 18
Colorado	✓	✓	✓	✓		✓	✓		ø
Connecticut	✓	✓	✓	✓	✓	✓	✓	✓	< 16
Delaware	✓		✓	✓	✓	✓		✓	< 18
Florida	✓	✓	✓			✓		✓	<16
Georgia	✓	✓	✓	✓			✓	✓	< 16
Hawaii					(2)	✓	✓	✓	<17
Idaho	✓		✓			✓	✓		ø
Illinois	✓	✓	✓	✓	(3)	✓	✓		ø
Indiana	✓		✓	✓		✓	✓		ø
Iowa				✓		✓	✓		ø
Kansas	✓	✓	✓	✓			✓		ø
Kentucky	✓	✓	✓	✓		✓			ø
Louisiana	✓	✓	✓	✓	(4)	✓	✓	✓	< 12
Maine	✓	✓	✓	✓		✓	✓	✓	< 16
Maryland	✓	✓	✓	✓	✓	✓		✓	< 16
Massachusetts	✓		✓	✓		✓	✓	✓	< 17
Michigan	✓			✓		✓	✓		ø
Minnesota	✓	✓	✓	✓		✓	✓		ø
Mississippi	✓	✓	✓			✓	✓		ø
Missouri	✓		✓			✓	✓		ø
Montana	✓		✓			✓	✓		ø
Nebraska			✓	✓			✓		ø
Nevada	✓		✓	✓	✓	✓	✓		ø
New Hampshire	✓	✓	✓	✓		✓	✓	✓	< 16
New Jersey	✓		✓	✓	✓	✓	✓	✓	< 17
New Mexico	✓				(5)	✓	✓	✓	< 18
New York	✓		✓	✓	✓	✓		✓	<14
North Carolina	✓			✓		✓	✓	✓	< 16
North Dakota	✓		✓	✓			✓		ø
Ohio	✓		✓			✓	✓		ø
Oklahoma	✓	✓			(4)		✓		ø
Oregon	✓	✓(7)	✓	✓	✓			✓	< 16
Pennsylvania	✓		✓			✓	✓	✓	0-11
Rhode Island	✓	✓	✓	✓		✓	✓	✓	< 15
South Carolina	✓		✓			✓	✓		ø
South Dakota						✓	✓		ø
Tennessee	✓	✓		✓		✓	✓	✓	< 16
Texas	✓		✓			✓	✓		ø
Utah	✓	✓	✓	✓	(6)	✓	✓		ø
Vermont	✓		✓	✓		✓	✓		ø
Virginia	✓		✓	✓		✓	✓		ø
Washington	✓		✓	✓	✓	✓	✓		ø
West Virginia	✓							✓	< 15
Wisconsin	✓	✓		✓		✓	✓		ø
Wyoming	✓		✓	✓		✓	✓		ø
# of states responding yes	45	21	37	34	9	42	42	21	ø
Mean/Average	Yes	No	Yes	Yes	No	Yes	Yes	No	< 16

Sources: LAB 2011, Governors Highway Safety Association 2011 **Notes:** (1) Has handheld cell phone ban for 18-20 yrs old. (2) Hawaii does not have a state law banning the use of handheld cell phones. However, all of the state's counties have enacted distracted driving ordinances. (3) Illinois bans the use of handheld cell phones while driving in a school zone or in a highway construction zone. (4) Yes with learner or intermediate license. (5) Yes in state vehicles. (6) Utah's law defines careless driving as committing a moving violation (other than speeding) while distracted by use of a handheld cell phone or other activities not related to driving. (7) Oregon's safe passing law does not specify 3-feet, but defines a safe distance as: "distance that is sufficient to prevent contact with the person operating the bicycle if the person were to fall into the driver's lane of traffic vehicle."

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

State Legislation

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. Riding two abreast is often preferred for bicyclists riding with a companion and can make bicycling a more enjoyable experience, like sitting beside a friend in a bus, train, or car. 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 no 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. The other benefit of safe passing laws is to give police the authority to charge drivers who hit cyclists. If a motorist hits a cyclist, by definition he or she failed to give three feet. Twenty-one states now have safe passing laws on the books (up from 14 as of the 2010 Benchmarking Report).

Distracted Driving Laws

Distracted driving has received increased attention in recent years, especially as cell phones and texting have become more prominent. In 2009, distracted driving was responsible for roughly 16% of traffic fatalities (nearly 5,500 victims) (USDOT 2011). Recent research has shown that strong laws with strong enforcement can significantly reduce distracted driving and save lives (Cosgrove et al., 2011). As of this report, only nine states ban handheld cell phone use by all motorists. Thirty-four states ban text messaging while driving.

Mandatory Bike Lane and Sidepath Use Laws

Although most state laws define bicycles as vehicles with the same rights and responsibilities as other vehicles on roadways, some states and municipalities have laws that prohibit bicyclists from full use of roadways when a bike lane or adjacent pathway is present. These “mandatory bike lane use” and “mandatory sidepath” laws can make it illegal for bicyclists to navigate traffic with the best vehicular tactics (such as merging left to avoid an obstruction, merging into the left lane to turn left, or not riding to the right of traffic in a turn lane) and restrict bicyclists' access to businesses or residences.

Most states, however, do allow bicyclists full use of the lane in traffic. Forty-two states allow the full use of the lane by bicyclists when a bike lane is present, and 42 allow use of the full lane in the presence of a sidepath. States that have mandatory bike lane use laws include California, Delaware, Florida, Kentucky, Maryland, New York, Oregon, and West Virginia. States that have mandatory sidepath laws include Alabama, Georgia, Kansas, Nebraska, North Dakota, Oklahoma, Oregon, and West Virginia.

Mandatory Helmet Laws

Although there is no federal law in the United States requiring helmet use for

bicyclists, starting in 1987, states and local jurisdictions began passing their own laws requiring helmet use. Twenty-one states report having a mandatory youth helmet policy. Typically these policies apply to 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 215.

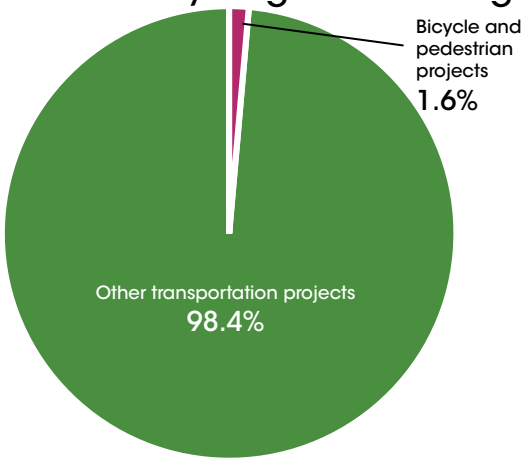
Funding Bicycling and Walking

The most accurate uniform data on federal funding for bicycling and walking comes from the FHWA's FMIS accounting system. The funding data in this report (unless otherwise noted) depict a 5-year average of federal funds obligated to projects, and are not necessarily the actual amount spent in these years. Tables on pages 86-87 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 reliability of federal funding data is limited by the way various states report transportation spending to the FHWA. It is likely that bicycle and pedestrian spending is underreported when a larger road project has a bicycle or pedestrian component. Often, the entire project is coded as a highway project and therefore that state is not credited with spending the funds on bicycling and walking. This is becoming more of an issue for tracking and comparing spending by states with the rise in complete streets policies. With more states including bicycling and walking in all projects, it is increasingly difficult

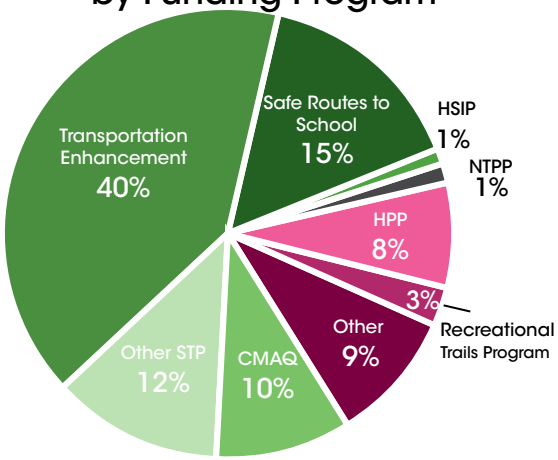
Only 1.6% of federal transportation dollars are spent on bicycling and walking.

Percent of Federal Transportation Dollars to Bicycling and Walking



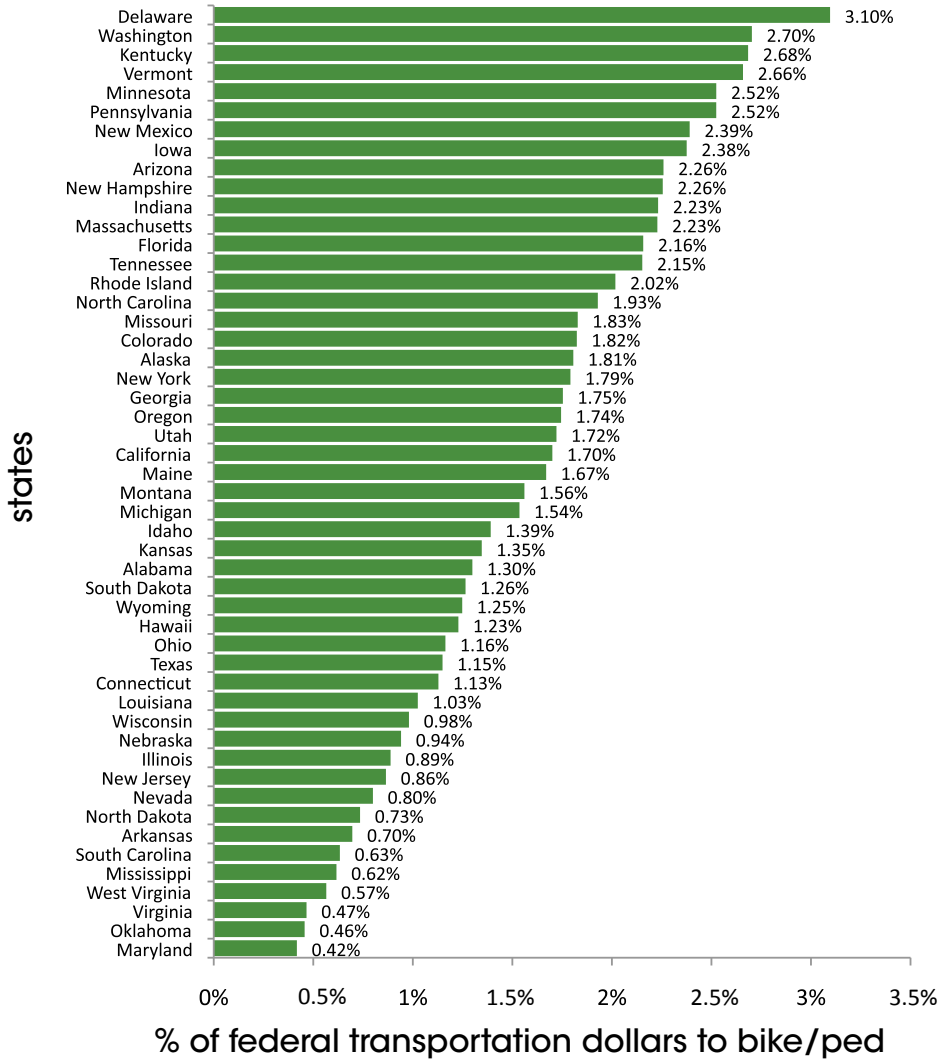
Source: FHWA FMIS 2006-2010 **Note:** Data are based on funds obligated to projects between 2006-2010 and are not necessarily the amount spent in these years.

Bicycle and Pedestrian Dollars by Funding Program



Source: FHWA FMIS 2010 **Abbreviations:** CMAQ = Congestion Mitigation and Air Quality Improvement Program; HSIP = Highway Safety Improvement Program; HPP = High Priority Projects; NTPP = Nonmotorized Transportation Pilot Program; Other STP = Surface Transportation Program (STP except Transportation Enhancement). **Note:** Data are based on funds obligated in 2010 and do not necessarily represent funds that were spent in this year. Figures are rounded to nearest whole percentage point and do not include American Recovery and Reinvestment Act funds.

Percent of Transportation Dollars to Bike/Ped



Source: FHWA FMIS 2006-2010 **Note:** Data are based on a 5-year average of funds obligated to projects between 2006-2010 and are not necessarily the amount spent in these years. Please note that this chart only reports state obligations of federal funding for bicycle and pedestrian projects. As states may utilize other sources of funding for bicycle and pedestrian programs as well, it is important not to assume that federal funding is the only source of funding for bicycle and pedestrian programs in any particular state. See disclaimer regarding differences in funding reporting on page 82 of this report.

According to data from the FHWA, Delaware and Washington spent the highest percentage on bicycling and walking among states—3.1% and 2.7%, respectively. Maryland, Oklahoma, and Virginia spent the lowest percentage on bicycle and pedestrian projects among states.

Delaware spends the greatest percentage of transportation dollars on bicycling and walking projects.

to track if states do not code the bike/ped portions of the project. When asked how their state reports projects, 29 states responded that they report stand-alone bicycle and pedestrian projects. Twenty-eight states responded that they report facilities that are part of larger projects. Five states did not respond or could not access this information.

Also, this report only includes obligations of federal funding for bicycle and pedestrian projects. As states and cities may utilize other sources of funding for bicycle and pedestrian programs as well, it is important not to assume that federal funding amounts included in this report are the only funding for bicycle and pedestrian programs in any particular state or city.

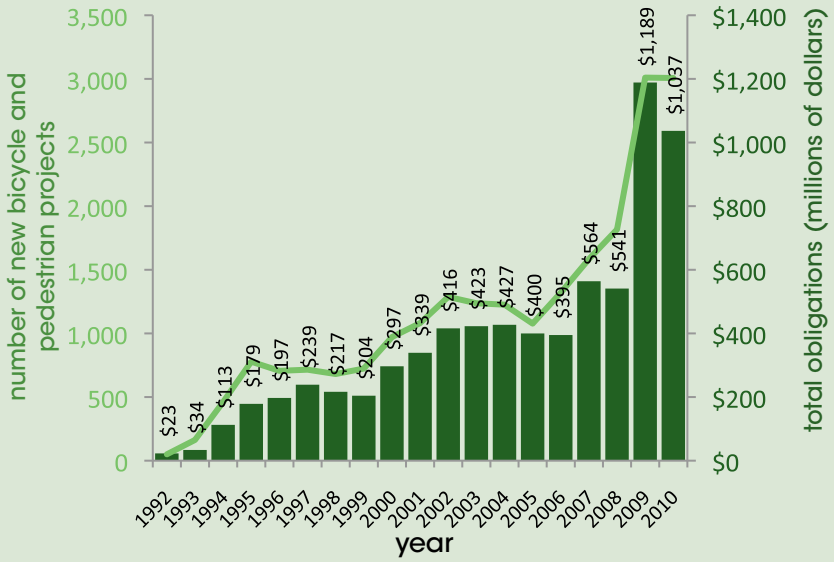
The variation in federal funding sources to bicycle and pedestrian projects is relatively small, with the Transportation Enhancement (TE) program typically responsible for roughly half of all bike/ped obligations. (The American Recovery and Reinvestment Act, a temporary funding program, was the leading funding source for bicycle and pedestrian projects in FY 2010.) More than 50 additional federal funding programs have been used for bicycle and pedestrian projects, most at relatively small amounts. Overall, states spend just 1.6% of their federal transportation dollars on bike/ped projects (based on the 5-year funding period from 2006-2010). This amounts to just $2.17 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 indicates that states and local

(Continued page 88)



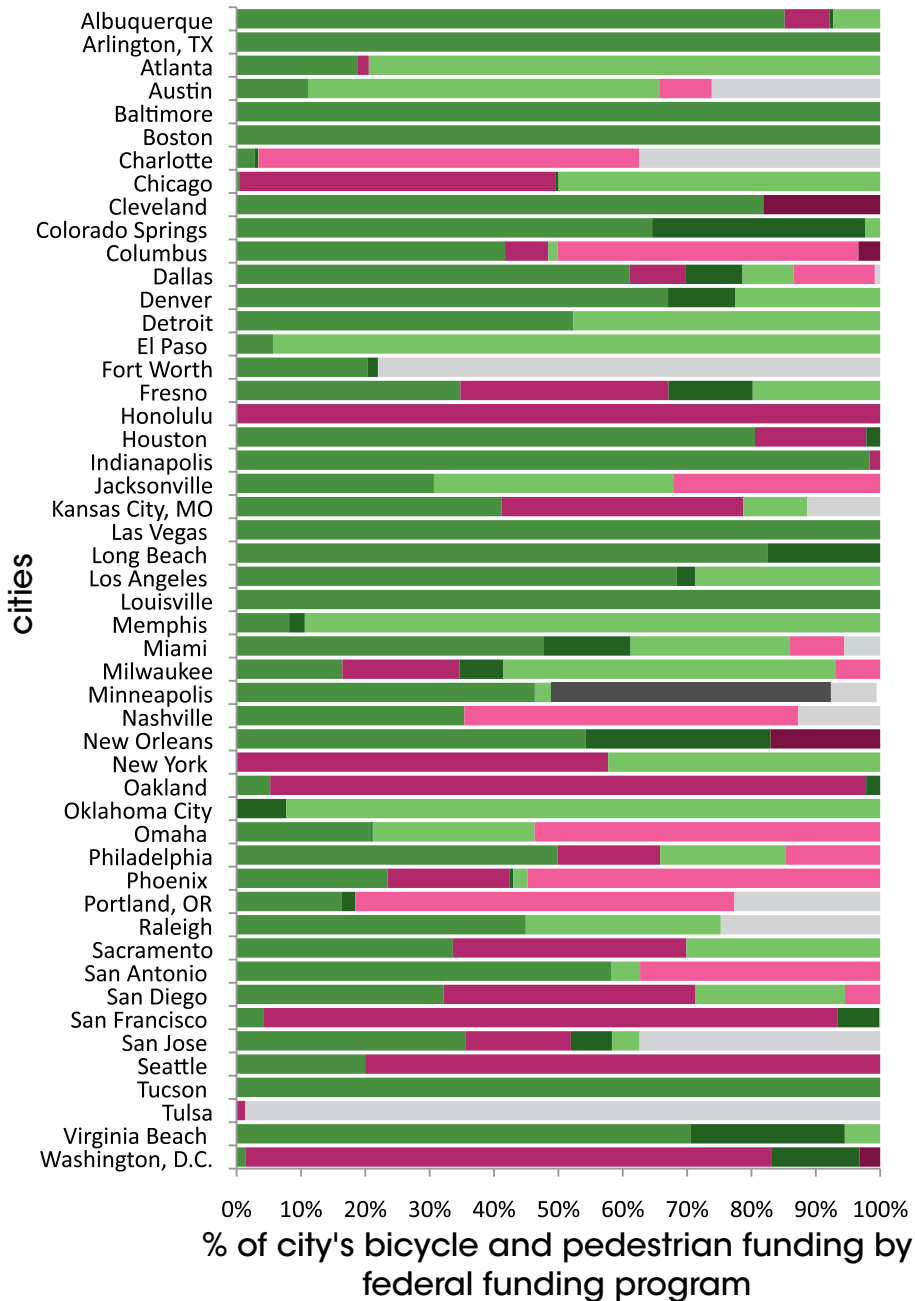
Photo courtesy of NHTSA

Trend in Bicycle and Pedestrian Projects and Spending 1992-2010



Source: FHWA FMIS 1992-2010 **Note:** Values are nominal dollars. The American Recovery and Reinvestment Act of 2009 contributed $425 million to bicycling and walking TE projects as of June 2009 (America Bikes) and is responsible, in part, for the spike in projects and spending in 2009 and 2010.

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



Legend:

- = Transportation Enhancement/Surface Transportation Program
- = Congestion Mitigation and Air Quality Improvement Program
- = Safe Routes to School
- = Highway Safety Improvement Program
- = National Transportation Pilot Program
- = High Priority Projects
- = Recreational Trails Program
- = Other

Source: FHWA FMIS 2006-2010 **Note:** Data are based on funds obligated to projects between 2006-2010 and are not necessarily the amount spent in these years. This illustration does not include funding from the American Recovery and Reinvestment Act. In some cases, deobligated funds during the 5-year period cause negative values to occur. Deobligated funds were not included for the purpose of this illustration. Mesa is not shown because only deobligated funds from the categories included were reported.

Bike/Ped Funding in States

State	State spending target for bicycling and walking?		Federal transportation funds (5-year average)				How state reports obligated funds to FMIS (6)	
	✓= Yes (6)	Amount	Obligated to bike/ped projects/yr.	Per capita	% of federal transportation $ to bike/ped	% of TE funds to bike/ped	Stand-alone bike/ped projects?	Include facilities part of larger projects?
Alabama		ø	$10,917,294	$2.32	1.3%	72%	✓	
Alaska		ø	$7,663,661	$10.97	1.8%	62%		✓
Arizona		ø	$17,073,366	$2.59	2.3%	31%	✓	
Arkansas		ø	$3,565,034	$1.23	0.7%	21%	✓	
California (7)		ø	$65,053,542	$1.76	1.7%	44%		✓
Colorado		ø	$10,807,434	$2.15	1.8%	72%	✓	
Connecticut	✓★	1%	$6,076,840	$1.73	1.1%	49%		✓
Delaware		ø	$5,440,744	$6.15	3.1%	63%		✓
Florida		ø	$48,156,272	$2.60	2.2%	47%	✓	✓
Georgia		ø	$24,573,747	$2.50	1.8%	81%	*	*
Hawaii	✓	2% (1)	$2,460,733	$1.90	1.2%	79%	✓	
Idaho		ø	$4,434,702	$2.87	1.4%	57%	✓	
Illinois		ø	$13,169,732	$1.02	0.9%	30%	✓	
Indiana		ø	$23,000,937	$3.58	2.2%	48%	✓	✓
Iowa	✓★	*	$12,325,209	$4.10	2.4%	54%	✓	✓
Kansas		ø	$6,327,800	$2.24	1.3%	36%		✓
Kentucky		ø	$18,791,311	$4.36	2.7%	43%		✓
Louisiana		ø	$10,263,292	$2.28	1.0%	66%		✓
Maine	✓	$6 MM	$3,524,070	$2.67	1.7%	47%	✓	
Maryland		ø	$2,599,141	$0.46	0.4%	21%	✓	✓
Massachusetts		ø	$15,539,345	$2.36	2.2%	7%		✓
Michigan	✓★	1% (2)	$18,771,116	$1.88	1.5%	45%	✓	✓
Minnesota (7)		ø	$19,460,128	$3.70	2.5%	79%	✓	
Mississippi		ø	$4,636,451	$1.57	0.6%	36%		✓
Missouri (7)		ø	$18,769,533	$3.13	1.8%	49%	✓	
Montana	*	*	$6,462,998	$6.63	1.6%	64%	*	*
Nebraska		ø	$2,991,042	$1.66	0.9%	49%	✓	
Nevada		ø	$2,969,071	$1.12	0.8%	46%	*	*
New Hampshire		ø	$4,444,213	$3.36	2.3%	88%		✓
New Jersey		ø	$8,007,568	$0.92	0.9%	24%	✓	
New Mexico	*	*	$9,481,589	$4.72	2.4%	74%	*	*
New York		ø	$31,163,146	$1.59	1.8%	35%		✓
North Carolina	✓	$6.45 MM (3)	$21,760,070	$2.32	1.9%	45%	✓	
North Dakota		ø	$2,342,827	$3.62	0.7%	42%	✓	✓
Ohio		ø	$17,269,871	$1.50	1.2%	41%		✓
Oklahoma	✓★	$4.4 MM	$3,300,893	$0.90	0.5%	1%	✓	
Oregon	✓	1% (4)	$9,048,618	$2.37	1.7%	30%	*	*
Pennsylvania		ø	$43,102,354	$3.42	2.5%	60%		✓
Rhode Island	✓	*	$4,631,632	$4.40	2.0%	48%	✓	✓
South Carolina	✓	ø	$4,351,629	$0.95	0.6%	26%	✓	✓
South Dakota		ø	$3,790,725	$4.67	1.3%	30%	✓	✓
Tennessee	✓	ø	$19,063,292	$3.03	2.2%	73%	✓	
Texas		ø	$38,248,550	$1.54	1.1%	51%		✓
Utah		ø	$5,947,421	$2.14	1.7%	45%		✓
Vermont		ø	$5,262,557	$8.46	2.7%	74%	✓	
Virginia	✓★	*	$4,505,240	$0.57	0.5%	21%		✓
Washington	✓	$20 MM	$23,591,191	$3.54	2.7%	64%	✓	✓
West Virginia		ø	$2,824,872	$1.55	0.6%	8%	✓	✓
Wisconsin (7)		ø	$8,199,904	$1.45	1.0%	42%	✓	
Wyoming		ø	$3,425,707	$6.29	1.2%	55%	✓	✓
Mean/Average	No	ø	$13,191,768	$2.17	1.6%	48%	Yes	Yes
Median	No	ø	$8,007,568	$2.32	1.6%	47%	Yes	Yes
High	ø	ø	$65,053,542	$10.97	3.1%	88%	ø	ø
Low	ø	ø	$2,342,827	$0.46	0.4%	1%	ø	ø

Source: State Surveys 2010/2011, FHWA FMIS 2006-2011 **Notes: Legend next page.** All data except % of TE to bike/ped are based on a 5-year average of funds obligated to projects between 2006-2010 and are not necessarily the amount spent in these years. See disclaimer regarding differences in funding reporting on page 82 of this report. (1) Of eligible federal funds. (2) of state transportation funds. (3) $6 million of TIP funds; $450 for admin budget from state. (4) 1% State Highway Fund, >$6 million/yr. (5) under some specific funding programs only. (6) Blank cells should be understood to mean a "no" response. (7) This state has one of four communities nationwide selected as part of the Nonmotorized Transportation Pilot Program to receive $25 million for bicycling and walking and therefore may reflect higher than typical funding.

Bike/Ped Funding in Cities

City	City spending target for bicycling and walking?		Dedicated city budget funds in 2010	Federal transportation funds (5-year average) (2)		
	✓= Yes (1)	Amount		Obligated to bike/ped projects/yr.	Per capita	% to bike/ped
Albuquerque	✓★	5%	$2,500,000	$2,718,956	$5.14	14.5%
Arlington, TX		ø	*	$53,968	$0.14	0.3%
Atlanta	*	*	*	$2,448,939	$4.53	1.0%
Austin	✓★	$10 MM	$12,135,216	$1,404,496	$1.78	3.0%
Baltimore		ø	$750,000	$139,188	$0.22	0.3%
Boston	*	*	$600,000	$252,717	$0.39	0.2%
Charlotte	✓	ø	$9,500,000	$1,461,961	$2.08	1.8%
Chicago		ø	*	$561,871	$0.20	0.2%
Cleveland	✓(5)	*	*	$256,637	$0.59	0.7%
Colorado Springs	✓★	*	*	$319,104	$0.80	0.7%
Columbus	✓	$9.3 MM	$4,800,000	$583,575	$0.75	1.7%
Dallas		ø	$4,000,000	$9,072,771 (6)	$6.98	9.8%
Denver		ø	$4,700,000	$1,122,056	$1.84	0.9%
Detroit	*	*	*	$758,446	$0.83	0.4%
El Paso		ø	$3,500,000	$559,145	$0.90	1.0%
Fort Worth		ø	$150,000	$264,717	$0.36	0.2%
Fresno	✓	$1.25 MM	$1,750,000	$437,165	$0.91	1.2%
Honolulu	✓★	$1 MM	$1,000,000	$204,692	$0.55	8.6%
Houston		ø	*	$4,871,182	$2.15	2.1%
Indianapolis	*	*	*	$1,837,493	$2.28	2.7%
Jacksonville		ø	*	$1,270,316	$1.56	0.9%
Kansas City, MO		ø	$6,866,000	$1,799,489	$3.73	11.0%
Las Vegas	✓	$500 M	$100,000	$52,687	$0.09	0.1%
Long Beach		ø	*	$684,781	$1.48	0.9%
Los Angeles	*	*	$0	$1,654,322	$0.43	0.6%
Louisville	✓★	$5 MM	$513,000	$430,233	$0.76	1.0%
Memphis		ø	$415,716	$1,032,425	$1.53	1.2%
Mesa		ø	*	$132,906	$0.28	0.2%
Miami		ø	*	$3,310,209	$7.64	1.6%
Milwaukee		ø	*	$1,029,258	$1.70	1.0%
Minneapolis		ø	$15,132,173	$3,651,179	$9.47	2.0%
Nashville	✓★	$25 MM	$6,100,000	$3,085,067	$5.10	4.7%
New Orleans		ø	$100,000	$2,459,000	$6.93	1.5%
New York		ø	*	$288,483	$0.03	0.1%
Oakland		ø	$7,980,000	$2,025,967	$4.95	3.4%
Oklahoma City		ø	$2,100,000	(4)	(4)	(4)
Omaha		ø	*	$1,501,627	$3.30	2.8%
Philadelphia		ø	*	$4,335,976	$2.80	3.6%
Phoenix	✓	$50 M	$0	$1,500,697	$0.94	1.6%
Portland, OR	✓★	$30 MM	$7,000,000	$1,945,975	$3.43	6.8%
Raleigh		ø	$855,000	$1,132,890	$2.80	3.7%
Sacramento		ø	*	$3,944,689	$8.45	3.9%
San Antonio	*	*	*	$2,874,715	$2.09	4.2%
San Diego		ø	*	$3,760,317	$2.88	2.8%
San Francisco	✓	*	*	$2,082,907	$2.55	0.7%
San Jose		ø	$1,600,000	$2,031,048	$2.11	4.9%
Seattle		ø	*	$531,577	$0.86	0.9%
Tucson		ø	$200,000	$3,922,873	$7.21	5.9%
Tulsa		ø	*	$231,272	$0.59	0.2%
Virginia Beach		ø	$200,000	$70,618	$0.16	0.1%
Washington, DC	✓★	5%	$1,500,000	$5,890,475	$9.82	3.4%
Mean/Average	No	ø	$3,311,969	$1,713,189	$1.80 (3)	1.6% (3)
Median	No	ø	$1,600,000	$1,270,316	$1.70	1.2%
High	ø	ø	$15,132,172	$9,072,771	$9.82	14.5%
Low	ø	ø	$0	$52,687	$0.03	0.1%

Legend: (this page and previous)
✓= Yes/has policy
★= New since 2010 Benchmarking Report
ø = Not applicable
* = Data unavailable
= High value
= Low value

Sources: City Surveys, FHWA FMIS 2006-2010
Notes: See disclaimer regarding differences in funding reporting on page 82 of this report.
(1) Blank cells should be understood to mean a "no" response. (2) Data are based on the 5-year average of funds obligated to projects between 2006-2010 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 2006-2010, accurate funding estimates could not be obtained for this city. (5) City did not respond to 2010/2011 survey, data from previous year. (6) In 2009 Dallas obligated $16.7 million from ARRA toward "The Park," a major bicycle/pedestrian/open space project. Another $20 million will come from state and federal highway funds, which may explain the large amount of funding to bike/ped in this period.

jurisdictions play a significant role in determining how their federal transportation dollars are spent.

Unfortunately, this has meant that often bicycle and pedestrian projects not only receive a smaller than fair share of funds, but are also disproportionately targeted for rescissions. 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 programs such as the Transportation Enhancement program as opposed to other federal-aid highway programs.

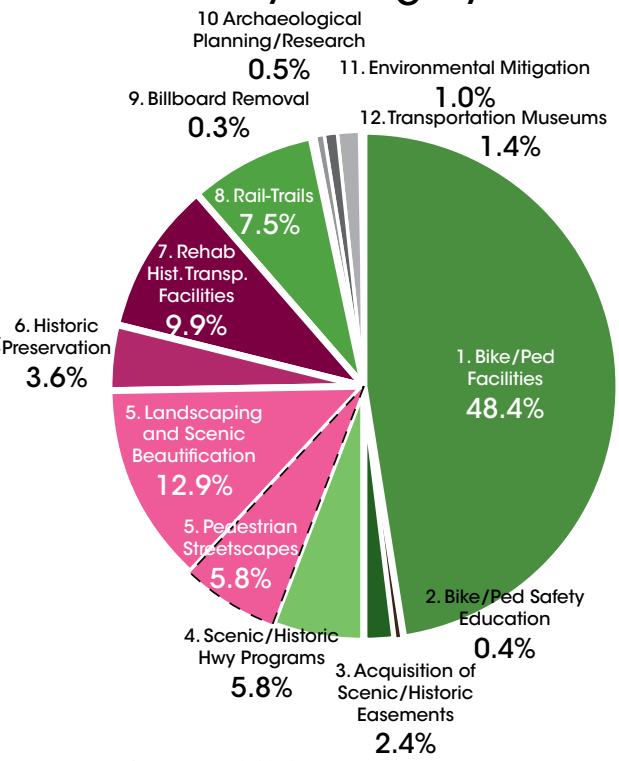
Transportation Enhancements

The Transportation Enhancement (TE) program is the best known funding source for bicycle and pedestrian infrastructure improvements. Of Transportation Enhancements funding, $265 million, or 48%, is allocated to biking and walking infrastructure and programs annually, making it the most important federal funding program to track.

Bicycle and pedestrian projects are disproportionately affected by rescissions when states choose to rescind a greater percentage of TE funds than in other transportation funding programs. $2.6 billion, or 21% of apportioned TE funding, has been rescinded since 1992.

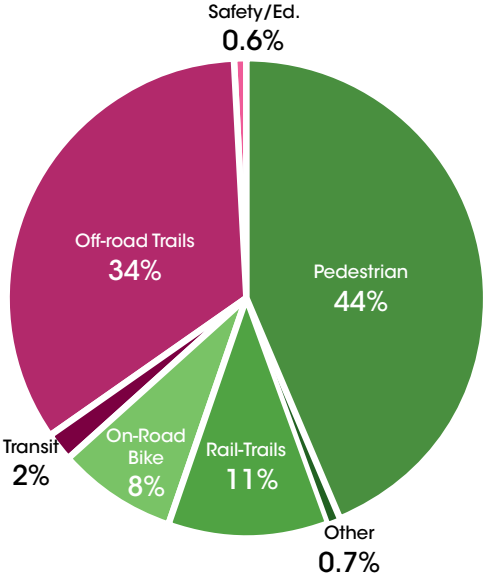
In 2010, TE comprised 2.3% of apportionments but 26.4% of rescissions. This disparity was greatest in Nebraska where 100% of rescinded funds were TE. Texas, Nevada, and Arkansas also lead for disproportionately rescinding TE funds with 78.8%, 62.1%, and 54.5% of funds rescinded from TE, respectively. (Continued page 91)

Distribution of TE Funding by Category



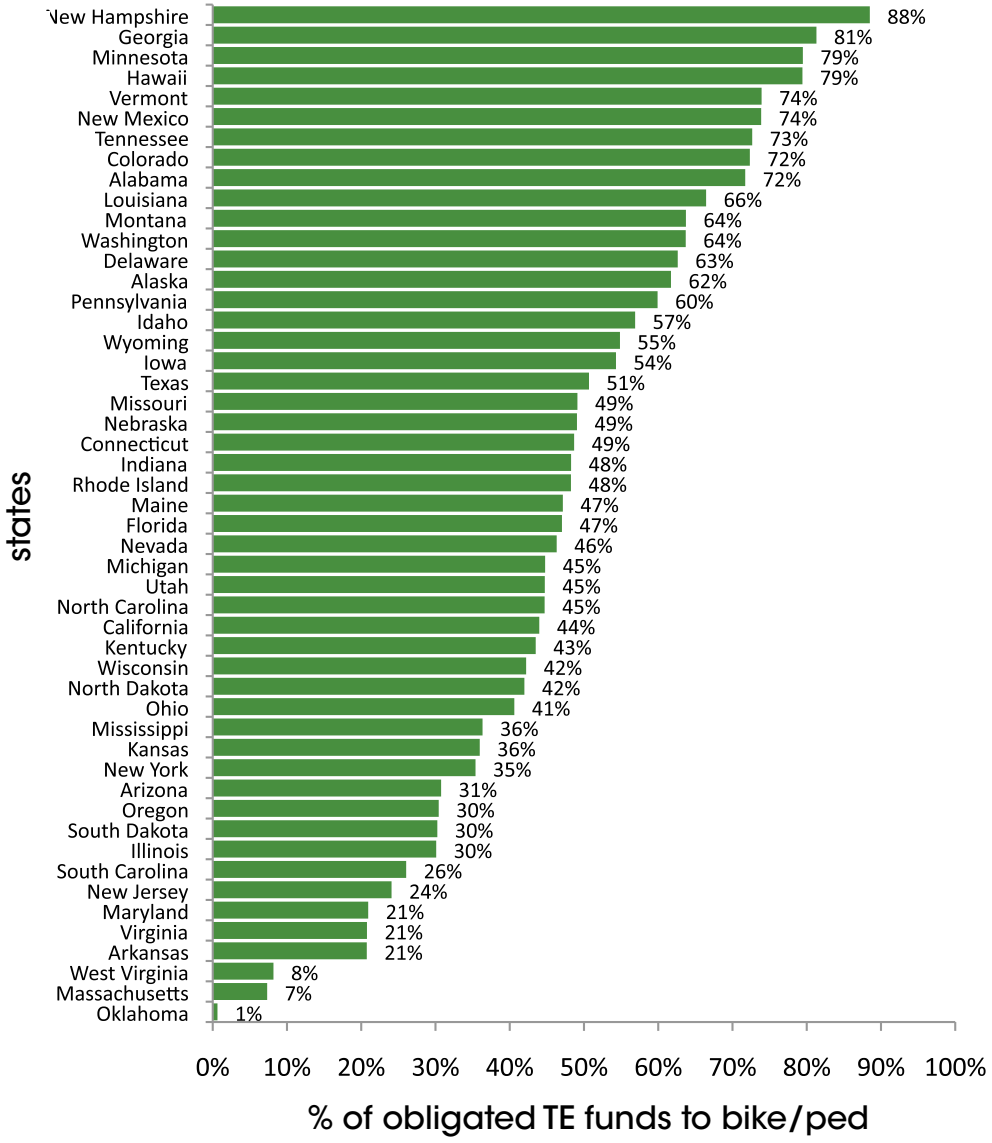
Source: NTEC 2010 **Note:** (1) Numbers round up and so appear to add to less than 100%.

Distribution of TE Funding across Bicycle and Pedestrian Projects



Source: NTEC 2010 **Note:** (1) Numbers round up and so appear to add to more than 100%.

Percent of Transportation Enhancement Funding to Bike/Ped by State



Source: FHWA FMIS 2006-2010 **Note:** (1) Figures for this graph are based on a 5-year average of funds obligated to projects between 2006-2010 and are not necessarily the amount spent in these years.

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 (88%); Oklahoma dedicates the smallest share to bicycling and walking (1%).

48% of TE funding goes to bicycling and walking.

Transportation Enhancement Rescissions

What are rescissions?

Periodically, Congress rescinds, or cancels, unspent transportation funds from State DOTs. Rescissions are essentially a bookkeeping measure, which allows the USDOT to take long unspent funds off the books. However, some state DOTs have disproportionately drained bicycle and walking funding sources to build more highways.

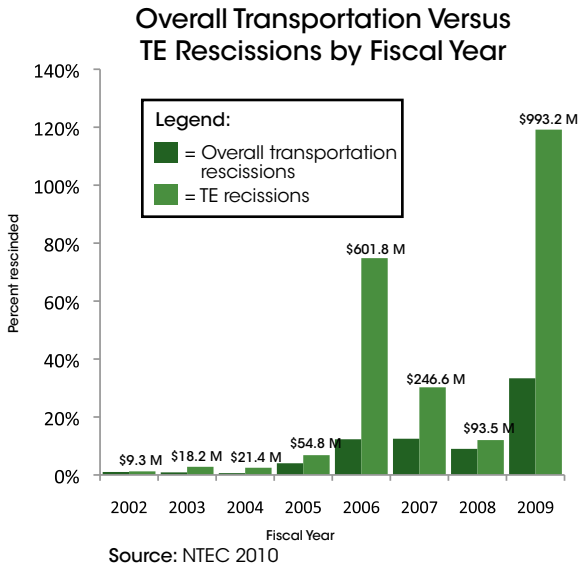
What is at stake for bicycle and pedestrian projects?

The USDOT tells states how much money they have to give back, but state DOTs decide which unspent funds they will send back first. Historically, some of the strongest programs for bicycle and pedestrian projects—Transportation Enhancements (TE) and Congestion Mitigation & Air Quality (CMAQ)—suffer dramatically higher rescission rates than other programs. For example, TE and CMAQ made up just 7.3 percent of a state DOT's 2010 transportation apportionments, but they made up a much larger share of what a state sends back. In August 2010, out of the $2.2 billion rescinded, $968 million (44%) came from CMAQ and TE. (America Bikes 2011).

State	2009			2010	
	TE as % of apportionments	TE as % of rescissions (Rescission 1)	TE as % of rescissions (Rescission 2)	TE as % of apportionments	TE as % of rescissions (8.13.10)
Alabama	2.4%	27.0%	0.5%	2.3%	16.3%
Alaska	2.1%	14.4%	0.0%	2.1%	0.9%
Arizona	2.4%	0.0%	2.9%	2.4%	33.2%
Arkansas	2.5%	42.1%	2.8%	2.4%	54.5%
California	2.3%	36.8%	5.3%	2.2%	43.0%
Colorado	2.5%	23.0%	12.2%	2.5%	20.1%
Connecticut	1.9%	12.7%	3.4%	1.8%	22.3%
Delaware	2.6%	2.4%	2.7%	2.6%	0.4%
Dist. of Columbia	2.4%	44.0%	3.8%	2.4%	0.0%
Florida	2.7%	22.3%	5.6%	2.8%	21.9%
Georgia	2.7%	23.9%	10.4%	2.6%	44.6%
Hawaii	2.5%	26.1%	2.8%	2.3%	2.4%
Idaho	2.1%	5.0%	7.0%	2.1%	44.2%
Illinois	2.4%	9.8%	8.8%	2.4%	0.0%
Indiana	2.4%	0.1%	6.9%	2.5%	0.0%
Iowa	2.5%	0.0%	3.7%	2.6%	0.0%
Kansas	3.0%	0.0%	3.1%	2.9%	3.0%
Kentucky	2.1%	0.0%	7.1%	2.2%	16.4%
Louisiana	2.0%	71.7%	3.9%	2.0%	12.8%
Maine	2.3%	0.0%	2.9%	2.1%	0.0%
Maryland	2.2%	17.4%	2.5%	2.1%	2.7%
Massachusetts	2.1%	12.6%	0.0%	2.0%	20.8%
Michigan	2.7%	29.7%	8.0%	2.6%	33.5%
Minnesota	3.0%	27.6%	4.5%	2.9%	0.1%
Mississippi	2.6%	0.0%	10.8%	2.5%	3.8%
Missouri	2.4%	3.0%	8.0%	2.4%	2.4%
Montana	1.7%	0.0%	2.1%	1.8%	22.5%
Nebraska	2.6%	0.2%	9.4%	2.6%	100.0%
Nevada	2.3%	20.0%	15.8%	2.3%	62.1%
New Hampshire	2.5%	17.6%	6.5%	2.4%	0.0%
New Jersey	1.9%	22.2%	2.2%	1.9%	11.1%
New Mexico	2.2%	2.3%	2.7%	2.2%	24.2%
New York	1.8%	16.9%	8.5%	1.7%	20.1%
North Carolina	2.3%	12.1%	10.3%	2.4%	31.7%
North Dakota	2.0%	0.8%	3.1%	2.0%	30.2%
Ohio	2.3%	0.0%	2.8%	2.3%	12.9%
Oklahoma	2.7%	37.2%	3.8%	2.7%	24.0%
Oregon	2.3%	0.0%	7.0%	2.3%	39.7%
Pennsylvania	1.8%	0.7%	1.9%	1.7%	6.9%
Rhode Island	1.8%	2.0%	2.1%	1.8%	3.5%
South Carolina	2.7%	100.0%	4.8%	2.7%	0.0%
South Dakota	2.3%	19.9%	4.4%	2.3%	43.3%
Tennessee	2.4%	5.6%	10.5%	2.4%	47.4%
Texas	2.6%	0.3%	4.8%	2.6%	78.8%
Utah	2.3%	0.0%	0.0%	2.4%	0.0%
Vermont	2.2%	0.0%	3.7%	2.2%	0.0%
Virginia	2.4%	3.2%	6.9%	2.4%	3.3%
Washington	2.1%	9.1%	7.2%	2.1%	34.6%
West Virginia	1.8%	5.8%	1.9%	1.9%	4.5%
Wisconsin	2.7%	49.2%	3.1%	2.8%	37.5%
Wyoming	1.6%	0.0%	1.6%	1.5%	0.0%
Mean/Average (1)	2.3%	16.5%	5.4%	2.3%	26.4%
Median	2.3%	7.5%	3.8%	2.3%	14.6%
High	3.0%	100.0%	15.8%	2.9%	100.0%
Low	1.6%	0.0%	0.0%	1.5%	0.0%

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

Source: NTEC, 9/24/10 **Notes:** The District of Columbia is included in this chart for comparison purposes although in most state charts in this report it is not included. (1) All percent averages are weighted.



Source: NTEC 2010

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 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 September 2011, approximately $453 million has been obligated to 11,163 schools or programs through the federal Safe Routes to School (SRTS) program. This amounts to $9.37 per public school student, roughly $1.34/year/student.



Participants in the Bicycle Transportation Alliance (Oregon) Bike Walk Challenge. Photo by Amanda Conde.

Safe Routes to School Funding

States	Funded Schools/ Programs (2,6)	Announced Funds FY 2005-2011 (1,3,4)			Obligated Funds FY 2005-2011 (1,3,5)			Percent of requests awarded (2)
		Total	Per Student (7)	Percent Announced	Total	Per Student (7)	Percent Obligated	
Alabama	107	$14,286,240	$19	97%	$6,142,416	$8	42%	57%
Alaska	115	$1,138,121	$9	15%	$4,990,000	$39	66%	80%
Arizona	180	$12,415,000	$12	67%	$5,290,562	$5	28%	42%
Arkansas	69	$5,274,235	$11	56%	$5,575,253	$12	59%	51%
California	2,448	$157,514,967	$25	136%	$56,641,466	$9	49%	27%
Colorado	571	$9,842,533	$12	68%	$7,460,789	$9	52%	45%
Connecticut	36	$5,767,324	$10	51%	$4,575,499	$8	41%	36%
Delaware	31	$3,168,366	$27	44%	$4,908,569	$42	68%	100%
Dist. of Columbia	22	$3,811,699	$49	53%	$4,392,500	$56	61%	100%
Florida	1,000	$87,179,272	$33	177%	$39,977,902	$15	81%	*
Georgia	380	$20,059,080	$12	70%	$9,338,481	$6	32%	40%
Hawaii	5	$549,133	$3	8%	$1,882,023	$10	26%	45%
Idaho	180	$5,125,770	$19	72%	$4,314,712	$16	61%	69%
Illinois	284	$22,039,071	$10	55%	$9,818,881	$5	25%	20%
Indiana	223	$13,571,634	$13	68%	$5,111,679	$5	26%	37%
Iowa	84	$8,662,776	$18	88%	$6,477,573	$14	66%	30%
Kansas	55	$8,611,074	$42	91%	$4,788,264	$23	50%	40%
Kentucky	126	$9,526,165	$14	74%	$5,333,836	$8	41%	35%
Louisiana	64	$10,960,261	$24	75%	$7,472,726	$16	51%	59%
Maine	170	$5,369,500	$28	74%	$2,980,094	$15	41%	49%
Maryland	290	$16,972,302	$20	100%	$10,376,049	$12	61%	72%
Massachusetts	389	$5,968,143	$6	32%	$11,762,910	$12	63%	100%
Michigan	84	$21,542,334	$13	69%	$20,330,571	$12	65%	87%
Minnesota	115	$15,206,670	$19	96%	$6,578,649	$8	41%	23%
Mississippi	80	$8,347,030	$17	79%	$2,511,482	$5	24%	49%
Missouri	192	$17,787,140	$20	99%	$7,485,073	$9	42%	52%
Montana	81	$4,223,552	$30	58%	$4,648,710	$33	64%	68%
Nebraska	82	$4,997,174	$17	69%	$2,565,017	$9	36%	21%
Nevada	248	$2,209,127	$5	24%	$5,484,183	$13	61%	92%
New Hampshire	147	$5,138,888	$26	73%	$1,811,280	$9	26%	82%
New Jersey	192	$15,195,900	$11	57%	$9,988,463	$7	38%	19%
New Mexico	44	$3,710,787	$11	50%	$2,960,314	$9	40%	72%
New York	181	$27,956,276	$10	52%	$19,615,550	$7	37%	40%
North Carolina	135	$9,724,194	$7	37%	$6,219,658	$4	24%	35%
North Dakota	145	$5,540,862	$59	78%	$4,355,397	$46	61%	28%
Ohio	415	$33,920,000	$20	99%	$11,160,794	$7	33%	90%
Oklahoma	71	$6,454,970	$10	55%	$4,845,200	$7	41%	58%
Oregon	116	$12,653,513	$22	113%	$7,014,373	$12	63%	70%
Pennsylvania	126	$21,013,336	$12	60%	$6,230,137	$4	18%	41%
Rhode Island	40	$4,600,000	$31	63%	$2,659,174	$18	37%	44%
South Carolina	26	$5,152,000	$7	39%	$7,114,331	$10	54%	45%
South Dakota	33	$3,317,615	$27	46%	$2,169,349	$18	30%	65%
Tennessee	80	$8,836,252	$9	49%	$5,636,410	$6	31%	31%
Texas	853	$54,939,830	$11	72%	$34,363,113	$7	45%	80%
Utah	50	$8,526,885	$15	86%	$8,005,168	$14	81%	46%
Vermont	60	$5,465,338	$59	74%	$4,412,766	$47	59%	63%
Virginia	166	$12,058,892	$10	54%	$14,615,766	$12	65%	59%
Washington	86	$21,133,086	$21	110%	$9,069,335	$9	47%	22%
West Virginia	72	$5,798,087	$21	81%	$5,482,427	$19	77%	47%
Wisconsin	350	$13,617,768	$16	82%	$10,180,323	$12	61%	35%
Wyoming	64	$6,607,496	$76	93%	$6,027,210	$70	85%	77%
Average/Total (8)	11,163	$727,555,485	$15	74%	$453,152,407	$9.37	46%	44%
Median	115	$8,662,776	$17	69%	$6,027,210	$10	47%	48%
High	2,448	$157,514,967	$76	177%	$56,641,466	$70	85%	100%
Low	5	$549,133	$3	8%	$1,811,280	$4	18%	19%

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

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

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 44% 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 funding requests exceed available funding. New Jersey and Illinois have the largest gaps between supply and demand and are able to fund just 19% and 20% of the total funds requested, respectively. Delaware, Washington DC, and Massachusetts best meet demand with current funding. One hundred percent of funds requested have been awarded in these states. The Safe Routes to 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 216, for links to their websites and the most up-to-date measurements for Safe Routes to School.

Stimulus Bill Boosts Biking and Walking

In February 2009 the American Recovery and Reinvestment Act (ARRA) was signed into law. Known as the "stimulus bill," this legislation pumped money

(Table Page 92) Sources: (1) SRTSNP September 2011 (2) NCSRTS 2011(3) STN 2011(3) Total pupil data from STN 2011 takes into account grades K-12 whereas Safe Routes to School (SRTS) funding can only be spent on grades K-8. **Notes:** The District of Columbia is included in this table for comparison, although it is not compared to states in most other areas of the report; all dollar figures cited are as of September 2011. (4) "Announced" 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 build infrastructure projects, support noninfrastructure activities, and implement the program. (6) "Funded Schools/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. (7) Total pupil data are representative of public schools only. (8) All averages are weighted except for number of funded schools/programs, total awarded funds, and total obligated funds.



Photo courtesy of NHTSA

Stimulus Bill Funding

States	ARRA Funds to Bike/Ped			TE ARRA to Bike/Ped		Percent of 09-10 Bike/Ped Funds from ARRA
	Total	Amt. per capita	% of ARRA Funds	Total	% of TE ARRA	
Alabama	$13,117,979	$2.79	3%	$11,469,152	74%	42%
Alaska	$3,996,444	$5.72	2%	$2,503,757	54%	18%
Arizona	$9,880,158	$1.50	2%	$8,078,813	52%	24%
Arkansas	$113,093	$0.04	0.03%	$0	0%	1%
California	$64,130,045	$1.74	3%	$40,436,650	58%	34%
Colorado	$10,135,937	$2.02	3%	$8,328,697	69%	26%
Connecticut	$14,564,992	$4.14	5%	$5,318,006	59%	84%
Delaware	$8,969,970	$10.13	7%	$2,629,853	72%	48%
Dist. of Columbia	$4,081,938	$3.47	3%	$3,705,235	100%	22%
Florida	$50,223,541	$2.71	4%	$35,763,214	89%	27%
Georgia	$44,776,536	$4.56	5%	$20,588,471	74%	54%
Hawaii	$4,919,776	$3.80	4%	$3,772,391	100%	77%
Idaho	$5,974,347	$3.86	3%	$759,129	32%	54%
Illinois	$17,506,261	$1.36	2%	$14,995,129	53%	40%
Indiana	$29,632,284	$4.61	4%	$14,293,288	72%	40%
Iowa	$10,907,982	$3.63	3%	$9,964,058	93%	28%
Kansas	$4,900,624	$1.74	1%	$4,900,624	47%	34%
Kentucky	$22,043,752	$5.11	5%	$8,035,000	64%	30%
Louisiana	$13,322,767	$2.97	3%	$12,373,698	96%	38%
Maine	$2,007,979	$1.52	1%	$2,007,979	51%	19%
Maryland	$640,505	$0.11	0.2%	$640,505	5%	10%
Massachusetts	$41,373,513	$6.27	11%	$8,162,624	62%	74%
Michigan	$18,478,035	$1.85	2%	$17,968,035	71%	36%
Minnesota	$13,820,869	$2.62	3%	$6,201,824	41%	23%
Mississippi	$1,284,116	$0.43	0.4%	$1,284,116	12%	7%
Missouri	$22,991,527	$3.84	4%	$11,535,614	60%	36%
Montana	$8,489,571	$8.71	4%	$5,642,172	89%	47%
Nebraska	$1,695,334	$0.94	1%	$1,695,334	50%	15%
Nevada	$3,999,344	$1.51	2%	$2,540,000	42%	53%
New Hampshire	$3,685,239	$2.78	3%	$3,685,239	95%	53%
New Jersey	$13,982,716	$1.61	2%	$12,330,516	63%	49%
New Mexico	$15,240,891	$7.58	5%	$5,530,903	73%	53%
New York	$29,840,320	$1.53	3%	$16,640,698	49%	27%
North Carolina	$26,384,864	$2.81	4%	$13,947,001	63%	37%
North Dakota	$3,123,374	$4.83	2%	$3,123,374	61%	44%
Ohio	$11,883,677	$1.03	1%	$4,376,083	16%	25%
Oklahoma	$15,488,071	$4.20	3%	$13,939,657	100%	75%
Oregon	$9,387,747	$2.45	3%	$2,477,971	25%	27%
Pennsylvania	$34,918,915	$2.77	3%	$25,150,853	82%	26%
Rhode Island	$5,490,008	$5.21	4%	$3,881,492	94%	54%
South Carolina	$12,775,817	$2.80	3%	$12,775,817	92%	88%
South Dakota	$8,309,940	$10.23	4%	$7,807,946	85%	58%
Tennessee	$18,431,994	$2.93	3%	$7,942,162	46%	36%
Texas	$43,502,001	$1.76	2%	$38,699,978	57%	38%
Utah	$2,039,744	$0.73	1%	$2,039,744	32%	12%
Vermont	$1,787,334	$2.87	1%	$1,787,334	47%	19%
Virginia	$1,607,263	$0.20	0.3%	$0	0%	8%
Washington	$18,038,552	$2.71	3%	$4,114,369	28%	28%
West Virginia	$5,948,867	$3.27	3%	$5,529,353	87%	55%
Wisconsin	$9,618,944	$1.70	2%	$9,141,758	58%	40%
Wyoming	$2,940,296	$5.40	2%	$2,429,179	51%	33%
Average/Total	$742,405,794(1)	$2.42(2)	3%(2)	$462,944,793(1)	59%(2)	35%(2)
Median	$10,135,937	$2.79	3%	$5,642,172	60%	36%
High	$64,130,045	$10.23	11%	$40,436,650	100%	88%
Low	$113,093	$0.04	0.3%	$0	0%	1%

Source: FHWA FMIS 2009-2010 **Notes:** The District of Columbia is included in this table for comparison, although it is not compared to states in most other areas of the report; (1) Total value (2) Weighted average (3) "TE ARRA" refers to ARRA funds that were directed toward the Transportation Enhancements program.

Legend: = High value = Low value

and jobs into the U.S. economy. Transportation is one sector that benefited from a large influx of funds in 2009 and 2010, and bicycling and walking also benefited.

The nearly $750 million in stimulus funds that were obligated to bicycle and pedestrian projects in FY 2009 and 2010 is likely a large underestimate. It is common for bicycle and pedestrian projects to be coded incorrectly, thus undercounting spending rates. America Bikes explains:

> *For example, the state of Maryland obligated $12.3 million, almost 100 percent of its ARRA TE money, to making sidewalks accessible, but it did not record this as a bicycle or pedestrian project.* (America Bikes 2011).



Photo by Frank Chan, San Francisco Bicycle Coalition

This project would therefore not appear as dollars spent on bicycling and walking. Variation in how states record projects can dramatically affect how they appear to obligate funds to bicycling and walking.

Recognizing this, FMIS data indicate that bicycle and pedestrian projects accounted for 3% of all ARRA transportation funds in 2009 and 2010. In these years, over $460 million in ARRA funding went to Transportation Enhancements, 59% of which were bicycle and pedestrian projects. Thirty-five percent of all bicycle and pedestrian funding in 2009 and 2010 was ARRA funds, accounting for a large spike in bike/ped funding compared to previous years.

States vary widely on how they chose to spend ARRA transportation funds. Massachusetts reported spending 11% of its ARRA transportation funds on bicycling and walking, the highest rate among states. Arkansas reported just 0.03% spent on bicycling and walking, amounting to just four cents per capita, the lowest among states. The District of Columbia, Hawaii, and Oklahoma spent 100% of ARRA TE funds on bicycling and walking projects while Arkansas and Virginia spent no ARRA TE funds on these modes.

Infrastructure

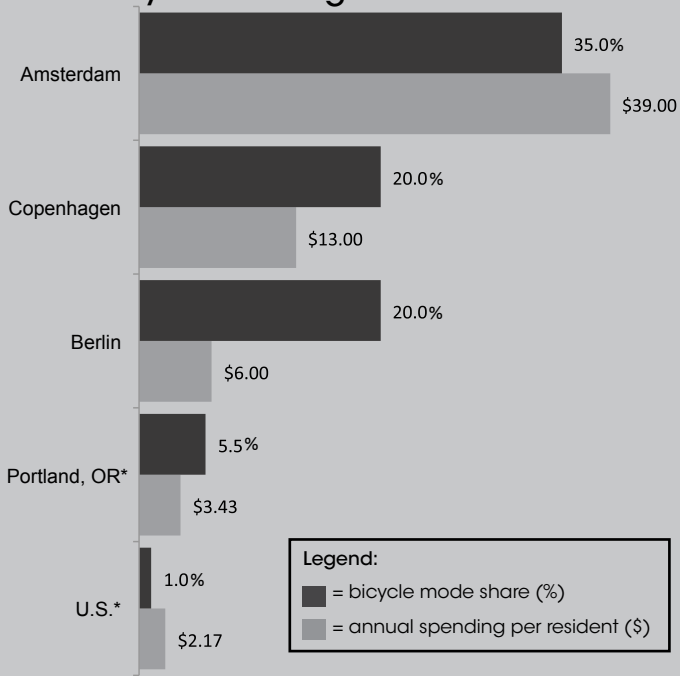
Just as road infrastructure has been implemented to facilitate safe and accessible routes for motorized vehicles, so to is appropriate infrastructure critical for safe and accessible routes for bicycling and walking (Hopkinson and Wardman 1996, McClintock and Cleary 1996, Reynolds et al., 2009, Rietveld 2000). To see how cities compared to one another on infrastructure for bicycling and walking, they were asked to

Looking Outside the Borders

Investing in Bicycling and Walking

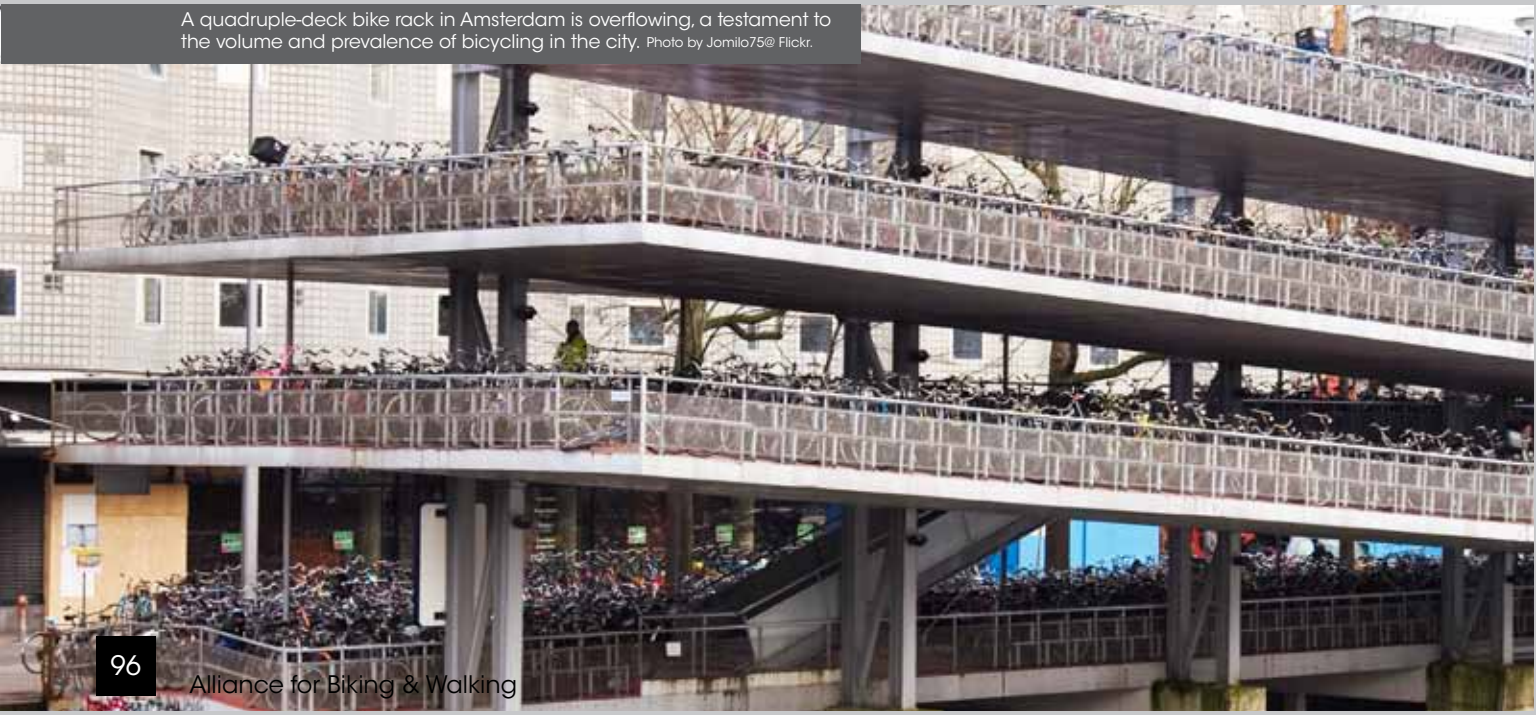
Case studies show that the countries and cities that invest the most in bicycling and walking have higher bicycling and walking mode share, and are safer places to bicycle and walk (Pucher et al., 2010; Pucher and Buehler, 2007 and 2008). An international comparison of bicycle funding and mode share by Gotschi and Mills and Rails-to-Trails Conservancy (2008; chart this page) demonstrates that European cities that invest greater amounts per capita into bicycling have greater levels of bicycling. These cities provide strong evidence that in order to increase active transportation, the United States must make a much greater investment in infrastructure and programs encouraging bicycling and walking.

Bicycle Funding and Mode Share



Sources: This graph is modified 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 J. Pucher et al., 2007. "At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany," *World Transport Policy & Practice*; ACS 2007-2009, FHWA FMIS 2006-2010. **Note:** *Spending data for the United States and Portland are for bicycling and walking combined.

A quadruple-deck bike rack in Amsterdam is overflowing, a testament to the volume and prevalence of bicycling in the city. Photo by Jomilo75@ Flickr.



report on miles of existing and planned facilities including on-street striped bike lanes, multi-use paths, and signed bicycle routes. Cities averaged 1.8 miles of bicycle facilities (bike lanes, multi-use paths, and signed bicycle routes combined) per square mile. On the high end of the range is San Francisco, with 5.6 miles of bicycle facilities per square mile. Austin and Long Beach rank second and third, with 4.5 miles of facilities per square mile.

Cities average 19.2 miles of sidewalk per square mile. New York reported having 12,750 miles of sidewalk, more than any other city. Baltimore has the densest sidewalk network with 44.4 miles of sidewalk per square mile.

Cities were also asked to report on miles of planned bicycle and pedestrian facilities. Cities who responded reported that 20,908 miles of bicycle facilities and 7,079 miles of pedestrian facilities are planned for the coming years. New York has more planned bicycle facilities than any other cities (1,800 miles). Austin has 3,500 planned miles of pedestrian facilities, more than any other city (see chart page 99).

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 to retrofit existing infrastructure. For the 2012 Benchmarking Report, the Alliance asked cities which, if any, of five innovative treatments they have used or adopted. (For data on innovative facilities, see page 104; for definitions of these facilities, see page 105.)

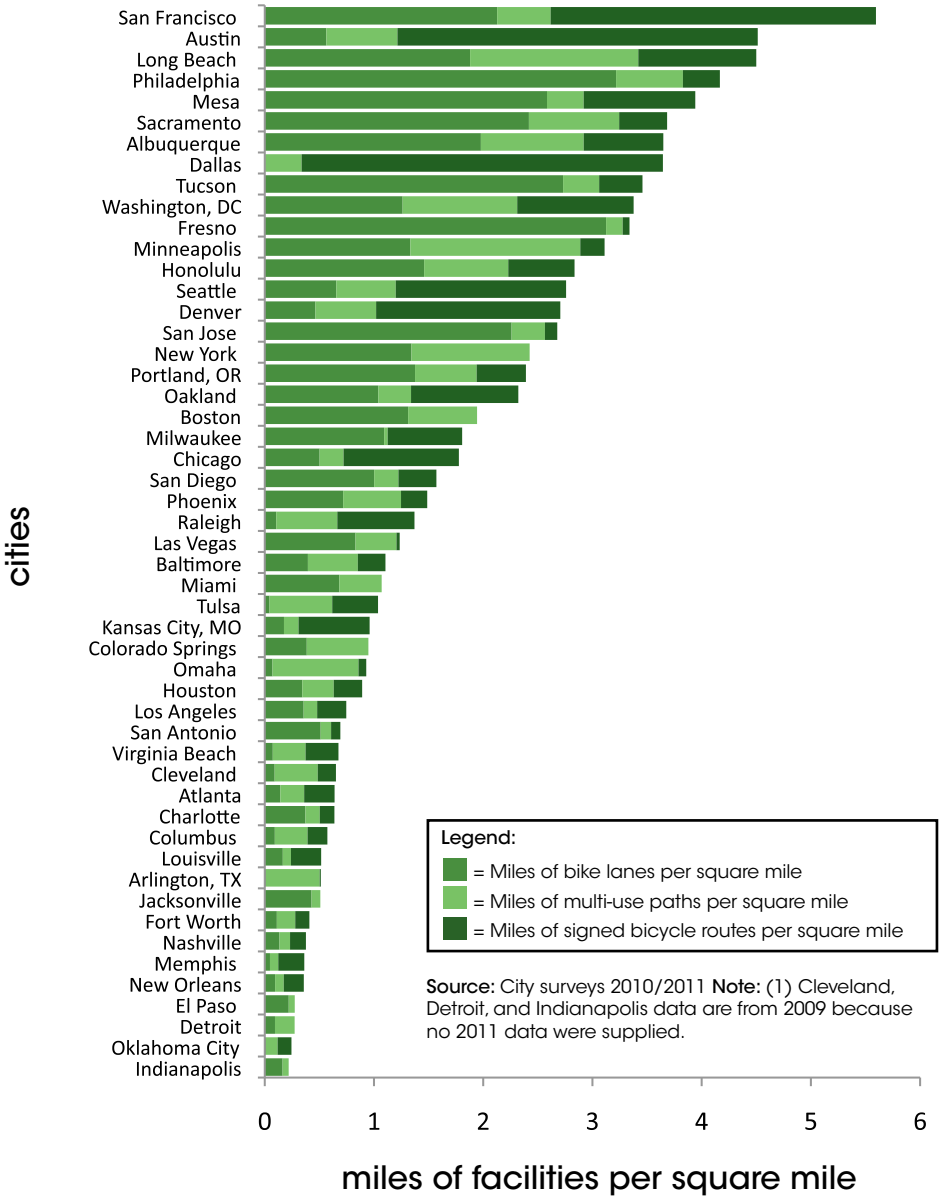


Photo by Frank CHan, San Francisco Bicycle Coalition

Shared lane markings, also called "sharrows," are the most common innovative treatment in use today. Thirty-seven cities report that they have used shared lane markings, up 95% from 19 cities two years ago. Ten cities report that they have implemented bicycle boulevards (up from five 2 years ago). Six more cities reported bicycle boulevards are currently under development or have been proposed. Nine cities have implemented bicycle traffic lights. Sixteen cities have used colored bike lane

(Continued page 103)

Existing Bicycle Facilities in Major U.S. Cities



Cities average 1.8 miles of bicycle facilities per square mile.

San Francisco and Austin have the most miles of bicycle facilities per square mile among the largest U.S. cities. Fresno, Tucson, and Philadelphia rank highest for miles of bike lanes per square mile. Indianapolis, Oklahoma City, and Detroit have the fewest miles of bicycle facilities per square mile.

Bike/Ped Infrastructure in Cities

City	Current miles of bicycle facilities				Miles of sidewalk		Planned facilities(3)				City adopted goal	
	On-street bike lanes(2)	Multi-use paths	Signed bicycle routes	Total/ sq. mile	Total	Total/ sq. mile	Bicycle (miles)	Over how many years?	Ped. (miles)	Over how many years?	To increase bicycle facilities	To increase ped. facilities
Albuquerque	372	177	137	3.7	*	*	*	25	*	*	✓	✓
Arlington, TX	1	47	1	0.5	1,100	11.5	272	20	145	20	✓	✓
Atlanta	19	29	37	0.6	2,160	16.2	250	25	900	25		
Austin	168	194	983	4.5	2,144	7.2	1,100	19	3,500	(5)	✓	✓
Baltimore	32	37	20.5	1.1	3,600	44.4	150	10	0	ø	✓	✓
Boston	63	30.3	0	1.9	*	*	150	8	0	ø	✓	
Charlotte	111	39	40	0.6	1,927	6.5	783	25	650	25	✓	✓
Chicago	115	50	241	1.8	*	*	650		*	*	✓	*
Cleveland	7(4)	31(4)	13(4)	0.7	*	*	*	*	*	*	*	*
Colorado Springs	75	110	*	1.0	2,304	11.8	15	25	*	*	✓	✓
Columbus	20	65	39.4	0.6	2,081	9.6	536	17	50	5	✓	✓
Dallas	0	115	1,128	3.7	4,750	13.9	1,296	10	340	10	✓	
Denver	71	85	258	2.7	2,700	17.6	162	*	54	*	✓	✓
Detroit	13.8(4)	25(4)	0(4)	0.4	*	*	*	*	*	*	*	*
El Paso	56	14	*	0.3	*	*	250	15	100	15	✓	✓
Fort Worth	37.6	57.3	44	0.3	*	*	480.3	25	0	ø	✓	✓
Fresno	350	17	7	3.3	1,870	16.7	905	75	*	*	✓	
Honolulu	89	47	37	2.8	*	*	568	20	*	*	✓	
Houston	206	173	156	0.9	*	*	43	5	*	*	✓	
Indianapolis	59(4)	20(4)	*	0.2	*	*	*	*	*	*	*	*
Jacksonville	320	60	*	0.5	4,350	5.8	100.8	*	68.4	*	✓	✓
Kansas City, MO	55.4	42	205	1.0	2,192	7.0	600	15	*	*	✓	✓
Las Vegas	113	51	4	1.2	*	*	331	25	143	25		
Long Beach	94	77	54	4.5	1,587	31.7	*	10	*	*	✓	✓
Los Angeles	167	58	125	0.8	10,750	22.9	1,680	35	*	*	✓	
Louisville	53.7	24.3	89.8	0.5	2,500	7.7	550	20	20	20	✓	✓
Memphis	15	24	75	0.4	3,588	11.4	600	10	*	10		
Mesa	354	46	140	3.9	4,370	31.9	20	5	8	5	✓	✓
Miami	24.6	14.0	0	1.1	1,050	29.2	276.4	20	30.2	20	✓	✓
Milwaukee	104.9	3.1	65.5	1.8	3,000	31.3	393.8	10	*	*	✓	✓
Minneapolis	72	84	12	3.1	2,000	37.0	275	30	108	50	✓	✓
Nashville	64	46	69	0.4	1,066	2.2	858	15	607	15	✓	✓
New Orleans	16	13	31	0.4	2,650	15.7	1,002	20	*	20	✓	✓
New York	407	328	*	2.4	12,750	42.1	1,800	20	*	*	✓	✓
Oakland	58.2	16.8	55	2.3	1,120	20.0	221.8	20	*	20	✓	✓
Oklahoma City	6.6	64.7	76.8	0.2	*	*	409	8	*	*	✓	
Omaha	9	100	9	0.9	*	*	31	2	*	*	✓	✓
Philadelphia	431	82	45.4	4.2	4,500	33.6	*	*	*	*	✓	✓
Phoenix	371	274	124	1.5	*	*	0	ø	0	ø	✓	✓
Portland, OR	183	75	60	2.4	*	*	962	20	*	*	✓	✓
Raleigh	15	80	101	1.4	1,150	8.0	447	20	38	25	✓	✓
Sacramento	237	81	43	3.7	*	*	272	*	*	15	✓	✓
San Antonio	236	44	39	0.7	7,840	17.0	45	1	0	ø	✓	✓
San Diego	325.5	72.3	112.9	1.6	*	*	549.5	*	*	*	✓	✓
San Francisco	100	23	140	5.6	*	*	33	1	*	*	✓	
San Jose	400	54	20	2.7	*	*	500	10	*	*	✓	✓
Seattle	55	45.7	131	2.8	*	*	454.7	10	*	6	✓	✓
Tucson	620	75	90	3.5	*	*	157	30	25	15	✓	✓
Tulsa	8.6	113.1	82.6	1.0	*	*	270.2	5	270.2	5	✓	✓
Virginia Beach	18.3	74.7	75	0.7	*	*	328	10	2.3	10	✓	✓
Washington, DC	77	64	65	3.4	1,600	26.2	130	5	20	10	✓	✓
Mean/Average	135	70	115	1.8(1)	3,311	19.2(1)	460	17	283	17	Yes	Yes
Median	72	54	63	1.2	2,248	16.5	331	17	50	15	Yes	Yes
High	620	328	1,128	5.6	12,750	44.4	1,800	75	3,500	50	ø	ø
Low	0	3.1	0	0.2	1,050	2.2	0	1	0	5	ø	ø

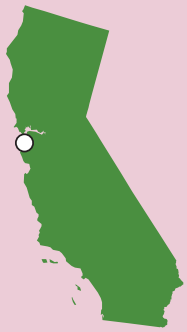
Source: City surveys 2010/2011, Census 2010 **Notes:** A survey response of "na" was taken to mean "0" for this table. (1) Weighted average. (2) Bicycle lane miles count both directions when bike lanes are on both sides of two-lane street. (3) Planned facilities includes only miles of new facilities and does not represent a combined value of existing and planned facilities. (4) Did not provide these data for 2010/2011 survey; value represents miles as of 2008/2009 Benchmarking survey. (5) Open-ended.

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

CLOSER LOOK

San Francisco's Burgeoning Bicycle Network

by Kit Hodge, San Francisco Bicycle Coalition



San Francisco, a hilly city 7 miles long by 7 miles wide (and roughly 800,000 people), has the highest density of biking infrastructure in the United States. And not coincidentally, it boasts seven in ten San Franciscans riding a bike in the city. Though the city still has a long way to go, with only about 8% of locals riding every week, San Francisco is an unexpected success story in the United States After all, the city was prohibited by a local court case from adding any new bicycle infrastructure—even bike parking racks—for 4 years, from 2006 to 2010. These were four very long years, during which bicycling in the city nevertheless grew at huge rates.

The success of the city can be boiled down to culture, expressed in two areas: a strong, member-driven advocacy organization and the culture of the city. The San Francisco Bicycle Coalition (SFBC) serves 12,000 members, as of July 2011. Members are the heart and soul of the organization, leading local bike infrastructure campaigns, staffing the nonprofit's

Despite it's hilly terrain, San Francisco has the fourth highest share of commuters who bike to work among major U.S. cities. Photo by Frank Chan, San Francisco Bicycle Coalition.





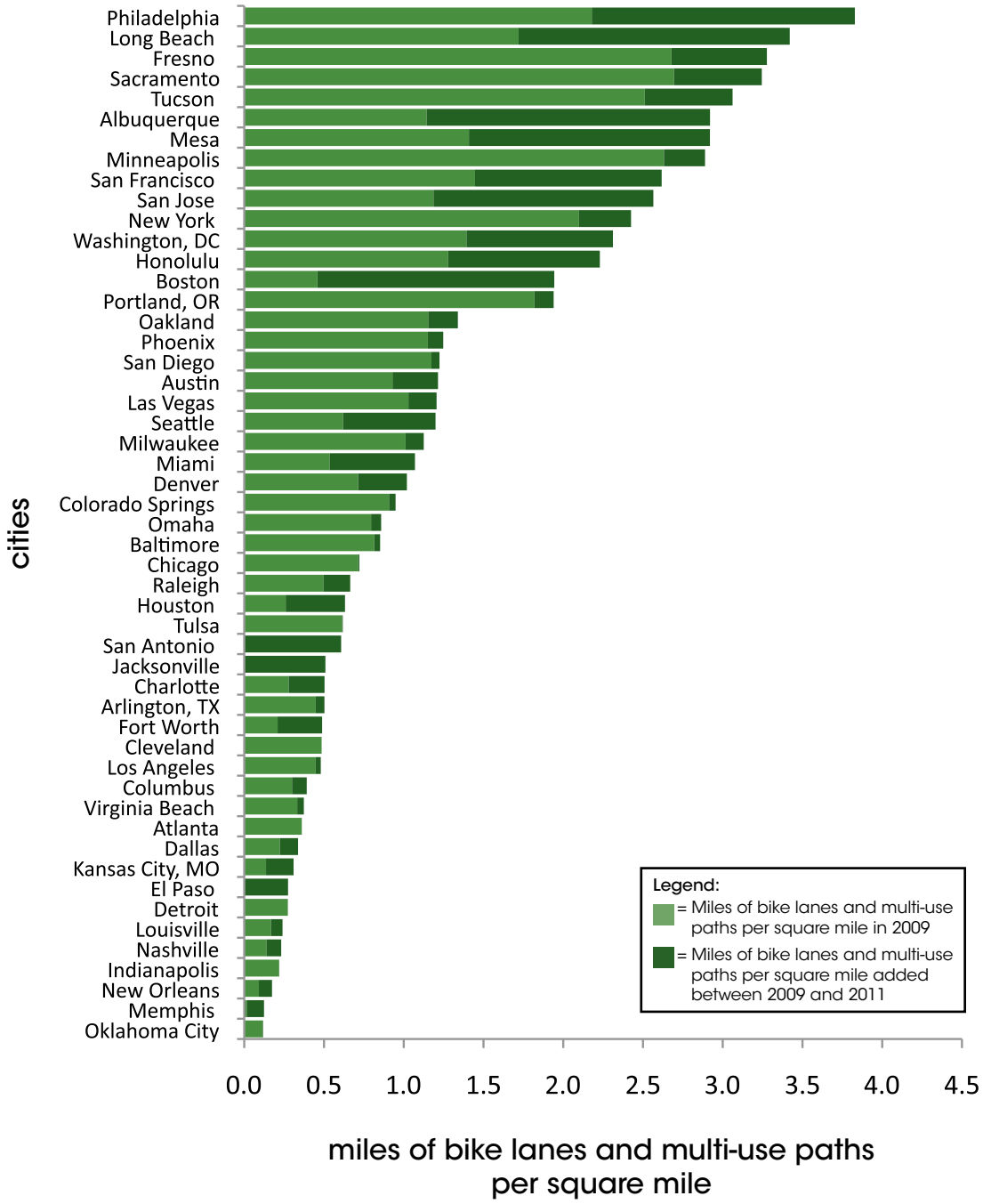
Green bike lane on Market Street in San Francisco. Photo by Tanya Dueri, San Francisco Bicycle Coalition

huge numbers of volunteer opportunities each year, voting in local elections, and providing the funding that it needs to do its work. The SFBC is hard to miss around town. Coalition members are out pretty much every week knocking on doors, parking bikes at events, tabling on street corners, and doing trainings in places of business. The city is just small enough to make this doable. As a result, it is hard to ignore the organization at City Hall.

City Hall is perhaps also primed to hear bicycle advocates even more than many other cities because of the unique culture of the city. San Francisco prides itself on its green policies, innovations, and culture of inclusion. These attributes can make it easier to sell newer ideas, such as innovative bicycle infrastructure, to elected officials. Though San Francisco is an ethnically diverse city, it is less economically diverse and can feel more culturally homogeneous than other big U.S. cities. This may make it more likely that the idealism, and values of sustainability, innovation, and inclusion are prevalent around the city.

Going forward, San Francisco is poised for an explosion in new bicycle infrastructure and ridership. And not surprisingly, the SFBC's bold plan for 100 miles of crosstown, 8-to-80 bikeways by 2020, called Connecting the City, is expected to be driven by the organization's members. Many of the projects called for to create these bikeways are long-desired street safety initiatives that local advocates have clamored for for years. The organization collects and tells their stories to decision makers, and ensures that they are invited to community meetings, have design input, and are empowered to speak at key hearings and in the media.

Growth in Bicycle Facilities(1) in Major U.S. Cities 2009-2011



Source: City surveys 2010/2011 **Notes:** Cleveland, Detroit, and Indianapolis only have 2009 data because no 2011 data were supplied. (1) For the purpose of this chart, bicycle facilities include bike lanes and multi-use paths.

treatments, up 100% from eight cities as of the 2010 Benchmarking Report. Eight cities report implementing home zones, or woonerfs (only San Jose previously reported experimenting with home zones).

New to the 2012 Benchmarking Report, cities were also asked about additional innovative treatments including bike boxes, cycle tracks, and contra flow bike lanes. Twenty cities report having installed bike boxes, or advanced stop lines, which prioritize cyclists at red lights. Eleven cities have installed cycle tracks and ten cities have contra flow bike lanes.

Portland has used more innovative treatments than any other major U.S. city having implemented every innovation surveyed. San Francisco is close behind only lacking bicycle boulevard implementation. Long Beach, Minneapolis, New York, and Seattle also lead for innovative facilities with six of eight innovative facilities surveyed.

U.S. Bicycle Route System

Also new to the 2012 Benchmarking Report are data about state involvement with the U.S. Bicycle Route System. The U.S. Bicycle Route System (USBRS) is a proposed national network of bicycle routes. These routes link urban, suburban, and rural areas with appropriate bicycle friendly routes including trails, bike paths, roads with shoulders, and low-traffic routes. For a route to be designated as part of the USBRS it must either connect two or more states, a state and an international border, or one or more U.S. Bicycle Routes.

The first two U.S. Bicycle Routes were designated in 1982 and then no additional routes were nominated. In 2003 the American Association of State Highway and Transportation Officials (AASHTO) revived the USBRS with an official task force. An inventory of existing bicycle routes (see map on page 106) throughout the United States was created as a first step in drafting a national bicycle network plan. In 2008, AASHTO passed a resolution in support of the National Corridor Plan. An application for route designation was completed in May 2009 (Adventure Cycling Association, 2009).

According to data from Adventure Cycling Association, 34 states have an active USBRS program. Thirty-one states have identified potential USBRs in state or local bicycle plans. Routes have been officially designated as part of the USBRS in nine states, and three states have posted and signed USBRs.

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. While most cities are successfully integrating bicycles with buses, many fall behind in regard to providing parking for bicyclists at transit (Pucher and Buehler 2009). Almost all cities surveyed have 100% of their city bus fleet equipped with bicycle racks. When it comes to bicycle parking, cities report that only 27% of transit stops have bike parking on average. According to the American Public Transportation Association, this amounts to just 2.5 bicycle parking spaces at bus stops per 10,000 residents (APTA 2011).

Innovative Facilities in Cities

City	Shared lane markings	Bicycle boulevards	Home zones/ woonerfs	Colored bike lanes	Bike boxes	Cycle tracks	Contra flow bike lane	Bicycle traffic light
Albuquerque	✓★	✓★			✓			
Arlington, TX								
Atlanta	✓★							
Austin	✓★	(3)		✓★	✓	✓	(3)	(3)
Baltimore	✓	(2)		✓★	✓		✓	
Boston	✓			✓★	✓	✓		
Charlotte	✓★							
Chicago	✓		✓★	✓			✓	
Cleveland (1)								
Colorado Springs	✓★	✓★	✓★					
Columbus	✓★	✓		✓★	✓			
Dallas								
Denver	✓	(3)			✓	✓		✓★
Detroit (1)								
El Paso					✓			
Fort Worth	✓							
Fresno								
Honolulu	✓★				✓			
Houston	✓						✓	
Indianapolis (1)								
Jacksonville	✓★							
Kansas City, MO	✓★			✓★	(2)			
Las Vegas		✓★						
Long Beach	✓	✓		✓	✓	✓		✓
Los Angeles	✓★							
Louisville	✓		✓★					
Memphis								
Mesa								✓★
Miami	✓★							
Milwaukee								
Minneapolis	✓	✓★		✓	✓	✓	✓	
Nashville	✓							
New Orleans	✓							
New York	✓			✓	✓	✓	✓	✓
Oakland	✓	✓★				✓		
Oklahoma City	✓			✓★	✓			
Omaha	✓★				✓			
Philadelphia	✓★		✓★	✓	✓		✓	
Phoenix	✓★	(2)			✓			
Portland, OR	✓	✓	✓★	✓	✓	✓	✓	✓
Raleigh	✓★							
Sacramento	✓★							
San Antonio	✓★	(2)	(2)	✓★		✓		
San Diego								
San Francisco	✓		✓★	✓★	✓	✓	✓	✓
San Jose	✓	(2)	✓	(2)		(2)		
Seattle	✓	✓	✓★	✓★	✓		✓	✓★
Tucson	✓★	✓		✓	✓			✓
Tulsa								
Virginia Beach								
Washington, DC	✓				✓	✓	✓	✓★
# of cities responding yes	37	10	8	16	20	11	10	9
Mean/Average	Yes	No	No	No	No	No	No	No

Legend:
✓= Yes/has implemented innovative facility
★= New since 2010 Benchmarking Report

Source: City surveys 2010/2011 **Notes:** Responses of "unknown" were taken to mean "no." (1) Unanswered survey. (2) Planned or proposed. (3) Under development at time of survey.

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 the direction of travel for bicycles as well as motorized vehicles.



Bike box—A pavement marking that utilizes two stop lines: an advanced stop line for motor vehicles, and a stop line closer to the intersection for bicyclists. This allows bicyclists to get a headstart when the light turns green to more safely proceed ahead or make a left turn.



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 allowed use of full lane.



Cycle track— An exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.



Home zones (woonerf zones)—These streets are designated as "shared streets" and do not prioritize the needs of motor vehicles. Rather, it is a space where pedestrians and bicyclists are the priority and motor vehicles are kept at low speeds.



Contra flow bike lane—A designated bicycle lane marked to allow bicyclists to travel against the flow of traffic on a one-way street.



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



Bicycle traffic light—Lights on roadways which have specific bicycle symbols that illuminate to direct bicycle traffic.

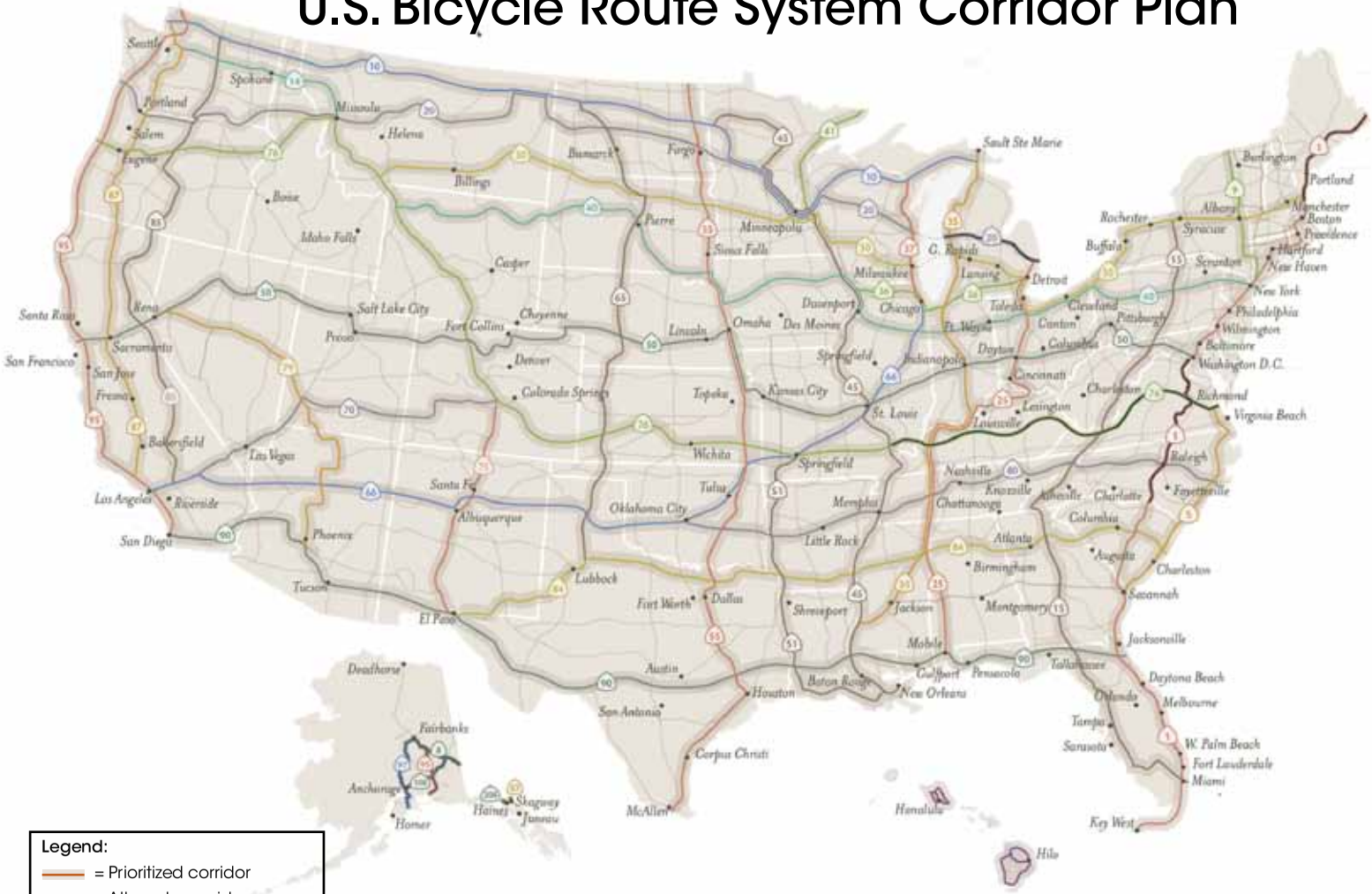
Photos top to bottom: (left) John Luton, Payton Chung, La-Citta-Vita@Flickr, Tanya Dueri—San Francisco Bicycle Coalition (right) Alrthur Wendall, New York City DOT, John Luton, Roland Tanglao

Inventory of Existing Bicycle Routes
(as of 2006)



Source: Adventure Cycling Association **Note:** The inventory of existing bicycle routes, developed in 2006, served as the base layer for creating the National Corridor Map, a system-level plan for states to use when planning and designating interstate bicycle routes. This map is current as of 2006.

U.S. Bicycle Route System Corridor Plan



Source: Map courtesy of Adventure Cycling Association, September 2011 **Notes:** Prioritized corridors are not routes, but 50-mile-wide areas where a route may be developed. These corridors have been assigned route numbers. Alternate corridors provide additional consideration for interstate routing. These corridors have not been assigned route numbers but may be added or existing corridors shifted as needed. Established U.S. Bicycle Routes designated by AASHTO appear as defined lines on the Corridor Map. For specific route information visit www.adventurecycling.org/routes/usbrs.

U.S. Bicycle Route Policy

State	Active USBR program	USBRS recognized in state or local bike plan	One or more USBR(s) in state received official AASHTO designation	Has one or more signed USBRs
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	✓			
# of states responding yes	34	31	9	3
Mean/Average	Yes	Yes	No	No

Sources: Adventure Cycling Association October 2011

Photo: A rare duplex of US Bike Routes 1 and 76, in downtown Ashland, VA. Photo by Will Weaver.

Legend:
✓ = Yes/has policy



Bike-Transit Integration

City	% of buses with bicycle racks	Hrs bikes allowed on trains/ hrs trains operated	Bike parking at transit		
			# of bicycle parking spaces at bus stops(1)	Bike parking spaces per 10,000 people(1)	% of transit stops with bicycle parking
Albuquerque	100%	105/105	*	*	100.0%
Arlington, TX	ø	ø	*	*	ø
Atlanta	100%	139.25/139.25	*	*	*
Austin	100%	40/40	156	1.97	1.0%
Baltimore	100%	168/168	*	*	*
Boston	50%	98/140	0	0.00	*
Charlotte	100%	137/137	51	0.72	*
Chicago	100%	148/168	*	*	92.0%
Cleveland	*	*	6	0.14	*
Colorado Springs	100%	ø	0	0.00	*
Columbus	100%	ø	54	0.70	0.6%
Dallas	100%	140/140	15	0.12	*
Denver	99%	168/168	682	11.17	15.0%
Detroit	25%	*	*	*	0.0%
El Paso	100%	*	74	1.19	*
Fort Worth	100%	107.5/107.5	18	0.25	0.2%
Fresno	100%	ø	30	0.63	5.0%
Honolulu	100%	ø	18	0.48	0.5%
Houston	95%	*	442	1.95	90.0%
Indianapolis	100%	*	*	*	*
Jacksonville	100%	ø	131	1.61	12.0%
Kansas City, MO	98%	ø	18	0.37	0.0%
Las Vegas	100%	ø	*	*	*
Long Beach	100%	140/*	28	0.61	*
Los Angeles	100%	130/150	272	0.71	83.5%
Louisville	100%	ø	0	0.00	*
Memphis	100%	107/107	0	0.00	0.1%
Mesa	100%	100/100	0	0.00	60.0%
Miami	100%	113/113	0	0.00	*
Milwaukee	100%	0/60	*	*	*
Minneapolis	100%	168/168	301	7.81	*
Nashville	100%	34/34	0	0.00	25.0%
New Orleans	100%	ø	*	*	1.0%
New York	0%	168/168	8	0.01	8.9%
Oakland	100%	120/140	0	0.00	92.0%
Oklahoma City	100%	ø	0	0.00	*
Omaha	100%	ø	*	*	0.0%
Philadelphia	100%	103/133	*	*	*
Phoenix	100%	140/140	54	0.34	*
Portland, OR	100%	140/140	420	7.41	6.0%
Raleigh	100%	ø	*	*	0.5%
Sacramento	100%	*	*	*	*
San Antonio	100%	ø	8	0.06	0.8%
San Diego	100%	152/152	0	0.00	*
San Francisco	100%	100/120	544	6.67	*
San Jose	100%	145/145	259	2.68	*
Seattle	100%	131/131	2,390	38.76	*
Tucson	100%	ø	59	1.08	*
Tulsa	100%	ø	*	*	1.0%
Virginia Beach	100%	ø	*	*	1.0%
Washington, DC	100%	105/135	*	*	100.0%(3)
Mean/Average	95%	91%	173	2.5 (2)	26.8%
Median	100%	100%	18	0.3	3.0%
High	100%	100%	2,390	61.4	100.0%
Low	0%	0%	0	0.0	0.0%

Sources: City surveys 2010/2011 (1) APTA 2011 **Note:** (2) Average weighted. (3) 100% of rail stops have bike parking; percentage for bus stops unknown.

Most bus fleets in major cities are equipped for bicycles.

Forty-three cities report that 100% of their city buses are equipped with bicycle racks. This is up 43% from 2007 when just 30 cities reported that 100% of their buses had racks. New York remains the only major U.S. city with no bicycle racks on buses. Regarding bicycle parking at bus stops, cities average 1.3 bicycle parking spaces for every 10,000 residents. This is up 8% since the 2010 Benchmarking Report.

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



Children line up for a kids' bicycle race. Photo courtesy of Paul Dineen

5: EDUCATION AND ENCOURAGEMENT

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.

The 2010 Benchmarking Report was 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. This report builds on data from the previous report to track progress of these efforts.

The "5 Es"
1. Engineering
2. Education
3. Encouragement
4. Enforcement
5. Evaluation

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

Bike/Ped Professional Education in States

State	Bicycling enforcement police academy requirement	Bicycling enforcement police continuing training	Annual statewide bike/ped conference (1)
Alabama		✓	
Alaska			
Arizona		✓	
Arkansas			
California	✓	✓	✓ (3)
Colorado			✓★ (2,4)
Connecticut		✓	
Delaware			✓ (2)
Florida		✓	✓ (5)
Georgia		✓	✓★ (2)
Hawaii			
Idaho			
Illinois	✓	✓	
Indiana	✓	✓	✓ (2)
Iowa	✓	✓	✓ (2)
Kansas		✓	✓★
Kentucky	✓	✓	✓★
Louisiana	✓	✓	
Maine		✓	✓
Maryland		✓	✓
Massachusetts	✓	✓	✓
Michigan		✓	✓ (2)
Minnesota		✓	✓ (2)
Mississippi	✓		
Missouri	✓	✓	(7)
Montana			
Nebraska		✓	
Nevada		✓	✓
New Hampshire	✓		
New Jersey	✓		✓★
New Mexico		✓	
New York		✓	
North Carolina		✓	
North Dakota			
Ohio	✓	✓	✓★
Oklahoma		✓	
Oregon	✓	✓	✓★
Pennsylvania		✓	✓★
Rhode Island	✓	✓	✓★
South Carolina	✓	✓	(7)
South Dakota			✓★ (2)
Tennessee		✓	
Texas	✓	✓	✓★ (3)
Utah		✓	✓★ (2)
Vermont	✓		
Virginia		✓	
Washington	✓	✓	✓★ (3,6)
West Virginia		✓	(7)
Wisconsin	✓	✓	✓ (3)
Wyoming	✓		
# of states responding yes	20	36	25
Mean/Average	No	Yes	ø

Professional education on bicycling and walking is growing.

Twenty states (40%) report that bicycling enforcement is a police academy requirement. This is up from just 11 states as of the 2010 Benchmarking Report. Twenty-five states report having a statewide bicycle and pedestrian conference (up from 16).

Sources: State surveys 2010/2011, LAB 2011
Notes: (1) 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. (2) Bicycle conference only. (3) Biennial. (4) Hosted by Bicycle Colorado. (5) Annual conference 2005-2010; is not planned for 2011 because of budget cuts; may be reconsidered in future. (6) Trails conference includes bicycle and pedestrian issues. (7) Former conference no longer active.

Legend:
✓ = Yes
ø = Not applicable
★ = New since 2010 Benchmarking Report

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 not understand or uphold bicyclists' or pedestrians' rights in traffic crashes, 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 safety and rights.

Data on police officer education come from the League of American Bicyclists' Bicycle Friendly State surveys. According to these surveys, 20 include bicycling enforcement as a Police Academy requirement and 36 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 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 and another nine have hosted a statewide bicycle conference. Of these, 21 are annual and four are biennial. Colorado and Texas noted that their conferences are coordinated by statewide advocacy organizations.

Educating the Public

Educating the public is a critical component of creating bicycling and walking 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 states have a public safety (or

(Continued page 115)

A Kansas City bus wrapped with a "Bike there, walk there" advertisement.
Photo courtesy of Mid-America Regional Council, Kansas City, MO



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 schools participating in Walk to School Day
Alabama		✓			23
Alaska	✓	✓	✓		9
Arizona	✓	✓	✓		116
Arkansas					9
California		✓		✓	429
Colorado	✓	✓	✓		215
Connecticut	✓	✓	✓		17
Delaware	✓	✓		✓	10
Florida	✓	✓	✓	✓	225
Georgia	✓	✓			111
Hawaii	✓	✓	✓		1
Idaho	✓	✓			47
Illinois	✓	✓	✓		186
Indiana	✓	✓	✓		28
Iowa	✓	✓	✓		41
Kansas	✓	✓		✓	56
Kentucky	✓	✓		✓	12
Louisiana	✓	✓	✓		28
Maine	✓	✓	✓		7
Maryland	✓	✓	✓	✓	81
Massachusetts	✓	✓	✓	✓	147
Michigan		✓			164
Minnesota	✓	✓	✓	✓	27
Mississippi	✓	✓	✓		130
Missouri		✓	✓	✓	44
Montana		✓		*	27
Nebraska		✓	✓		27
Nevada	✓	✓	✓		37
New Hampshire	✓	✓	✓	✓	18
New Jersey	✓	✓			80
New Mexico		✓	✓	*	78
New York	✓	✓			81
North Carolina	✓	✓	✓		84
North Dakota		✓			6
Ohio	✓	✓		✓	108
Oklahoma	✓	✓	✓		85
Oregon	✓	✓			164
Pennsylvania		✓			58
Rhode Island	✓	✓	✓	✓	18
South Carolina	✓	✓	✓		129
South Dakota		✓	✓	✓	7
Tennessee	✓	✓		✓	49
Texas	✓	✓	✓		84
Utah	✓	✓	✓		31
Vermont	✓	✓	✓		20
Virginia	✓	✓	✓	✓	54
Washington	✓	✓	✓	✓	31
West Virginia		✓			32
Wisconsin	✓	✓	✓		**59**
Wyoming	✓	✓	✓	✓	**6**
# of states responding yes	38	49	32	17	ø
Mean/Average	Yes	Yes	Yes	No	71

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

Sources: State surveys 2010/2011, LAB 2011, National Center for Safe Routes to School 2011

Bicycle Promotion in Cities

84% of cities report having Bike to Work Day events.

City	Bicycle education courses		Bike to Work Day events	Open street initiatives (4)	City-sponsored bicycle ride	Public bike share program
	Youth	Adult				
Albuquerque	✓★	✓★	✓★	✓★		(1)
Arlington, TX	✓★ (3)	✓★ (3)	✓★			
Atlanta	(2)	✓	✓	✓★		
Austin	✓★	✓	✓	(1)	*	(1)
Baltimore	(1,2)	(1)	✓	✓	✓	(1)
Boston	✓	✓	✓	✓	✓	(1)
Charlotte	✓	✓	✓		✓	
Chicago	✓	✓★	✓	(5)	✓★	✓
Colorado Springs	*	✓	✓		✓★	
Columbus	✓	✓	✓		✓	
Dallas	✓★	✓			✓	(1)
Denver	✓	✓★	✓	(1)	✓	✓
El Paso				✓★	✓★	(1)
Fort Worth	✓★		✓★			(1)
Fresno	✓	✓★	✓		✓★	
Honolulu	✓	✓	✓	✓	✓	(1)
Houston	✓	✓	✓		✓	(1)
Jacksonville	✓★	✓★	✓★			
Kansas City, MO	✓	✓	✓	✓	✓★	(1)
Las Vegas	✓★					
Long Beach	✓	✓	✓★	✓	✓	(1)
Los Angeles	✓★	✓	✓	✓★		(1)
Louisville	✓	✓	✓	✓★	✓	(1)
Memphis	✓★	✓	✓★		✓	
Mesa	✓		✓		✓	(1)
Miami		✓	*	✓	✓★	(1)
Milwaukee	✓	✓	✓★		*	
Minneapolis	✓	✓	✓		✓	✓
Nashville			✓		✓	✓
New Orleans	✓★	✓★				
New York	✓	✓	✓	✓	✓	(1)
Oakland	✓	✓	✓	✓★	✓★	
Oklahoma City		✓	✓			(1)
Omaha	✓	✓	✓		✓	(1)
Philadelphia	✓	✓	✓	✓	✓	(1)
Phoenix		✓	✓	✓	✓	(1)
Portland, OR	✓	✓	✓	✓	✓	(1)
Raleigh			✓		✓★	(1)
Sacramento	✓★	✓★	✓★		✓★	(1)
San Antonio	✓★	✓★	✓★	(1)	✓★	(1)
San Diego	✓	✓	✓		*	(1)
San Francisco	✓	✓	✓	✓	✓	(1)
San Jose	✓	✓	✓	✓★	✓	(1)
Seattle	✓	✓	✓	✓		(1)
Tucson	✓	✓	✓	✓★		
Tulsa	✓★	✓★	✓	*	*	*
Virginia Beach		✓★	✓			
Washington, DC	✓	✓	✓	✓	✓	✓
# of cities responding yes	38	41	43	21	32	5
Mean/Average	Yes	Yes	Yes	No	Yes	No

Legend:
✓ = Yes
ø = Not applicable
* = Officials could not access data
★ = New since 2010 Benchmarking Report

Source: City surveys 2010/2011 **Notes:** Cleveland, Detroit, and Indianapolis did not provide data requested for this chart. (1) In development. (2) Previous education program lost funding and agency is working on reinstating. (3) New in 2011. (4) Open streets are events where streets are temporarily closed to cars and are also known as "ciclovias." "Sunday parkways," and by other names. (5) Initiative no longer in operation or is currently inactive.

"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 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, radio, and television. The basic message is always the same, encouraging bicyclists and motorists to obey traffic laws and show respect to other road users. Thirty-eight 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 for years to come. The League of American Bicyclists' Bicycle Friendly State surveys collect information from states on whether information on bicycling is included in the state driver's manual and whether questions on sharing the roadway with bicyclists are included on the state driver's exam. Arkansas is the only state that does not include information on bicycling in its state driver's manual. Thirty-two states include driver's test questions on bicyclists.

Bicycle Education

Although nearly everyone must have some form of driver's education before receiving a license, there is no education requirement to ride a bicycle. Yet having knowledge and skills to properly handle a bicycle in traffic can improve safety for bicyclists and make them better motorists. 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 41 cities (80% of cities surveyed, up from 35 cities 2 years ago) have adult bicycle education courses, and 38 cities

(Continued page 120)



These signs are produced by Portland, OR's Safe Routes to School program. Photo by Mark Stosberg

Adult Bicycle Education Courses

City	Participation - # of adults					# adults per 1 participant				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Atlanta	*	110	274	116	101	*	3,106	1,247	3,694	4,243
Austin	50	50	80	ø	108	11,545	11,545	7,215	ø	5,696
Baltimore	*	*	30	(1)	(1)	*	*	16,149	ø	ø
Boston	*	*	200	*	*	*	*	2,483	*	*
Colorado Springs	*	12	20	*	*	*	24,343	14,606	*	*
Chicago	*	*	*	*	200	*	*	*	*	10,910
Columbus	30	30	30	150	200	18,569	18,569	18,569	3,962	2,972
Dallas	-	66	124	300	300	*	13,716	7,300	3,188	3,188
Denver	*	*	*	39	64	*	*	*	12,057	7,347
Fresno	*	*	*	18	30	*	*	*	18,475	11,085
Houston	300	400	600	*	*	5,049	3,787	2,524	*	*
Indianapolis	*	*	30	*	*	*	-	19,297	*	*
Kansas City, MO	*	120	*	0	118	*	2,754	-	ø	3,126
Long Beach	*	16	70	*	*	*	20,910	4,779	*	*
Los Angeles	*	*	*	351	135	*	*	*	8,260	21,477
Louisville	60	120	60	50	50	7,111	3,556	7,111	8,659	8,659
Memphis	*	*	*	300	400	*	*	*	1,644	1,233
Miami	16	-	17	*	*	17,441	*	16,415	*	*
Milwaukee	10	20	25	100	200	41,919	20,959	16,768	4,436	2,218
Minneapolis	*	*	335	1,707	1,678	*	*	849	178	181
Nashville	30	30	30	(1)	(1)	15,229	15,229	15,229	ø	ø
New Orleans	*	*	*	0	20	*	*	*	ø	13,928
New York	101	429	945	1,307	1,785	63,083	14,852	6,742	4,974	3,642
Oakland	*	35	114	114	137	*	7,997	2,455	2,807	2336
Omaha	10	*	*	20	25	28,076	-	-	16,808	13,447
San Francisco	250	300	389	1,000	1,000	2,632	2,193	1,691	698	698
San Jose	200	200	200	250	200	3,505	3,505	3,505	2,878	3,598
Seattle	*	*	*	1,000	1,000	*	*	*	524	524
Tucson	400	400	500	562	*	1,000	1,000	800	738	*
Virginia Beach	*	*	*	0	20	*	*	*	ø	16,378
Washington, DC	*	*	*	434	893	*	*	*	1,120	544
Mean/Average	121	146	204	372	394	8,773 (2)	6,230 (2)	4.016 (2)	2,345 (2)	2,391 (2)
Median	55	88	97	150	169	13,387	9,771	6,927	3,441	3,620
High	400	429	945	1,707	1,785	63,083	24,343	19,297	18,475	21,477
Low	10	12	17	0	20	1,000	1,000	800	178	181

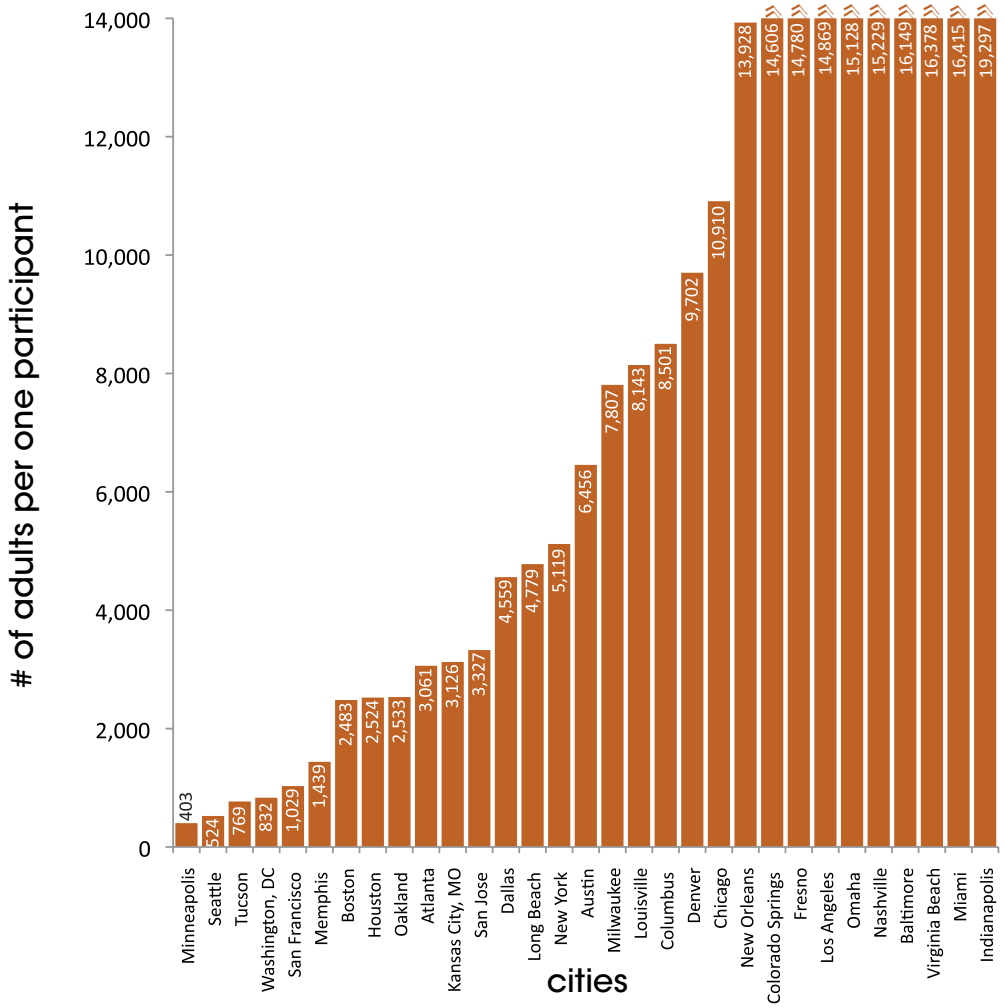
Source: City surveys 2008/2009 and 2010/2011 **Notes:** The following cities reported having adult bicycle education courses in at least one year, but did not provide data on participation: Albuquerque, Arlington,TX, Charlotte, Fort Worth, Honolulu, Jacksonville, Oklahoma City, Philadelphia, Phoenix, Portland, OR, Sacramento, San Antonio, San Diego, and Tulsa. All other cities not included in this table reported no adult bicycle education courses. (1) This city reports no longer having adult bicycle education courses. (2) Weighted average.

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

Adult bicycle education participation has grown 267% in the last 4 years.

Forty-one of the cities surveyed for this report say their city has adult bicycle education courses. Since 2006, participation in these courses has been on the rise with the average number of participants increasing 267% in just four years. In 2010 these courses attracted an average of one person per 2,391 adults.

Adult Bicycle Education: Adults Per One Participant



Source: City surveys 2008/2009 and 2010/2011, ACS 2009 **Notes:** 3-year average data between 2008 and 2010 used with the following exceptions: 1-year data used for: Baltimore, Boston, Chicago, Colorado Springs, Houston, Indianapolis, Kansas City, MO, Long Beach, Miami, Nashville, New Orleans, Virginia Beach; 2-year average used for: Austin, Denver, Fresno, Los Angeles, Memphis, Omaha, Seattle, Tucson, Washington, DC. The following cities reported having adult bicycle education courses in at least one year, but did not provide data on participation: Albuquerque, Arlington, Charlotte, Fort Worth, Honolulu, Jacksonville, Oklahoma City, Philadelphia, Phoenix, Portland, Sacramento, San Antonio, San Diego, Tulsa. All other cities not included in this table reported no adult bicycle education courses.

One out of every 403 Minneapolis adults was a bicycle education participant, on average, between 2008-2010. Seattle, Tucson, and Washington, DC, also rank among the cities with the highest levels of participation in adult bicycle education courses.

Minneapolis leads cities for adult bicycle education participation.

Youth(3) Bicycle Education Courses

City	Participation - # of youth					# of youth per one participant				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Albuquerque	*	*	*	10,000	10,000	*	*	*	13	13
Atlanta	*	300	34	(1)	(1)	*	303	2,671	ø	ø
Austin	*	*	*	1,500	1,000	*	*	*	117	175
Boston	*	*	300	800	2,600	*	*	388	139	43
Chicago	*	*	*	*	1,200	*	*	*	*	557
Columbus	3,800	4,200	4,500	4,000	4,000	46	42	39	45	45
Dallas	*	*	*	15	30	*	*	*	22,879	11,439
Honolulu	5,000	5,000	5,000	5,000	5,000	12	12	12	13	13
Houston	*	*	2,050	*	*	*	*	260	*	*
Long Beach	ø	ø	2,070	*	*	ø	ø	60	*	*
Los Angeles	*	*	*	7,851	2,427	*	*	*	119	384
Louisville	30	60	60	0	25	4,491	2,246	2,246	ø	5,341
Memphis	*	*	*	75	100	*	*	*	2,445	1,834
Mesa	*	*	*	200	600	*	*	*	611	204
Milwaukee	500	800	1,025	4,500	5,000	326	204	159	36	32
Minneapolis	125	150	180	1,126	729	534	445	371	72	112
Nashville	250	500	1,000	(1)	(1)	546	273	136	ø	ø
New Orleans	*	*	*	0	50	*	*	*	ø	1,526
New York	*	658	857	4,410	7,241	ø	2,892	2,221	429	261
Oakland	520	673	613	983	1,469	152	117	129	91	61
Omaha	1,000	1,000	1,000	(1)	(1)	94	94	94	ø	ø
Portland, OR	*	*	*	2,558	1,315	*	*	*	44	85
Sacramento	*	*	*	4,000	4,000	*	*	*	30	30
San Francisco	*	2000	3000	*	*	*	54	36	*	*
San Jose	25,000	25,000	25,000	22,008	19,967	9	9	9	11	12
Seattle	*	*	*	19,500	20,600	*	*	*	5	4
Tucson	*	*	*	875	*	*	*	*	148	*
Washington, DC	*	*	*	5,608	2,389	*	*	*	20	48
Mean/Average	4,466	3,337	2,917	4,524	4,273	31 (2)	80 (2)	88 (2)	58 (2)	67 (2)
Median	520	737	1,000	2,558	2,389	152	161	148	72	85
High	25,000	25,000	25,000	22,008	20,600	4,491	2,892	2,671	22,289	11,439
Low	30	60	34	0	25	9	9	9	5	4

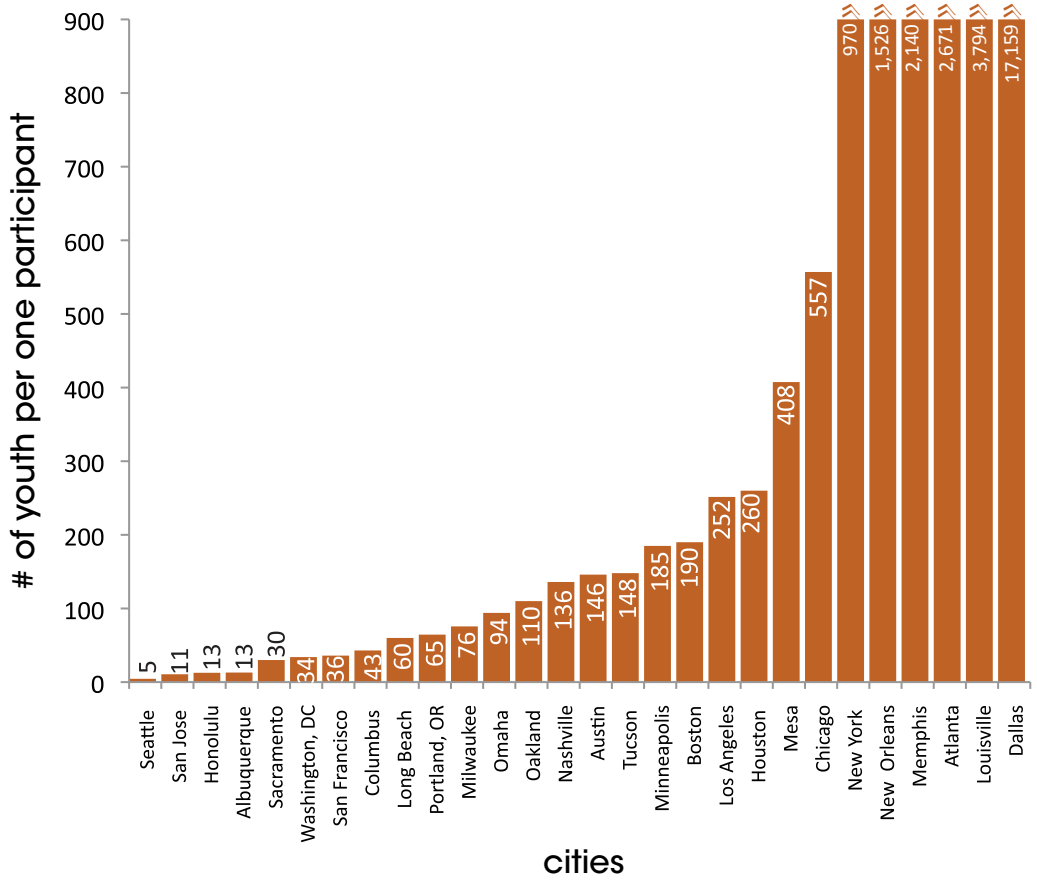
Source: City surveys 2008/2009 and 2010/2011 **Notes:** The following cities reported having youth bicycle education courses in at least one year, but did not provide data on participation: Arlington, TX, Baltimore, Charlotte, Denver, For Worth, Fresno, Indianapolis, Jacksonville, Kansas City, MO, Las Vegas, Philadelphia, San Antonio, San Diego, Tulsa, and Virginia Beach. All other cities not included in this table reported no youth bicycle education courses. (1) This city reports no longer having youth bicycle education courses. (2) Weighted average. (3) "Youth" includes all residents under age 18.

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

One of every 67 youth participate in bicycle education courses in major U.S. cities.

Thirty-seven of the cities surveyed for this report have youth bicycle education courses. On average, 1 out of 67 youth (under age 18) attend a youth bicycle education course in these cities (in 2010). Seattle has the high value for youth bicycle participation in 2010 with 20,600 participants. One of every four Seattle youth participated in bicycle education in 2010.

Youth(3) Bicycle Education: Youth per One Participant



Sources: City surveys 2008/2009 and 2010/2011, ACS 2009 **Notes:** 3-year average data between 2008 and 2010 used with the following exceptions: 1-year data used for: Atlanta, Chicago, Houston, Long Beach, Nashville, Omaha, San Francisco, and Tucson; 2-year average used for: Albuquerque, Austin, Dallas, Los Angeles, Louisville, Memphis, Mesa, Oakland, Portland, OR, Sacramento, Seattle, and Washington, DC. The following cities reported having youth bicycle education courses in at least one year, but did not provide data on participation: Arlington, Baltimore, Charlotte, Denver, For Worth, Fresno, Indianapolis, Jacksonville, Kansas City, MO, Las Vegas, Philadelphia, San Antonio, San Diego, Tulsa, and Virginia Beach. All other cities not included in this table reported no youth bicycle education courses. (3) "Youth" includes all residents under age 18.

One out of every five youth in Seattle participate in bicycle education courses. San Jose, Honolulu, Albuquerque, and Sacramento also lead other major U.S. cities in participation levels for youth bicycle education courses.

Seattle now leads cities for youth bicycle education participation.



Commuter on Bike to Work Day in San Francisco, CA. Photo by Frank Chan, San Francisco Bicycle Coalition

(75% of cities surveyed, up from 30 cities 2 years ago) 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 2,391 adults, and youth courses average one participant per 67 youth residents (in 2010).

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 open streets (ciclovia) initiatives. 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 most of the United States 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

Bike to Work Day Events

City	Participation - # of adults					# of adults per one participant				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Albuquerque	ø	ø	ø	800	800	ø	ø	ø	501	501
Arlington, TX	ø	ø	ø	*	*	ø	ø	ø	*	*
Atlanta	*	*	100	341	251	*	*	3,417	1,257	1,707
Austin	*	50	165	*	1,133	*	11,545	3,498	*	543
Baltimore	*	250	250	186	220	*	1,938	1,938	2,658	2,248
Boston	*	*	3,000	3,000	3,000	*	*	166	178	178
Charlotte	*	*	*	*	*	*	*	*	*	*
Chicago	2,000	2,000	2,000	4,000	5,000	1,027	1,027	1,027	545	436
Colorado Springs	900	1,000	1,200	*	*	325	292	243	*	*
Columbus	50	50	450	400	300	11,141	11,141	1,238	1,486	1,981
Denver	20,500	21,000	35,000	23,284	17,093	22	21	13	20	28
Detroit	75	75	75	*	*	7,652	7,652	7,652	*	*
Fort Worth	ø	ø	ø	*	80	ø	ø	ø	*	6,424
Fresno	200	350	400	400	570	1,623	927	812	831	583
Honolulu	200	200	200	200	200	1,464	1,464	1,464	1,557	1,557
Houston	276	321	350	340	225	5,488	4,718	4,328	4,866	7,354
Indianapolis	*	435	500	*	*	*	1,331	1,158	*	*
Jacksonville	ø	ø	ø	100	100	ø	ø	ø	6,117	6,117
Kansas City, MO	250	500	1,100	*	1,421	1,322	661	300	*	260
Long Beach	*	*	150	*	*	*	*	2,230	*	*
Los Angeles	*	*	*	*	4,500	*	*	*	*	644
Louisville	150	200	150	600	550	2,844	2,133	2,844	722	787
Memphis	ø	ø	ø	0	150	ø	ø	ø	ø	3,289
Mesa	*	*	25	7	77	*	*	14,382	49,282	4,480
Miami	*	*	*	*	*	*	*	*	*	*
Milwaukee	ø	ø	ø	*	*	ø	ø	ø	*	*
Minneapolis	300	400	2,500	2,526	7,295	948	711	114	120	42
Nashville	50	50	100	*	*	9,137	9,137	4,569	*	*
New York	*	*	750 (1)	*	*	*	*	8,495	*	*
Oakland	1,294	1,401	1,732	3,861	4,000	216	200	162	83	80
Oklahoma City	200	200	200	130	130	2,024	2,024	2,024	3,217	3,217
Omaha	330	400	600	900	1,000	851	702	468	374	336
Philadelphia	200	300	300	*	*	5,436	3,624	3,624	*	*
Phoenix	25	25	75	75	90	42,991	42,991	14,330	15,029	12,524
Portland, OR	*	*	*	11,350	11,050	*	*	*	40	41
Raleigh	50	63	75	50	75	5,454	4,329	3,636	6,160	4,107
Sacramento	ø	ø	ø	*	*	ø	ø	ø	*	*
San Antonio	ø	ø	ø	1,000	*	ø	ø	ø	991	*
San Diego	*	*	*	*	*	*	*	*	*	*
San Francisco	*	65,000	75,000	*	*	*	10	9	*	*
San Jose	13,000	14,000	15,000	*	*	54	50	47	*	*
Seattle	*	*	*	19,097	14,250	*	*	*	27	37
Tucson	300	400	500	*	*	1,333	1,000	800	*	*
Tulsa	*	*	*	*	*	*	*	*	*	*
Virginia Beach	*	*	*	*	*	*	*	*	*	*
Washington, DC	*	*	*	8,127	9,184	*	*	*	60	53
Mean/Average	2,018	4,528	4,895	500	3,065	300 (2)	132 (2)	157 (2)	238 (2)	286 (2)
Median	225	336	400	3,366	570	1,544	1,398	1,464	831	644
High	20,500	65,000	75,000	23,284	17,093	42,991	42,991	14,382	49,282	12,524
Low	25	25	25	0	75	22	10	9	20	28

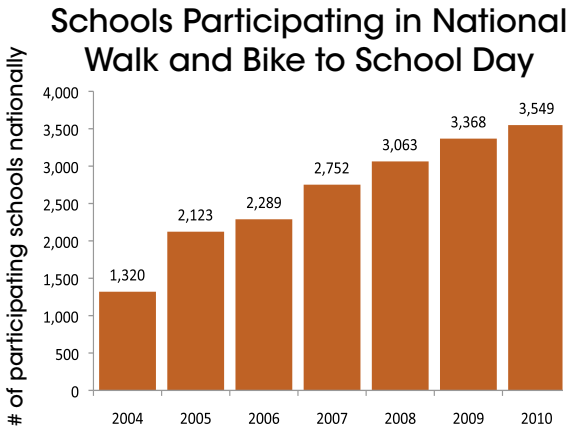
Source: City surveys 2008/2009 and 2010/2011 **Notes:** The following cities did not report having Bike to Work Day events and are not included in this table: Dallas, El Paso, and New Orleans. Las Vegas previously reported having a Bike to Work Day event and now reports having no Bike to Work Day events. Cleveland, Detroit, and Indianapolis did not respond to requests for data from the 2010/2011 survey. (1) Answered "700-800." (2) Weighted average.

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



Former Congressman Jim Oberstar, originator of the national Safe Routes to School Program, visits students who bike and walk to school at Beach Elementary in Portland, OR. Photo courtesy of Greg Raisman

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 43 cities reporting some organized event around this day (up from 38 cities 2 years ago). Both government and nonprofit organizations sponsor these events. In 2010, cities averaged one Bike to Work Day participant for every 286 adults. Denver reports the greatest per capita participation with 1out of every 28 adults, in 2010.



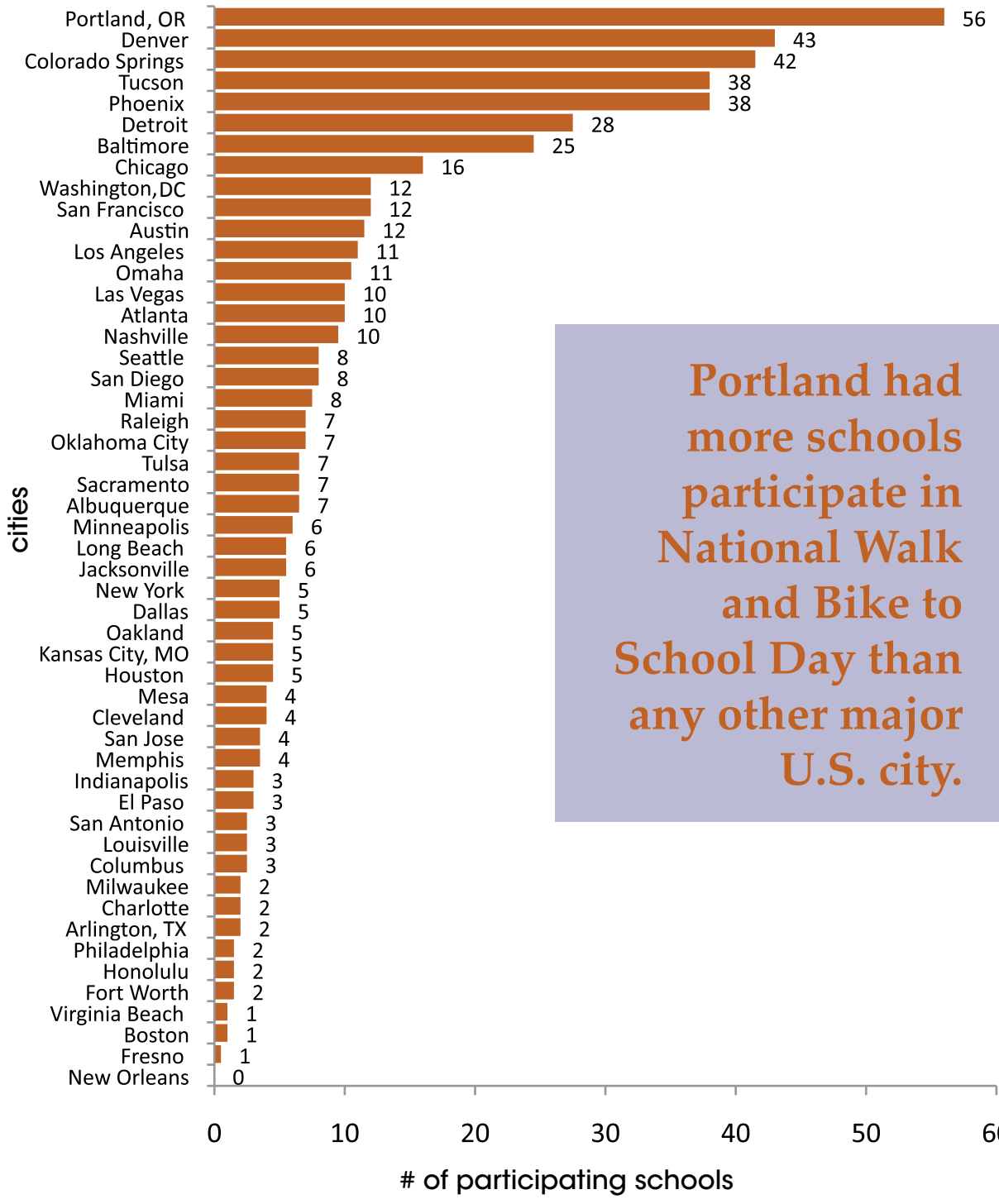
Source: NCSRTS 2011

Walk and Bike to School Day

Walk and Bike 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

Number of Schools Participating in Walk and Bike to School Day

(2-year average 2009-2010)



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

Source: NCSRTS 2011

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 United States. 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 2010, over 3,500 schools from all 50 states participated in Walk to School Day. New Orleans was the only major U.S. city in this report that did not have any schools registered for Walk to School Day in 2009 or 2010. Portland, OR, and Denver had more schools registered for Walk to School Day than any other major U.S. cities with 56 and 43 registered schools, respectively.

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 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.

Seventeen states and 32 cities report having government-sponsored rides to promote bicycling or physical activity. New York City's city-sponsored ride (TD Bank Five Boro Bike Tour) attracts 30,000 bicyclists, more than any other city-sponsored ride. Louisville's Mayor's Healthy Hometown Hike and Bike attracts one participant for every 79 residents, making it the highest per capita participation of any city-sponsored ride.

Open Street Initiatives

Although some cities like Seattle and 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 "open streets," "Sunday parkways," or "ciclovias" are modeled after the successful Ciclovia program in Bogotá, Colombia. These events temporarily shut down a portion of roadways to cars to create a connected nonmotorized network for bicycling, walking, running, skating, and a number of other organized activities.

Twenty-one cities report having hosted an open streets event. New York's Summer Streets drew 195,000 people in 2010, more than any other ciclovia event. Portland and Seattle had the most participants per capita at their open streets events with one out of every six residents participating. These high participation levels for relatively new events demonstrate a large interest in, and latent demand for, safe places to bicycle and walk.

City-Sponsored Bicycle Rides

City	Participation - # of people					# of people per one participant				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Baltimore	*	*	25/wk	2,000	3,000	*	*	25,498	319	212
Boston	*	*	600	4,000	4,000	*	*	1,022	161	161
Charlotte	*	*	*	300	300	*	*	*	2,348	2,348
Chicago	*	*	*	22,500	24,000	*	*	*	127	119
Columbus	ø	ø	200 (1)	250	1,000	ø	ø	3,665	3,092	773
Dallas	3,000	3,000	3,000	80	120	413	413	413	16,245	10,830
Denver	ø	ø	ø	ø	115	*	*	*	ø	5,307
Honolulu	4,000	3,500	3,400	3,000	3,000	88	101	104	125	125
Houston	*	2,500	3,758	3,000	2,300	*	819	545	754	983
Long Beach	*	*	4,000	*	1,000	*	*	115	*	463
Los Angeles	1,200	1,700	2,300	(3)	(3)	3,172	2,239	1,655	ø	ø
Louisville	6,000	8,000	10,000	5,000	7,200	94	70	56	113	79
Mesa	ø	ø	ø	80	80	*	*	*	5,840	5,840
Miami	*	*	*	150	150	*	*	*	2,888	2,888
Minneapolis	*	4,700	3,400	3,800	3,300	*	75	103	101	117
Nashville	1,000	1,000	1,500	*	*	593	593	396	*	*
New York	30,000	30,000	30,000	30,000	30,000	280	280	280	280	280
Oakland	*	*	*	50	50				8,183	8,183
Omaha	50	60	75	50	80	7,487	6,239	4,991	9,094	5,684
Philadelphia	*	2,400	3,100	*	450	*	604	468	*	3,438
Phoenix	924	912	1,023	764	526	1,725	1,747	1,558	2,086	3,030
Raleigh	ø	ø	ø	35	40	*	*	*	11,577	10,130
Sacramento	*	*	*	15	20	*	*	*	31,112	23,334
San Antonio	*	*	*	*	225	*	*	*	*	6105
San Francisco	2,000 (2)	2,000 (2)	2,000 (2)	(3)	(3)	382	382	382	ø	ø
San Jose	300	400	500	300	400	3,075	2,306	1,845	3,216	2,412
Washington, DC	ø	ø	3,000	*	*	ø	ø	196	*	*
Mean/Average	4,847	4,629	3,993	3,967	3,537	391 (4)	381 (4)	368 (4)	325 (4)	350 (4)
Median	1,600	2,400	2,650	300	450	503	593	441	2,348	2,412
High	30,000	30,000	30,000	30,000	30,000	7,487	6,239	25,498	31,112	23,334
Low	50	60	25	15	20	88	70	56	101	79

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

Source: City surveys 2008/2009 and 2010/2011 **Notes:** The following cities reported having a city-sponsored bike ride in at least one year, but did not provide data on participation: Colorado Springs, El Paso, Fresno, Kansas City, and Portland. (1) First year of this event. (2) Answered "thousands," represented as 2,000. (3) This city reports no longer having a city-sponsored bicycle ride. (4) Weighted average.



Louisville's Mayor's Healthy Hometown Hike and Bike.
Photo courtesy of Louisville Metro Government

City-sponsored bicycle rides averaged one participant per 350 residents in 2010.

Open Street/Ciclovia Initiatives

City	Participation - # of people					# of people per one participant				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Atlanta	ø	ø	ø	ø	10,500(1)	ø	ø	ø	ø	52
Baltimore	ø	ø	2,000 (1)	ø(5)	ø(5)	ø	ø	319	ø	ø
Boston	2,000	3,000	4,000	ø(5)	ø(5)	307	204	153	ø	ø
Kansas City, MO	ø	ø	3,600 (1)	ø	ø	ø	ø	122	ø	ø
Los Angeles	ø	ø	ø	ø	60,000	ø	ø	ø	ø	64
Louisville	ø	ø	ø	40	50	ø	ø	ø	14,162	11,330
Miami	ø	ø	2,800	2,000	5,000	ø	ø	125	217	87
New York	ø	250 (1) (2)	150,000	205,000	195,000	ø	33,098	55	41	43
Oakland	ø	ø	ø	ø	4,000	ø	ø	ø	ø	103
Phoenix	*	*	75,000	ø	ø	*	*	20	ø	ø
Portland, OR	ø	ø	15,000 (1)	62,000	91,000	ø	ø	37	9	6
San Francisco	ø	ø	7,000 (1) (3)	*	*	ø	ø	109	*	*
San Jose	ø	ø	ø	ø	5,000	ø	ø	ø	ø	193
Seattle	ø	ø	ø	96,000	96,000	ø	ø	ø	6	6
Tucson	ø	ø	ø	ø	5,000	ø	ø	ø	ø	109
Washington, DC	ø	ø	1,200	*	ø	ø	ø	490	*	ø
Mean/Average	ø	ø	28,9556	52,149	42,868	ø	ø	53 (4)	41	37
Median	ø	ø	4,000	2,000	5,000	ø	ø	116	41	75.5
High	ø	3,000	150,000	205,000	195,000	ø	33,098	490	14,162	11,330
Low	ø	250	1,200	40	50	ø	204	20	6	6

Source: City surveys 2008/2009 and 2010/2011 **Notes:** Albuquerque, Chicago, El Paso, Honolulu, Houston, Long Beach, Philadelphia, and Seattle reported having an open street/ciclovia event during at least one of these years but could not access data on participation; all other cities did not report having an open street/ciclovia event. (1) First year of this event. (2) Answered "200-300." (3) Answered "several thousand." (4) Weighted average. (5) Report no longer having a ciclovia event.

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

San Francisco children enjoy a street free of car traffic at one of the city's Sunday Streets events. Photo by Frank Chan, San Francisco Bicycle Coalition





Photo by Gabriella Salary

6: GRASSROOTS ADVOCACY

Growing the Movement

There is no doubt that bicycle and pedestrian advocacy is on the rise. When the Alliance for Biking & Walking was formed in 1996 as the North American coalition of grassroots bicycle and pedestrian advocacy organizations, there were just 12 member organizations. Today the Alliance includes over 185 organizations in 48 U.S. states, four Canadian provinces, and Mexico City. 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

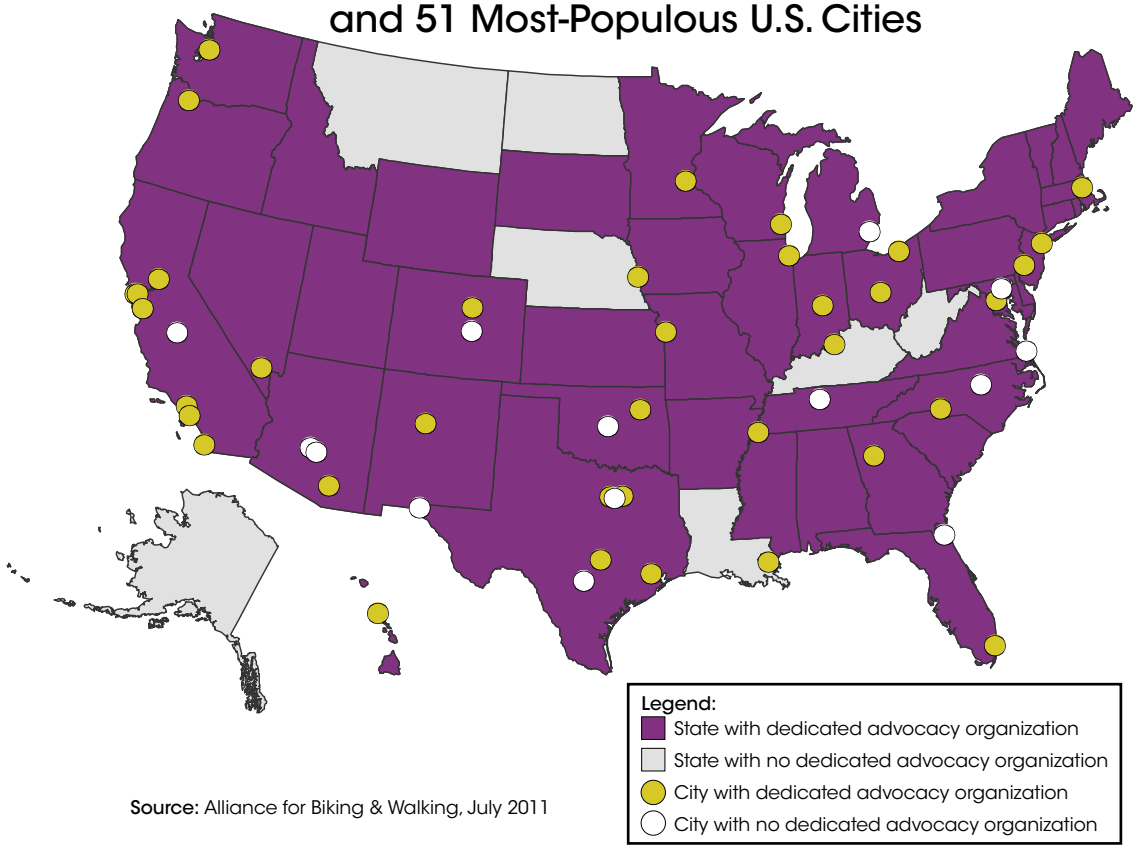
passing and implementing progressive policies for bicycling and walking. Government and elected officials passionate about these issues often promote or work with emerging advocates, recognizing the need for increased citizen involvement in the public policy discourse.

The breadth of missions encompassed by advocacy organizations that promote bicycling and walking is large. Among others, organizations may include urban bicycle advocacy, recreational bicycle clubs, bicycle sharing or community bike groups, and lobbying organizations. The presence and capacity of these 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.

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 153) 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

Alliance Bike/Ped Advocacy Organizations in 50 States and 51 Most-Populous U.S. Cities



Source: Alliance for Biking & Walking, July 2011

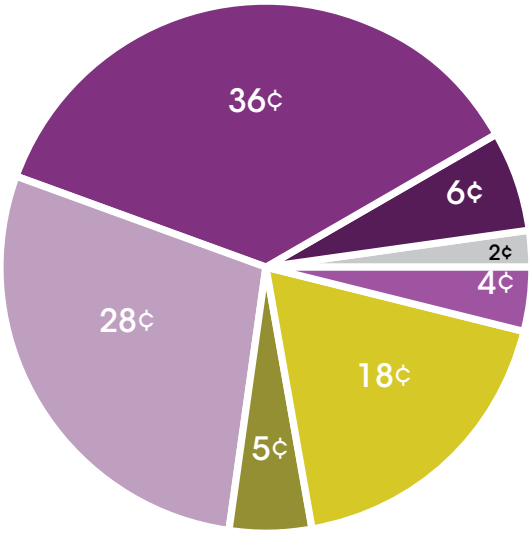
successful and which areas need greater attention, thus refocusing limited resources for the greatest impact.

Measuring Advocacy Capacity

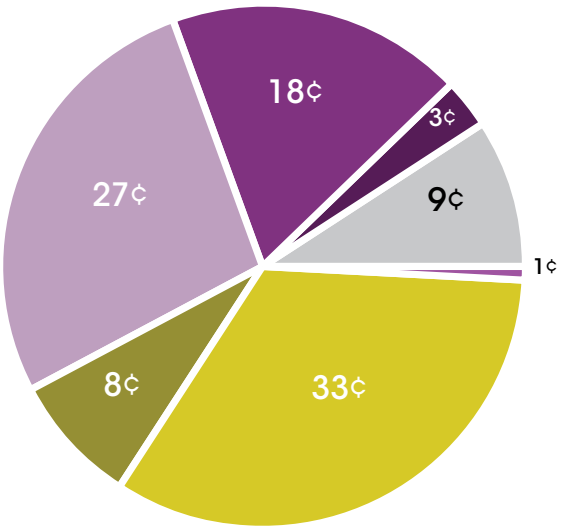
Measuring the capacity of advocacy organizations is not an easy thing to do. The Alliance collects data from member organizations annually as part of an "organization profile." Variables measured include revenue and revenue sources, membership, staffing, number of contacts and media impressions (among others). While these 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

Breakdown of Every Dollar Earned by Statewide Alliance Organizations



Breakdown of Every Dollar Earned by Alliance Organizations Serving Cities



Legend:
- = Memberships and donations
- = Fee-for-service activities
- = Other
- = Bicycle shops and manufacturers
- = Events, rides, galas, sponsorships
- = Foundation grants
- = Government grants and contracts

(Graphs this page) Source: Alliance for Biking & Walking 2011 **Note:** Graphs consider only Alliance organizations serving states and one of the 51 study-area cities. To see what organizations are included, reference Appendix 2, page 200. Some values round down which makes total appear to be 99%.

Advocacy Capacity RANKING

States(1)	Cities(1)
1. Maine	1. Seattle
2. Hawaii	2. San Francisco
3. Wyoming	3. Minneapolis
4. Oregon	4. Boston
5. Colorado	5. Chicago
6. Washington	6. New York
7. Iowa	7. Honolulu
8. Minnesota	8. Oakland
9. Connecticut	9. Portland
10. Michigan	10. Sacramento
11. Illinois	11. Philadelphia
12. Massachusetts	12. Tulsa
13. Maryland	13. Indianapolis
14. Indiana	14. Atlanta
15. New Mexico	15. Columbus
16. Georgia	16. San Diego
17. South Carolina	17. New Orleans
18. Arizona	18. Louisville
19. Florida	19. Miami
20. Arkansas	20. Memphis
21. New Hampshire	21. Los Angeles/ Long Beach
22. Mississippi	22. Cleveland
23. Missouri	23. Denver
24. Idaho	24. Charlotte
25. Utah	25. Austin
26. Pennsylvania	26. Kansas City, MO
27. Wisconsin	27. Milwaukee
28. New Jersey	28. Dallas/Fort Worth
29. New York	29. Houston
30. Alabama	
31. California	
32. Oklahoma	
33. South Dakota	
34. Delaware	
35. Tennessee	
36. Nevada	
37. North Carolina	

Source: Alliance for Biking & Walking 2011 **Notes:** The rankings in the chart above are based upon the 2010 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 2009 per capita revenue because 2010 data were unavailable. (1) To view which states and cities were not served by a dedicated Alliance advocacy organization and which are served by an Alliance advocacy organization that did not provide data on revenue for this ranking, reference Appendix 2, page 200.

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 200.

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, a few 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 United States. In the scope of this report, measurements are limited to the capacity of Alliance member state and local bicycle and pedestrian advocacy organizations.

Revenue

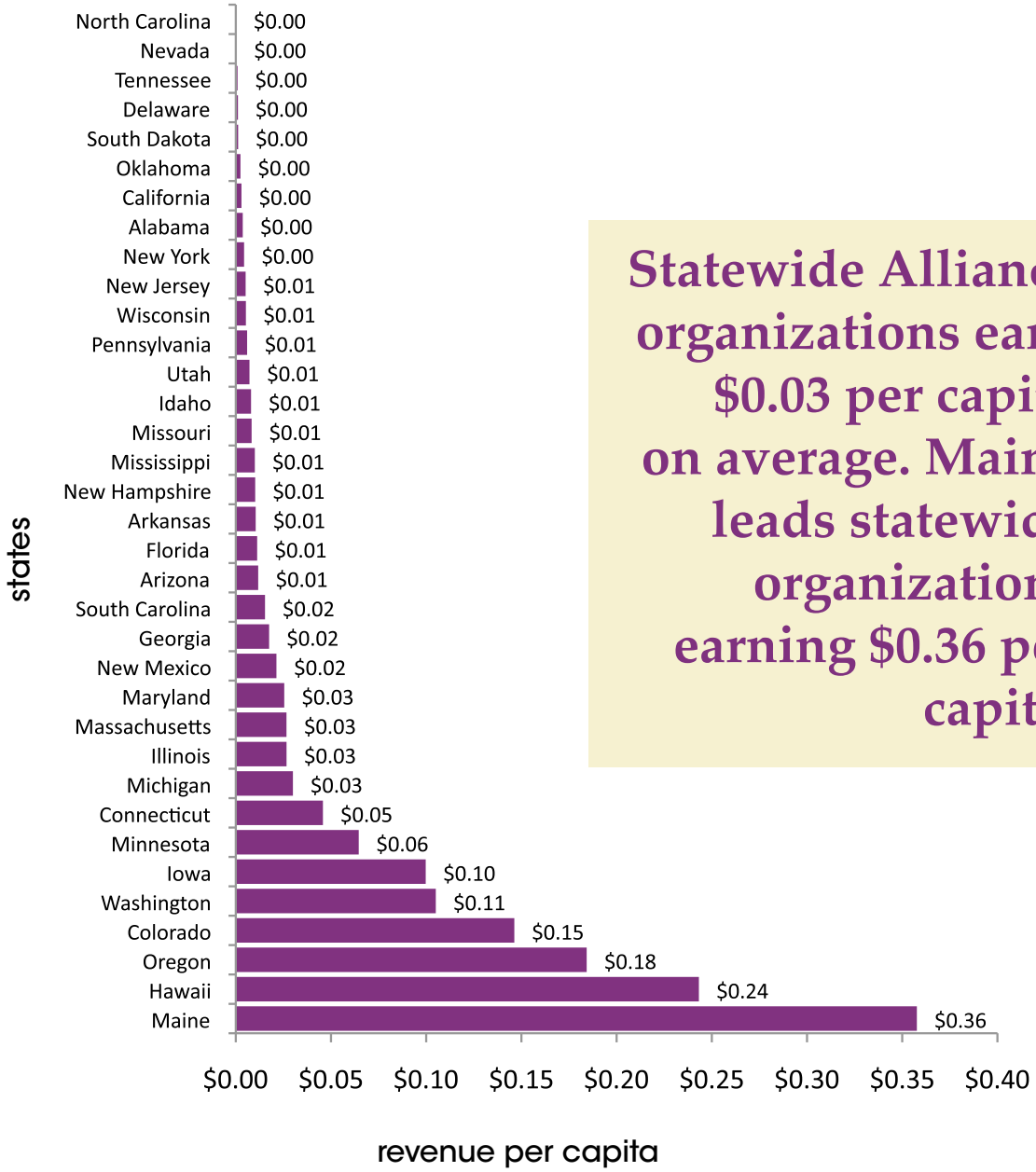
The Alliance for Biking & Walking asked its member organizations for their revenue sources from the most re-

(Continued page 134)



Photo courtesy of San Francisco Bicycle Coalition

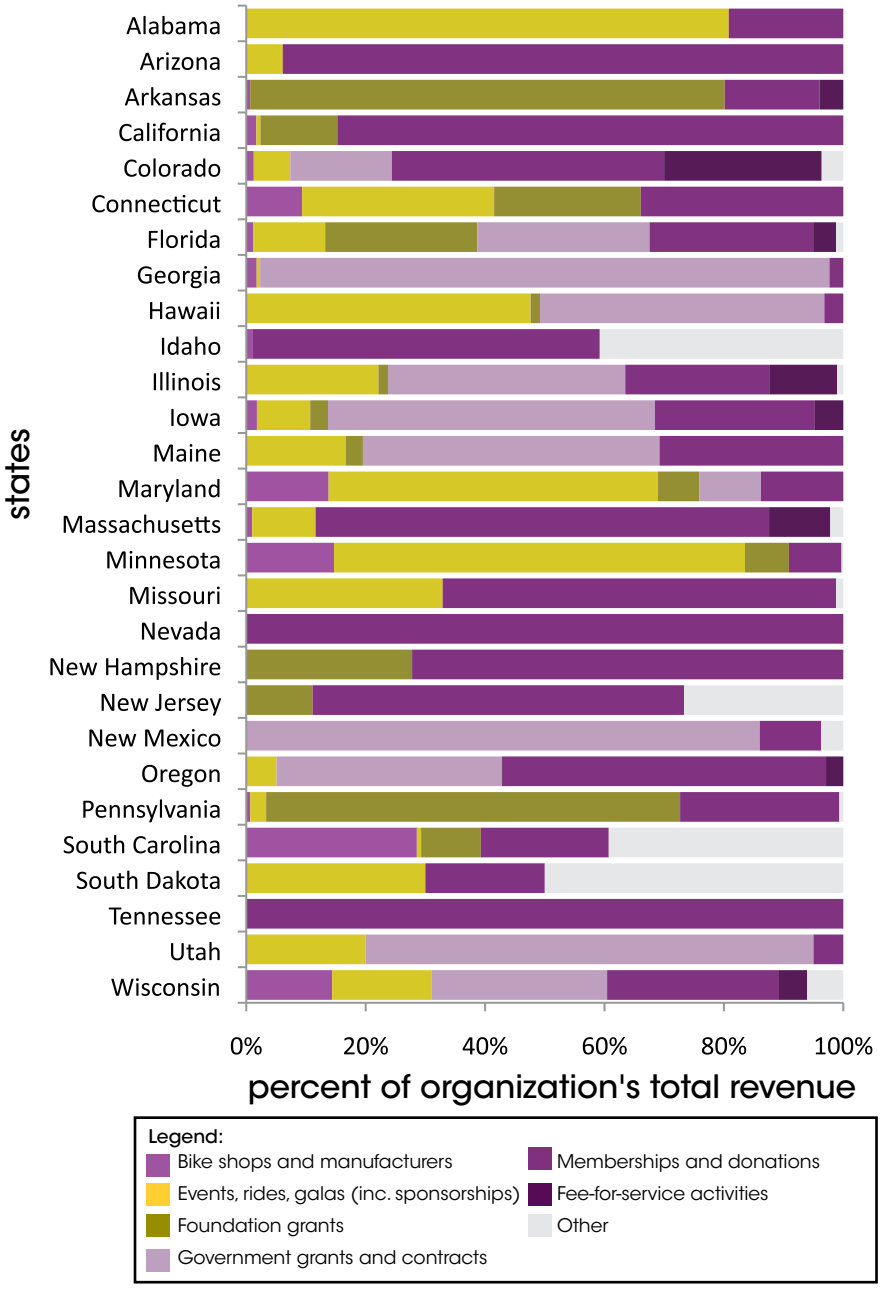
Per Capita Revenue of Statewide Alliance Organizations



Statewide Alliance organizations earn $0.03 per capita on average. Maine leads statewide organizations earning $0.36 per capita.

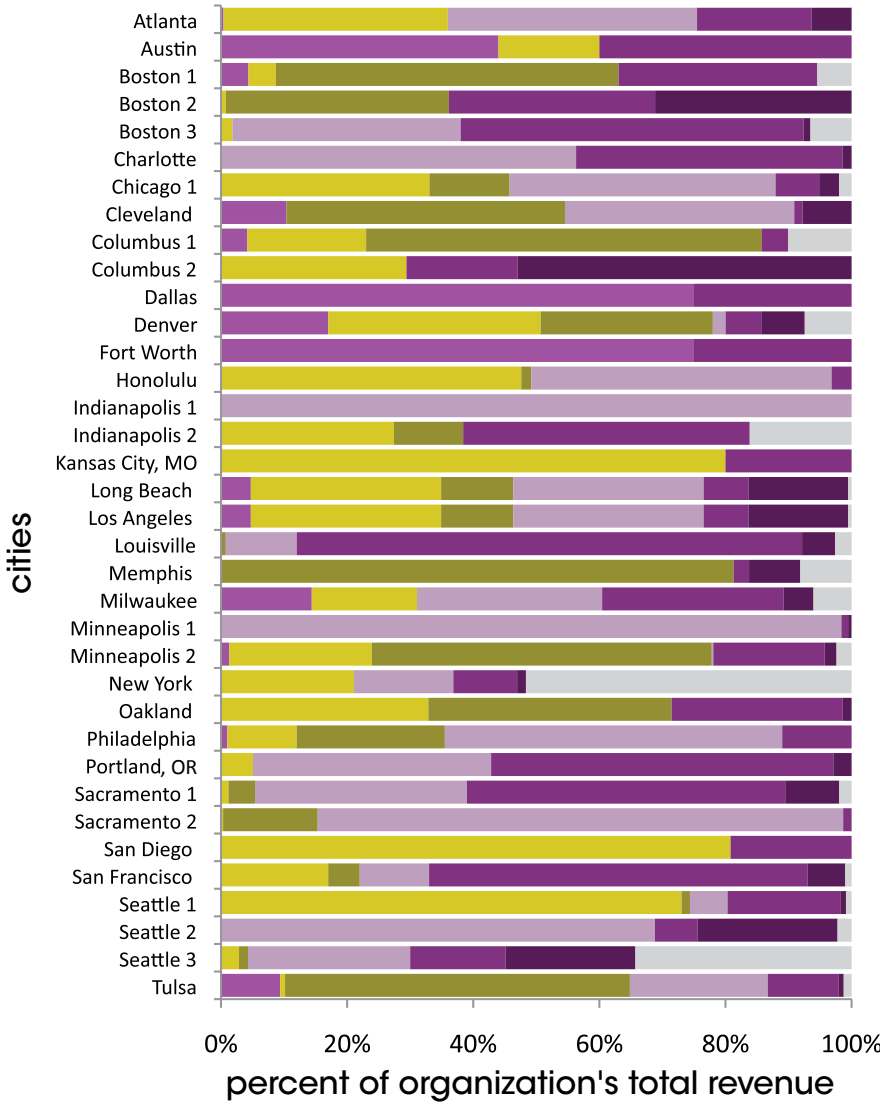
Source: Alliance for Biking & Walking 2011 **Notes:** Graph considers only Alliance organizations serving states. As of May 2011, the following states were not served by a dedicated statewide Alliance advocacy organization: Alaska, Kentucky, Louisiana, Montana, Nebraska, North Dakota, and West Virginia. The following states are served by a statewide Alliance advocacy organization that did not provide information on organization revenue: Indiana, Kansas, Ohio, Rhode Island, Texas, and Vermont; Data for Alabama, Georgia, Idaho, and New Hampshire are from 2009 because no 2010 data were available. To see the organization and study area matches, please reference Appendix 2, page 200.

Revenue Sources of Statewide Alliance Organizations



Source: Alliance for Biking & Walking 2011 **Notes:** Graph considers only Alliance organizations serving states. As of May 2011, the following states were not served by a dedicated statewide Alliance advocacy organization: Alaska, Kentucky, Louisiana, Montana, Nebraska, North Dakota, and West Virginia. The following states are served by a statewide Alliance advocacy organization that did not provide information on organization revenue: Indiana, Kansas, Ohio, Rhode Island, Texas, Vermont, and Wyoming; Data for Alabama, Georgia, Idaho, and New Hampshire are from 2009 because no 2010 data were available. To see the organization and study area matches, please reference Appendix 2, page 200.

Revenue Sources of Alliance Organizations Serving Cities



Source: Alliance for Biking & Walking 2011 **Notes:** All data in this chart represent 2010 figures unless otherwise noted. As of May 2011, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, TX, Baltimore, Colorado Springs, Detroit, El Paso, Fresno, Jacksonville, Mesa, Nashville, Oklahoma City, Phoenix, Raleigh, San Antonio, and Virginia Beach. The following city are served by a local Alliance advocacy organization that did not provide data for this illustration: Albuquerque, Las Vegas, Miami, New Orleans, Omaha, San Jose, Tucson, and Washington, DC. 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 200.

cent 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 Maine with a budget of 36 cents per capita.

Organizations that represent cities have significantly higher incomes per capita. On average, organizations representing cities earn 15 cents per capita. Seattle ranks highest in per capita earnings of all cities surveyed at $1.99 per capita (combining the revenue of three local advocacy organizations).

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.

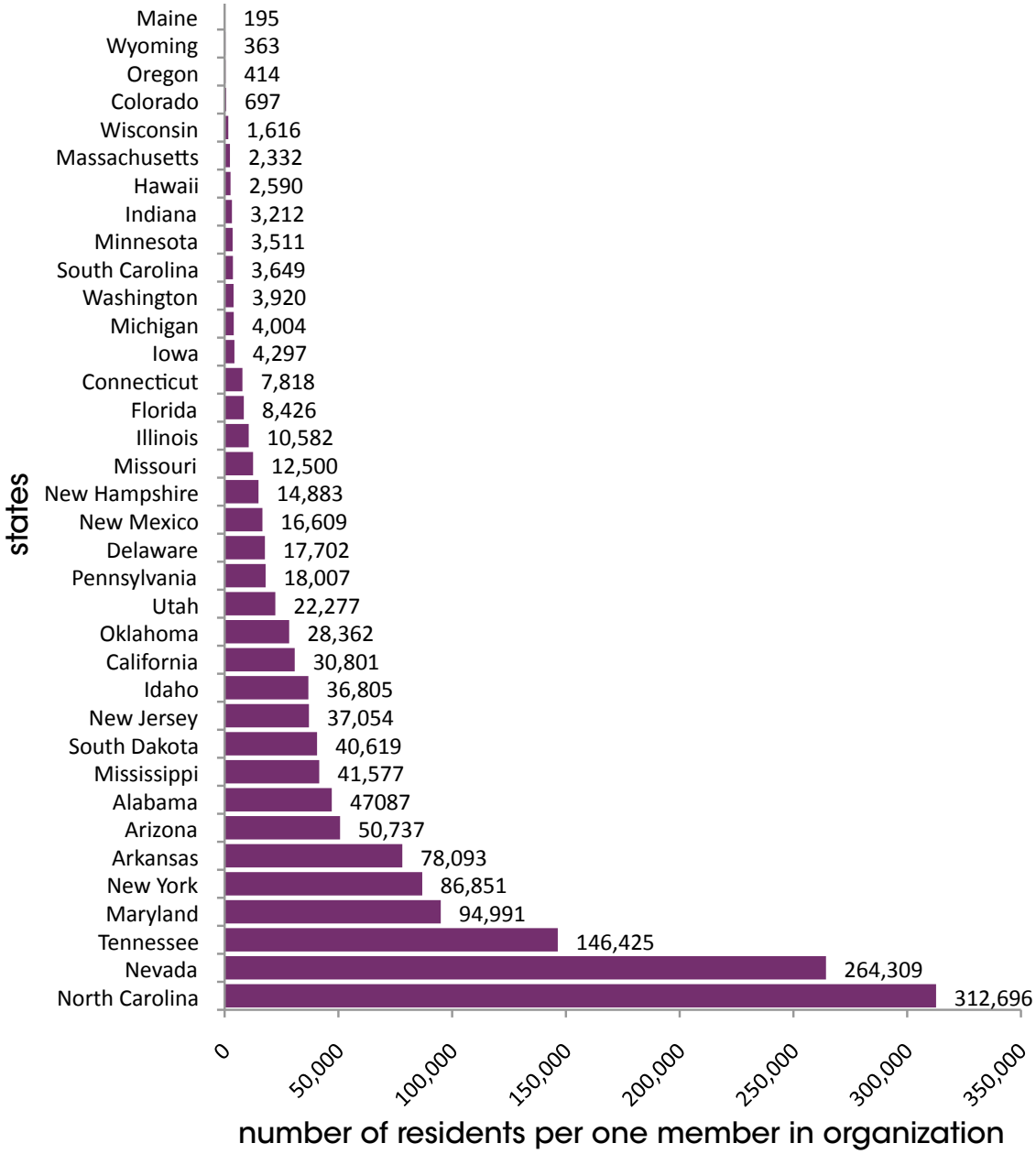
Both city and state organizations have diversified revenue mainly divided between memberships and donations, program fees and events, and government grants and contracts. Memberships and donations make up over a third of the revenue of statewide organizations. Government grants and contracts comprise over a quarter of the revenue of these organizations, on average. These two categories combined make up nearly half of the revenue of local Alliance organizations. Events

(Continued page 137)

Advocates celebrating the announcement of upcoming bike lanes on Pennsylvania Avenue in Washington, DC, during the National Bike Summit in 2010.
Photo courtesy of Missouri Bicycle and Pedestrian Federation



Number of Residents Per One Member(1) in Statewide Alliance Organizations



Source: Alliance for Biking & Walking 2011 **Notes:** Graph considers only Alliance organizations serving states. As of May 2011, the following states were not served by a dedicated statewide Alliance advocacy organization: Alaska, Kentucky, Louisiana, Montana, Nebraska, North Dakota, and West Virginia. The following states are served by a statewide Alliance advocacy organization that did not provide information on organization revenue: Indiana, Kansas, Ohio, Rhode Island, Texas, and Vermont. Data for Alabama, Idaho, and New Hampshire are from 2009 because no 2010 data were available. Georgia Bikes has free membership, so they do not have any dues-paying members. To see the organization and study area matches, reference Appendix 2, page 200. (1) "Member" is defined as a "dues paying member."

Number of Residents Per One Member(1) in Alliance Organizations Serving Cities



Local Alliance organizations average one member for every 1,606 residents.

Source: Alliance for Biking & Walking 2011 **Notes:** All data in this chart represent 2010 figures unless otherwise noted. Cities with numbers following indicate there is more than one advocacy organization serving this city. To see the organization and study area matches, reference Appendix 2, page 200. As of May 2011, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, TX, Baltimore, Colorado Springs, Detroit, El Paso, Fresno, Jacksonville, Mesa, Nashville, Oklahoma City, Phoenix, Raleigh, San Antonio, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide data: Albuquerque, Las Vegas, Omaha, San Jose, Tucson, and Washington, DC. 2010 membership data unavailable for Cleveland 2, Houston, and Milwaukee so 2009 data were used. (1) "Member" is defined as a "dues paying member."

and sponsorships are another major revenue category for local organizations comprising a third of earned funds on average.

Membership

A strong membership base is often a critical component for successful advocacy organizations. Members provide a donor base, volunteer pool, and can leverage significant political power. Statewide organizations averaged one member per 4,975 people. Maine has the highest rate of members to population with one member for every 195 Maine residents. Organizations serving cities have higher membership rates averaging one member per 1,522 residents. San Francisco has the highest membership rate with one member for every 75 residents. Seattle ranks second with one member for every 154 residents.

New to the 2012 Benchmarking Report, we also collected data on the number of email and mail contacts organizations have. Along with membership, number of contacts indicate the reach an organization potentially has with the community. Both state and local organizations have more mail contacts, on average, than email contacts. Statewide organizations average one mail contact for every 1,297 residents and one email contact for every 1,663 residents. Local organizations average one mail contact for every 268 residents and one email contact for every 299 residents.

Participants of the 2010 Lucinda Means Bicycle Advocacy Day on the steps of Michigan's State Capitol. Many legislators learned about Complete Streets for the first time from bicycle advocates during the annual event. Complete Streets legislation was introduced shortly thereafter and was signed into law with broad bipartisan support in less than six months. Since then, over 50 local Complete Streets ordinances and resolutions have been adopted across the state due to the leadership of bicycle, pedestrian, and disability rights advocates. Photo by John Lindenmayer.



Capacity of Statewide Organizations

State	Year founded	Per capita income 2010	# of staff	Staff per 1 million people	# of members (3)	Residents per one:		
						Member (3)	Mail contact	Email contact
Alabama (2)	2003	$0.004	0	0.0	100	336,336	13,531	21,115
Arizona	2006	$0.012	*	*	130	50,737	*	*
Arkansas	2004	$0.010	0	0.0	37	78,093	4,816	3,853
California	1994	$0.003	2	0.1	1,200	49,282	14,785	6,160
Colorado	1992	$0.146	7	1.4	7,205	792	199	586
Connecticut	2005	$0.046	1.5	0.4	450	7,818	235	1,759
Delaware (2)	2008	$0.001	*	*	50	17,702	*	*
Florida	1997	$0.011	2	0.1	2,200	8,426	7,415	4,634
Georgia (2)	2003	$0.017	1	0.1	0 (4)	ø	129,332	12,210
Hawaii	1975	$0.243	5	3.9	500	2,590	2,590	2,590
Idaho (2)	2009	$0.008	0.5	0.3	42	36,805	16,102	22,732
Illinois	1992	$0.027	1.8	0.1	1,220	10,582	1,614	5,164
Indiana (2)	1993	$0.022	*	*	2,000	3,212	*	*
Iowa	2003	$0.100	3.5	1.2	700	4,297	501	1,203
Maine	1992	$0.358	4	3.0	6,750	195	131	176
Maryland	2000	$0.025	1	0.2	60	94,991	1,425	300
Massachusetts	1977	$0.027	3	0.5	2,827	2,332	758	924
Michigan	1981	$0.030	2	0.2	2,490	4,004	*	*
Minnesota	2008	$0.065	3.2	0.6	1,500	1,755	4,389	6,583
Mississippi	1995	$0.010	0.5	0.2	71	41,577	*	*
Missouri	1993	$0.008	4	0.7	479	12,500	*	*
Nevada	2009	$0.0004	0	0.0	10	264,309	105,723	26,431
New Hampshire (2)	2004	$0.010	2	1.5	89	7,569	2,304	17,661
New Jersey	2009	$0.005	0	0.0	235	37,054	*	622
New Mexico	2002	$0.021	1.1	0.5	121	16,609	*	2,512
New York	1995	$0.004	1.5	0.1	225	86,851	9,771	15,633
North Carolina	2009	$0.0002	*	*	30	312,696	*	46,904
Oklahoma	1993	$0.002	0	0.0	130	28,362	*	*
Oregon	1991	$0.184	16	4.2	6,000	414	109	128
Pennsylvania	2009	$0.006	1	0.1	700	18,007	21,621	28,199
South Carolina	1998	$0.015	1	0.2	1,250	3,649	8,293	5,068
South Dakota	2009	$0.001	*	*	20	40,619	8,124	8,124
Tennessee	2009	$0.001	*	*	43	146,425	125,925	125,925
Utah	2006	$0.007	1	0.4	125	22,277	*	11,138
Washington	1987	$0.105	7	1.1	1,700	3,920	*	*
Wisconsin	1988	$0.005	10	1.8	3,500	1,616	480	615
Wyoming	1999	$0.189	1	1.8	1.500	363	605	1,209
Mean/Average (1)	**1999**	**$0.02**	**3.0**	**0.4**	**7,205**	**4,975**	**1,297**	**1,663**
Median	**2000**	**$0.011**	**1.8**	**0.3**	**450**	**15,746**	**4,389**	**5,068**
High	**2009**	**$0.385**	**16**	**4.2**	**9,250**	**336,336**	**129,332**	**125,925**
Low	**1975**	$0.0002	**0**	**0.0**	**0**	**234**	**109**	**128**

Source: Alliance for Biking & Walking 2011 **Notes:** As of May 2011, the following states were not served by a dedicated statewide Alliance advocacy organization: Alaska, Kentucky, Louisiana, Montana, Nebraska, North Dakota, West Virginia, and Wyoming. The following states are served by a statewide Alliance advocacy organization that did not provide data for this report: Indiana, Kansas, Ohio, Rhode Island, Texas, and Vermont. To see the organization and study area matches, reference Appendix 2, page 200. (1) All averages are weighted by population except for year founded, # of members, and # of staff. (2) 2010 data unavailable, 2009 data used. (3) "Member" is defined as a "dues paying member." (4) Georgia has free membership so they do not have any dues-paying members.

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

CLOSER LOOK

Bicycle Transportation Alliance:

Transforming Oregon Communities through Bicycling

(adapted from Bicycle Transportation Alliance)

The Bicycle Transportation Alliance (BTA) is on a mission to transform communities by making bicycling safe, convenient, and accessible. Since 1990, the BTA has grown from a group of activists to an organization with 6,000 individual members, a staff of sixteen, and hundreds of community volunteers.

The BTA has more staff than any statewide advocacy group and ranks second for per capita income. It may be no coincidence that Oregon has seen greater growth in bicycling than any other state over the last decade.

The BTA's advocacy work is focused on four outcome areas: increase funding, improve policy and safety, build safe and comfortable facilities, and expand the movement.

The BTA engages members directly in advocacy, organizing and activating members to speak up in support of bicycle projects, policy, legislation, and funding in their community.

Their advocacy successes include:

- Passing the landmark Portland Bicycle Plan for 2030
- Prevailing in a lawsuit to uphold Oregon's Bicycle Bill
- Protecting the Bicycle Bill from several legislative attacks
- Ensuring that Portland continues to lead with innovative and connected bike facilities

The BTA's work is powered by members and volunteers. Members provide steady financial support and act as the BTA's eyes and ears in the community, helping to monitor advocacy needs. Volunteers are involved in every aspect of the organization, from office help to event coordination to testifying at public hearings.

The BTA also receives funding through individual gifts, corporate sponsorships, contract activities, and government and foundation grants.

"The BTA's work is powered by members and volunteers."







Photos (left to right): A BTA rally for their "Build It" campaign around Portland's Bicycle Plan; The BTA hosts Secretary of Transportation Ray LaHood (middle) and Congressman Earl Blumenauer (far left); A volunteer services a bike at a BTA Service Station, an ongoing outreach and education program of the BTA.
Photos courtesy of the Bicycle Transportation Alliance, Katy Cannatelli, and Natalie Baker.

Capacity of Organizations Serving Cities

City	Year founded	Per capita income 2010	# of staff	Staff per 1 million people	# of members (3)	Residents served per one:		
						Member (3)	Mail contact	Email contact
Atlanta	1991	$0.15	1.5	1.5	550	1,818	1,429	200
Austin	1995	$0.02	1	0.7	240	6,250	6,250	714
Boston 1	2005	$0.11	1	1.3	*	*	2,000	182
Boston 2	1990	$0.07	3	0.5	238	27,704	1,379	2,484
Boston 3	2010	$0.02	0.2	0.3	200	3,400	378	272
Charlotte	1998	$0.03	0.5	1.0	15	33,333	10,000	208
Chicago	1985	$0.36	40	4.7	*	*	113	213
Chicago 2	2004	$0.0002	*	*	*	*	ø	6,076
Cleveland 1	2006	$0.04	1.5	1.5	*	*	*	200
Cleveland 2 (2)	2003	$0.01	0	0.0	45	22,222	*	*
Columbus 1	1991	$0.10	3	1.2	200	12,500	2,500	1,000
Columbus 2	2008	$0.00	0	0.0	0	ø	*	1,786
Dallas	2008	$0.002	0	0.0	40	50,779	*	*
Denver	2001	$0.04	2	0.9	140	16,786	4,700	1,567
Fort Worth	2008	$0.002	0	0.0	40	50,779	*	*
Honolulu	2009	$0.24	5	3.9	500	2,590	2,590	2,590
Houston (2)	2004	$0.001	0	0.0	46	49,150	*	*
Indianapolis 1	1985	$0.16	1	1.2	*	*	*	*
Indianapolis 2	2010	$0.01	2.5	3.0	120	6,914	4149	3319
Kansas City, MO	1975	$0.01	0	0.0	300	6,667	6,667	2,353
Long Beach	1998	$0.06	8.5	0.9	900	11,111	*	1,333
Los Angeles	1998	$0.06	8.5	0.9	900	11,111	*	1,333
Louisville	2005	$0.07	0.5	0.9	*	*	246	233
Memphis	2005	$0.06	1	1.0	*	*	16,667	1,250
Miami	2007	$0.07	0.5	1.2	104	4,165	2,166	866
Milwaukee	1988	$0.01	10	1.8	3,000(2)	1,885(2)	480	615
Minneapolis 1	1990	$0.56	4	6.0	*	*	149	134
Minneapolis 2	1992	$0.60	3	7.8	821	469	82	107
New Orleans	2003	$0.07	1	3.3	91	3,297	536	197
New York	1973	$0.27	20	2.4	8,500	1,000	850	170
Oakland	2007	$0.23	0.6	1.5	422	926	269	242
Philadelphia	1972	$0.17	12	2.0	1,400	4,286	857	667
Portland, OR	1991	$0.18	16	4.2	6,000	414	109	128
Sacramento 1	1991	$0.08	1.6	1.2	900	1,444	1,000	1,857
Sacramento 2	1998	$0.11	4	2.9	*	*	7,000	4,667
San Diego	1993	$0.08	2	1.5	1,100	1,187	*	*
San Francisco	1971	$1.61	11	13.6	10,747	75	16	14
Seattle 1	1970	$1.60	25.5	12.8	13,000	154	36	31
Seattle 2	2001	$0.12	2	1.0	61	32,787	33,333	33,333
Seattle 3	2007	$0.02	1	0.5	*	*	*	571
Tulsa	2008	$0.16	0	0.0	*	*	973	1,947
Mean/Average (1)	1996	$0.15	4.9	2.2	1,796	1,522	268	299
Median	1998	$0.07	1.6	1.2	270	4,225	987	667
High	2010	$1.61	40	33.3	13,000	50,799	33,333	33,333
Low	1970	$0.0002	0	0.00	0	75	16	14

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

Source: Alliance for Biking & Walking 2011 **Notes:** All data in this chart represent 2010 figures unless otherwise noted. As of May 2011, the following cities were not served by a dedicated local Alliance advocacy organization: Arlington, Baltimore, Colorado Springs, Detroit, El Paso, Fresno, Jacksonville, Mesa, Nashville, Oklahoma City, Phoenix, Raleigh, San Antonio, and Virginia Beach. The following cities are served by a local Alliance advocacy organization that did not provide data: Albuquerque, Las Vegas, Omaha, San Jose, Tucson, Washington, DC. Cities with numbers following indicate there is more than one advocacy organization serving this city. To see the organization and study area matches, reference Appendix 2, page 200. (1) All averages are weighted by population except for year founded, # of members, and # of staff. (2) 2010 data unavailable, 2009 data used. (3) "Member" is defined as a "dues paying member."

CLOSER LOOK

Cascade Bicycle Club: Seattle's Voice for Biking

Seattle-based Cascade Bicycle Club (CBC), founded in 1970, is one of the nation's oldest and largest bicycle clubs. The CBC has grown to be an advocacy powerhouse with 13,000 members, one for every 154 Seattle residents. The organization operating budget is $1.60 per capita making it one of the best-funded local advocacy organizations in the United States.

We asked Chuck Ayers, Executive Director of CBC, to help explain why his organization is thriving.

Alliance: ***What factors do you feel have most contributed to CBC's success?***

Chuck: First, unlike many bicycle-focused organizations or riding clubs, Cascade is a multifaceted, multi-programmatic organization. Our programs include daily rides (over 180 Cascade "certified" ride leaders leading over 1,200 free-to-the-public rides annually); professionally produced cycling-related fundraising events; youth and adult education including classes and week-long summer camps for kids; business-focused commute programs including a bike to work day event drawing over 20,000 participants and a month-long commute challenge with over 11,000 participants; and advocacy (policy, planning, government affairs). Our programmatic bandwidth gives cyclists multiple entry points into the organization—and into our database! This then gives us the opportunity to reach, educate, and activate tens of thousands of cyclists and expand our brand recognition.

Second, we endorse political candidates. Political strength isn't just about who's on your side and who you can lobby. It's about who you can help put in office. Our membership and constituents can turn an election and thus our endorsement is highly valued at the local, regional, and state level. From there, it's about accountability.

Third, we do a lot of policy and bike skills education which creates wide constituency support and a platform on



Cascade Bicycle Club's annual Chilly Hilly ride attracts thousands of bicyclists to Bainbridge Island, WA (just outside of Seattle). Photo courtesy of Cascade Bicycle Club.

"Our programmatic bandwidth gives cyclists multiple entry points into the organization—and into our database!"

which to stand when anti-bikers complain about cyclists (their riding, their "not paying their fair share," etc.).

Finally, we hire great people and let them do their jobs in a fun and supportive environment.

Alliance: ***Why is CBC a leader among advocacy organizations nationwide?***

Chuck: We have professional staff who are knowledgeable, passionate, and capable of creating and executing a variety of campaigns and strategies. We have built strong relationships with elected officials, governmental agencies, and community leaders. We have built a very large, knowledgeable, and activist constituency. And we engage in the electoral process through political endorsements, campaign contributions, and independent expenditures.

We are organized for political action. Cascade Bicycle Club is an IRS designated 501(c)(4) organization and we have an affiliated Political Action Committee (BikePAC). (The Cascade Bicycle Club Education Foundation is an IRS designated 501(c)(3) organization.)

Alliance: ***How does CBC use revenue and membership to make the Seattle area a better place to bike?***

Chuck: We are not just in Seattle but rather work regionally and at the state legislature. We invest in effective broad-based programming (daily rides, advocacy, education, planning, and commuting); we keep members informed and educated and they in return trust us and a large proportion are willing to engage in planning and political processes; we engage the business community; and we have fun.

After three years of working with the Washington State Legislature, CBC's efforts paid off on May 16, 2011 when Gov. Chris Gregoire signed the Vulnerable User Bill into law. The law goes into effect on July 1, 2012 and increases penalties for negligent driving that injures or kills a vulnerable roadway users like pedestrians and bicyclists. Prior to the bill's enactment, a minor traffic ticket was the greatest penalty, even in the case of a fatality. Photo courtesy of Washington State Senate Photography.





Park on the Atlanta BeltLine. Photo by Andrew Dannenberg.

7: INFLUENCING BIKING AND WALKING

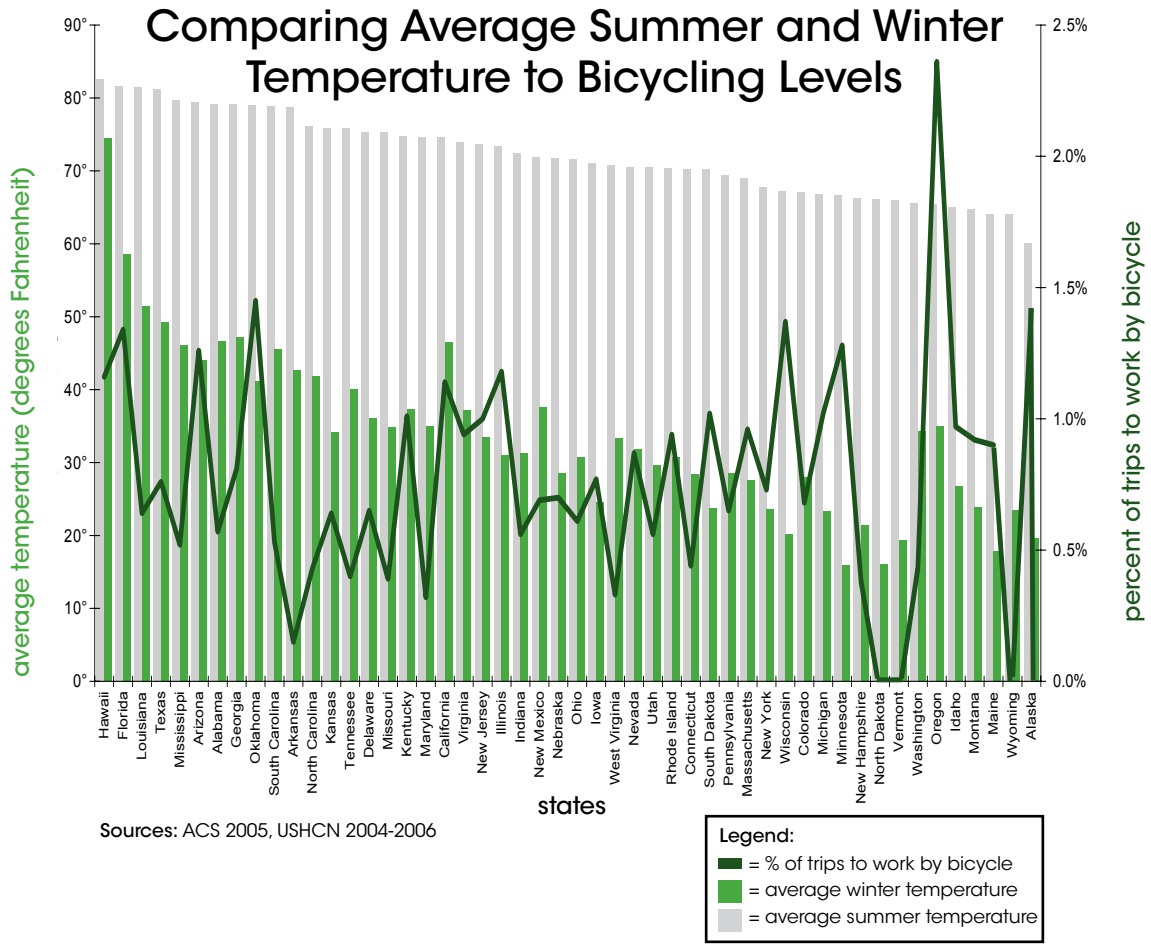
We are constantly learning what influences bicycling and walking. Studies show that a number of factors contribute to the choice to bicycle or walk (Heinen et al., 2010, Krizek and Forsyth 2009, and Pucher, Dill, Handy 2010). These include environmental influences such as climate, density, mix of uses, 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 Oregon, the state with the greatest recent growth in bicycling, and Seville, Spain, a country that has experienced a recent boom in bicycling levels. These two examples demonstrate how policy decisions and investment can play a vital role in determining how many people bicycle and walk.

Environmental Influences

Climate

Does climate 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 climate is a major influence. Montana and Alaska, for example, are



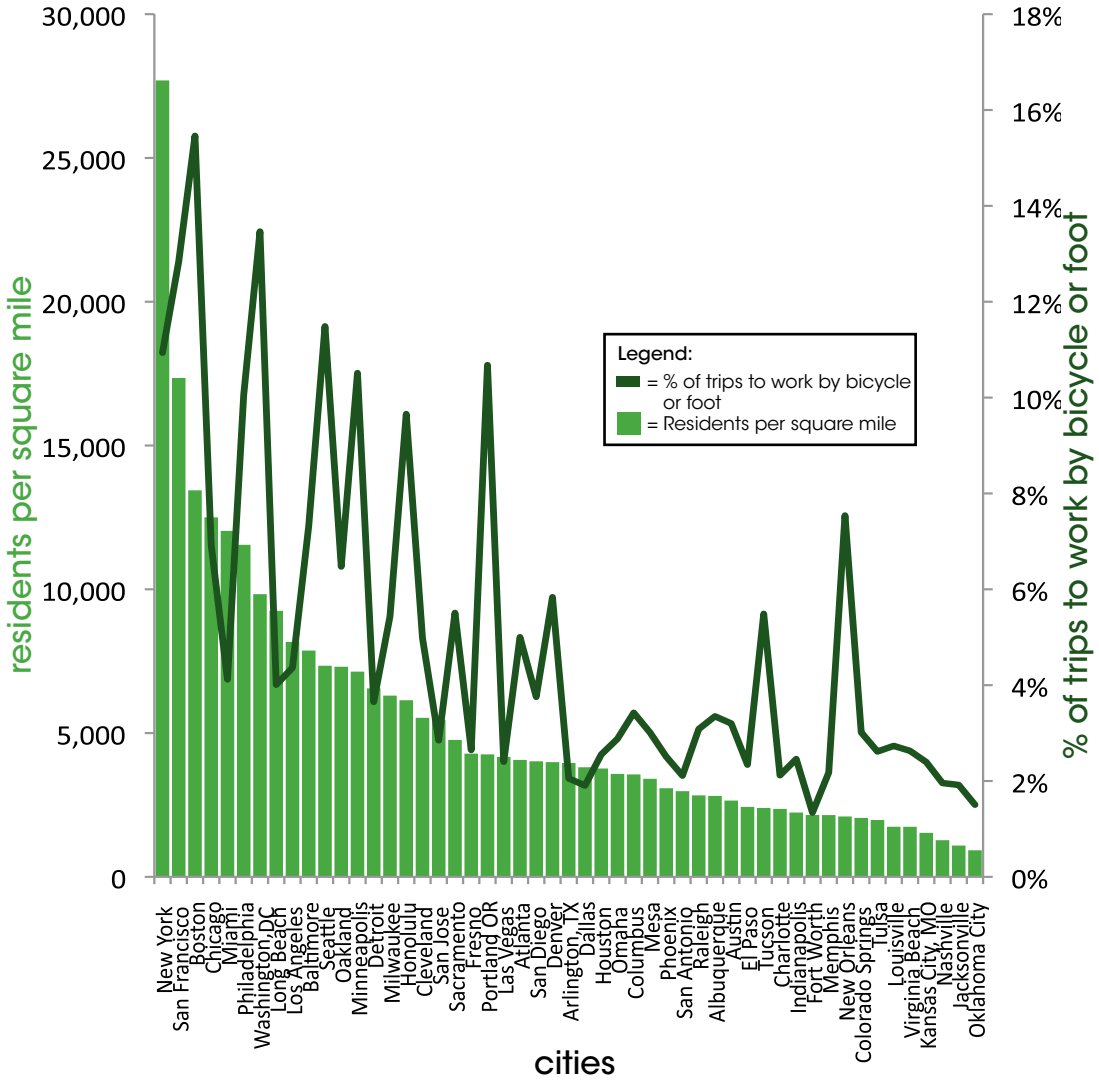
Sources: ACS 2005, USHCN 2004-2006

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 climate's impact on bicycling levels has been noted in other studies (Buehler and Pucher 2011, Heinen et al., 2010, Krizek and Forsyth 2009, Pucher and Buehler, 2006, Pucher et al., 2011) pointing out much higher rates of bicycling in countries such as Canada, with lower average year-round temperatures than in the United States. 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 United States, the Benchmarking Project team compared residential density (persons/square mile) to the combined bicycling and walking to work mode share in major cities. Data indicate that denser cities have higher levels of bicycling and walking on average than less dense cities. Four of 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 (Heinen et al.,

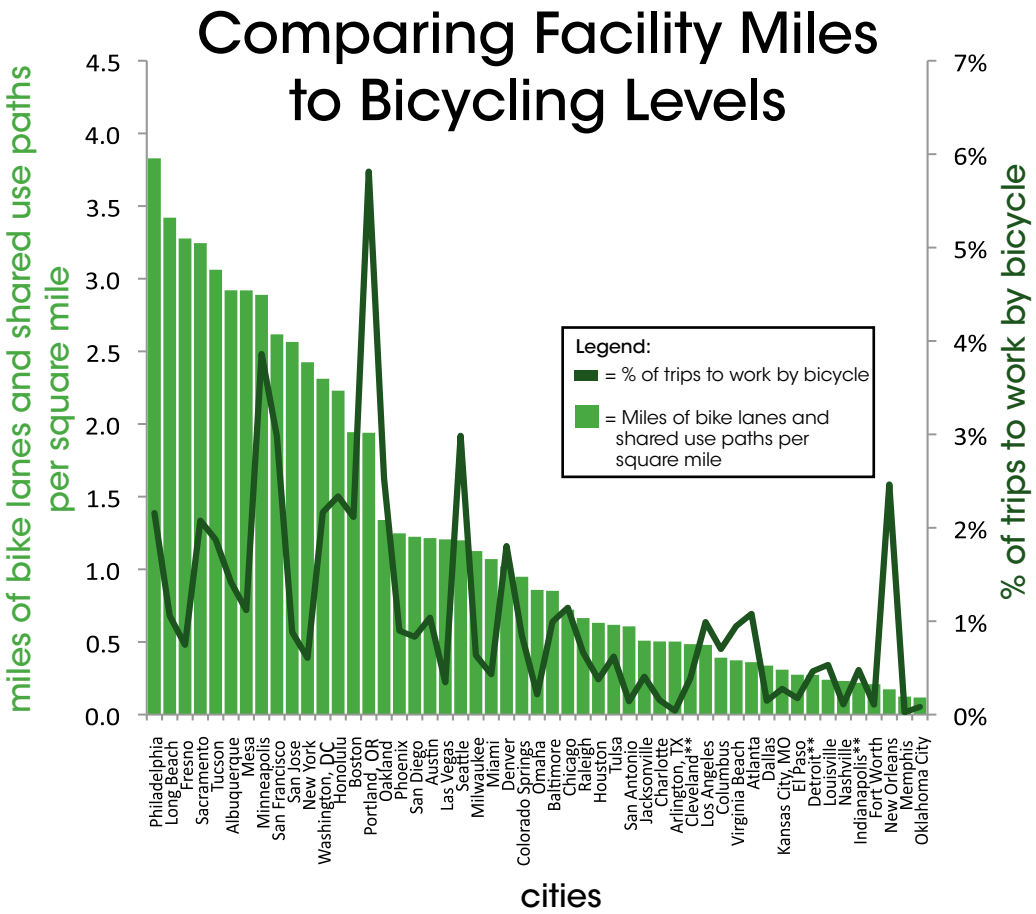
Residential Density and Bicycling and Walking Levels in Major U.S. Cities



Source: ACS 2009 **Note:** $r = 0.69$.

Cities 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, four of the five cities with the highest combined rates of bicycling and walking, are also among the top seven densest cities. The least dense cities, including Jacksonville and Nashville, are among the cities with the lowest levels of bicycling and walking.

Denser cities have higher rates of bicycling and walking.



Sources: ACS 2009, City surveys 2010/2011 **Note:** $r = 0.51$; Cities with ** = miles of bike lanes and paths per sq mile is from 2010.

2010, Krizek and Forsyth 2009, Moudon et al., 2005, Parkin et al., 2008, Pucher and Buehler, 2006, Pucher et al., 2011, Reynolds et al., 2009, Rietveld and Daniel 2004, Vandenbulck et al., 2011, Vernez-Moudon et al., 2005) 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 (Buehler and Pucher 2011, Dill and Carr 2003, Heinen et al., 2010, Hunt and Abraham 2007, J Moudon et al., 2005, Parkin et al., 2008, Pucher et al., 2010, Rietveld and Daniel 2004, Vandenbulcke et al., 2011), but the available data are limited and do not indicate an obvious relationship. 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 by providing a network link than a 4-foot-wide path through a small neighborhood. U.S. bicycle advo-

cates commonly look to places like the Netherlands where cities have invested heavily in an infrastructure network 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.


Photo courtesy of Mads Boedker @ Flickr

Socioeconomics and Demographics

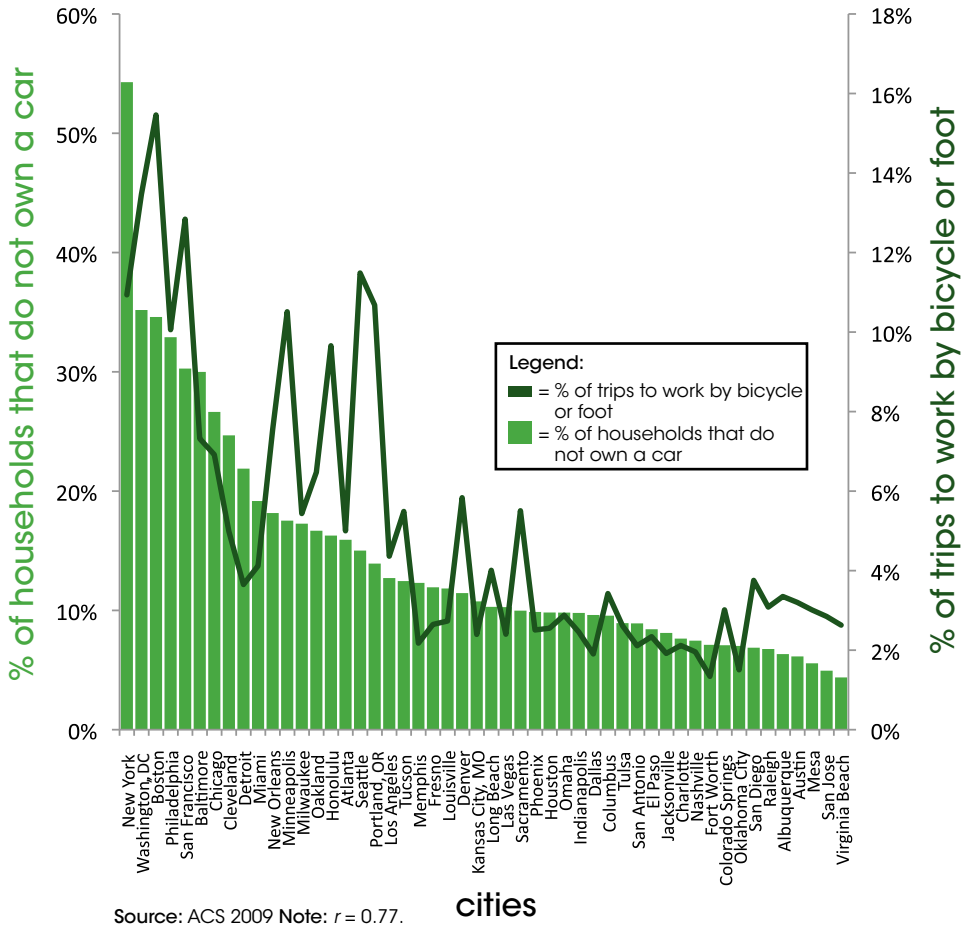
Income

Income could play a role in the decision to bicycle or walk (Buehler and Pucher 2011, Shafizadeh and Niemeier 1997, Vandenbulcke et al., 2011). As graphs in Chapter 3 show, bicycling levels are fairly even among various income groups although the majority of pedestrians earn less than $35,000 a year. Among states, 46% of people who walk to work earn less than $15,000 a year. Nearly 3/4 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 cities with higher levels of walking, such as New York, income levels are more evenly distributed among pedestrians. This suggests that income alone 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 (Vandenbulcke et al., 2011). According to the 2009 ACS, cities with the highest levels of bicycling and walking have the lowest car ownership rates. Although the statistical relationship is strong ($r = 0.77$), the causation probably runs 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 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.

Comparing Car Ownership to Bicycling and Walking Levels



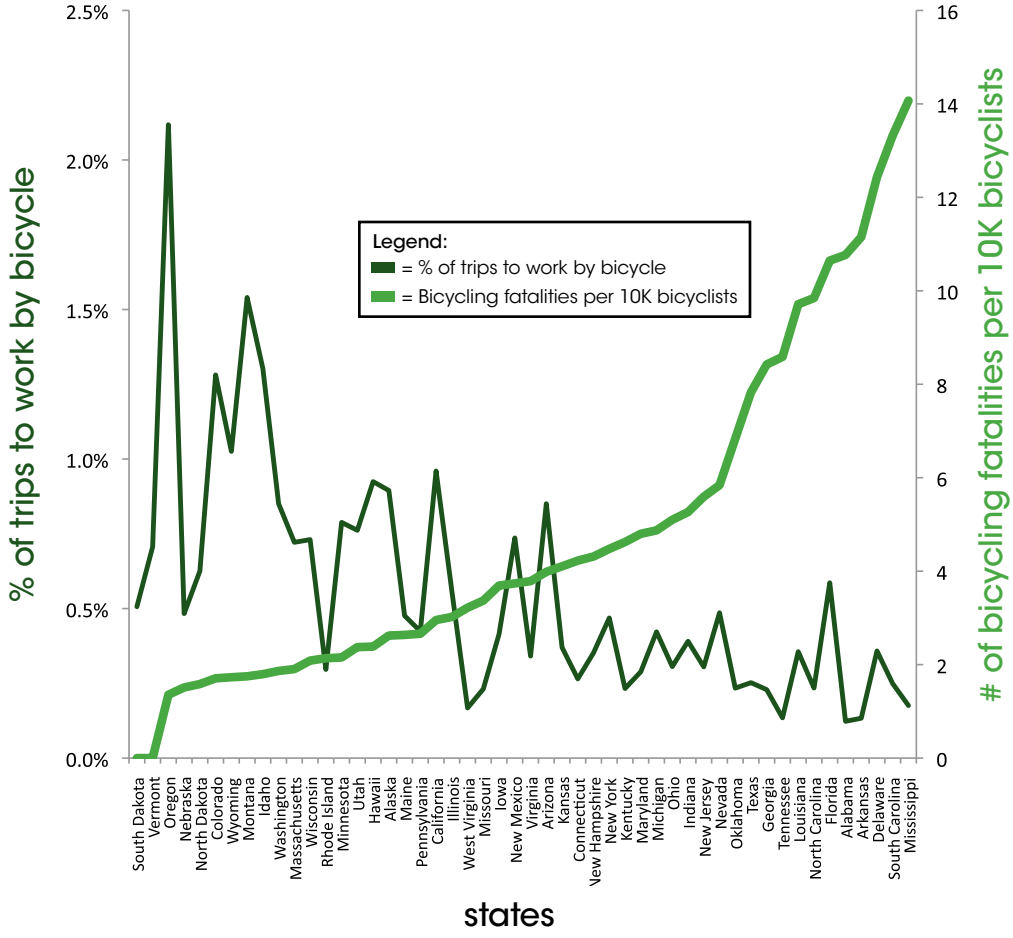
Source: ACS 2009 **Note:** $r = 0.77$.

Levels of Bicycling, Walking, and Safety

To see how levels of bicycling and walking affect safety, the Benchmarking Project team compared fatality data reported by cities to ACS 2009 bicycle and pedestrian mode share (trips to work). Results were consistent with previous research (Elvik 2009, Jacobsen 2003, Pucher et al., 2011, Vandenbulcke et al., 2009) 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 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.

(Continued page 152)

Relationship between Bicycle Fatalities and Bicycling Levels

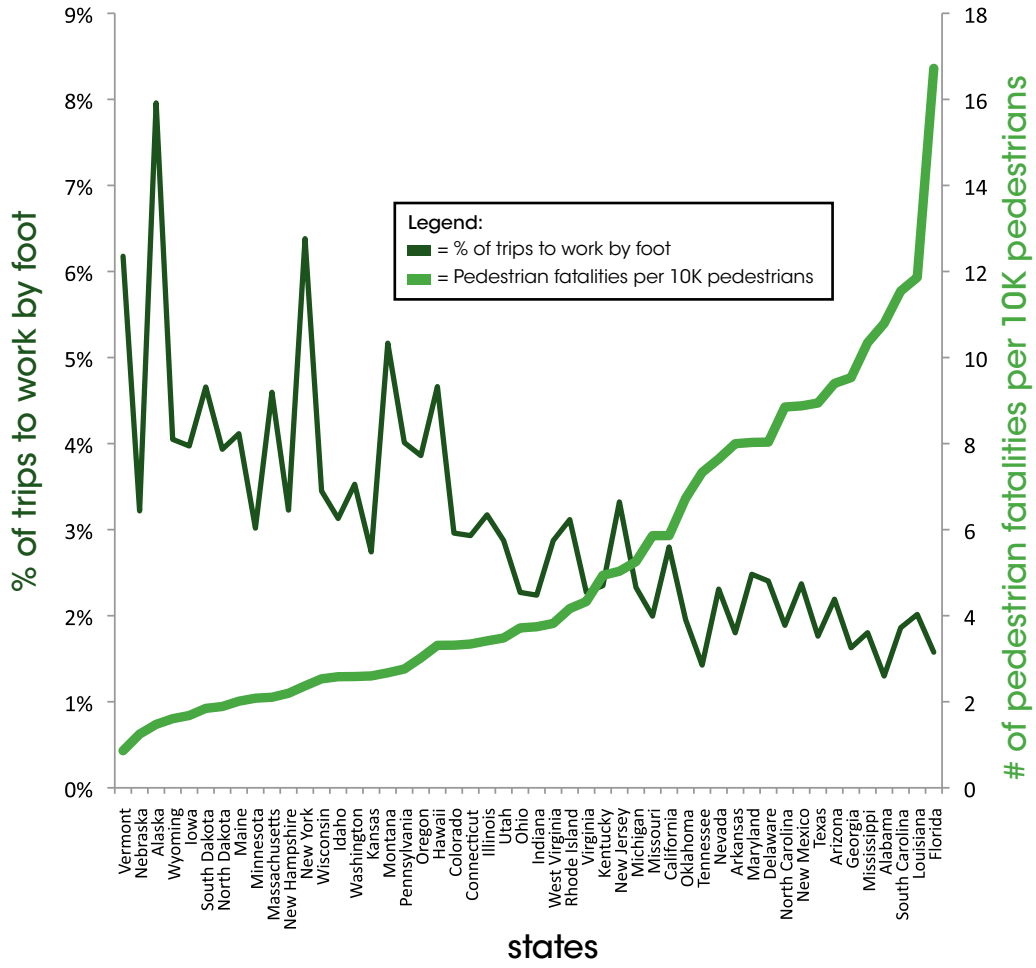


Sources: ACS 2009, FARS 2007-2009 **Notes:** Bicyclist fatality rate was calculated by dividing the number of annual bicycle fatalities by population (weighted, or multiplied, by share of the population biking to work). Because of the approximate nature of the exposure data and great fluctuations in 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. $r = -0.54$.

Many studies show that bicycling safety increases greatly as bicycling levels rise (Elvik 2009, Jacobsen 2003, Pucher et al., 2011). For this illustration, bike to work mode share from ACS 2009 was compared to FARS bicycle fatality data (using a 3-year average number of fatalities). To figure the fatality rate, the Alliance divided the number of fatalities by population (weighted, or multiplied, by share of the population biking to work) (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 more bicycling.

Relationship between Pedestrian Fatalities and Walking Levels



Sources: ACS 2009, FARS 2007-2009 **Notes:** Pedestrian fatality rate was calculated by dividing the number of annual pedestrian fatalities by population (weighted, or multiplied, by share of the population walking to work) (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. $r = -0.69$.

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 Alliance divided the number of fatalities by population (weighted, or multiplied, by share of the population walking to work) (to more accurately determine exposure levels). The result is a negative correlation ($r = -0.69$) that suggests greater walking levels may mean increased safety for pedestrians.



Location: Lake Oswego, OR. Photo by Dan Burden, Walkable and Livable Communities Institute



Girl practices bicycling skills at the San Francisco Bicycle Coalition's annual Family Day in Golden Gate Park. Photo by Kate McCarthy

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 1 to 2 years old. Some organizations are volunteer-run, while others have teams of full-time staff.

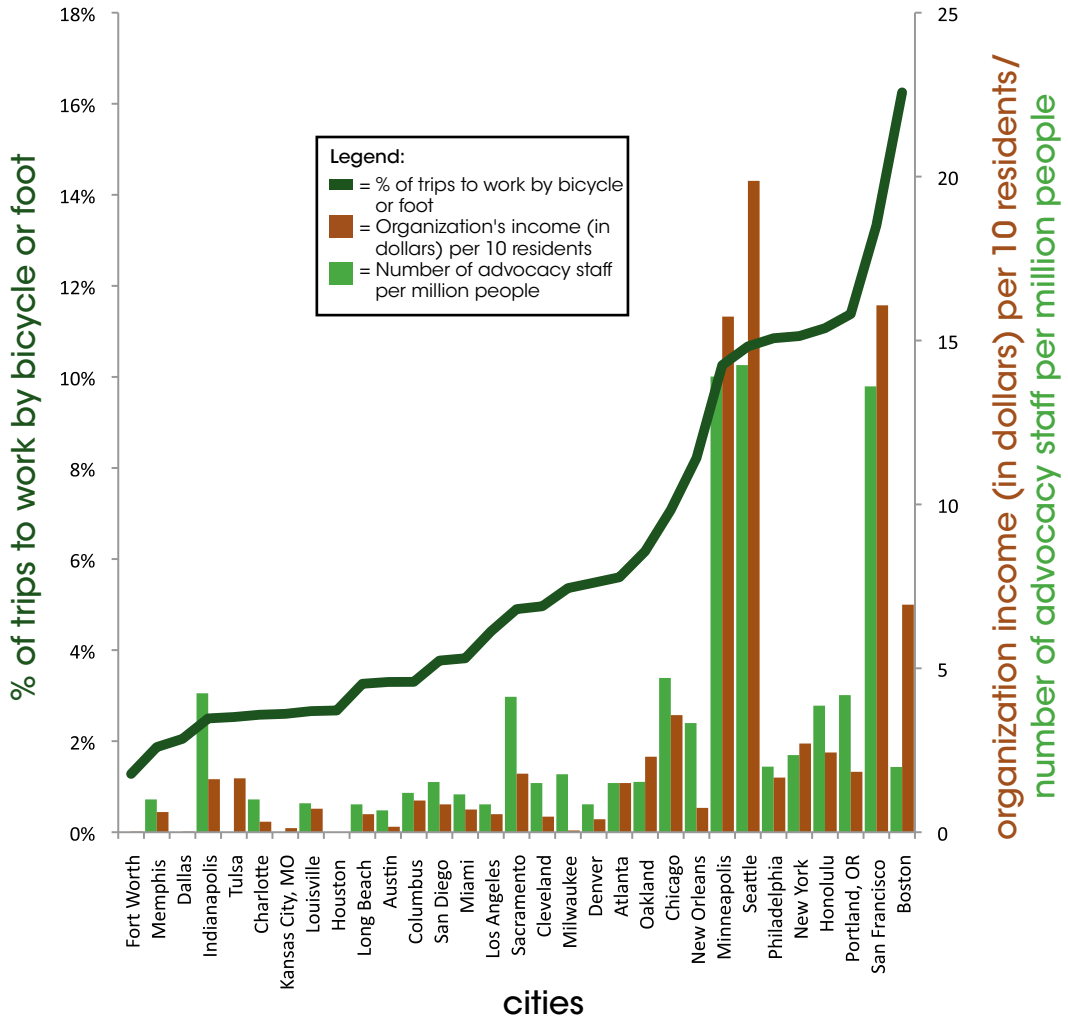
This report compared per capita income (organization revenue/city population) and staffing levels of organizations to levels of bicycling and walking. Results indicate a positive correlation between levels of bicycling and walking to work and the standardized income ($r = 0.62$) and staffing levels ($r = 0.59$) of Alliance organizations. 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

(Continued page 156)

Relationship between Advocacy Capacity and Mode Share



Sources: ACS 2009, Alliance for Biking & Walking 2011 **Notes:** $r = 0.62$ (organization income per 10 residents/bike + walk levels) $r = 0.59$ (organization staffing per million residents/bike + walk levels).

The Alliance compared the combined levels of bicycling and walking to work from the ACS 2009 to standardized income and staffing levels of Alliance organizations serving these cities. Positive correlations ($r = 0.62$ and $r = 0.59$) 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.

CLOSER LOOK

Oregon's Rising Levels of Bicycling

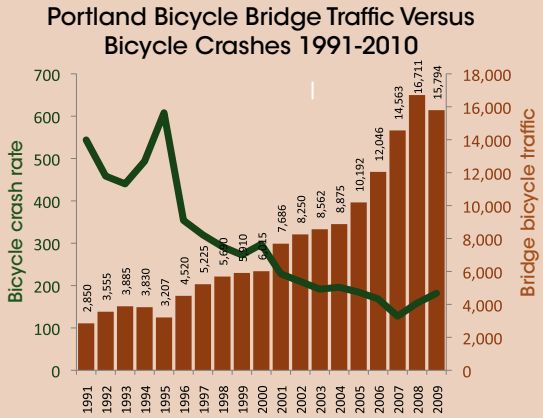
by Susan Peithman, Bicycle Transportation Alliance

Oregon is a safe and wonderful place to ride a bicycle. In terms of culture, infrastructure, and politics, Oregon is welcoming and encouraging to bicyclists. It is no wonder that bicycling's popularity has grown faster here than anywhere in the United States. Between 2000 and 2009, the share of commuters who bicycle to work increased from 1.07% to 2.34%, a larger jump than in any other state. Oregon also saw a 193% increase in bicycle commuters between 1990 and 2009—the greatest increase among states.

Of all 50 states, Oregon has the greatest percentage of commuters who bike to work (2.1%). Of these bicycle commuters, 33% are women, significantly higher than the national average of 26% and second only to Montana where 34% of bicycle commuters are women.

The visibility of bicycling encourages even more people to ride and makes roads safer, as drivers and all road users are aware of bicyclists. In Portland, where the amount of cyclists has doubled over the past decade, the number of crashes involving a person on a bike has remained relatively constant. This trend indicates the roads are becoming safer as more people ride bikes (see chart below).

Oregon's rapidly increasing bicycle use is largely a product of the state's already prominent bicycle culture, which encompasses everything from casual riders to racing teams and "ZooBombers." Throughout the state, and especially in the city of Portland, bicycles



Source: Portland Bureau of Transportation 2009 Bicycle Count

Legend:
- = Bicycle crash rate (crashes per 10K bicycle bridge riders)
- = Bridge bicycle traffic (number of bicyclists on count day)



Eugene, OR Kidical Mass is a testament to a diverse and thriving bicycle culture in the state.
Photo by Shane MacRhodes



Corvallis, OR Bike Path Ride. Photo by Dan Crouch

intermingling with cars and pedestrians are commonplace.

Oregon has been inviting to bicyclists as early as the 1970s. Because of a 1973 law establishing urban growth boundaries on cities, destinations in Oregon's urban areas are built close to each other in a well-organized grid layout. This planning encourages the 2- to 3-mile trips convenient for bicycle travel. Additionally, Oregon's "Bicycle Bill" of 1971 mandates bicycle accommodations in all transportation facilities and ensures that at least 1% of transportation funding is devoted to bicycling infrastructure.

Oregonians find it easier to pick up bicycling than people in most other states because of the relative abundance of bicycle friendly infrastructure and government policy. Portland alone has over 325 miles of bike paths, and bike racks are available at any major destination. Even Portland's stoplight timings are set to slow cars making streets safer for bicyclists. This dedication to promoting bicycling was recently further bolstered by the Jobs and Transportation Act of 2009, which supports green and active transportation. Consequently, people considering making the switch from cars to bicycles find it convenient, safe, and enjoyable.

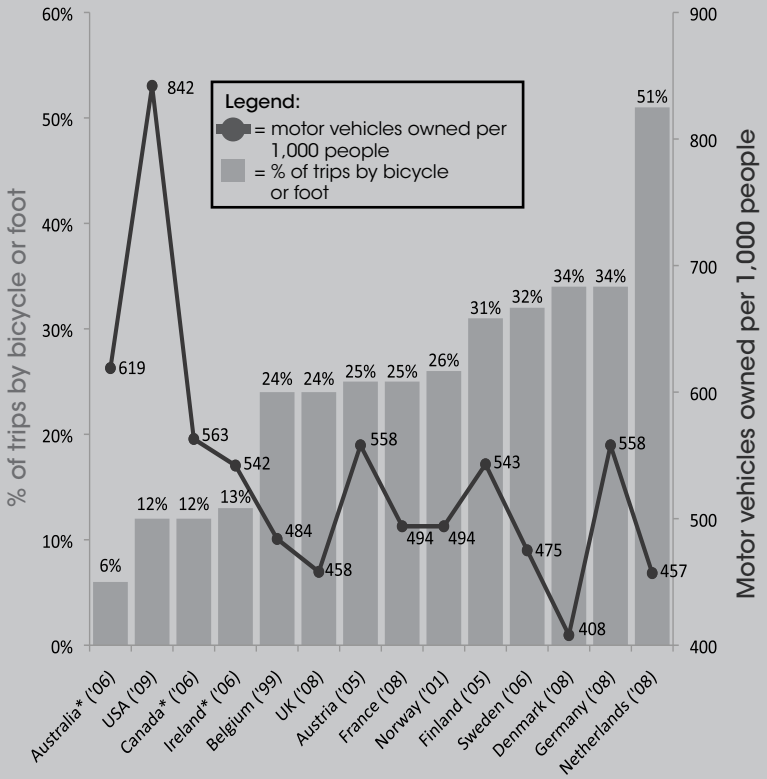
Progressive bicycle legislation is possible in Oregon because bicyclists are represented by well-staffed and well-funded advocacy groups. The statewide advocacy organization, the Bicycle Transportation Alliance (BTA), has the highest number of staff per capita served (4.2 per 1 million people) and has 6,000 members, ranking third among statewide organizations for membership. The BTA is influential in urban politics and is responsible for many of Oregon's bicycling improvements. Its Safe Routes to Schools program, for example, operates at over 70 schools.

Though Oregon is already America's leader in bicycle culture, the future of the state's bicycle policy is ever progressive and ambitious. Portland, working closely with the BTA, finalized a 20-year, $613 million plan for improvements to its bicycling infrastructure. The plan, the nation's most ambitious, calls for 368 miles of on-road bikeways, 78 miles of bike trails, and 256 miles of bicycle boulevards. Oregon is committed to growing its population of bicyclists in the years to come.

Looking Outside the Borders

Car Ownership and Bicycling and Walking Levels in Developed Nations

International data further suggest a correlation between low car ownership and higher levels of bicycling and walking.



Sources: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391-414, http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf and NationMaster, http://www.nationmaster.com/graph/tra_mot_veh-transportation-motor-vehicles#source. **Note:** $r = -0.59$.

collected for the 2010 report and this current 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, states, and countries that have the highest bicycling and walking levels may help reveal what factors are most important. This report looks at two leaders—Oregon and Seville, Spain—and explores what factors might influence their growing levels of bicycling and walking.

Looking Outside the Borders

The bicycle boom in Seville, Spain

by Zach Vanderkooy, Bikes Belong Foundation

Seville's embrace of the bicycle is decidedly 21st century. As recently as 2004, bicycling in this city of 700,000 was seen as a fringe activity for elite athletes and people too poor to own a car. There was no bicycle infrastructure to speak of, and the few Sevillianos who did use bikes for utilitarian purposes (0.2% of all trips in 2000) were practically invisible on the streets and in public life. Cars and trucks dominated the transportation landscape. For the average person to ride a bike to work or school was unimaginable.jgj

For people living in most American cities, this story feels awfully familiar.

That's why Seville's remarkable transformation is drawing excited attention on our side of the Atlantic. In just five years, bicycling has grown from a statistically nonexistent mode of transportation to a significant—if not yet ordinary—part of daily life. Seville's engineers built a network of comfortable separated bikeways connecting the city that now carries 7% of all traffic. It has implemented a state-of-the-art bike sharing system, offering residents and visitors affordable access to more than 2,000 bicycles stationed throughout the city. And it has redesigned many plazas, squares, and streets to make them more inviting spaces for those traveling on foot and on two wheels.

The investments are paying dividends more quickly than anyone figured.



Bike lane in Seville, Spain. Photo by UncleBucko @ Flickr.

Traffic congestion and pollution are declining for the first time in 30 years. Businesses are thriving along bike routes and around the newly improved public spaces that are breathing fresh life into the central city. The number of car trips into the historic city center has plummeted from 25,000 a day to 10,000, freeing valuable space for residents to park and visitors to linger. More than 70,000 bike trips are made every day, up from just 2,500 in 2002. Bicycling has given Sevillianos a healthy, speedy new way to get around.

Designing a better city

When it came to designing Seville's bicycle infrastructure, the city looked north for inspiration. David Muñoz de la Torre, Director of Seville's Bike Program, cites the Netherlands as a key influence in shaping the city's bikeway system. "We wanted to create a complete network, not a piecemeal system," he emphasized. Nothing discourages potential bike riders more than bike lanes that end abruptly, forcing them to mix with fast-moving cars. Seville's bikeways continue through intersections, around roundabouts, and across zigzags, making navigation a breeze — just follow the impossible-to-miss bright green path and you'll stay on route.

All the bikeways along major roads are physically separated from car and pedestrian traffic as much as possible. City leaders explain that protection from traffic is a key factor in making the system appealing to less experienced riders, particularly children, women, and older people. "Our design target is a 65-year old woman with groceries," explained Muñoz de la Torre. He reasons that if bicycling is safe for her, it is safe for everyone.

Quick Facts

- Seville added 87 miles of new bike infrastructure in 36 months between 2007 and 2009.
- 85% of the space came from removal of car parking and travel lanes; 15% came from pedestrian space (which was compensated for by major, new additions to public space in other places).
- The improvements increased the percentage of all trips taken by bicycle from 0.4% to ~ 7%.
- In 2005, the Alameda de Hercules, a major public plaza, was redesigned to be more inviting to people on bikes and on foot. More than 100 public meetings were held to discuss the plan, which required reallocating 200 parking spaces to make room for new public space. Initially neighbors and local businesses strongly opposed the changes, but now 22% of customers arrive by bike and businesses along the plaza are thriving.
- City Council passed a law that restricts non-resident auto access into the cramped central city; the law reduced the daily number of cars in downtown from 25,000 to 10,000, drastically reducing congestion.
- "Great is the enemy of good." The city's infrastructure emphasizes network connectivity, not perfection. It's far from the polished bikeways of Northern Europe, but the protected bikeways of Seville are safe, convenient, and get you where you need to go without interruption.

The entire 87-mile network cost about $43 million to install between 2007 and 2009—a bargain when you consider that a single mile of urban freeway in the United States easily costs twice as much. With the core bicycling network now in place, Muñoz de la Torre says the city is focused on improving difficult crossings and tight squeezes on the streets, installing more bike parking, and launching public education campaigns as the next steps to boost bicycle

use. The city expects 15% of all trips in Seville to be made by bike in 2015.

Change isn't easy—but it can happen overnight

In order to build support for its rapid urban transformation, Seville's leaders had to win the favor of a public that had little familiarity with bicycling and merchants skeptical that customers would arrive on bike and foot instead of in cars. The city hosted hundreds of public meetings and charrettes—design workshops involving the public—to incorporate ideas from neighborhoods into plans for newly configured public spaces and roadways.

Initial opposition to removing or relocating car parking was fierce, but business owners came to realize that streets filled with pedestrians and bicyclists create more opportunities for folks to spontaneously stop in a shop or café. Some controversy remains, but polls show both residents and businesses are predominantly pleased with the changes. The rise in bicycling is a bright spot in tough economic times, as stores, restaurants, and plazas of the central city are usually packed with residents and tourists.

If they can do it, why can't we?

For U.S. cities just beginning to build bikeway networks, Seville is an inspiring example of how quickly results can be achieved with focused investments. This scorching hot, car-centered Spanish city is far different from the Dutch and Danish cities usually celebrated as bicycling Meccas. Seville's story challenges the common assumption that biking and walking have always been a way of life in European cities. With families strolling and bikes rolling on avenues that just 5 years ago were filled with roaring cars and trucks, it's impossible not to ask the question: If Seville can do it, why not Dallas, Atlanta, or Los Angeles?



A row of Servici bicycles in Seville, Spain.
Photo Courtesy of lasgalleras @ Flickr.


Photo by donjd2 @ Flickr

8: PUBLIC HEALTH BENEFITS

Walking and bicycling have great potential to improve public health (Buehler et al., 2011, Gordon-Larsen 2009, Hamer and Chida 2008, Oja 2011, Pucher et al., 2010, Shephard 2008). Further, the health benefits of active transportation can outweigh any risks associated with these activities by as much as 77 to 1 (Rojas-Rueda et al., 2011).

In 2009, 40% of trips in the United States were shorter than 2 miles and 27% were shorter than 1 mile. Since bicycling can accommodate trips of up to 2 miles and most people can walk at least 1 mile, there is a lot of hope to use this form of travel in our communities. Still, Americans use their cars for 62% of trips up to 1 mile long and 87% of trips 1 to 2 miles long (NHTS 2009).

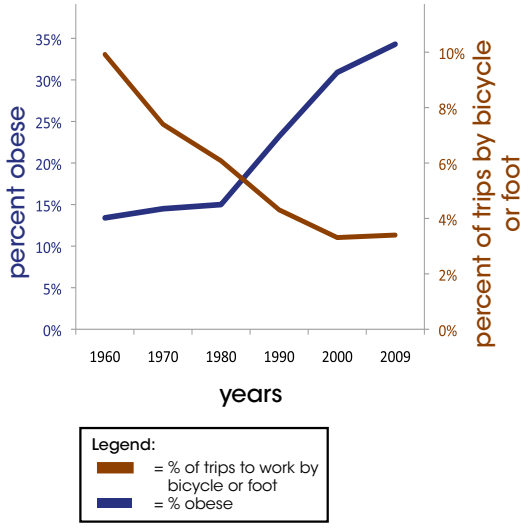
To continue to measure the potential impact of bicycling and walking levels on public health, this report analyzed data on a number of public health indicators to bike/ped mode share. Indicators include obesity and overweight levels (current and over time), physical activity levels, high blood pressure,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

Bicycling, Walking, and Obesity

Trends over Time

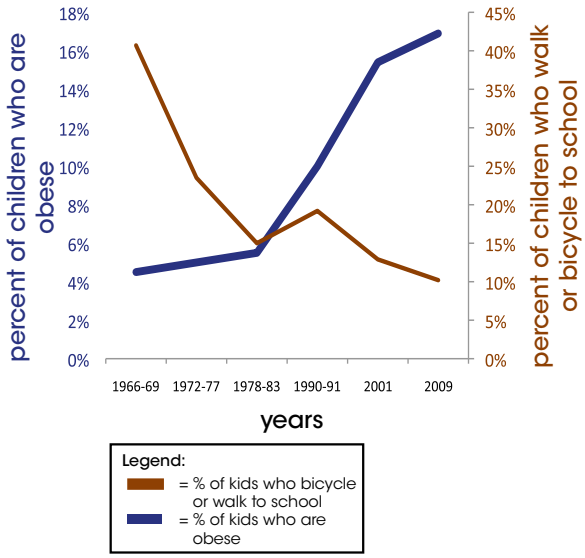
To compare rates of bicycling and walking with obesity trends, Census Journey to Work and ACS data for 1960 through 2009 were compared to overweight and obesity levels in the United States for

Change in Bicycling and Walking Rates vs. Adult Obesity Rates



Sources: Ogden and Carroll 2010, Census 1960,1970,1980,1990, 2000, ACS 2009 **Note:** bicycling was not separated from "other" modes in early Census surveys, so 1960 and 1970 levels shown are for walking only; $r = -0.93$ (bicycle + walk/overweight); $r = -0.87$ (bicycle + walk/obesity).

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



Sources: CDC, NHANES, McDonald 2007, Ogden and Carroll 2010, NHTS 2009 **Note:** $r = -0.70$.

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 66% between 1960 and 2009, obesity levels increased by 156%. Although these two trends are not the only factors involved, the correlation cannot be ignored.

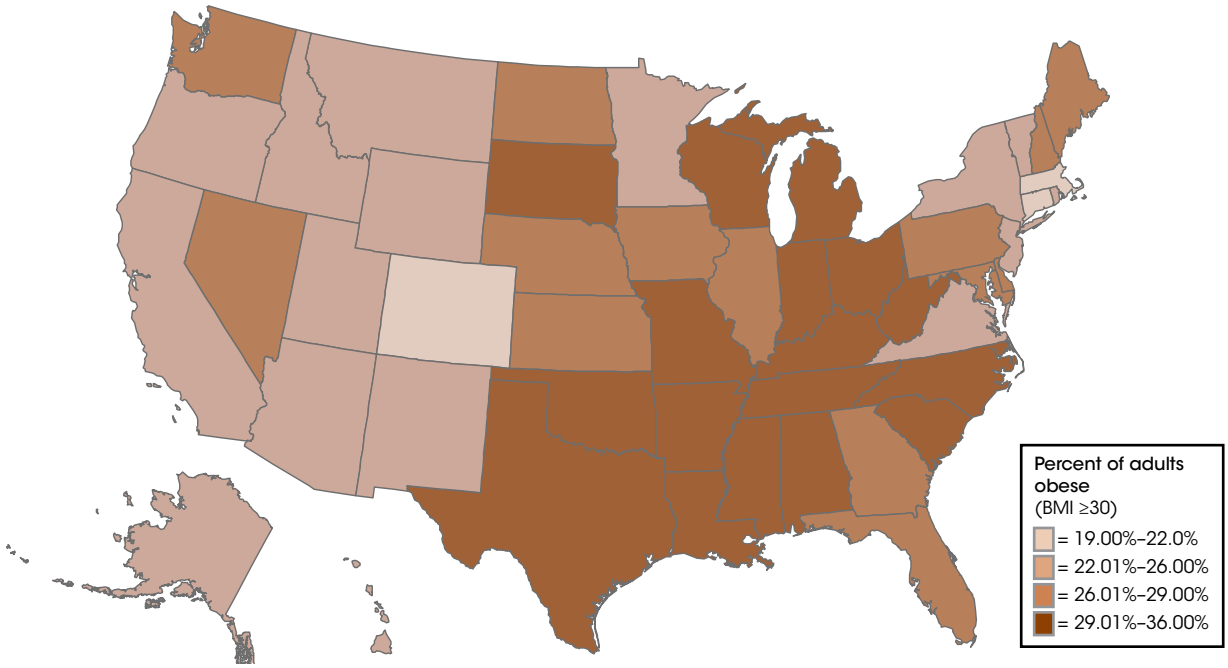
This report also looked at data on childhood obesity prevalence from the CDC's National Health and Nutrition Examination Survey (NHANES) and data on levels of bicycling and walking to school from the NHTS (McDonald 2007, NHTS 2009) over a similar time period. The data demonstrate a parallel trend among schoolchildren in this time period. Levels of bicycling and walking to school declined sharply while child-

(Continued page 173)



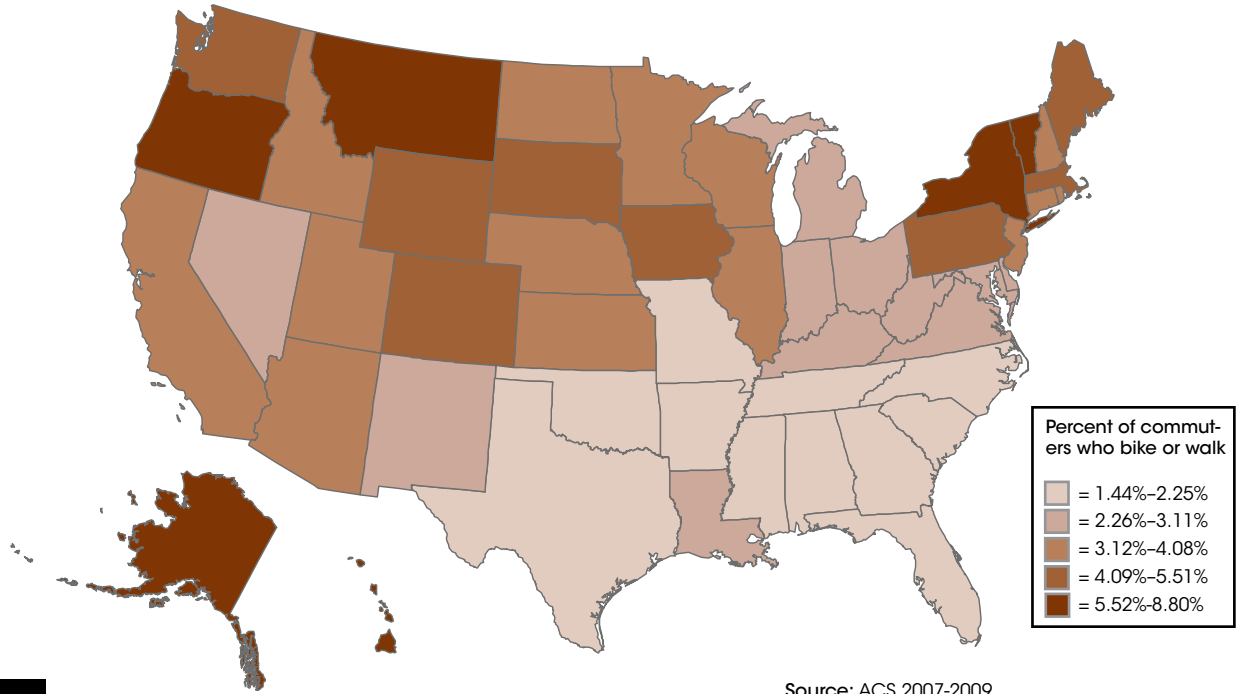
photo by Dave Delaney

Obesity Levels



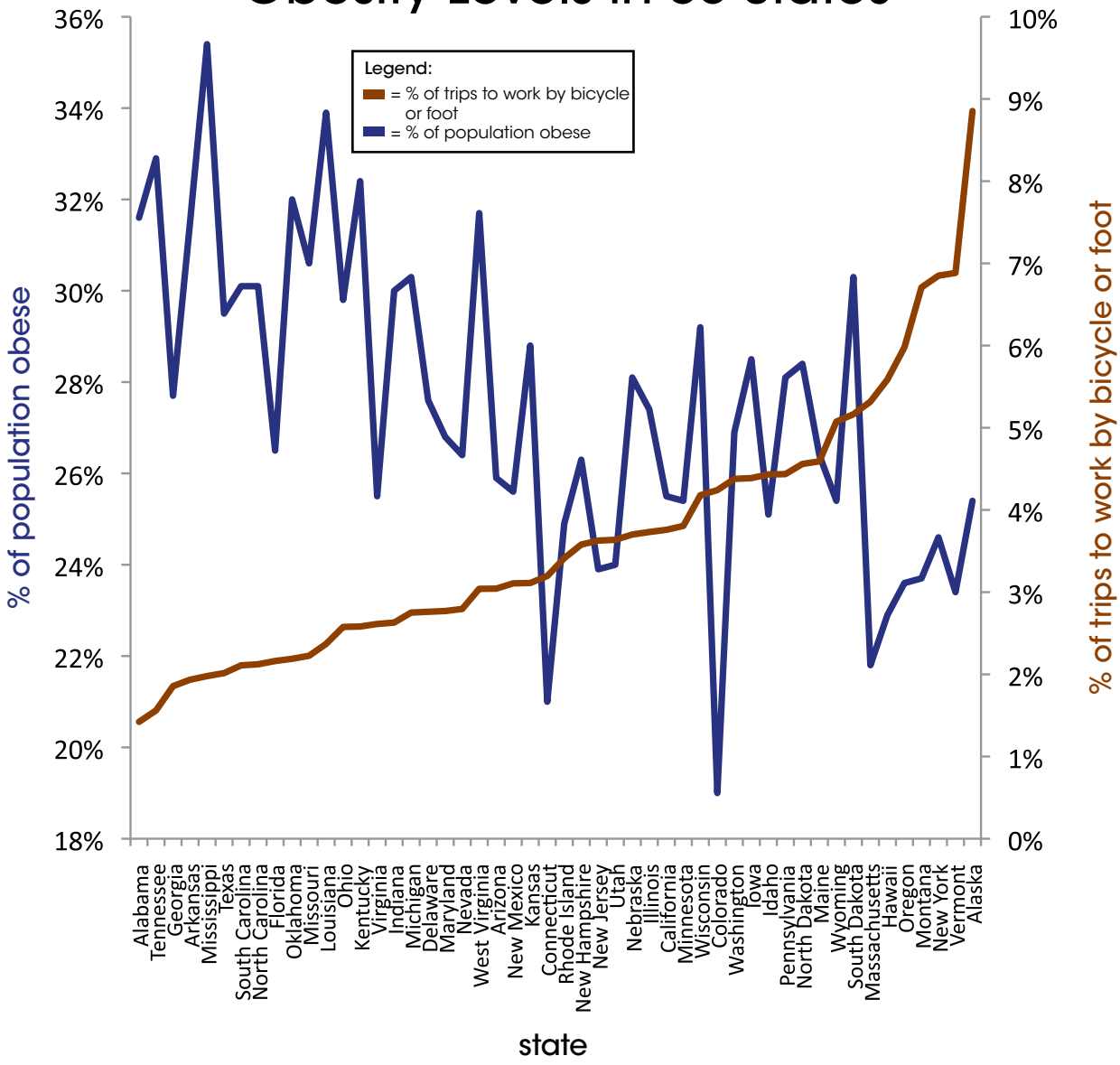
Source: BRFSS 2009

Levels of Bicycling and Walking to Work



Source: ACS 2007-2009

Comparing Bicycling and Walking to Obesity Levels in 50 States



Sources: BRFSS 2009, ACS 2009 **Note:** $r = -0.58$.

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.

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	68%	32%	41%	12%	8%	37%
Alaska	63%	25%	61%	6%	9%	26%
Arizona	64%	26%	51%	8%	11%	27%
Arkansas	67%	32%	47%	10%	8%	34%
California	61%	26%	51%	9%	8%	26%
Colorado	56%	19%	57%	6%	8%	22%
Connecticut	59%	21%	54%	7%	9%	27%
Delaware	64%	28%	51%	8%	9%	31%
Florida	63%	27%	46%	11%	7%	32%
Georgia	65%	28%	46%	10%	7%	31%
Hawaii	58%	23%	53%	9%	9%	30%
Idaho	61%	25%	58%	8%	8%	26%
Illinois	65%	27%	52%	8%	9%	29%
Indiana	65%	30%	48%	9%	9%	31%
Iowa	67%	29%	50%	8%	7%	28%
Kansas	65%	29%	49%	9%	9%	29%
Kentucky	67%	32%	46%	12%	10%	36%
Louisiana	68%	34%	44%	11%	6%	36%
Maine	64%	26%	56%	8%	11%	30%
Maryland	63%	27%	49%	9%	9%	29%
Massachusetts	58%	22%	53%	8%	11%	26%
Michigan	66%	30%	52%	9%	10%	30%
Minnesota	63%	25%	53%	6%	7%	22%
Mississippi	70%	35%	38%	12%	8%	37%
Missouri	66%	31%	50%	8%	10%	31%
Montana	62%	24%	59%	7%	8%	28%
Nebraska	65%	28%	51%	8%	8%	27%
Nevada	63%	26%	51%	8%	9%	28%
New Hampshire	63%	26%	53%	7%	10%	29%
New Jersey	62%	24%	48%	9%	8%	28%
New Mexico	62%	26%	53%	9%	9%	27%
New York	60%	25%	51%	9%	10%	29%
North Carolina	65%	30%	46%	10%	8%	32%
North Dakota	66%	28%	52%	8%	9%	27%
Ohio	67%	30%	49%	10%	10%	32%
Oklahoma	67%	32%	47%	11%	10%	34%
Oregon	61%	24%	57%	8%	11%	27%
Pennsylvania	64%	28%	50%	9%	9%	31%
Rhode Island	62%	25%	48%	7%	10%	30%
South Carolina	66%	30%	45%	10%	8%	33%
South Dakota	67%	30%	45%	7%	8%	30%
Tennessee	69%	33%	36%	10%	8%	33%
Texas	67%	30%	48%	9%	7%	29%
Utah	58%	24%	58%	6%	8%	23%
Vermont	58%	23%	58%	6%	10%	27%
Virginia	61%	26%	51%	8%	8%	28%
Washington	62%	27%	54%	8%	9%	28%
West Virginia	68%	32%	35%	12%	9%	38%
Wisconsin	66%	29%	53%	8%	10%	28%
Wyoming	62%	25%	57%	7%	9%	26%
Mean/Average (2)	63%	27%	51%	8%	9%	29%
Median	64%	27%	51%	8%	9%	29%
High	70%	35%	61%	12%	11%	38%
Low	56%	19%	35%	6%	6%	22%

Source: BRFSS 2009 **Notes:** (1) Percent overweight includes percent obese. (2) All averages are weighted.

Legend:
= High value
= Low value

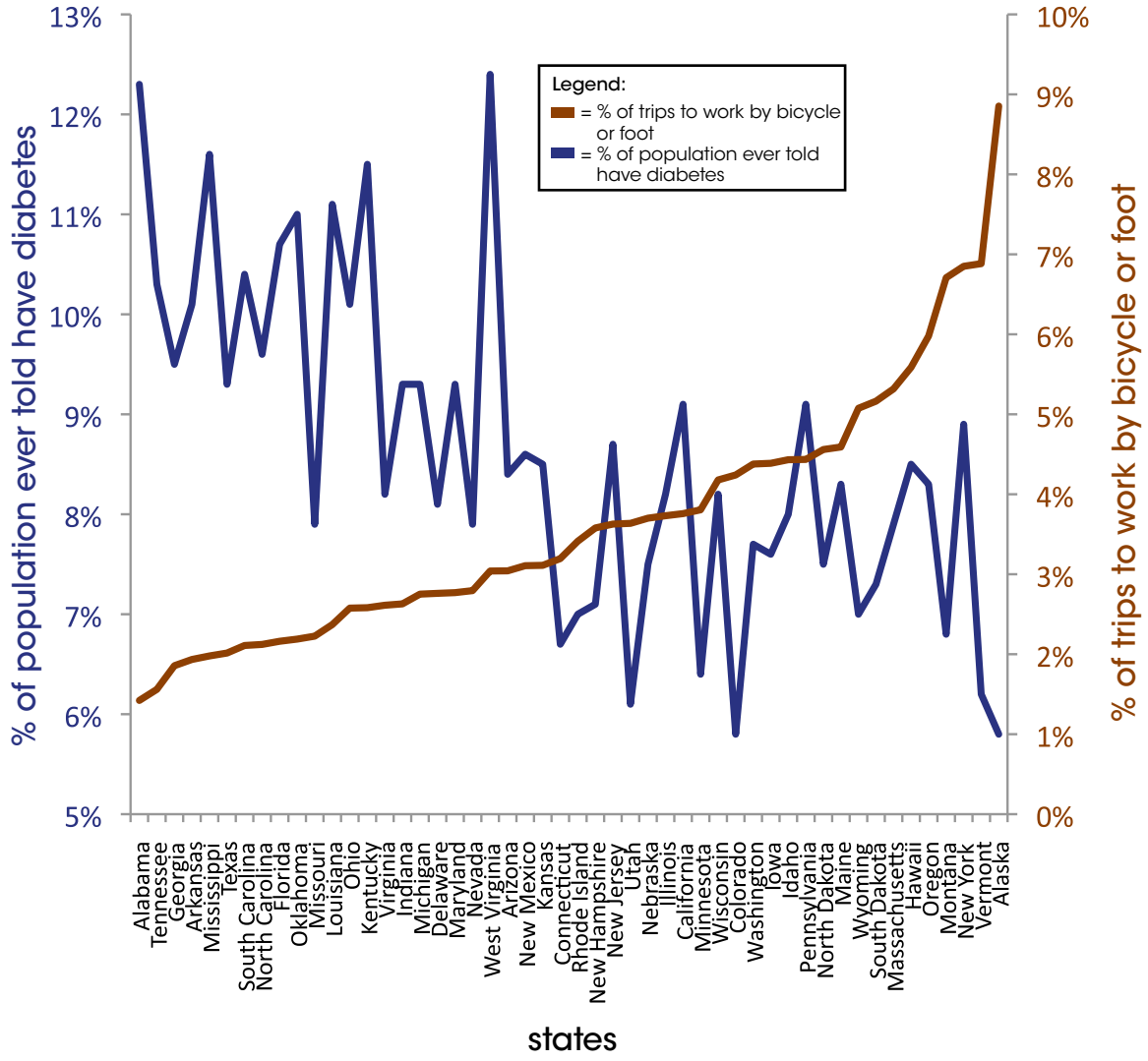
Public Health in U.S. Cities

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	60%	23%	54%	8%	9%	25%
Arlington, TX	66%	25%	54%	7%	5%	27%
Atlanta	64%	25%	46%	8%	7%	27%
Austin	61%	27%	57%	6%	7%	28%
Baltimore	63%	27%	49%	9%	11%	30%
Boston	56%	21%	52%	7%	10%	28%
Charlotte	63%	26%	48%	8%	7%	29%
Chicago	64%	28%	50%	8%	9%	28%
Cleveland	66%	29%	51%	11%	12%	35%
Colorado Springs	57%	18%	57%	5%	7%	20%
Columbus	63%	29%	48%	11%	7%	28%
Dallas	63%	26%	47%	8%	7%	25%
Denver	56%	19%	56%	5%	8%	24%
Detroit	68%	34%	48%	11%	10%	32%
El Paso	64%	28%	50%	12%	7%	29%
Fort Worth	66%	25%	54%	7%	5%	27%
Honolulu	57%	22%	52%	9%	9%	31%
Houston	64%	27%	46%	8%	6%	27%
Indianapolis	66%	28%	48%	8%	10%	29%
Jacksonville	61%	25%	49%	10%	9%	27%
Kansas City, MO	62%	27%	49%	8%	9%	27%
Las Vegas	63%	28%	49%	8%	9%	27%
Long Beach	61%	26%	46%	10%	7%	26%
Los Angeles	61%	26%	46%	10%	7%	26%
Louisville	65%	34%	46%	12%	10%	36%
Memphis	72%	34%	38%	11%	7%	38%
Mesa	65%	25%	50%	8%	12%	25%
Miami	62%	24%	43%	10%	5%	32%
Milwaukee	61%	24%	53%	8%	8%	28%
Minneapolis	62%	24%	55%	6%	8%	20%
Nashville	66%	27%	40%	7%	7%	26%
New Orleans	64%	29%	44%	10%	5%	36%
New York	56%	22%	47%	9%	9%	26%
Oakland	57%	22%	55%	8%	10%	25%
Oklahoma City	66%	29%	46%	10%	10%	31%
Omaha	62%	27%	52%	7%	6%	26%
Philadelphia	61%	26%	47%	9%	10%	29%
Phoenix	65%	25%	50%	8%	12%	25%
Portland, OR	60%	24%	55%	7%	10%	25%
Raleigh	64%	26%	45%	6%	7%	28%
Sacramento	62%	26%	53%	8%	10%	25%
San Antonio	64%	25%	50%	8%	8%	28%
San Diego	59%	22%	58%	8%	7%	24%
San Francisco	50%	17%	54%	7%	8%	23%
San Jose	53%	21%	47%	9%	5%	22%
Seattle	59%	24%	52%	7%	8%	26%
Tucson	60%	28%	52%	9%	11%	27%
Tulsa	66%	31%	46%	10%	10%	35%
Virginia Beach	65%	24%	53%	8%	9%	25%
Washington, DC	59%	26%	50%	8%	8%	26%
Mean/Average (2)	61%	25%	49%	9%	8%	27%
Median	62%	26%	50%	8%	8%	27%
High	72%	34%	58%	12%	12%	38%
Low	50%	17%	38%	5%	5%	20%

Source: BRFSS 2009 **Notes:** Data unavailable for Fresno. (1) Percent overweight includes percent obese. (2) All averages are weighted.

Legend:
= High value
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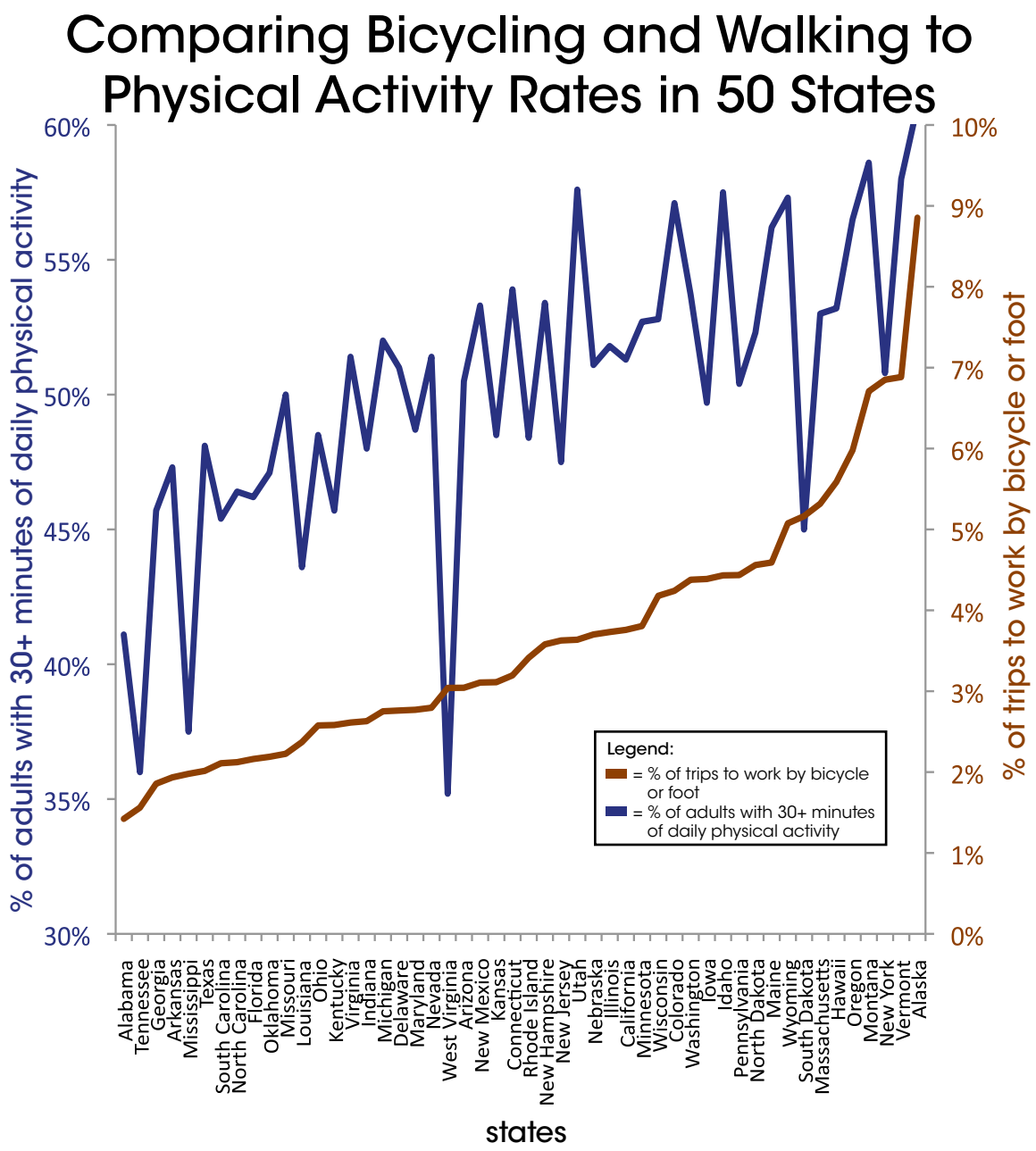
Comparing Bicycling and Walking to Diabetes Rates in 50 States



Sources: BRFSS 2009, ACS 2009 **Note:** $r = -0.63$.

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

Data suggest a negative correlation exists between rates of diabetes and levels of bicycling and walking ($r = -0.63$). According to data from BRFSS and ACS 2009, diabetes rates are highest among states with low levels of bicycling and walking.



Sources: BRFSS 2009, ACS 2009 **Note:** $r = 0.68$.

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 ($r = 0.68$) between the two, suggesting that bicycling and walking to work help populations meet recommended levels of physical activity.

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

CLOSER LOOK

Clark County, WA's Health Impact Assessment

by Brendon Haggerty, Clark County Public Health, Clark County, WA

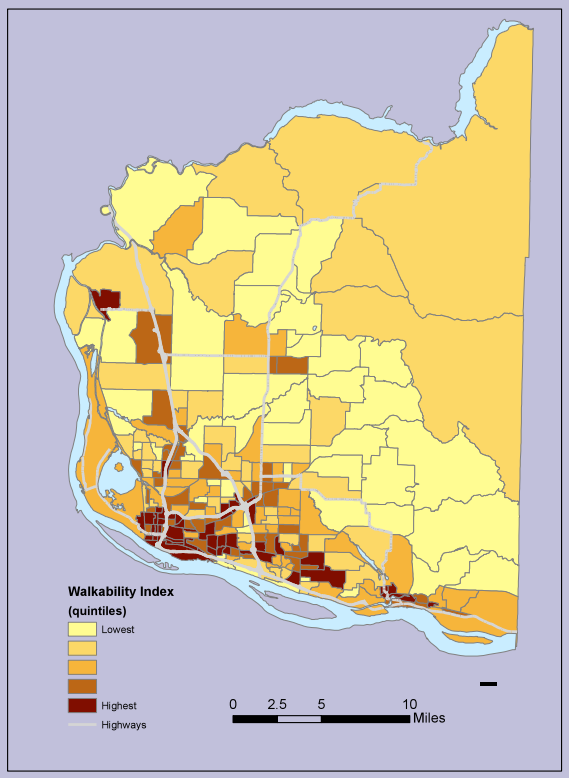
Obesity, an underlying factor for several chronic diseases, has become epidemic in the United States, and, as such, is a central challenge for public health. Reversing this epidemic will require many actions, and among them is addressing the role of the built environment in contributing to obesity. To do this, local agencies are increasingly using health impact assessment (HIA) to evaluate the potential health effects of a project or policy. Clark County Public Health (CCPH) is one example of a local agency that has used HIA to integrate health concerns, such as obesity, into public decisions related to the built environment.

In December 2010, Clark County adopted its first Bicycle and Pedestrian Master Plan. With the support of the Robert Wood Johnson Foundation, CCPH partnered with the County's Community Planning Department to conduct an HIA on the plan. The HIA focused on prioritizing projects, programs, and policies to maximize the health benefits of physical activity. The health benefits of walking and cycling are obvious, but CCPH wanted to prioritize projects in a way that benefited populations more vulnerable to poor health outcomes, including low-income households, racial and ethnic minorities, youth, and adults over age 65.

After performing an extensive geographic information system (GIS) analysis and identifying existing research findings on physical activity and obesity, CCPH recommended programs, policies, and implementation strategies designed to increase opportunities for physical activity and reduce obesity. CCPH calculated a walkability index (see map) and overlaid it with demographic data to determine where projects could best serve populations in need of increased opportunities for physical activity. Among the key recommendations were:

- Include low-speed roadway designs as bicycle and pedestrian projects
- Implement a variety of innovative bikeway facility types
- Integrate policies to improve street connectivity, urban design, land use mix, and residential density

Clark County HIA Walkability Index



- Create policies to increase bicycle and pedestrian access to nutritious food
- Include health and equity in project evaluation criteria
- Prioritize improvements in low socioeconomic status neighborhoods

As a result of the HIA, the plan includes policies to address health and equity by integrating health concerns in the selection of priority improvements. Of a possible score of 100, the project prioritization scheme awarded 20 points based on the potential to increase physical activity and health equity. Accordingly, planned improvements are heavily weighted toward low-income areas, which will see about half of all proposed improvements (see table below).

Block Group Median Income	% of Proposed Sidewalk Miles	% of Proposed Bikeway Miles
Lowest 1/3	51%	45%
Middle 1/3	17%	25%
Highest 1/3	32%	30%

In follow-up interviews, participants in the planning process said that the HIA helped to frame their decisions and contributed to their understanding of the importance of active transportation in promoting physical activity. Elected officials and planners stated that information from the HIA helped them communicate with the public about the need for bicycle and pedestrian planning. Partially as a result of a positive experience with this HIA, other HIAs have followed, and the county is adding a chapter on health to its comprehensive plan. Conducting an HIA helped the county begin to consider health in all policies, and the HIA was ultimately awarded a Model Practice Award from the National Association of County and City Health Officials.

The HIA and supporting documents are available at:
www.co.clark.wa.us/public-health/reports/facts.html.



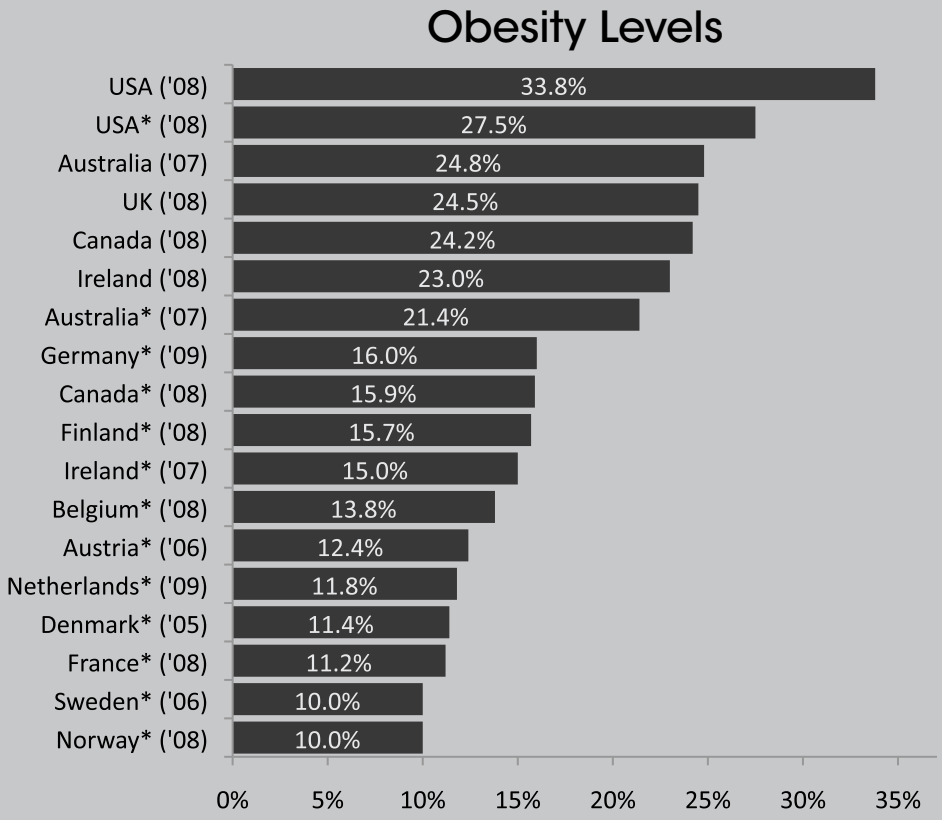
Mt. Hood is the backdrop for this bicycle trip in Clark County, WA.
Photo courtesy of Laurie Lebowsky, Clark County Community Planning

Looking Outside the Borders

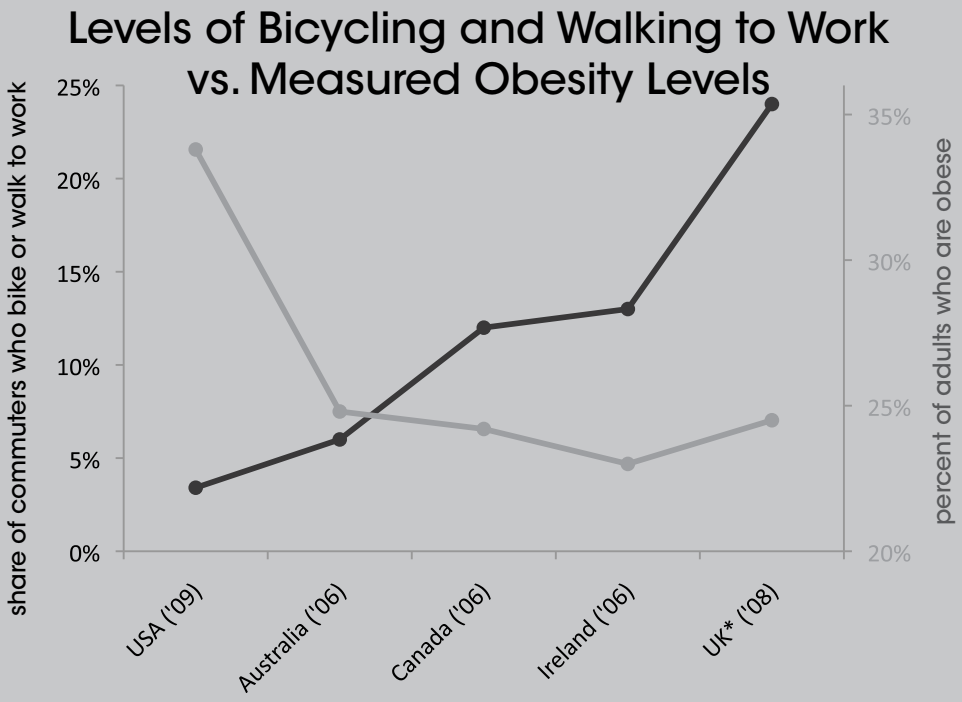
Obesity Levels in Developed Nations

According to data from Organisation for Economic Co-operation and Development, the United States has the highest obesity levels among developed countries. A 2010 study by Pucher and Buehler show the United States also ranks at the bottom for levels of bicycling and walking when compared to international peers. These international data further suggest a correlation between lower levels of bicycling and walking and higher levels of obesity.

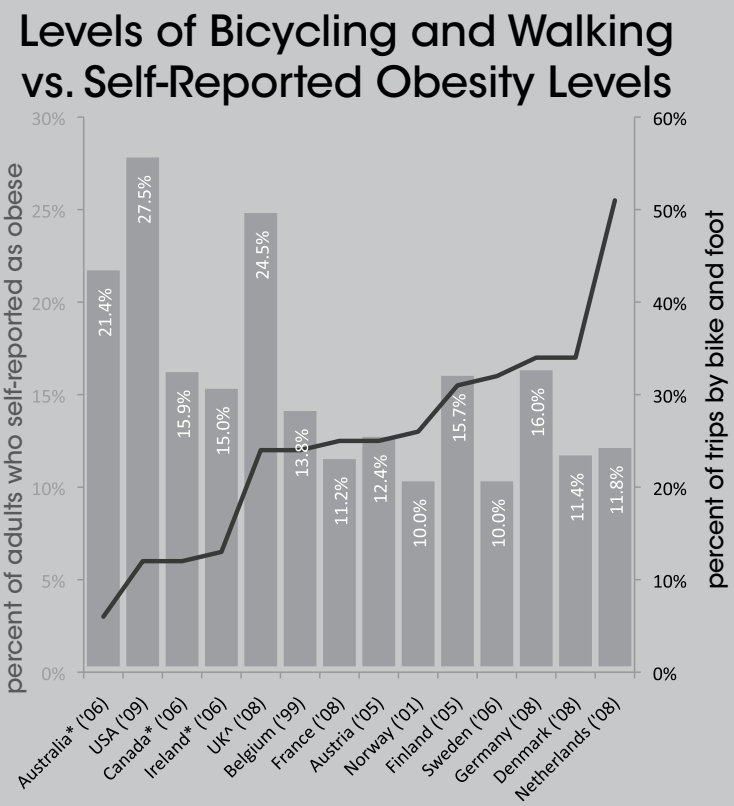
...international data further suggest a correlation between lower levels of bicycling and walking and higher levels of obesity.



Source: Organisation for Economic Co-operation and Development (OECD) 2010 (www.oecd.org/health/healthdata) **Note:** * = obesity levels are self-reported.

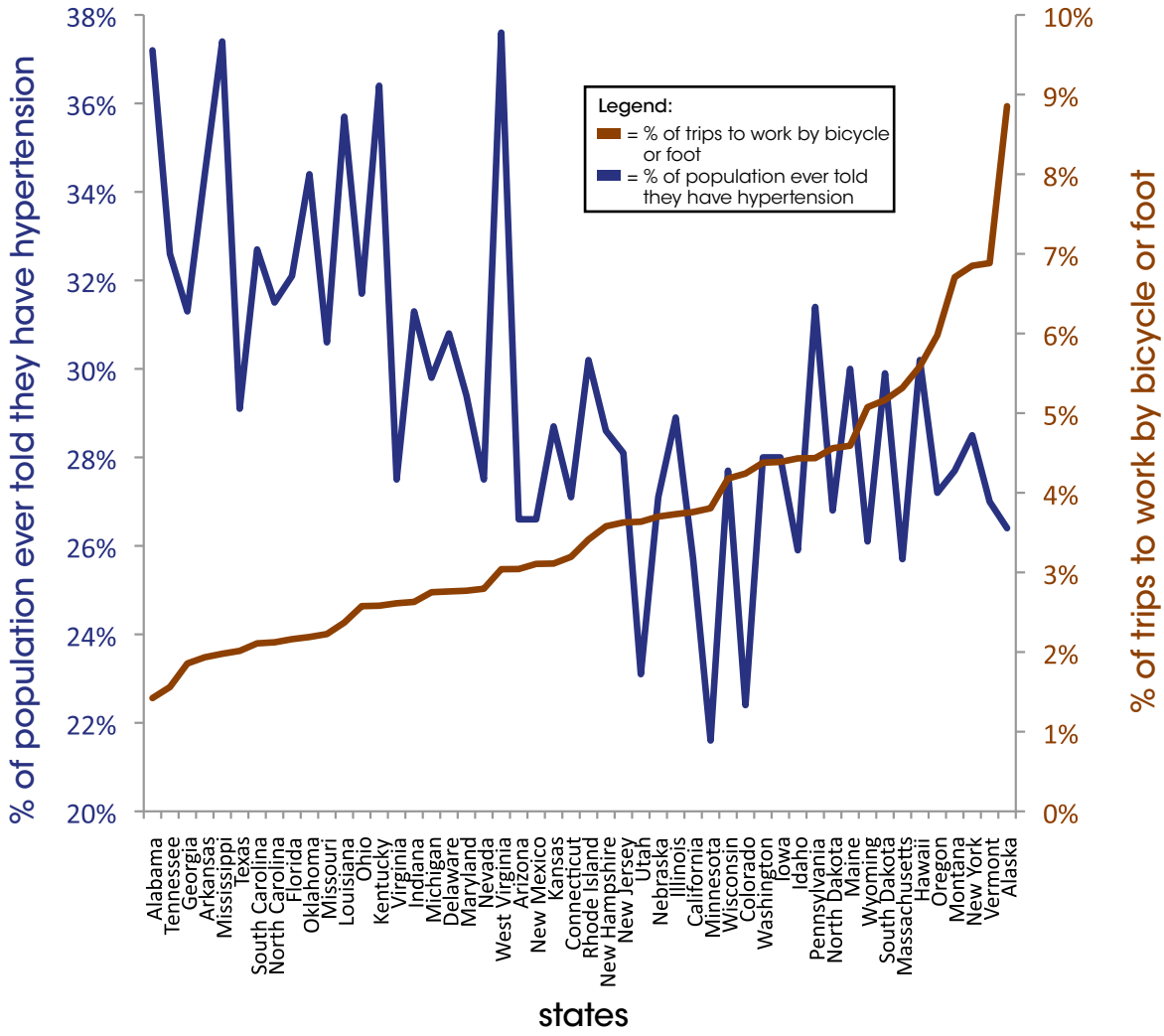


Source: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(4), pp. 391-414, and Organisation for Economic Co-operation and Development (OECD) 2010 (www.oecd.org/health/healthdata), * = UK bicycling and walking data is for all trips, not just work trips. **Note:** r = -0.54.



Source: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment 36*(4), pp. 391-414, and Organisation for Economic Co-operation and Development (OECD) 2010 (www.oecd.org/health/healthdata). **Notes:** r = -0.58 * = bicycling and walking data represents share of commuters who bike and walk to work and does not represent all trips ^ = UK obesity data is measured, not self-reported. Years in parentheses are for percent of trips by bike and foot data. For years of obesity data, reference chart on previous page.

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



Sources: BRFSS 2009, ACS 2009 **Note:** $r = -0.52$.

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

Data from BRFSS and ACS suggest a negative correlation between levels of high blood pressure and bicycling and walking ($r = -0.52$). This relationship is in line with other results indicating a similar negative correlation between bicycling and walking levels and prevalence of obesity and diabetes.

hood obesity levels sharply increased. During the period between 1966 and 2009, the number of children who biked or walked to school fell 75%, while the percentage of obese children rose 276% (McDonald 2007, NHTS 2009).

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 courtesy of Transportation for America



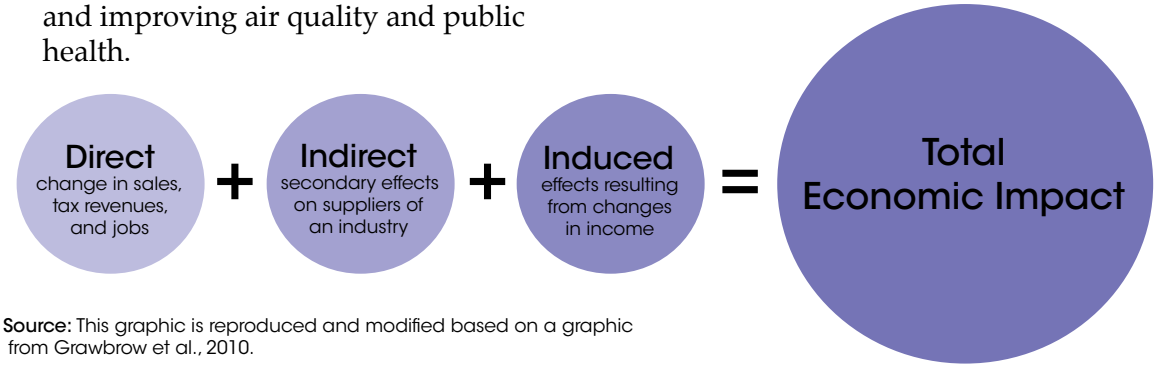
Photo by Stephen Lee Davis

9: ECONOMIC BENEFITS

As economic recession has hit almost every level of our society over the last few years, active transportation has emerged as a promising sector for growth and revitalization. Although research on the economic impact of bicycling and walking is limited, recent studies have shown that communities that invest in these modes have higher property values, create new jobs, and attract tourists. In addition, these communities save money by decreasing traffic congestion and commute times and improving air quality and public health.

Estimating Economic Impact

There are many ways the economic impact of bicycling and walking has been and could be measured. Some simple methods include surveys to trail users or event participants that ask them about their spending relating to bicycling or walking. Others involve more complex modeling. The input-output model estimates the complete impact



Source: This graphic is reproduced and modified based on a graphic from Grawbrow et al., 2010.

of bicycling or walking on the economy by including the direct, indirect, and induced effects of the industry or infrastructure.

For example, if you wanted to measure the economic impact of a specific trail, you would first quantify the direct impact. This includes changes in sales, tax revenues, and jobs directly attributed to the trail. Examples might include sales at a bike shop located on the trail by trail users, food purchases by trail users, and hotel accommodations by tourists whose primary reason for coming to the area was to use the trail.

Next, quantifying indirect impact includes the secondary effects on suppliers to the industries directly affected. For example, this would include businesses such as the dairies and creameries who supply ice cream to the snack stands that trail users patronize.

Lastly, induced impact accounts for the spending of income by people whose employment is dependent on the trail. This model gives a comprehensive look at how money flows through the economy because of the trail.

A summary of studies estimating the economic impact of bicycling and walking can be found on page 177. Studies vary widely in their scope, methodology, and estimates.

An Economic Boost

Years of planning and building streets for cars has left many communities severely lacking for bicycle and pedestrian infrastructure. Building new facilities for bicycling and walking can be a boost for the economy. In 2010 Bikes Belong developed a series of 10 case studies on U.S. bicycle and pedestrian facilities built, at least in part, with federal transportation dollars. Each of the projects profiled created between 218 and 1,050 new construction jobs. Other impacts on local economies included rising property values, increased business at local establishments, and savings from reduced traffic congestion.
(Continued page 178)

Job Creation from Bike/Ped Projects

Location	Project	Jobs Created in Construction	Other Economic Impacts
Baltimore, MD	Average project	11-14 jobs/$1 million spent	Not quantified.
Charleston, SC	Wonders Way Path/Ravenel Bridge	525+	Three local bike shops reported significantly more customers after path was built
Chicago, IL	McDonald's Cycle Center	unknown	Center employs 30+ people
Jackson Hole, WY	Grand Teton National Park Pathways	525	500,000 visitor trips/year
Minneapolis, MN	Midtown Greenway	700	Home values increase $510 for every 400 meters closer they are to off-street facilities like the Greenway
New York, NY	Williamsburg Bridge	595	5,200 bike users/day. Average car driver in Manhattan causes 3.26 hours of delays to other drivers, equivalent to $160/day
Portland, OR	Vera Katz Eastbank Esplanade	1,050	Adjacent building was renovated to provide space for 185 jobs, 100 of them new to the city
San Francisco, CA	Valencia Street Redesign	218	2/3 merchants said the redesign improved business

Sources: Bikes Belong 2011, Garrett-Peltier 2010



Photo courtesy of Frank Chan, San Francisco Bicycle Coalition

Overview of Bike/Ped Economic Impact Studies

State	Location/scope	Economic Impact	Study Link
California	San Francisco: Valencia Street bike lane	Sixty-six percent of merchants believe that the bike lanes have had a generally positive impact on their business and/or sales, and the same percentage would support more traffic calming on Valencia Street (2003).	http://www.emilydrennen.org/TrafficCalming_full.pdf
Colorado	Statewide	Total economic benefit from bicycling in Colorado is over $1 billion annually; 1,316 full time and 7,500 seasonal bicycle manufacturing, retail, and tourism jobs in the state (1999).	http://atfiles.org/files/pdf/CObikeEcon.pdf
Florida, California, and Iowa	Three rail trails	$1.2 to $1.9 million annually in economic activity and pumps $294,000-$630,000 annually into local trail communities. (1992).	http://www.brucefreemanrailtrail.org/pdf/1_Exec_summ__contents.pdf
Maine	Statewide bicycle tourism	Bicycle tourists spend $36.3 million annually with a total economic impact of $66.8 million each year (2001).	http://www.maine.gov/mdot/opt/pdf/biketourismexecsumm.pdf
Maryland/ Pennsylvania	Great Allegheny Passage	Trail attributed revenue in 2007 was $32,614,703 and it was projected that businesses distributed $6,273,927 in wages. Despite the tough economic times, in 2008 these figures increased to projected receipts and wages of $40,677,299 and $7,500,798, respectively (2009).	http://www.adventurecycling.org/routes/nbrn/resourcespage/GAPeconomicImpactStudy200809.pdf
Maryland	Baltimore	Pedestrian and bicycle infrastructure projects create 11-14 jobs per $1 million of spending (2010).	http://www.americabikes.org/Documents/PERI_Case_Study-Baltimore.pdf
Minnesota	Trails throughout the state	Statewide trail spending of $2,422 million was estimated to produce $2,953 million in gross output (total sales of local businesses including indirect and induced effects but subtracting imports). This contributed $1,542 million to gross state product (GSP). Some 30,900 full-time and part-time jobs were supported by trail spending in various regions. Employee compensation from these jobs reached some $864 million. State and local revenues from all taxes, fees, and other sources amounted to $206 million (2009).	http://www.tourism.umn.edu/prod/groups/cfans/@pub/@cfans/@tourism/documents/asset/cfans_asset_167538.pdf
New York	Eight trails throughout New York	Trail users spent average of $28.90/visit, $200 on equipment related to use of the trail, Total economic impact of just one of the eight trails studied was estimated to be $2 million annually, supporting roughly 40 FTE (Full Time Equivalent) jobs within the community. This estimate does not include increased tax revenues to the local community (2010).	http://nysparks.com/recreation/trails/statewide-plans.aspx.; Statewide Trails Plan. Appendix C – Every Mile Counts – An Analysis of the 2008 Trail User Surveys.
North Carolina	Outer Banks bicycle tourism	A conservative estimate of the annual economic impact of bicycle tourists is $60 million, almost nine times as much as the one-time expenditure of public funds used to construct special bicycle facilities in the region. 1,400 jobs are created or supported annually with the expenditures made by bicycle tourists (2004).	http://www.ncdot.gov/bikeped/download/bikeped_research_EIA-fulltechreport.pdf
Oregon	Portland	Health cost savings attributable to new bicycle infrastructure and programs will be between $388 and $594 million by 2040. The savings in value of statistical lives is between $7 and $12 billion (2011).	http://www.portland-mercury.com/images/

Overview of Bike/Ped Economic Impact Studies (Continued)

Pennsylvania	Pine Creek Rail Trail	82% of survey respondents on trail had purchased "hard goods" (bikes, bike accessories, clothing, etc.) at an average of $354/user. 86% had purchased "soft goods" (water, soda, candy, ice cream, etc.) at an average of $30/user. 57% of users were tourists who reported staying in hotels that averaged $69/night (2006).	http://www.railstotrails.org/resources/documents/resource_docs/RTC_PineCreekGuide_web.pdf
Pennsylvania	Heritage Rail Trail	85% of trail users surveyed purchased some form of "hard goods" (defined as bikes; bike accessories; auto accessories; running, walking, hiking shoes or clothing) in conjunction with their use of the trail. The average spending of those who provided spending data was $367. Nearly 72% had purchased "soft goods" (water, soda, candy, ice cream, lunches, etc.) averaging $12.66. 12% of users said their use of trail involved an overnight hotel stay with an average cost of $51 (2007).	http://www.yorkcountyparks.org/PDF/2007%20Rail%20Trail%20User%20Survey%20Report%20VERSION%204.1.pdf
Virginia	Virginia Creeper Trail	Economic impact of nonlocals was $2.2 million. Total economic impact was $2.5 million/year (2004).	http://atfiles.org/files/pdf/VACstudy04.pdf
Wisconsin	Statewide comprehensive	This study estimates the economic impact of bicycle recreation and tourism in Wisconsin to be $924,211,000, and the total potential value of health benefits from reducing short car trips and increasing bicycle trips to total $409,944,167 (2010).	http://www.bfw.org/uploads/media/Valuing_Bicycling_in_Wisconsin_Final_Report_January_2010[1].pdf

A December 2010 study used the input-output model to estimate the number of jobs created by pedestrian and bicycle infrastructure projects and other road projects. According to the author, "pedestrian and bicycle infrastructure projects create 11-14 jobs per $1 million of spending while road infrastructure projects create approximately 7 jobs per $1 million of expenditures" (Garrett-Peltier 2010).

Lasting Impact

After the initial economic boost from construction, pedestrian and bicycle infrastructure has lasting effects on local economies.

Events and Tourism

It has long been recognized that facilities like rail trails and safe places to bike and walk attract tourists. Local communities now vie for "Bicycle Friendly Community" and "Walking Friendly Community" designation and communities with this designation report it is good for business (Maus 2006).

Numerous studies and papers have looked at the impact of bicycling on tourism. A 2004 study (detailed on page 181) found the annual economic impact of bicycle tourists to North Carolina's Outer Banks was $60 million. In addition, 1,400 jobs were created or sustained annually because of these tourists.

Bicycling and walking events can also stimulate local economies. Iowa's RAGBRAI, a weeklong bicycle ride across the state, contributed $16.5 million in direct spending and supported 362 jobs in the state (Lankford 2008). The Tour of Missouri, a professional cycling race, estimated their direct



Tour de Parks 2009. Photo by Lois Bielefeld



Photo by Maguis and David



Chilly Hilly Participants Arrival by Ferry Photo by Kimball Andrew Schmidt

economic impact over 3 years at over $80 million with tax revenues at $38 million. Charity Walk in Hawaii drew more than 9,100 walkers who raised over $964,500 for local charities in 2010. In Wisconsin, the estimated impact of two annual bicycling events was between $3.7 and $6.2 million in 2004 dollars. Other estimates of the impact of bicycling and walking events can be found in the table on page 180.

Good for Business

A 2009 study found that bicyclists on Minnesota trails spend $2.4 billion annually producing $2.9 billion in gross output (sales by local businesses including indirect and induced effects and subtracting imports). This added $1.5 billion to the gross state product (GSP). An estimated 30,900 full-time and part-time jobs, with roughly $864 million in compensation, were supported by trail spending. The state and local governments brought in $206 million in revenue from taxes , fees, and other sources attributable to the trails (Venegas 2009).

A 1992 study of three rail trails found that trail use generated roughly $1.5 million in economic activity annually and upward of $300,000 in local communities (Moore 1992). A 2004 study of the Virginia Creeper Trail found that every trail visitor generated between $24 and $38 per visit. The study estimated that trail visitors contributed $1.2 million annually to the local economy (Bowker 2004).

One recent study of the Great Allegheny Passage, a 132-mile system of hiking and biking trails connecting McKeesport, PA (near Pittsburgh, PA) to Cumberland, MD, suggests that bicycling and walking remain thriving economic sectors even during recession.

Economic Impact of Bike/Ped Events

Location	Event	Event Description	Estimated Economic Impacts
Florida (2)	Bike Florida	Week-long bicycle camping tour	75% of participants (1,000) were from out of state. According to a survey, 36% stayed in hotels, 95% dined at restaurants, 66% shopped for groceries, and 55% purchased clothing.
Hawaii (5)	Charity Walk	A statewide annual charity walk that occurs simultaneously on Oahu, Maui, the Big Island, and Kauai.	More than 9,100 walkers raised over $964,500 for over 220 local charities.
Iowa (7)	RAGBRAI	Annual weeklong bike ride across state of Iowa attracting roughly 9,500 bicyclists.	RAGBRAI participants' expenditures had a direct economic impact of $16.5 million in direct sales, $10.4 million in value added/ income, and supported 362 jobs in the state.
Michigan (4)	Midwest Tandem Bike Rally	An annual recreational bicycling event staged in a different location each year over a weekend. In 1999, Midland was selected as the site and attracted 550 tandem bicycle teams to the event held on the Pere Marquette Rail-Trail.	$260,000 of direct spending by travel parties in Michigan. 25% of the events' participants said the Pere Marquette Rail-Trail was the primary draw to ride participation.
Michigan (4)	Michigander	Recreational bicycle special events held on the Pere Marquette Rail-Trail in Midland County Michigan during the summer of 1999.	$207,000 of direct spending by travel parties in Michigan. 25% of the events' participants said the Pere Marquette Rail-Trail was the primary draw to ride participation.
Missouri (1)	Tour of Missouri	The United State's second biggest professional cycling race event.	>$80 million in direct economic impact over three years; tax revenues estimated at $38 million.
Ohio (6)	Harbin Park Cyclocross Race	Cyclocross race.	Estimated impact of $200,000 to local community.
Wisconsin (3)	Aids Network ACT II	Bicycle fundraising ride with 110 riders in 2004.	Total estimated impact = $342,400 Amount fundraised = $274,000 88% of funds raised served Aids Network clients throughout Wisconsin.
Wisconsin (3)	GRABAAWR and SAGBRAW	The Great Annual Bicycle Adventure Along the Wisconsin River (GRABAAWR) had 900 riders in 2004, and Sprocket's Annual Great Bicycle Ride Across Wisconsin (SAGBRAW) had 1,140 riders in 2004.	The economic impact of the combined events was between $3.7 million and $6.2 million in 2004. These figures were based on the event budgets, which total about $350,000 a year, plus actual spending by the participants in the two cross-state bicycling events, and appropriate multipliers to estimate indirect and induced economic effects. GRABAAWR participants reported spending an average of $60/ day, while SAGBRAW participants reported spending an average of $57/day.

Sources: (1) Tour of Missouri 2010 (2) Bike Florida 2010 (3) Grabrow et al. (4) Nelson et al., 2001 (5) Charity Walk 2011 (6) Liberles 2010 (7) Lankford et al., 2008

Trail-attributed revenue in 2007 was $32,614,703 and it was projected that businesses distributed $6,273,927 in wages. Despite the tough economic times, in 2008 these figures actually increased to projected receipts and wages of $40,677,299 and $7,500,798, respectively (Campos 2009).

Business owners are aware of the impact new bicycle facilities have on business. A survey of San Francisco Valencia Street businesses, 4 years after bike lanes were installed on the street found that nearly two-thirds of merchants (65%) thought the bike lanes had an overall positive impact on their business and/or sales. Thirty percent believed the bike lanes had no impact. Just one merchant said the lanes had a "slightly negative" impact on business.

Similarly, a 2006 survey of over 100 Portland, OR businesses asked if Portland's reputation for bike-friendliness is good for business. Eighty-two percent

CLOSER LOOK

North Carolina Attracts Bicycle Tourists

A 2004 study by the Institute for Transportation Research and Education (ITRE) at North Carolina State University surveyed bicyclists riding on the bicycle facilities in the northern Outer Banks region. The study made a "conservative" estimate of the annual economic impact of bicycle tourists as $60 million, with 1,400 jobs created/supported per year. According to the study, "This compares favorably to the estimated $6.7 million of federal, state and local funds used to construct the special bicycle facilities in the area." Additional findings included:

- "The quality of bicycling in the region had a positive impact on respondents' vacation planning with 43% reporting that bicycling was an important factor in their decision to come to the area, 53% reported bicycling as a strong influence in their decision to return in the future, and 12% reported staying 3 to 4 days longer to bicycle in the area.
- Nearly two-thirds of respondents indicated that riding on bicycle facilities made them feel safer.
- Over three-fourths of all survey respondents indicated that additional bicycle paths, paved shoulders, and bike lanes should be built.
- Nine out of ten survey respondents strongly agreed that state and/or federal tax dollars should be used to build more bicycle facilities."

Sources: Lawrie et al, 2004

"Nine out of ten survey respondents strongly agreed that state and/or federal tax dollars should be used to build more bicycle facilities."



Tourists exiting ferry while bicycling North Carolina's Outer Banks. Photo courtesy of North Carolina DOT.

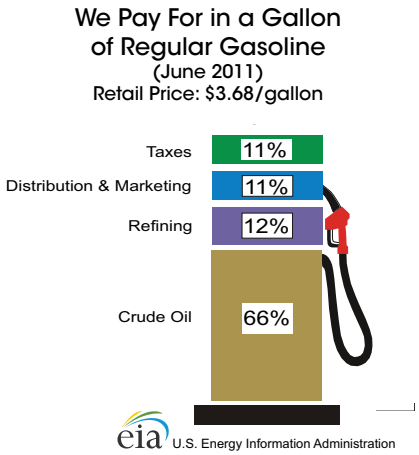
responded "Absolutely/yes" and only 3% responded "no."

Property Values

Numerous studies have examined the effect of proximity to trails and other bicycling and walking facilities on property values. A study of recreational trails in Omaha, NE, surveyed homeowners adjacent to trails. Nearly two-thirds of respondents who purchased their home after the trail was built said that the trail positively influenced their purchase decision. Eighty-one percent felt that the nearby trail's presence would have a positive effect or no effect on the sale of their homes (Greer 2000). A 2008 study found that the Little Miami Scenic Trail (in Ohio) positively impacts single-family residential property values, with sale prices increasing by $7.05 for every foot closer a property is located to the trail (Karadeniz 2008).

Walkability is also an asset for homeowners.

> *Reduced traffic noise, traffic speeds, and vehicle-generated air pollution can increase property values. One study found that a 5- to 10-mph reduction in traffic speeds increased adjacent residential property values by roughly 20%. Another study found that traffic restraints that reduced volumes on residential streets by several hundred cars per day increased home values by an average of 18% (Local Government Commission 2000).*



Savings

According to the Bureau of Labor Statistics, in 2009 transportation was second only to shelter for household expenditures. The average American household spent 16 cents of every dollar on transportation.

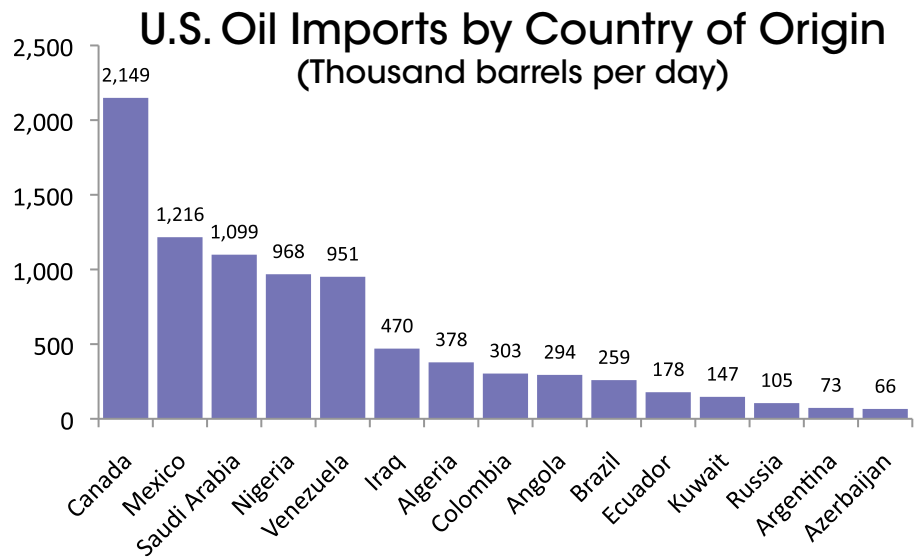
There is no denying that walking and bicycling are two of the least expensive ways to travel. In 2011, the American Automobile Association (AAA) estimated the average cost of owning and operating a car at $7,632 a year for a person driving 10,000 miles/year and paying $2.88 per gallon of gas (AAA 2011). In May 2011 gas had already reached over $4 per gallon in several states.

Much of this money goes to foreign car companies, and to pay for foreign fuel. According to the U.S. Energy Information Administration, 66% of the cost of gasoline is the crude oil. In January 2011 the United States imported over 370 million barrels of oil from a number of countries. The chart above shows the

Nonmotorized Transport Is Generally Cheaper Than Alternatives

Affordable and Efficient	Expensive and Resource Intensive
Walk and bike for transport	Own and operate an automobile
Walk and bike for exercise	Join a health club
Walk and bike children to school	Chauffeur children to school
Build sidewalks	Build roads and parking facilities

Source: Table above reproduced with permission from Todd Litman, Economic Value of Walkability, Victoria Transport Policy Institute, December 2007



Source: U.S. Energy Information Administration, Crude Oil Imports Top 15 Countries, April 2011.

countries whose economies are benefitting the more Americans drive.

Building infrastructure for bicycling and walking is also affordable. For the cost of 1 mile of four-lane urban highway, hundreds of miles of pedestrian and bicyclist facilities can be built. This investment, approximately $50 million, could complete the active transportation network of a mid-sized city (Gotschi 2008).

Bay Area Household Transportation Expenditures
(Adjusted for inflation to 2011 Dollars)

Mode Choice	Annual Spending	Savings Over Driving
Auto ownership *Vehicle purchases* *Other vehicle expenses* *Gasoline and motor oil*	$9,054 (breakdown below) *$3,632* *$3,892* *$1,530*	N/A
City Car Share	$1,090 ($91/month)	$7,964
MUNI (bus) monthly Fast Pass	$623 ($52/month)	$8,431
BART (train)	$545 ($45/month)	$8,509
Bike Riding	$26-390	$8,664-$9,028
Walking	$0	$9,054

Source: Table above reproduced with permission from Emily Drennan, 2003 **Note:** Data used for original table was from 2000, data in this table has been adjusted for inflation to 2011 dollars. This does not necessarily represent the current cost of each mode of transport as some pricing may have risen faster or slower than inflation.

Communities that invest in bicycling and walking are investing in their local economies. Bicycling and walking for transport results in reduced transportation expenses. A 2003 report examined the annual spending of various modes of transport in the San Francisco Bay Area and the savings of each mode over driving. Bicyclists and pedestrians save the most—between $8,664 and $9,054 a year (adjusted to 2011 dollars). This equals more disposable income to invest locally in goods, services, and entertainment (Drennan 2003).

Places where residents can easily choose to bike, walk, or take transit may have more thriving local economies. A 2010 study looked at the impact of walkability on New York City's economy: *"According to the Internal Revenue Service data, about 73 percent of the retail price of gas (back when it was under $2.00 a gallon, by the way) and 86 percent of the retail price of cars is the 'cost of goods sold,' which immediately leaves the local economy. The $19 billion New Yorkers save on car travel translate into*

more than $16 billion that are available to be spent in the local economy. Because this money tends to be re-spent in other sectors of the economy, it stimulates businesses" (Cortright 2010).

Reducing car dependence is investing in local business.

In addition, pedestrian improvements encourage residents to shop locally in their own neighborhoods. One successful example is a $4.5 million public-private pedestrian-oriented project in Lodi, CA. The city credits the retrofit of five main street blocks with widened sidewalks, bulbed-out intersections, and other improvements for a large economic turnaround. Vacancy rates dropped from 18 to 6 percent. And, after the work was completed, the city saw a 30% increase in downtown sales tax revenue (Local Government Commission 2000).

Cost/Benefit

Besides the obvious impact on job creation, tourism, and savings, there are other economic benefits of bicycling and walking that are harder to quantify. Some of these include reduced traffic congestion, reduced time spent in traffic, improved health and reduced mortality, cleaner air, reduced noise pollution, and lower levels of stress.

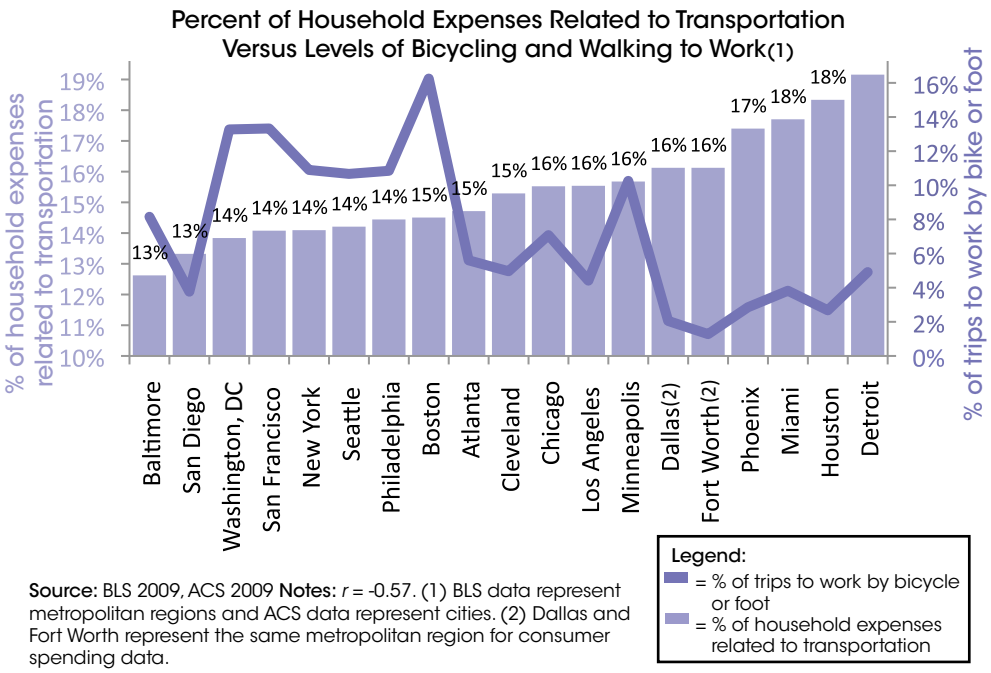
A 2008 report by Rails-to-Trails Conservancy attempted to quantify, for the first time, the benefits the United States could expect for elevating the priority of bicycling and walking in our transportation policy. Benefits were quantified for the status quo and for increases in bicycling and walking under a "modest" and "substantial" scenario. The results of increasing active transportation were significant. The modest scenario showed a reduction of 70 billion miles of automobile travel while the substantial increase in bicycling and walking could help divert 200 billion miles per year.

Valuing bicycling and walking's impact on health

Bicycling and walking for transportation has a great potential to influence public health. Because bicycling and walking are part of a healthy active lifestyle, these activities have been shown to exist more alongside reduced levels of obesity. Further, because most American adults gain weight gradually—about 2 pounds each year—bicycling or walking for less than 30 minutes daily can ward off this extra weight (Gotschi 2008).

According to a 2010 study sponsored by the Society of Actuaries, the total economic cost of overweight and obese citizens in the Unites States and Canada was roughly $300 billion in 2009. This estimate includes medical costs, disability, and excess mortality (Behan et al., 2010).

A 2006 report by the National Governors Association found that obesity costs the average taxpayer $180 per year regardless of their own health status. Studies show that promoting physical activity is cost-effective and the value of health benefits can far outweigh the costs (Gotschi 2008, Gotschi 2011, National Governors Association 2006, Roux et al., 2008). Further, if just one of every ten adults started a regular walking program, the United States could save $5.6 billion —the equivalent of paying the college tuition of 1,020,000 students (National Governors Association 2006). (To see how your state compares, see the table to the right.)



Source: BLS 2009, ACS 2009 **Notes:** *r* = -0.57. (1) BLS data represent metropolitan regions and ACS data represent cities. (2) Dallas and Fort Worth represent the same metropolitan region for consumer spending data.

Annual Household Transportation Expenses

City (1)	Annual household transportation expenditures	Vehicle purchases	Gasoline and motor oil	Other vehicle expenses	Public transportation	Percent of expenditures related to transportation
Atlanta	$6,760	$1,597	$2,631	$2,171	$360	15%
Baltimore	$6,621	$1,452	$2,444	$2,178	$547	13%
Boston	$8,591	$2,818	$2,125	$2,913	$735	15%
Chicago	$8,840	$3,101	$2,364	$2,636	$739	16%
Cleveland	$7,010	$2,098	$2,049	$2,409	$454	15%
Dallas (2)	$8,689	$2,877	$2,616	$2,806	$390	16%
Detroit	$9,463	$2,793	$2,624	$3,674	$373	19%
Fort Worth (2)	$8,689	$2,877	$2,616	$2,806	$390	16%
Houston	$10,843	$3,874	$2,980	$3,421	$568	18%
Los Angeles	$8,784	$2,513	$2,667	$2,989	$615	16%
Miami	$8,427	$2,921	$2,680	$2,318	$508	18%
Minneapolis	$8,833	$2,911	$2,350	$2,973	$598	16%
New York	$8,495	$2,321	$1,943	$3,137	$1,093	14%
Philadelphia	$8,202	$2,037	$2,240	$3,156	$769	14%
Phoenix	$9,330	$2,887	$2,658	$3,275	$509	17%
San Diego	$7,171	$1,941	$2,412	$2,373	$445	13%
San Francisco	$9,535	$2,748	$2,235	$3,252	$1,300	14%
Seattle	$9,380	$3,395	$2,454	$2,589	$943	14%
Washington, DC	$9,563	$3,028	$2,465	$2,864	$1,206	14%
Mean/Average (3)	$8,591	$2,680	$2,450	$2,839	$660	15%
Median	$8,689	$2,818	$2,454	$2,864	$568	15%
High	$10,843	$3,874	$2,980	$3,674	$1,300	19%
Low	$6,621	$1,452	$1,943	$2,171	$360	13%

Legend:
= High value
= Low value

Source: BLS 2009 **Notes:** (1) BLS data are for metropolitan regions. (2) Dallas and Fort Worth represent the same metropolitan region for consumer spending data. (3) Average here represents the average among the cities listed and not the national average.

The 2008 report by Rails-to-Trails Conservancy estimated the health-related cost savings of a modest increase in bicycling and walking to be $420 million annually. A substantial increase was estimated to save over $28 billion per year. This includes reduced health costs from an increase in physical activity by those who currently do not meet recommended levels (Gotschi 2008).

A 2011 study found that Portland, OR would see between $388 and $594 million in health cost savings attributable to new bicycle infrastructure and programs by 2040. The savings in value of statistical lives was between $7 and $12 billion (Gotschi 2011).

Valuing bicycling and walking's impact on air quality and greenhouse gases

Reducing vehicle miles traveled also adds up to cleaner air. Communities designed to encourage safe bicycling and walking help reduce driving and thereby reduce fuel consumption and air pollution associated with automobiles. This amounts to reduced smog that contributes to respiratory illness and asthma and reduced greenhouse gases that contribute to global warming. Although these savings and reductions are hard to quantify monetarily, some studies have attempted estimates.

The 2008 study by Rails-to-Trails Conservancy estimated that a modest increase in bicycling and walking would save 3 billion gallons of gasoline and keep 28 million tons of CO_2 from the atmosphere. A substantial increase could save 8 billion gallons of gas and avoid 73 million tons of CO_2. According to the report:

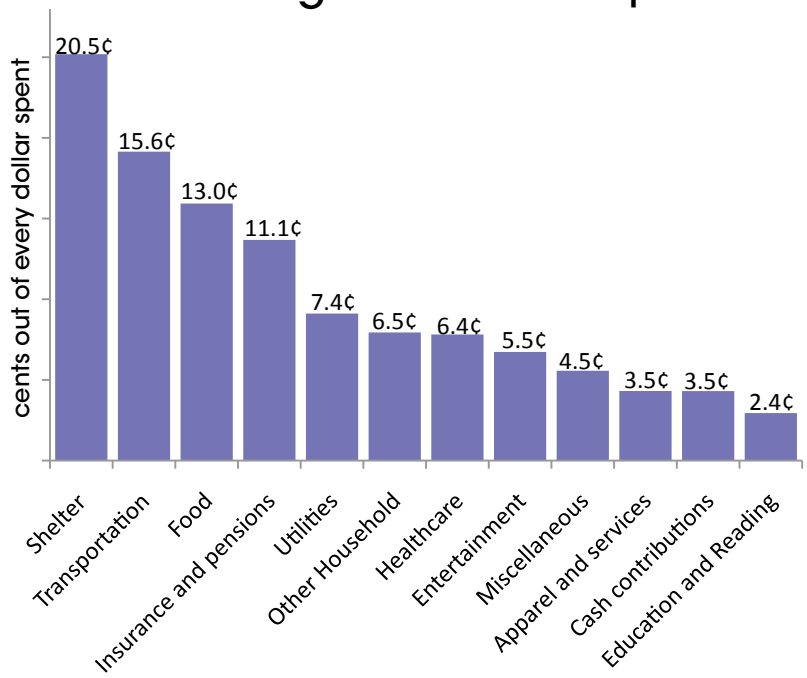
(Continued page 192)

Obesity Costs and Potential Health Savings

State	Obesity-related costs per taxpayer per year	State savings (millions) if 1 in 10 adults started walking program	Number of students for which college tuition could be paid
Alabama	$195	$79	14,387
Alaska	$214	$19	3,460
Arizona	$89	$86	15,662
Arkansas	$161	$48	8,742
California	$147	$604	109,998
Colorado	$128	$52	9,470
Connecticut	$162	$82	14,934
Delaware	$160	$21	3,824
Florida	$148	$241	43,890
Georgia	$164	$168	30,596
Hawaii	$152	$33	6,010
Idaho	$114	$18	3,278
Illinois	$183	$208	37,880
Indiana	$177	$86	15,662
Iowa	$177	$43	7,831
Kansas	$163	$43	7,831
Kentucky	$186	$79	14,387
Louisiana	$209	$99	18,030
Maine	$177	$33	6,010
Maryland	$185	$108	19,669
Massachusetts	$186	$121	22,036
Michigan	$196	$181	32,963
Minnesota	$174	$109	19,851
Mississippi	$179	$67	12,202
Missouri	$191	$121	22,036
Montana	$127	$15	2,732
Nebraska	$176	$34	6,192
Nevada	$97	$26	4,735
New Hampshire	$155	$22	4,007
New Jersey	$179	$199	36,241
New Mexico	$118	$39	7,103
New York	$210	$698	127,117
North Carolina	$166	$166	30,231
North Dakota	$220	$12	2,185
Ohio	$193	$209	38,062
Oklahoma	$164	$54	9,834
Oregon	$144	$60	10,927
Pennsylvania	$219	$295	53,724
Rhode Island	$185	$29	5,281
South Carolina	$169	$86	15,662
South Dakota	$173	$12	2,185
Tennessee	$207	$126	22,947
Texas	$165	$396	72,118
Utah	$121	$24	4,371
Vermont	$150	$13	2,368
Virginia	$146	$85	15,480
Washington	$144	$121	22,036
West Virginia	$208	$35	6,374
Wisconsin	$181	$84	15,298
Wyoming	$116	$11	2,003
U.S. Total	$180 (1)	$5,600	1,020,000

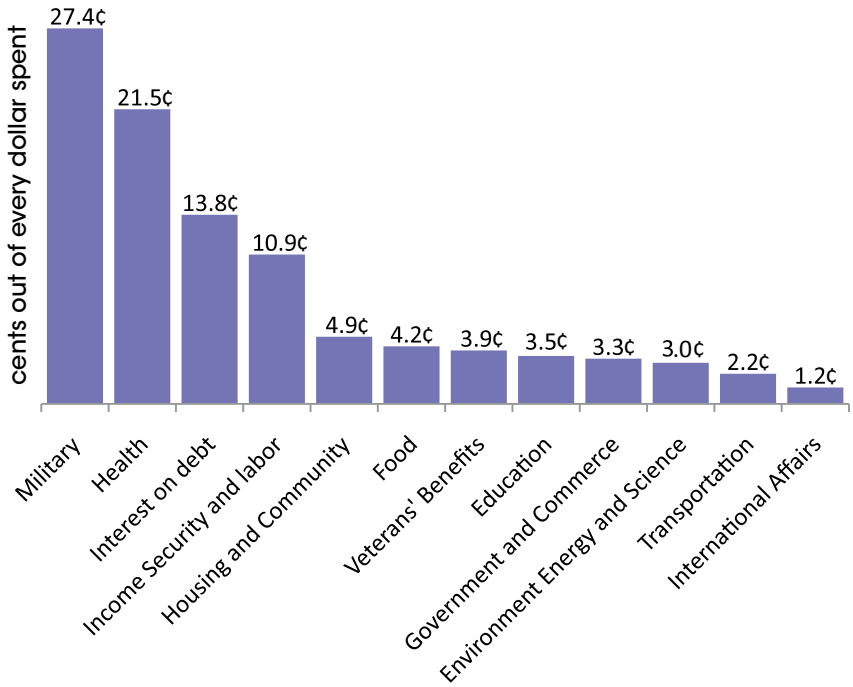
Source: National Governors Association 2006. http://www.nga.org/Files/pdf/0608HEALTHYREPORTNH.PDF **Note:** (1) Average per U.S. taxpayer.

How an Average Household Spends a Dollar



Source: BLS 2009 **Notes:** Shelter includes mortgages, taxes, maintenance,home insurance, and rent; Other Household includes housekeeping supplies, household furnishings, and equipment; Miscellaneous includes personal care products and services, alcohol, tobacco products, and other miscellaneous expenditures.

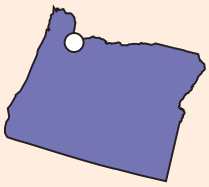
How the Federal Government Spends a Tax Dollar



Source: National Priorities Project 2011 **Notes:** The breakdown of the federal income tax dollar is based on an analysis of each agency's Federal Fund outlays according to function and subfunction for FY2010. Figures are from Budget of the United States Government, FY2012, Public Budget Database.

CLOSER LOOK

Cost/Benefits of Bicycling Investment in Portland, OR



Increasing bicycling is widely recognized as a worthy objective with many benefits including public health. However, just how much benefit comes from investing in bicycling is largely unknown. A 2011 study by Thomas Gotschi published in the *Journal of Physical Activity and Health* sought to quantify the benefits of investing in bicycling using Portland, OR, as a case study.

Portland, OR, has the highest levels of bike commuting to work of any major U.S. city and has seen the greatest increases in bike to work mode share of any major U.S. city over the last decade. In 2008, Portland estimated the cost of rebuilding its 274-mile bicycle network at $57 million. According to Mayor Sam Adams, "In 1993 we weren't the bicycling capital of America. Seventeen years later, for the equivalent cost of a single mile of freeway, we have a bike infrastructure."

Gotschi took Portland's estimated replacement cost of their bike network and added the cost of the Smart Trips program which encourages bicycling, walking, and transit use (another $7.2 million through 2012). He then modeled growth in bicycling and associated benefits based on three scenarios over a 50-year period: a status quo "basic" $100 million plan proposed in the context of the renewal of the federal transportation bill, and two plans included in the recently adopted 2030 Portland Bike Master Plan. These include the "80% plan" with over $329 million invested to put 80% of residents within a quarter mile of a low-stress bikeway, and a $773 million “world class” plan.

Among others, these plans foresee investments in crucial trail sections, bicycle boulevards (traffic calmed streets which limit motorized through traffic and specifically accommodate bicycles), cycle tracks (bicycle lanes physically separated from traffic), bicycle and



Bicyclists ridie Portland's annual Bridge Pedal.
Photo by Thomas Le Ngo



For the cost of a single mile of freeway, Portland built an entire bicycle network.

Bike box in Portland, OR. Photo by Arthur Wendall.

pedestrian bridges, various improvements and maintenance of existing infrastructure, the continuation of Smart Trips, and several additional projects.

Gotschi concluded that even when considering just health care cost savings and fuel savings, the investments in bicycling yield benefits between 3.8 and 1.3 times the cost. In addition, under the first two scenarios, the costs would be recouped by 2015 and by 2032 with the "world class" plan. Gotschi acknowledges the benefits included in his analysis do not give the full picture:

Accounting for lives saved from a reduction in mortality using value of statistical life, as is commonly done for transportation projects, dramatically increases the benefits-cost ratio. Including additional, less easily monetizable benefits would further bolster the economic case for investments in bicycling.

The study did not include the benefits of Portland's investments in cycling on other aspects of its economy. A 2006 survey asked over 100 Portland businesses if Portland's reputation for bike-friendliness is good for business. Eighty-two percent responded "Absolutely/yes" and only 3% responded "no." Another report by Alta Planning and Design found the direct impact of bicycle-related economic activity was $90 million in 2008, a 38% increase over 2006. In addition, the study found bicycle rides, events, and tours had nearly doubled since 2006—from 2,100 to nearly 4,000 annually.

These studies suggest that Portland's investment in bicycling will pay for itself many times over in reduced public health and fuel costs, and increased economic activity.

Sources: Alta Planning and Design 2008, Gotschi 2011, Maus 2006

Looking Outside the Borders

Bicycling in Groningen: An Economic Program

This article was originally published by Global Ideas Bank and is reprinted here with permission from Andrew Curry, Global Ideas Bank, April 2004.

In Groningen, the Netherlands' sixth largest city, the main form of transport is the bicycle. Sixteen years ago, ruinous traffic congestion led city planners to dig up city-center motorways. In 2003 they set about creating a car-free city center. Now Groningen, with a population of 170,000, has the highest level of bicycle usage in the West. Fifty-seven percent of its inhabitants travel by bicycle—compared with four percent in the UK.

> " This is not an environmental program, it is an economic program. We are boosting jobs and business."

The economic repercussions of the program repay some examination. Since 1977, when a six-lane motorway intersection in the city's center was replaced by greenery, pedestrianisation, cycleways, and bus lanes, the city has staged a remarkable recovery. Rents are among the highest in the Netherlands, the outflow of population has been reversed and businesses, once in revolt against car restraint, are clamouring for more of it. As Gerrit van Werven, a senior city planner, puts it, 'This is not an environmental program, it is an economic program. We are boosting jobs and business. It has been proved that planning for the bicycle is cheaper than planning for the car.' Proving the point, requests now regularly arrive from shopkeepers in streets where 'cyclisation' is not yet in force to ban car traffic on their roads.

A vital threshold has been crossed. Through sheer weight of numbers, the bicycle lays down the rules, slowing down traffic, determining the attitudes of drivers. All across the city roads are being narrowed or closed to traffic, cycleways are being constructed and new houses built to which the only direct access is by bicycle. Out-of-town shopping centres are banned. The aim is not to force cars to take longer detours, but to provide a 'fine mesh' network for bicycles, giving them easy access to the city center.



Cyclists in Groningen.
Photo by Jan Glas.



Cyclists in Groningen.
Photo by Tup Wanders

Like the Netherlands nationally, Groningen is backing bicycles because of fears about car growth. Its ten-year bicycle programme is costing £20m, but every commuter car it keeps off the road saves at least £170 a year in hidden costs such as noise, pollution, parking and health.

Bicycling in Groningen is viewed as part of an integral urban renewal, planning and transport strategy. Bicycle-friendly devices seen as exceptional in the UK—separate cycle ways, advanced stop lines at traffic lights, and official sanction for bicyclists to do right hand turns at red lights—are routine.

New city center buildings must provide bicycle garages. There are tens of thousands of parking spaces for bicycles, either in 'guarded' parks—the central railway station has room for over 3,000—or street racks. Under the city hall a nuclear shelter has been turned into a bicycle park (bike parking).

"We don't want a good system for bicycles, we want a perfect system", says Mr. van Werven. "We want a system for bicycles that is like the German autobahns for cars. We don't ride bicycles because we are poor—people here are richer than in England. We ride them because it is fun, it is faster, it is convenient."

To achieve equivalent fuel savings through vehicle efficiency improvements alone, between 19 million and more than 50 million drivers would need to trade in their vehicles for a highly efficient gas-electric hybrid version of the same model. To put this in perspective, there are about 250 million automobiles on America's streets and, despite rapidly growing sales, by the end of 2007 only about one million of them were hybrid vehicles."

The study estimated the value of CO_2 reduction from miles driven avoided to be $333 million with a modest increase in bicycling and walking and over $2.7 billion with a substantial increase (Gotschi 2008).

A Prudent Investment

Research looking at the cost/benefit of investing in bicycling and walking all point to the same conclusion. Bicycling and walking pay dividends.

- Lincoln, Nebraska: Every $1 spent on use of bicycle and pedestrian trails (including construction, maintenance, equipment, and travel) yields $2.94 in direct medical benefits (Wang et. al., 2008).
- Portland, Oregon: Every $1 invested in bicycling yields $3.40 in health care cost savings. When the statistical value of lives is considered, as is done for the evaluation of highway safety improvement projects, every $1 invested yields nearly $100 in benefits (Gotschi 2011).
- Kansas City: Every dollar invested in bicycle and pedestrian projects yields $11.80 in benefits (Ridgway 2010).
- Every dollar invested in bicycle networks yields at least $4 to $5 in benefits (Sælensminde 2004).

Investing in bicycle and pedestrian infrastructure is not only affordable, it creates jobs, stimulates local economies, increases property values, and has lasting benefits to health, air quality, and quality of life.


Photo by Elizabeth Edwards



Photo courtesy of the Safe Routes to School National Partnership

10: CONCLUSION

This report shows that increasing bicycling and walking are goals that are clearly in the public interest. 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 serious 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.

This report has highlighted numerous measures to promote bicycling and walking. As Chapter 7 discusses, a variety of policy measures and provisions are likely needed to make communities more bicycle and pedestrian friendly. 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 United States look to other countries to see what mode share levels are possible, and how



 Photo by Paul Adkins

they have increased bicycling, walking, and safety. The United States lags far behind other countries and international cities in regard to walk and bike share of trips, safety, and public health. As this report has shown, the countries and cities with the greatest levels of bicycling and walking are also the safest places to bicycle and walk. These countries also have the lowest levels of obesity and report that prioritizing bicycling and walking is good for their economies.

As this report shows, the United States overall has great disparities between bicycling and walking mode share, safety, and funding. Twelve percent of trips are by bicycle or foot, yet bicyclists and pedestrians make up 14% of traffic fatalities and receive just 1.6% of federal transportation dollars. An international comparison of bicycle funding and mode share by Gotschi and Mills and Rails-to-Trails Conservancy (see chapter 4, page 96) 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 United States must invest significantly more in these modes.

Although 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 (typically cannot legally drive) or over age 65. Streets that do not adequately accommodate bicyclists and pedestrians create barriers for people who do not drive. This limits their ability to fully participate in American society, or else makes them reliant on others to drive them around. Less than half of states and major U.S. cities have adopted complete streets policies, which 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 the shift 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 com-

12% of trips in the United States are by bicycle or foot, yet bicyclists and pedestrians make up 14% of traffic fatalities and receive just 1.6% of federal transportation dollars.

munities 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.

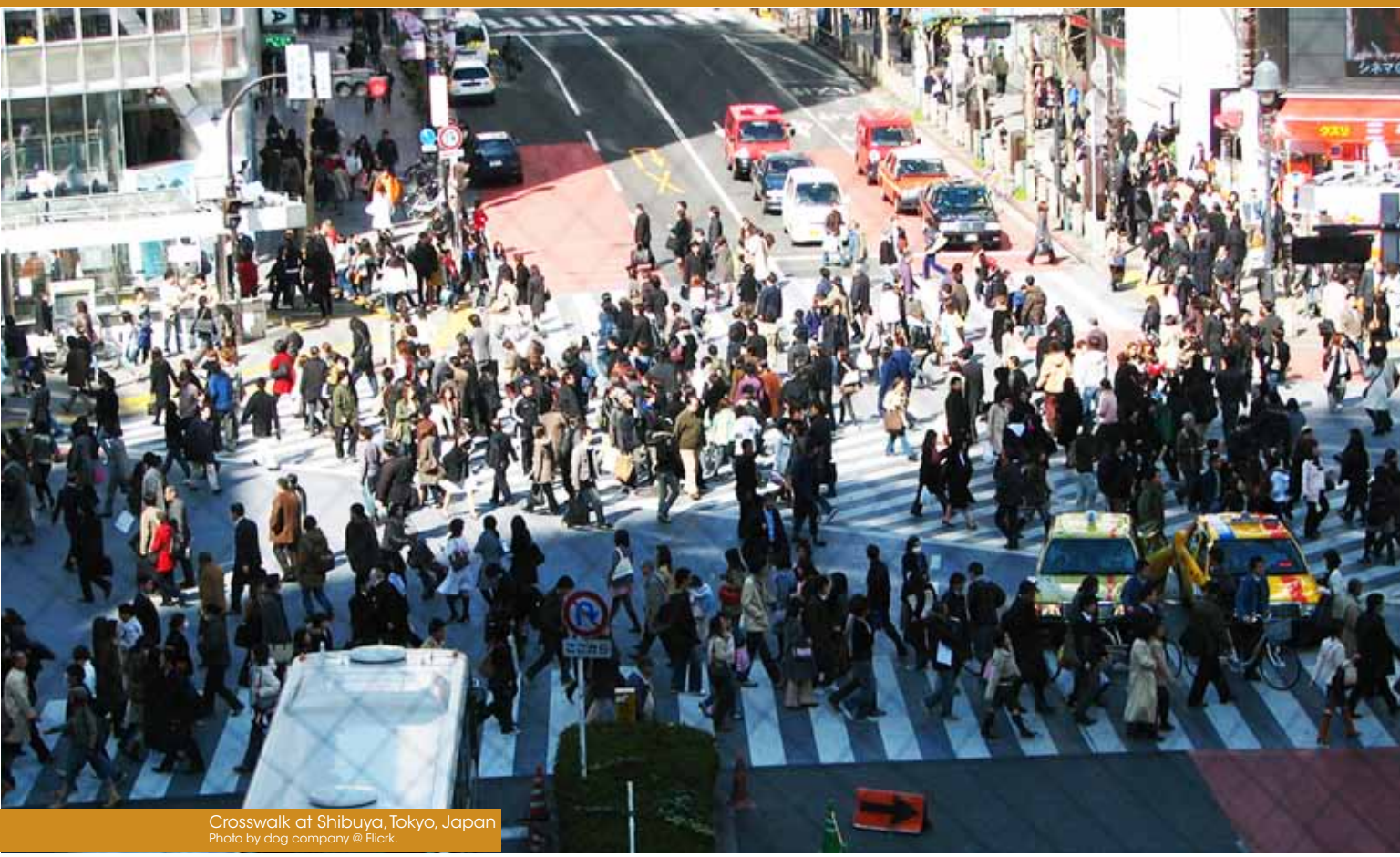
Through researching and compiling data for this report, the Alliance has identified several places in need of improved data collection.

- 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. A national household travel survey should be funded to allow for greater sample size at the local level and to be conducted more regularly—every 7 years is not frequent enough. The Alliance encourages the federal government to fund annual or biennial travel surveys to more accurately measure progress and to better understand travel behaviors, trends, and needs for all modes of transportation.

- Funding data on bicycling and walking are recorded by state departments of transportation for the FHWA. Differences in project coding methods mean that data on funding are not always accurate or comparable between states. For example, a project with 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.

- 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 a framework for best practices for states and local jurisdictions to conduct audits and report on bicycle and pedestrian facilities (and gaps) every 1 to 2 years.



Crosswalk at Shibuya, Tokyo, Japan
Photo by dog company @ Flickr.

- States and cities should produce a document every 1 to 2 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. For example, a city could report on how many people participated in Bike to Work Day and through a survey sample could ask what influence this event had on their biking to work on this day and in the future. These sorts of measurements, tracked over time, could help evaluate the program's effectiveness.

In the future, the Alliance hopes to expand the Benchmarking Report to include other measures affected by bicycling and walking such as reductions in greenhouse gas emissions. The Alliance also hopes to include other international data for comparison purposes, to help demonstrate the great strides that U.S. states and cities must take to meet the ambitious goals they are setting for themselves (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 209, lists a number of resources from these cities and states. These are presented so that practitioners can have models for inspiration when working toward 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 United States. 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 and advocates 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 benchmarks and progress in other communities.

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 2 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.



Photo courtesy of Minnesota Clean Energy Resource Teams

Appendix 1: Overview of Data Sources

Data Source	Description	Method of Data Collection	Frequency of Data Collection	Last Date Available(1)
ACS	American Community Survey: a survey conducted by the U.S. Census Bureau that annually collects year-round data	Similar to Census long form; (about three million households)	Continuous	2009
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	2010
BRFSS	Behavioral Risk Factor Surveillance System: from Centers for Disease Control and Prevention (CDC); statewide health information	Telephone health survey	Continuous	2009
Census	From U.S. Census Bureau	Mailed forms, and house visit for nonresponders	Every 10 years	2010
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	2009
FHWA - FMIS	Federal Highway Administration (FHWA) Fiscal Management Information System (FMIS)	Data reported to FHWA from state and local government agencies	Continuous	2010
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	2011
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	2011
NCSC	National Complete Streets Coalition: tracks and assists with complete streets policies	Monitors adoption of policies through network, media, etc.	Continuous	2011
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	2009
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	2010
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"	2/2011
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	2011
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	2011
USHCN	United States Historical Climatology Network: daily and monthly meteorological data	1,000 observing stations	Continuous	2004-2005

(1) Latest date of availability, presented in this report, as of June 2011.

Appendix 2: Organization and Study Area Matches

City Advocacy Organizations

City	Alliance organization
Albuquerque	Bike ABQ (1)
Arlington, TX	NRO
Atlanta	Atlanta Bicycle Coalition
Austin	League of Bicycling Voters, Austin Cycling Association(1)
Baltimore	NRO
Boston	1- LivableStreets Alliance, 2- Walk Boston★ 3- Boston Cyclists Union★
Charlotte	Charlotte Area Bicycle Alliance
Chicago	1- Active Transportation Alliance, 2- Chicagoland Bicycling Group★
Cleveland	1- Walk+Roll, 2- Cleveland Bikes
Colorado Springs	NRO (4)
Columbus	1- Consider Biking, 2 -Yay Bikes★
Dallas	BikeDFW
Denver	BikeDenver
Detroit	NRO
El Paso	NRO
Fort Worth	BikeDFW
Fresno	NRO
Honolulu	Hawaii Bicycling League
Houston	Citizens' Transportation Coalition★
Indianapolis	1- Alliance for Health Promotion★ 2- IndyCog
Jacksonville	NRO
Kansas City, MO	Kansas City Bicycle Club, Bike Walk KC (1)★, Revolve (1)★
Las Vegas	Outside Las Vegas Foundation(1)★
Long Beach	Los Angeles County Bicycle Coalition, City Fabrick (1)★, Bikeable Communities (1)★
Los Angeles	Los Angeles County Bicycle Coalition, C.I.C.L.E. (1), Bikeside(1)
Louisville	Bicycling for Louisville
Memphis	Livable Memphis★
Mesa	NRO
Miami	Green Mobility Network
Milwaukee	Bicycle Federation of Wisconsin (3)
Minneapolis	1- St. Paul Smart Trips, 2- Midtown Greenway Coalition★, Minneapolis Bicycle Coalition (1)★
Nashville	NRO (4)
New Orleans	Bike Easy
New York	Transportation Alternatives
Oakland	Walk Oakland Bike Oakland
Oklahoma City	NRO
Omaha	Bike Omaha (1)
Philadelphia	Bicycle Coalition of Greater Philadelphia
Phoenix	NRO
Portland, OR	1- Bicycle Transportation Alliance (3), 2- Willamette Pedestrian Coalition★ 3- Community Cycling Center★
Raleigh	NRO
Sacramento	Sacramento Area Bicycle Advocates, Walk Sacramento
San Antonio	NRO
San Diego	San Diego County Bicycle Coalition
San Francisco	1- San Francisco Bicycle Coalition 2- Walk SF
San Jose	Silicon Valley Bicycle Coalition (1)
Seattle	1- Cascade Bicycle Club 2- Feet First 3- Undriving★
Tucson	Living Streets Alliance (1)★
Tulsa	Tulsa Hub★
Virginia Beach	NRO
Washington, DC	Washington Area Bicyclist Association (1)

Legend:
NRO = No Representative Organization ★= Organization is new to the Alliance since the 2010 Benchmarking Report

State Advocacy Organizations

State	Alliance organization
Alabama	Alabama Bicycle Coalition
Alaska	NRO
Arizona	Coalition of Arizona Bicyclists ★
Arkansas	Bicycle Advocacy of Central Arkansas
California	California Bicycle Coalition
Colorado	Bicycle Colorado
Connecticut	Bike Walk Connecticut ★
Delaware	Bike Delaware ★
Florida	Florida Bicycle Association
Georgia	Georgia Bikes!
Hawaii	Hawaii Bicycle League
Idaho	Idaho Pedestrian and Bicycle Alliance ★
Illinois	League of Illinois Bicyclists
Indiana	Bicycle Indiana
Iowa	Iowa Bicycle Coalition
Kansas	KanBikeWalk ★ (1)
Kentucky	NRO (4)
Louisiana	NRO
Maine	Bicycle Coalition of Maine
Maryland	Bike Maryland
Massachusetts	MassBike
Michigan	League of Michigan Bicyclists
Minnesota	Bicycle Alliance of Minnesota, Parks and Trails Council of Minnesota (1)
Mississippi	Bike Walk Mississippi
Missouri	Missouri Bicycle and Pedestrian Coalition
Montana	NRO
Nebraska	NRO
Nevada	Nevada Bicycle Coalition ★
New Hampshire	Bike-Walk Alliance of NH
New Jersey	New Jersey Bike+Walk Coalition
New Mexico	Bicycle Coalition of NM
New York	NY Bicycling Coalition
North Carolina	North Carolina Active Transportation Alliance ★
North Dakota	NRO
Ohio	Ohio Bicycle Federation (1), Bike Walk Ohio (1)
Oklahoma	Oklahoma Bicycling Coalition
Oregon	Bicycle Transportation Alliance (3)
Pennsylvania	PA Walks and Bikes ★
Rhode Island	Rhode Island Bicycle Coalition (1)
South Carolina	Palmetto Cycling Coalition
South Dakota	South Dakota Bicycle Coalition
Tennessee	Bike Walk Tennessee ★
Texas	BikeTexas (1)
Utah	Bike Utah
Vermont	Vermont Bicycle and Pedestrian Coalition (1)
Virginia	BikeWalk Virginia (1)
Washington	Bicycle Alliance of Washington
West Virginia	NRO (4)
Wisconsin	Bicycle Federation of Wisconsin (3)
Wyoming	Teton Valley Trails and Pathways

Legend:

NRO = No Representative Organization

★ = Organization is new to the Alliance since the 2010 Benchmarking Report

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 May 2011. (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. (4) This city or state formerly had a representative organization that has since dissolved or is no longer a member of the Alliance. States and cities with NRO do not have an Alliance member organization dedicated to bicycle and/or pedestrian advocacy in their area. This representation is by no means all inclusive. Only Alliance member organizations were surveyed for this report. Some areas are represented by more than one Alliance organization. Organizations that are not included in this report are not Alliance member organizations (state or local bicycle and pedestrian nonprofit organizations).

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 the 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 a walk from the parking garage to work, and also misses people who walk or bicycle 1 or 2 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

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 has 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 such questions as 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, 25 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, Seattle Tucson, and Washington, DC). Eight 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. However, 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. This 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 that result from reduced mortality due to regular physical activity from commuter bicycling are 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.

Appendix 4: Additional Data on Bicycling and Walking Commute Trends

Bicycle to Work Levels by City 1990-2009

City	# of daily bicycle commuters							% Change '90-'09	% Change '00-'09
	1990	2000	2005	2006	2007	2008	2009		
Albuquerque	2,174	2,408	1,918	2,857	1,878	4,384	3,596	65%	49%
Arlington, TX	234	294	433	137	256	644	75	-68%	-74%
Atlanta	487	562	955	1,108	1,367	1,106	2,732	461%	386%
Austin	1,885	3,280	4,654	3,468	3,833	5,545	4,458	136%	36%
Baltimore	761	824	1,018	552	824	1,620	2,654	249%	222%
Boston	2,456	2,705	2,377	3,495	2,900	4,946	7,156	191%	165%
Charlotte	335	417	481	118	133	822	537	60%	29%
Chicago	3,307	5,956	7,812	11,193	13,736	13,143	14,565	340%	145%
Cleveland	234	379	603	715	777	1,025	611	161%	61%
Colorado Springs	679	964	1,088	1,140	751	628	1,658	144%	72%
Columbus	1,212	1,242	2,131	1,803	2,598	3,361	2,661	120%	114%
Dallas	772	721	1,029	957	1,234	268	879	14%	22%
Denver	1,980	2,652	3,814	4,988	4,657	4,864	5,554	181%	109%
Detroit	340	507	547	928	812	796	1,217	258%	140%
El Paso	666	246	700	440	313	536	447	-33%	82%
Fort Worth	382	303	645	335	612	505	349	-9%	15%
Fresno	1,352	1,232	1,218	2,058	1,294	1,137	1,309	-3%	6%
Honolulu	2,376	2,155	2,504	2,690	1,833	2,944	4,565	92%	112%
Houston	2,707	3,859	2,468	4,151	3,029	4,043	3,983	47%	3%
Indianapolis	595	805	346	782	680	1,125	1,746	193%	117%
Jacksonville	1,852	1,486	899	1,958	1,148	1,893	1,538	-17%	3%
Kansas City, MO	233	257	50	119	558	396	630	170%	145%
Las Vegas	883	814	866	759	1,646	534	847	-4%	4%
Long Beach	1,959	1,351	1,261	1,016	1,911	2,124	2,210	13%	64%
Los Angeles	9,607	9,052	9,821	10,664	11,081	16,147	17,345	81%	92%
Louisville	211	489	658	347	753	1,081	1,366	547%	179%
Memphis	352	304	214	403	864	338	64	-82%	-79%
Mesa	1,898	2,240	1,485	1,285	3,137	1,511	2,220	17%	-1%
Miami	895	700	783	445	187	710	811	-9%	16%
Milwaukee	903	833	1,290	1,154	1,629	2,890	1,675	85%	101%
Minneapolis	3,014	3,856	4,589	4,835	7,198	8,164	8,036	167%	108%
Nashville	361	386	448	355	659	1,261	322	-11%	-17%
New Orleans	1,689	2,187	1,712	1,500	1,672	1,183	3,742	122%	71%
New York	9,643	15,024	16,468	19,953	26,243	24,428	22,619	135%	51%
Oakland	1,758	2,085	2,529	3,690	2,278	3,711	4,884	178%	134%
Oklahoma City	291	266	422	876	217	510	222	-24%	-17%
Omaha	243	269	217	555	479	170	498	105%	85%
Philadelphia	3,637	4,908	4,778	6,403	5,753	9,410	13,304	266%	171%
Phoenix	5,168	5,146	3,940	4,175	3,751	5,986	6,184	20%	20%
Portland, OR	2,453	4,775	8,942	11,477	10,987	17,365	16,846	587%	253%
Raleigh	510	508	540	526	722	610	1,355	166%	167%
Sacramento	2,971	2,252	3,305	2,455	3,710	5,658	4,090	38%	82%
San Antonio	593	788	669	447	822	664	859	45%	9%
San Diego	6,111	4,214	3,602	4,981	5,340	5,667	5,212	-15%	24%
San Francisco	3,634	8,302	7,053	8,938	10,514	12,038	13,023	258%	57%
San Jose	2,486	2,638	1,622	1,903	3,033	5,531	3,908	57%	48%
Seattle	4,179	5,943	6,963	7,330	7,336	9,953	10,593	153%	78%
Tucson	4,957	4,791	5,230	3,774	4,393	5,029	4,439	-10%	-7%
Tulsa	361	385	456	113	201	784	1,132	214%	194%
Virginia Beach	912	719	1,230	1,240	526	761	2,160	137%	200%
Washington, DC	2,292	3,035	4,336	5,667	4,871	7,066	6,306	175%	108%
Total/Average	100,990	121,514	133,119	153,258	167,136	207,015	219,192	105%(1)	80%(1)
Median	1,352	1,242	1,261	1,285	1,646	1,620	2,220	-0.8%	72%
High	9,643	15,024	16,468	19,953	26,243	24,428	22,619	587%	386%
Low	211	246	50	113	133	170	64	-89%	-79%

Legend:
= High value
= Low value

Sources: U.S. Census 1990, 2000; ACS 2005-2009 **Note:** (1) Average.

Bicycle to Work Levels by State 1990-2009

State	# of daily bicycle commuters							% Change '90-'09	% Change '00-'09
	1990	2000	2005	2006	2007	2008	2009		
Alabama	1,781	1,414	1,814	1,315	2,027	2,632	2,392	34%	69%
Alaska	1,717	1,583	2,629	2,604	3,370	2,806	2,689	57%	70%
Arizona	22,134	22,209	20,014	20,412	21,407	25,094	26,015	18%	17%
Arkansas	1,022	1,511	2,040	1,953	1,510	1,611	1,516	48%	0%
California	130,706	120,567	109,912	128,960	144,406	167,190	158,477	21%	31%
Colorado	13,140	16,905	21,344	25,686	27,014	31,893	34,500	163%	104%
Connecticut	2,855	2,875	4,398	4,557	4,689	4,100	5,072	78%	76%
Delaware	1,131	851	1,186	1,775	1,572	1,240	1,255	11%	47%
Florida	40,726	39,294	33,705	43,651	41,649	49,775	51,684	27%	32%
Georgia	4,807	5,588	6,543	6,835	8,077	9,192	10,158	111%	82%
Hawaii	6,100	4,888	4,057	4,758	3,694	6,265	8,128	33%	66%
Idaho	3,509	3,942	6,589	5,133	7,626	10,830	7,831	123%	99%
Illinois	13,922	18,406	22,126	28,073	32,313	33,346	33,449	140%	82%
Indiana	6,150	7,725	11,363	11,164	9,407	13,187	12,069	96%	56%
Iowa	4,369	5,244	7,992	7,321	6,192	7,572	5,797	33%	11%
Kansas	3,181	2,966	3,567	4,624	4,375	5,598	5,369	69%	81%
Kentucky	1,595	2,609	2,062	2,389	4,016	3,578	4,129	159%	58%
Louisiana	6,089	6,648	5,064	6,428	5,525	7,059	8,056	32%	21%
Maine	1,455	1,402	1,801	2,652	2,435	3,436	3,202	120%	128%
Maryland	4,715	4,843	4,744	7,545	5,006	9,327	10,315	119%	113%
Massachusetts	11,285	12,355	11,967	16,778	18,803	23,672	26,832	138%	117%
Michigan	9,196	10,034	12,294	15,263	15,487	20,046	19,689	114%	96%
Minnesota	8,450	10,096	13,766	16,660	17,838	24,009	18,968	124%	88%
Mississippi	1,519	1,112	1,318	1,541	3,157	2,948	995	-34%	-11%
Missouri	2,941	3,937	5,003	4,920	6,115	5,898	6,936	136%	76%
Montana	3,209	4,049	7,296	6,048	6,535	6,916	7,946	148%	96%
Nebraska	2,814	2,547	3,558	4,366	5,227	4,466	4,126	47%	62%
Nevada	4,483	4,545	4,533	6,490	6,862	5,698	4,811	7%	6%
New Hampshire	1,721	1,218	1,355	1,584	2,235	2,263	2,608	52%	114%
New Jersey	9,183	9,142	10,596	13,382	11,834	13,272	13,239	44%	45%
New Mexico	4,389	4,287	4,218	4,795	4,025	9,076	5,870	34%	37%
New York	20,159	25,036	28,987	36,279	41,879	43,186	39,185	94%	57%
North Carolina	7,136	6,840	7,947	10,172	8,383	10,388	10,766	51%	57%
North Dakota	1,030	1,011	1,397	1,703	1,943	2,853	1,353	31%	34%
Ohio	7,703	9,535	12,050	10,938	15,679	18,320	13,780	79%	45%
Oklahoma	2,721	2,910	3,641	3,157	2,942	4,449	3,964	46%	36%
Oregon	13,647	17,172	25,477	28,979	32,937	37,582	39,920	193%	132%
Pennsylvania	12,556	14,001	14,560	18,092	18,361	24,381	29,316	133%	109%
Rhode Island	1,041	1,338	1,140	1,194	1,203	1,521	1,978	90%	48%
South Carolina	4,598	3,874	4,270	5,340	3,830	4,579	5,819	27%	50%
South Dakota	1,258	950	1,581	2,760	2,014	2,164	2,353	87%	148%
Tennessee	1,818	2,330	1,916	2,697	3,226	4,592	3,004	65%	29%
Texas	18,460	21,551	22,938	23,514	25,483	29,309	26,211	42%	22%
Utah	5,010	5,267	7,103	7,567	9,806	9,238	10,584	111%	101%
Vermont	1,054	977	1,635	1,497	1,579	2,143	2,550	142%	161%
Virginia	9,068	7,930	8,366	8,243	10,797	15,839	12,571	39%	59%
Washington	13,170	16,205	19,255	21,790	21,491	28,974	28,395	116%	75%
West Virginia	530	755	506	872	1,635	1,209	1,208	128%	60%
Wisconsin	11,802	11,635	17,264	20,066	19,062	21,471	20,009	70%	72%
Wyoming	1,509	1,353	1,673	2,850	3,310	2,839	2,308	53%	71%
Total/Average	466,856	488,497	534,896	623,039	664,859	786,098	765,703	64%(1)	57%(1)
Median	4,598	4,843	5,064	4,628	6,192	7,316	7,889	69%	64%
High	130,706	120,567	109,912	128,960	144,406	167,190	158,477	193%	161%
Low	530	755	506	872	1,203	1,209	995	-34%	-11%

Sources: U.S. Census 1990, 2000; ACS 2005-2009 **Note:** (1) Average.

Legend:
= High value
= Low value

Walking to Work Levels by City 1990-2009

City	# of daily walking commuters							% Change '90-'09	% Change '00-'09
	1990	2000	2005	2006	2007	2008	2009		
Albuquerque	5,358	5,785	5,173	5,274	5,938	5,829	3,981	-26%	-31%
Arlington, TX	2,428	2,761	1,425	1,836	2,602	4,014	3,430	41%	24%
Atlanta	6,453	6,261	6,068	9,350	7,922	9,643	11,450	77%	83%
Austin	8,058	8,995	6,374	7,901	8,099	7,967	9,677	20%	8%
Baltimore	22,906	17,727	13,819	20,549	18,302	16,816	19,134	-16%	8%
Boston	39,450	36,323	31,769	39,913	40,598	45,522	47,840	21%	32%
Charlotte	4,623	4,269	4,762	5,712	5,973	6,130	8,460	83%	98%
Chicago	76,041	67,556	63,580	64,866	67,084	73,472	75,469	-1%	12%
Cleveland	8,964	7,080	6,471	7,133	5,726	7,221	7,208	-20%	2%
Colorado Springs	4,370	4,514	4,661	3,760	4,841	4,858	5,232	20%	16%
Columbus	13,494	11,743	5,528	10,017	9,406	10,830	9,879	-27%	-16%
Dallas	12,050	10,466	9,675	10,400	8,089	11,084	11,406	-5%	9%
Denver	12,345	12,112	12,967	11,448	12,434	13,131	11,300	-8%	-7%
Detroit	10,919	8,977	6,759	8,457	6,793	6,125	11,670	7%	30%
El Paso	5,917	4,075	4,531	5,020	5,303	4,712	6,339	7%	56%
Fort Worth	4,627	4,036	3,004	5,777	3,500	3,766	3,894	-16%	-4%
Fresno	3,732	3,222	3,094	4,052	3,951	3,613	3,464	-7%	8%
Honolulu	12,494	11,404	12,004	11,633	11,725	15,111	17,058	37%	50%
Houston	23,194	19,413	16,357	22,455	20,901	19,762	24,318	5%	25%
Indianapolis	8,825	7,705	6,722	6,656	6,237	8,919	7,376	-16%	-4%
Jacksonville	8,372	6,271	6,545	6,506	4,934	6,567	6,447	-23%	3%
Kansas City, MO	5,838	4,731	4,796	4,255	4,584	3,902	5,297	-9%	12%
Las Vegas	4,634	4,545	4,541	4,978	5,326	3,838	6,288	36%	38%
Long Beach	6,185	4,674	3,766	5,244	7,468	7,285	4,597	-26%	-2%
Los Angeles	63,885	53,386	52,416	58,869	64,134	61,819	59,805	-6%	12%
Louisville	4,346	4,539	3,426	4,273	6,219	6,621	5,456	26%	20%
Memphis	6,569	5,300	5,508	5,575	5,631	6,099	5,031	-23%	-5%
Mesa	3,322	3,794	4,083	4,666	4,207	4,192	4,000	20%	5%
Miami	6,144	4,646	7,203	3,870	6,269	6,163	6,378	4%	37%
Milwaukee	16,051	11,770	9,586	12,776	11,516	10,689	12,479	-22%	6%
Minneapolis	14,798	13,488	11,004	13,735	12,169	11,592	13,308	-10%	-1%
Nashville	6,485	6,509	4,815	5,758	3,620	6,732	4,282	-34%	-34%
New Orleans	9,762	9,822	7,479	3,915	7,055	8,202	8,736	-11%	-11%
New York	340,077	332,264	323,712	355,154	378,073	392,786	384,065	13%	16%
Oakland	7,787	6,355	4,898	7,970	8,379	7,735	7,037	-10%	11%
Oklahoma City	4,093	3,714	3,316	4,398	2,539	4,341	3,841	-6%	3%
Omaha	5,445	4,659	3,952	5,279	3,925	5,242	7,559	39%	62%
Philadelphia	66,446	51,564	43,259	44,102	45,003	49,590	53,533	-19%	4%
Phoenix	12,874	12,998	10,730	12,991	12,383	10,921	13,464	5%	4%
Portland, OR	12,058	14,192	11,076	14,264	12,232	15,482	16,125	34%	14%
Raleigh	4,087	4,383	2,913	3,549	5,768	4,956	5,040	23%	15%
Sacramento	5,416	4,602	6,905	5,586	6,888	7,336	5,556	3%	21%
San Antonio	12,244	10,679	7,873	13,614	12,451	10,839	12,367	1%	16%
San Diego	27,250	21,172	10,938	22,632	16,465	18,821	18,364	-33%	-13%
San Francisco	37,611	39,192	36,629	37,934	40,241	41,621	45,227	20%	15%
San Jose	6,495	6,170	6,131	8,183	8,645	8,142	8,480	31%	37%
Seattle	20,250	23,291	20,737	26,686	26,907	31,419	27,249	35%	17%
Tucson	7,237	7,438	7,256	9,942	9,434	8,098	8,567	18%	15%
Tulsa	4,995	4,195	3,440	3,504	4,510	4,429	3,475	-30%	-17%
Virginia Beach	7,373	4,369	3,429	8,257	4,621	5,874	3,325	-55%	-24%
Washington, DC	35,978	30,785	24,905	33,625	32,163	36,636	32,328	-10%	5%
Total/Average	1,064,763	969,921	882,010	1,014,299	1,029,183	1,086,494	1,096,291	3%(1)	13%(1)
Median	8.058	7,080	6,545	7,970	7,468	7,967	8,480	-1%	11%
High	340,077	332,264	323,712	355,154	378,073	392,786	384,065	83%	98%
Low	2,428	2,761	1,425	1,836	2,539	3,613	3,325	-55%	-34%

Sources: U.S. Census 1990, 2000; ACS 2005-2009 **Note:** (1) Average.

Legend:
= High value
= Low value

Walking to Work Levels by State 1990-2009

State	# of daily walking commuters							% Change '90-'09	% Change '00-'09
	1990	2000	2005	2006	2007	2008	2009		
Alabama	32,873	25,360	23,230	22,003	25,887	25,826	25,810	-21%	2%
Alaska	26,927	21,298	19,368	28,841	27,750	24,288	26,751	-1%	26%
Arizona	54,648	58,015	54,084	63,952	62,419	55,038	65,624	20%	13%
Arkansas	27,058	21,915	19,301	21,851	19,651	25,614	22,866	-15%	4%
California	469,867	414,581	384,989	440,072	462,555	470,877	447,411	-5%	8%
Colorado	69,041	65,668	66,273	73,495	77,613	69,642	73,437	6%	12%
Connecticut	61,484	44,348	33,775	52,221	53,229	49,997	50,342	-18%	14%
Delaware	12,862	9,637	7,159	10,865	11,001	9,795	9,713	-24%	1%
Florida	145,269	118,386	121,370	137,621	134,794	125,397	118,132	-19%	0%
Georgia	72,640	65,776	54,467	74,829	71,522	66,106	70,992	-2%	8%
Hawaii	31,935	27,134	19,369	30,287	27,727	27,763	29,016	-9%	7%
Idaho	20,091	20,747	21,841	23,073	21,645	22,640	17,568	-13%	-15%
Illinois	225,942	180,119	151,285	171,224	183,864	185,226	189,926	-16%	5%
Indiana	84,324	69,184	54,512	65,675	61,439	69,561	62,950	-25%	-9%
Iowa	76,572	58,088	46,469	56,101	58,839	64,035	61,390	-20%	6%
Kansas	45,346	33,271	33,761	36,467	37,420	37,168	38,761	-15%	17%
Kentucky	54,938	42,494	30,024	37,637	40,320	45,380	43,922	-20%	3%
Louisiana	48,216	40,184	32,101	32,165	37,577	38,373	39,371	-18%	-2%
Maine	30,813	24,700	23,204	27,536	26,257	25,976	26,414	-14%	7%
Maryland	83,417	64,852	56,401	73,327	71,127	68,399	74,434	-11%	15%
Massachusetts	161,820	134,566	114,505	133,638	136,920	151,996	151,189	-7%	12%
Michigan	125,501	101,506	79,324	99,422	101,010	97,835	98,309	-22%	-3%
Minnesota	105,328	84,148	70,164	83,377	82,058	81,952	77,059	-27%	-8%
Mississippi	27,142	21,868	15,274	21,646	20,750	21,662	19,684	-27%	-10%
Missouri	66,553	55,631	48,382	57,187	55,818	57,211	54,127	-19%	-3%
Montana	27,022	23,336	21,160	24,302	21,982	26,069	24,724	-9%	6%
Nebraska	36,914	28,003	23,631	31,898	27,182	29,332	30,642	-17%	9%
Nevada	24,866	24,875	26,044	25,553	28,654	29,787	25,187	1%	1%
New Hampshire	23,137	18,545	18,381	23,634	22,824	23,365	19,158	-17%	3%
New Jersey	156,523	121,305	122,068	141,051	133,200	142,567	137,504	-12%	13%
New Mexico	21,923	21,435	21,064	19,117	19,460	23,238	20,989	-4%	-2%
New York	575,089	511,721	469,473	547,956	558,152	583,118	574,322	0%	12%
North Carolina	96,614	74,147	53,946	73,056	78,373	75,088	82,681	-14%	12%
North Dakota	24,111	16,094	13,492	13,505	14,814	12,925	12,419	-48%	-23%
Ohio	156,648	125,882	97,639	134,493	121,594	118,969	116,395	-26%	-8%
Oklahoma	39,782	32,796	27,643	32,813	31,494	33,566	30,444	-23%	-7%
Oregon	53,953	57,217	54,015	68,134	62,702	70,638	65,863	22%	15%
Pennsylvania	304,589	229,725	201,199	234,674	228,848	235,564	227,700	-25%	-1%
Rhode Island	20,727	18,717	12,701	15,426	16,929	15,576	15,797	-24%	-16%
South Carolina	50,538	42,567	27,136	35,316	35,438	37,212	36,672	-27%	-14%
South Dakota	22,578	16,786	15,277	17,092	18,828	19,488	17,914	-21%	7%
Tennessee	50,773	39,689	36,376	39,065	39,075	39,283	38,131	-25%	-4%
Texas	202,494	173,670	148,535	195,559	189,007	196,347	192,756	-5%	11%
Utah	25,080	28,523	23,991	32,864	32,736	38,437	36,985	47%	30%
Vermont	19,001	17,554	16,563	19,650	20,312	21,088	17,214	-9%	-2%
Virginia	97,766	80,487	63,042	87,750	81,547	89,107	85,818	-12%	7%
Washington	91,475	89,739	83,595	99,717	106,144	113,874	103,950	14%	16%
West Virginia	29,511	21,059	18,135	23,118	18,828	23,802	20,652	-30%	-2%
Wisconsin	130,136	100,301	79,439	99,410	93,824	97,390	94,869	-27%	-5%
Wyoming	11,051	10,548	11,319	8,244	10,908	10,771	9,347	-15%	-11%
Total/Average	4,488,886	3,758,982	3,291,401	3,951,534	3,954,210	4,060,994	3,965,659	-12% (1)	5% (1)
Median	53,953	42,567	33,775	39,065	40,320	42,332	41,647	-16%	4%
High	575,089	511,721	469,473	547,956	558,152	583,118	574,332	47%	30%
Low	11,051	9,637	7,159	8,244	10,908	9,795	9,347	-48%	-23%

Sources: U.S. Census 1990, 2000; ACS 2005-2009 **Note:** (1) Average.

Legend:
= High value
= Low value

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
• **American Public Health Association:** http://bit.ly/d5iw6O
• **American Trails:** http://www.americantrails.org/
• **America Walks:** http://www.americawalks.org
• **Association of Pedestrian and Bicycle Professionals:** http://www.apbp.org
• **Bikes Belong Coalition**: http://www.bikesbelong.org
• **International Mountain Bicycling Association:** http://www.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.railstotrails.org
• **Safe Routes to School National Partnership:** http://www.saferoutespartnership.org

Economic Impact:

• **The Hidden Health Costs of Transportation:** http://bit.ly/cMo7HI
• **Economic Benefits of Bicycle Infrastructure:** http://bit.ly/rchKVd
• **Economic Impact of Road Riding Events:** http://bit.ly/qUTTrG
• **How Bicycling Investments Affect Real Estate:** http://bit.ly/p7I9SI
• **Economic Value Walkability:** http://www.vtpi.org/walkability.pdf
• **Economic Impact Federal Investment in Bicycling: 10 Case Studies:** http://bit.ly/funydz
• **Economic Impact of U.S. Bike Route:** http://bit.ly/qAsHAq
• **Health Economic Assessment Tool (World Health Organization):** http://www.heatwalkingcycling.org/

Economic Impact Studies

• **Baltimore:** www.bikeleague.org/resources/reports/pdfs/baltimore_Dec20.pdf
• **Colorado:** http://www.atfiles.org/files/pdf/CObikeEcon.pdf
• **Florida, California, and Iowa (trails):** http://bit.ly/qaepVb
• **Maine:** http://www.maine.gov/mdot/opt/pdf/biketourismexecsumm.pdf
• **Maryland/Pennsylvania:** http://bit.ly/pSIQKg
• **Minnesota:** http://bit.ly/c1YuLK
• **New York (trails):** http://nysparks.com/recreation/trails/statewide-plans.aspx.; Statewide Trails Plan. Appendix C – Every Mile Counts – An Analysis of the 2008 Trail User Surveys.
• **North Carolina (Outer Banks):** http://1.usa.gov/oZLo5n
• **Portland (cost:benefit):** http://bit.ly/nC5nY9
• **Portland (bike industry):** http://bit.ly/kMQih4
• **San Francisco (bike lanes):** http://www.emilydrennen.org/TrafficCalming_full.pdf
• **Virginia (trail):** http://atfiles.org/files/pdf/VACstudy04.pdf
• **Wisconsin:** http://bit.ly/aMnH09

Education:

- **Blueprint for a Bicycle Friendly America:** http://bit.ly/nfrDDg
- **State Bike Summit Guide:** http://bit.ly/qYd1jg

Share the Road:

- **Colorado (3-2-1 Courtesy Code):** http://bicyclecolo.org/page.cfm?PageID=1030
- **Maine (Share the Road):** http://www.sharetheroadmn.org/resources.html
- **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 (Safe Streets Save Lives):** http://www.safestreetssavelives.org
- **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://www.wecyclect.org/education/
- **Florida:** http://www.floridabicycle.org/programs/education.html
- **Hawaii:** http://www.hbl.org/content/bikeed
- **Illinois:** http://www.bikelib.org/
- **Indiana:** http://www.bicycleindiana.org/education.html
- **Kansas:** http://ksdot.org/burRail/bike/default.asp
- **Maine:** http://www.bikemaine.org/what-we-do/education
- **Michigan:** http://www.lmb.org/index.php/Education/
- **Minnesota:** http://www.bikemn.org/
- **New York:** http://www.bikenewyork.org/learn/classes-workshops/overview/
- **Oklahoma:** http://okbike.org/index.php?option=com_content&task=section&id=6&Itemid=35
- **Oregon:** http://www.bta4bikes.org/at_work/programs.php
- **Texas:** http://www.biketexas.org/en/education
- **Vermont:** http://www.vtbikeped.org/what/safety.htm
- **West Virginia:** http://www.wvcf.org/home/

Encouragement:

- **Blueprint for a Bicycle Friendly America:** http://bit.ly/nfrDDg

Bike to Work Day Events:

- **Baltimore:** http://www.baltometro.org/commuter-options/bike-to-work-day
- **Cleveland:** http://www.clevelandbicycleweek.org/events/bike-work-day
- **Denver:** http://www.drcog.org/btwd2009/
- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/biketoworkday2011.htm
- **San Francisco:** http://www.sfbike.org/?btwd and http://www.youcanbikethere.com/
- **San Jose:** http://bikesiliconvalley.org/btwd
- **Washington, DC:** http://www.waba.org/events/btwd/

Open Streets/Ciclovias/Sunday Parkways:

- **See the current info on over 60 open streets initiatives at:** http://www.OpenStreetsProject.org
- **Baltimore:** http://www.baltimorespokes.org/article.php?story=20070821100331287
- **Chicago:** http://www.activetrans.org/openstreets
- **Los Angeles:** http://www.ciclavia.org/

- **Miami:** http://bikemiamiblog.wordpress.com/
- **New York:** http://www.nyc.gov/html/dot/summerstreets/html/home/home.shtml
- **Oakland:** http://oaklavia.org/
- **Portland:** http://www.portlandonline.com/Transportation/index.cfm?c=46103
- **San Francisco:** http://sundaystreetssf.com/
- **Seattle:** http://www.seattle.gov/transportation/summerstreets.htm

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://1.usa.gov/o2cPn5

Public Bike Sharing:

- **Chicago:** http://chicago.bcycle.com/
- **Denver:** http://www.denverbikesharing.org/
- **Minneapolis:** https://www.niceridemn.org/
- **Nashville:** http://www.nashvillebikeshare.org/
- **Washington, DC:** http://www.capitalbikeshare.com/

Engineering

- **Blueprint for a Bicycle Friendly America:** http://bit.ly/nfrDDg

Bicycle Parking:

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

Bicycle and Pedestrian Facility Design:

- **Bicycle Facility Design**: http://www.bicyclinginfo.org/engineering/
- **Outdoor Developed Areas (recreational trails):** http://www.access-board.gov/outdoor/index.htm
- **Pedestrian Facility Design**: http://www.walkinginfo.org/engineering/
- **Public Rights of Way:** http://www.access-board.gov/prowac/index.htm
- **Shared Use Paths:** http://www.access-board.gov/sup.htm
- **Urban Bikeway Design Guide:** http://nacto.org/cities-for-cycling/design-guide/

Funding:

- **America Bikes Funding Fact Sheet:** http://bit.ly/pkwbNQ
- **Congestion Mitigation and Air Quality Improvement Program:** http://bit.ly/r15wxM
- **Highway Safety Improvement Program:** http://bit.ly/r8vwB8
- **Highway Safety Improvement Program Case Studies:** http://bit.ly/pnKSLG
- **Federal Funding for Bicycling:** http://1.usa.gov/qXGI0K
- **Rescissions:** http://www.advocacyadvance.org/site_images/content/Rescissions_FAQs.pdf
- **Transportation Enhancements:** http://www.enhancements.org

Infrastructure:

- **Bicycles on Bridges**: http://www.advocacyadvance.org/docs/Bridge_Access_Report.pdf
- **Economic Benefits of Bicycle Infrastructure:** http://bit.ly/rchKVd

Sharrows:

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

Environment

Climate Change/Air Quality

- **Climate Change and Bicycling:** http://bit.ly/bbe92z
- **Congestion Mitigation and Air Quality Improvement Program:** http://bit.ly/r15wxM

Healthy and Active Living:

- **American Public Health Association:** http://bit.ly/d5iw6O
- **Active Living Research:** http://www.activelivingresearch.org/
- **Centers for Disease Control and Prevention**: http://www.cdc.gov/HealthyYouth/index.htm
- **Health Economic Assessment Tool:** http://www.heatwalkingcycling.org/
- **Healthy Places (CDC):** www.cdc.gov/healthyplaces
  - Fact Sheets: http://www.cdc.gov/healthyplaces/factsheets.htm
  - Healthy Community Design: http://www.cdc.gov/healthyplaces/healthy_comm_design.htm
  - Health Impact Assessment: http://www.cdc.gov/healthyplaces/hia.htm
  - Images: http://www.cdc.gov/healthyplaces/images.htm
  - Increasing Physical Activity: http://www.cdc.gov/healthyplaces/healthtopics/physactivity.htm
  - Reducing Injury: http://www.cdc.gov/healthyplaces/healthtopics/injury.htm
- **Kaiser Permanente's Thrive Campaign:** http://thrivewithkp.org/
- **National Environmental Public Health Tracking:** http://bit.ly/mAF7cT
- **Robert Woods Johnson Foundation Active Living by Design**: http://www.activelivingbydesign.org

Health Impact Assessments:

- **Oregon (Crook County):** http://1.usa.gov/p0hUcx
- **Sacramento:** http://www.ph.ucla.edu/hs/health-impact/docs/WalktoschoolSummary.pdf
- **Washington (Clark County):** http://bit.ly/r54yTu

International Organizations

- **Denmark Cycling Embassy:** http://www.cycling-embassy.dk/
- **European Cyclists Federation:** http://www.ecf.com/
- **Fietsberaad:** http://www.fietsberaad.nl/

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/search-bike.shtml
- **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/programs/bikeped/maps/index.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/resources/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.html
- **Arlington, TX:** http://www.arlingtontx.gov/planning/HikeandBike.html
- **Atlanta:** http://bit.ly/pmYIYp
- **Las Vegas:** http://www.rtcsouthernnevada.com/mpo/plansstudies/nmamp/index.cfm
- **Nashville:** http://mpw.nashville.gov/IMS/stratplan/PlanDownload.aspx
- **Sacramento:** http://www.sacog.org/bikeinfo/download_bike_ped_trails_mp.cfm

Bicycle Master Plans:

- **Austin:** http://www.ci.austin.tx.us/publicworks/bicycle-plan.htm
- **Baltimore:** http://1.usa.gov/rkgyvT
- **Chicago:** http://bike2015plan.org/
- **Columbus:** http://www.altaprojects.net/columbus/
- **Dallas:** http://www.tooledesign.com/dallasbikeplan/
- **Delaware:** http://bit.ly/1qfa1T
- **Denver:** http://bit.ly/kH56Mf
- **Fresno:** http://bit.ly/11E7HM
- **Hawaii:** http://hawaii.gov/dot/highways/Bike/Bike%20Plan/index.htm
- **Honolulu:** http://www1.honolulu.gov/dts/bikeway/
- **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
- **Nevada:** http://www.bicyclenevada.com/bikeplan03.htm
- **New York City:** http://www.nyc.gov/html/dcp/html/bike/mp.shtml
- **Oakland:** http://bit.ly/njCGb2
- **Portland, OR:** http://bit.ly/17AeXX
- **Raleigh:** http://1.usa.gov/nAnBFG
- **Sacramento County:** http://bit.ly/nq5yst
- **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/publicworks/downloads/sidewalk_mp_resolution.pdf
- **Kansas City:** http://bit.ly/p8E8hn
- **Louisville:** http://www.louisvilleky.gov/HealthyHometown/StepUpLouisville/pedmasterplan/
- **Minneapolis:** http://bit.ly/TFTqB
- **Oakland:** www.oaklandnet.com/government/pedestrian/PedMasterPlan.pdf
- **Portland, OR:** http://www.portlandonline.com/transportation/index.cfm?c=34778&a=292295
- **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, DC:** http://1.usa.gov/nHvOL9

Policies:

Advisory Committees:

- **Arlington Bicycle Advisory Committee:** http://www.nctcog.org/trans/committees/bpac/index.asp
- **California Bicycle Advisory Committee:** http://www.dot.ca.gov/hq/tpp/offices/bike/cbac.html
- **City of Columbus Bikeway Advisory Committee:** http://bit.ly/nRJhhi
- **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 Pedestrian and Bicycle Advisory Committee:** http://bit.ly/ocFpQX
- **Los Angeles Bicycle Advisory Committee:** http://ladot.lacity.org/tf_Bicycle_advisory.htm
- **Los Angeles Pedestrian Advisory Committee:** http://bit.ly/chcHn2
- **Maryland Bicycle and Pedestrian Advisory Committee:** http://bit.ly/jcQ1Q
- **Miami-Dade Bicycle Pedestrian Advisory Committee:** http://1.usa.gov/nyOJO3
- **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://bit.ly/oXsjIh
- **Omaha Bicycle Advisory Committee:** http://bit.ly/o9llI
- **San Antonio Bicycle Mobility Advisory Committee:** http://bit.ly/7tSSsv
- **San Francisco Bicycle Advisory Committee:** http://www.sfgov.org/site/bac_index.asp?id=11525
- **San Jose Bicycle Pedestrian Advisory Committee:** http://1.usa.gov/nsRXqC
- **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

Complete Streets Policies:

- **Guide to Complete Streets Campaigns:** http://www.peoplepoweredmovement.org/publications
- **Examples of Complete Streets Policies and Guides:** http://bit.ly/5Iy15q
- **Federal policy:** http://www.dot.gov/affairs/2010/bicycle-ped.html
- **California:** http://www.completestreets.org/webdocs/policy/cs-ca-legislation.pdf
- **Connecticut:** http://www.completestreets.org/webdocs/policy/cs-ct-legislation.pdf
- **Delaware:** http://governor.delaware.gov/orders/exec_order_06.shtml#TopOfPage
- **Hawaii:** http://www.completestreets.org/webdocs/policy/cs-hi-legislation.pdf
- **Illinois:** http://www.completestreets.org/webdocs/policy/cs-il-legislation.pdf
- **Louisiana:** http://www.completestreets.org/webdocs/policy/cs-la-resolution.pdf

- **Louisville:** http://www.louisvilleky.gov/BikeLouisville/Complete+Streets/
- **Massachusetts:** http://bit.ly/pVDsBQ
- **Minnesota:** http://www.completestreets.org/webdocs/policy/cs-mn-legislation.pdf
- **New Jersey:** http://www.completestreets.org/webdocs/policy/cs-nj-dotpolicy.pdf
- **North Carolina:** http://www.completestreets.org/webdocs/policy/cs-nc-dotpolicy.pdf
- **Oregon:** http://www.completestreets.org/webdocs/policy/cs-or-legislation.pdf
- **Rhode Island:** http://www.rilin.state.ri.us/statutes/title31/31-18/31-18-21.HTM
- **Wisconsin:** http://www.completestreets.org/webdocs/policy/cs-wi-legislation.pdf

Police on Bicycles:

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

Safe Passing Laws:

- **3FeetPlease.com:** http://www.3feetplease.com/
- **Arizona:** http://azbikelaw.org/articles/ThreeFoot.html
- **Austin:** http://bit.ly/prO7XV
- **Delaware:** http://delcode.delaware.gov/title21/c041/sc03/index.shtml
- **Louisiana:** http://www.louisiana3feet.com/
- **Georgia:** http://www.legis.ga.gov/legislation/en-US/Display.aspx?Legislation=32251
- **Maine:** http://www.mainelegislature.org/legis/statutes/29-a/title29-asec2070.html
- **New Orleans:** http://bit.ly/eVzY4
- **Oklahoma City:** http://bit.ly/46paAG
- **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://www.cycle-helmets.com/
- **LAB Helmet Law Position:** http://www.bikeleague.org/about/positions/helmetuse.php
- **Arguments Against Mandatory Helmet Laws:** http://www.kenkifer.com/bikepages/advocacy/mhls.htm

Staffing:

- **Why Communities & States Need Bicycle and Pedestrian Staff:** http://bit.ly/o5Kjel

Retailers/Industry:

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

Safety:

- **Distracted Driving:** http://www.advocacyadvance.org/docs/distracted_driving_league_report.pdf
- **Highway Safety Improvement Program:** http://bit.ly/r8vwB8
- **Highway Safety Improvement Program Case Studies:** http://bit.ly/pnKSLG
- **Traffic Safety Fact Sheets:** http://bit.ly/wrKo0
- **State Traffic Safety Information:** http://bit.ly/d3EzmD

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
- **State of the States:** http://bit.ly/pRGIap
- **EPA School Siting Guidelines (Draft):** http://www.epa.gov/schools/siting/

Sample Safe Routes to School Programs:

- **Boston:** http://www.walkboston.org/work/safe_routes.htm
- **California:** http://saferoutescalifornia.wordpress.com/
- **Colorado:** http://www.coloradodot.info/programs/bikeped/safe-routes
- **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
- **Illinois:** http://www.dot.il.gov/saferoutes/saferouteshome.aspx
- **Indiana:** http://www.in.gov/indot/2355.htm
- **Iowa:** http://www.iowadot.gov/saferoutes/
- **Kansas:** http://www.ksdot.org/burTrafficEng/sztoolbox/default.asp
- **Louisiana:** http://www.dotd.louisiana.gov/planning/highway_safety/safe_routes/
- **Maine:** http://www.bikemaine.org/what-we-do/maine-safe-routes-to-school-program
- **Massachusetts:** http://www.commute.com/schools
- **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/doh/preconstruct/traffic/congestion/CM/msta/docs/SRTS.pdf
- **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

Statistics/Studies:

General Information:

- **Advocacy Advance:** http://www.advocacyadvance.org
- **Alliance Benchmarking Project:** http://www.peoplepoweredmovement.org/benchmarking
- **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/
- **National Highway Traffic Safety Administration Traffic Safety Fact Sheets:** http://bit.ly/wrKo0
- **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/
- **National Environmental Public Health Tracking:** http://bit.ly/mAF7cT

Mode Share (Bicycle and Pedestrian Counts):

- **Commuter Trends:** http://www.advocacyadvance.org/docs/acs_commuting_trends.pdf
- **National Bicycle and Pedestrian Documentation Project:** http://bikepeddocumentation.org

Trainings:

- **Action 2020 Workshops:** http://www.advocacyadvance.org/trainings
- **Membership Development Training:** http://bit.ly/2Rrx7Q
- **Safe Routes to School:** http://www.saferoutestoschools.org/Programs/Workshops.htm and http://www.saferoutesinfo.org/events-and-training/national-course
- **Winning Campaigns Trainings:** http://www.peoplepoweredmovement.org/wctraining

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 United States using data from all 50 states and the 51 largest cities. Other benchmarking efforts from abroad and within the United States 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 United States, England, Scotland, and the Netherlands all have completed benchmarking projects. More than 100 cities and 18 regions in 21 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 UK

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 (Fietsersbond)**, 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 2010 (the ninth of its kind) is based 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 progress toward increasing bicycling, bicyclists' safety, and bicyclists' satisfaction.

Tracking Bicycling in Quebec

Every five years since 1995, Velo Quebec has produced a detailed report on bicycling trends in Quebec, Canada. The report relies upon data from a survey of Quebecers, an analysis of origin-destination surveys, and a compilation of traffic counts in a dozen regions of Quebec. The most recent report in 2010 showed a significant increase in the number of adults who bicycle in Quebec and found that 1 out of 3 Quebecers bicycle enough to derive physical fitness benefits (Velo Quebec 2010).

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.

Measuring Walking

Since the launch of this Benchmarking Project, **Walk 21** has launched an international effort to measure walking. **Measuring Walking** is an effort to standardize monitoring methods of walking and public space. The project is ongoing and is seeking agreement from experts from different countries as to best practice methods and guidelines.

At the same time, a number of cities are now using the Making Walking Count survey tool to better understand the nature of walking in their neighborhoods and the issues and ideas walkers have.

Benchmarking Efforts in the United States

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"—all of the ways a community promotes and accommodates bicycling. 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 an application to the League. The application is scored by a committee that consults with national and local bicyclists. Since its redesign and relaunch in 2003, 452 communities have applied for Bicycle Friendly Community designation and 181 have

51 Largest Cities with "Bicycle Friendly" Status

Platinum:
Portland, OR

Gold:
Minneapolis
San Francisco
Seattle
Tucson

Silver:
Austin
Boston
Chicago
Colorado Springs
Denver
New York City
Washington, DC

Bronze:
Albuquerque
Baltimore
Charlotte
Columbus
Fresno
Indianapolis
Kansas City
Long Beach
Louisville
Mesa
Milwaukee
New Orleans
Oakland
Omaha
Philadelphia
Raleigh
Sacramento
San Antonio
San Jose
Tulsa

Source: LAB 2011

been awarded in that time. Currently 179 are designated.

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

Walking Friendly Communities

In 2010 the **Pedestrian and Bicycle Information Center** launched the **Walking Friendly Communities (WFC)** program, modeled after the BFC program described above. WFC is a national recognition program developed to encourage U.S. communities to support safer walking environments. The WFC program recognizes places that are working to improve conditions for walking, including safety, mobility, access, and comfort. In April 2011, eleven communities received some level of WFC award. Seattle, Austin, and Charlotte were the only cities in this report to receive a WFC award in this first round.

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** began 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 plan-

Links to Other Benchmarking Efforts

Abroad:

Copenhagen's Bicycle Account
http://cphbikeshare.com/files/Bicycle%20Account%202008.pdf
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/
London: The State of Walking
http://www.walk21.com/uploads/File/WC%20conference%20London%20100507.pdf
Netherlands: The Cycle Balance
http://www.fietsersbond.nl
Bicycling in Quebec
http://www.velo.qc.ca/en/Bicycling-in-Quebec
Toronto: Benchmarking Toronto's Bicycle Environment
http://www.torontocat.ca/main/node/454
UK: Cyclists Touring Club Benchmarking
http://www.ctc.org.uk/desktopdefault.aspx?tabid=3774
Walk 21: Measuring Walking
http://www.measuring-walking.org/

U.S.—National

Bicycle Friendly Communities Program
http://bit.ly/16G4IT
Bicycle and Pedestrian Documentation Project
http://bikepeddocumentation.org/
Bike Score
http://www.bikescore.com/
The College Sustainability Report Card
http://www.greenreportcard.org/
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
Walk Friendly Communities
http://www.walkfriendly.org/
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
Texas's Benchmarking Study
http://www.biketexas.org/en/infrastructure/benchmark-study

ning, and enforcement. The League released their fourth annual ranking of Bicycle Friendly States in 2011. 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 winning 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 **Bicycle Friendly University (BFU)** initiative was launched in 2010 by the **League of American Bicyclists** under their Bicycle Friendly America program. The BFU program recognizes institutions of higher education for promoting and providing a more bicycle friendly campus for students, staff, and visitors. The BFU program also provides information and technical assistance to create great campuses for cycling. Universities are invited to apply for BFU designation and are scored for their efforts in engineering, encouragement, education, enforcement, and evaluation/planning. In March 2011, twenty universities throughout the United States were honored with some level of Bicycle Friendly University award.

The **College Sustainability Report Card** is another effort to compare and evaluate campuses, but with a broader focus on all sustainability activities. The fifth report card, released in October 2010, scored more than 300 universities on 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. As of the most recent survey, 37% of schools earned an "A" grade in transportation. Key findings in the transportation category included:

- Bicycle-sharing programs have been instituted at 50 percent of schools.
- Car-sharing programs are available at 51 percent of schools.
- Reduced-fare passes for public transit are offered at 61 percent of schools.
- Hybrid or other alternative-energy vehicles are used in 86 percent of school fleets.

Walk Score Ranking of Cities

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

Source:
http://www.walkscore.com/rankings
December 2011

- The average grade for the Transportation category was "B."

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.

National Bicycle and Pedestrian Documentation Project

Although 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 January 2009, the project had collected 310 counts in about 93 different communities across the nation. 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, and so on, 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 50 largest U.S. cities on walkability.

As of July 2011, the makers of Walk Score have been developing a version for biking called Bike Score. The public is invited to vote on what should be included in the Bike Score calculation at http://www.bikescore.com.

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. Since the 2010 Benchmarking Report, new local benchmarking efforts have begun in Texas, Wisconsin, and Indiana.

The results of these efforts are that communities receive credit for areas where they are doing well, and areas needing improvement are identified. These efforts, many of which are modeled after this Benchmarking Report, 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

In 2009, **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.

Bike Texas Benchmarking

Bike Texas, Texas' statewide bicycling advocacy organization, initiated a statewide benchmarking project in 2010 with consultation from the Alliance. Their study, unpublished as of this report, will reveal baseline data from at least the 30 largest Texas cities. Measures include pedestrian and bicycle infrastructure, education and advocacy programs, funding, mode share, and safety.

Bicycle Benchmarking in Wisconsin

The Bicycle Federation of Wisconsin released their first benchmarking report on the state of bicycling in Wisconsin in 2011. The report, released at the 2011 Wisconsin Bike Summit, reveals data on bicycling ridership, facilities, education, and encouragement, and more based on data from local, state, and national sources. The Bicycle Federation of Wisconsin plans to release this report, based on the Alliance's Benchmarking Project, every other year.

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.

Appendix 7: Corrections to 2010 Benchmarking Report

The Alliance for Biking & Walking and our project team of advisors makes every effort to ensure the accuracy of data contained in this report. The self-reported nature of state and city data can lead to discrepancies from year to year, especially as respondents may change and interpret questions differently. In our effort to ensure accurate tracking and reporting of data, a number of responses to 2010 Benchmarking Report surveys have been updated. These corrections are reflected in the data analysis contained in this report. Below is a complete list of all corrections to the initial printed version of the 2010 report released in January 2010. Corrections are organized by chapter and page number.

Acknowledgments

- Teton Valley Trails and Pathways was misspelled

4: Policies and Provisions

Page 60:
- Published goal to increase walking—Response corrected to "no": Arkansas, New Hampshire, North Dakota, South Carolina
- Published goal to increase bicycling—Response corrected to "no": Arkansas, New Hampshire, South Carolina
- Published goal to decrease pedestrian fatalities—Response corrected to "no": New Hampshire
- Published goal to decrease bicycle fatalities—Response corrected to "no": New Hampshire, Wyoming
- Master Plan adopted for bicycling—Response corrected to "no": Iowa, North Dakota, Oklahoma, South Carolina
- Master Plan adopted for walking—Response corrected to "no": Hawaii, Maine, Oklahoma, South Carolina
- Bicycle and Pedestrian Advisory Committee—Response corrected to "no": New Hampshire

Page 61:
- Published goal to increase walking—Response corrected to "no": Colorado Springs, Dallas
- Published goal to decrease pedestrian fatalities—Response corrected to "no": Atlanta, Colorado Springs, Dallas, Miami
- Published goal to decrease bicycle fatalities—Response corrected to "no": Atlanta, Colorado Springs, Dallas
- Master Plan adopted for bicycling—Response corrected to "no": Memphis, Mesa, Tulsa; Response corrected to "yes": Charlotte
- Master Plan adopted for walking—Response corrected to "no": Charlotte, Memphis, Mesa, Phoenix, San Diego, Tulsa
- Bicycle and Pedestrian Advisory Committee—Response corrected to "no": Las Vegas, Memphis, Philadelphia

Pages 63-65:
- Complete Streets Policy—Response corrected to "no": El Paso, Kentucky

Pages 64-65:
- Complete Streets Policy—Corrected totals: Cities (13 with policies), States (17 with policies)

Page 64:
- Max number of car parking spaces for new buildings—Response corrected to "no": Chicago, Memphis
- Bike parking requirements in buildings/garages—Response corrected to "no": Las Vegas
- Bike parking requirements in new buildings—Response corrected to "no": Las Vegas
- Bike parking at public events—Response corrected to "no": Baltimore, Colorado Springs, Columbus, Milwaukee

Page 68:
- Provides SRTS funding beyond federal—Response corrected to "no": Arizona, Massachusetts

Pages 88 and 90:
- Existing miles of on-street bike lanes per square mile (total miles)—Atlanta corrected to 0.1 mile per square mile (19 miles); Austin corrected to 0.6 mile per square mile (137 miles); Fort Worth corrected to 0.1 mile per square mile (13.8 miles); New York City corrected to 1.1 miles per square mile (341 miles); Phoenix corrected to 0.8 mile per square mile (365 miles); San Diego corrected to 1.0 mile per square mile (309.4 miles); Tulsa corrected to 0.1 mile per square mile (8.6 miles)
- Existing miles of multi-use paths per square mile (total miles)—Atlanta corrected to 0.2 mile per square mile (29 miles); Fort Worth corrected to 0.2 mile per square mile (57.3 miles); Louisville corrected to 0.4 mile per square mile (24.3 miles); Milwaukee corrected to 0.03 mile per square mile (3 miles); New York City corrected to 1.0 mile per square mile (295 miles); Virginia Beach corrected to 0.3 miles per square mile (74.7 miles)
- Existing miles of signed bicycle routes per square mile (total miles)—Fort Worth corrected to 0.1 mile per square mile (38.9 miles); Los Angeles corrected to "unknown" miles per square mile ("unknown" miles); Louisville corrected to 1.4 miles per square mile (89.8 miles); Phoenix corrected to 0.3 mile per square mile (122 miles); Tucson corrected to 0.5 mile per square mile (90 miles); Tulsa corrected to 0.5 mile per square mile (82.6 miles); Virginia Beach corrected to 0.3 mile per square mile (75 miles)

Pages 89-90:
- Existing total miles of bicycle facilities per square mile—Atlanta corrected to 0.6 mile per square mile; Austin corrected to 1.7 miles per square mile; Fort Worth corrected to 0.4 mile per square mile; Louisville corrected to 2.2 miles per square mile; Milwaukee corrected to 2.4 miles per square mile; New York City corrected to 2.1 miles per square mile; Phoenix corrected to 1.5 miles per square mile; San Diego corrected to 1.2 miles per square mile; Tucson corrected to 3.4 miles per square mile; Tulsa corrected to 1.1 miles per square mile; Virginia Beach corrected to 0.6 mile per square mile

Page 91:
- Shared lane markings—Response corrected to "no": Dallas
- Woonerf/living streets—Response corrected to "no": Dallas

5: Education and Encouragement

Page 97:
- Annual statewide bike/ped conference—Response corrected to "no": Illinois

Page 100:
- State-sponsored ride to promote bicycling/activity—Response corrected to "no": Maine

Page 106:
- Youth bike education courses—Response corrected to "no": Omaha
- Adult bike education courses—Response corrected to "no": Fort Worth, Las Vegas
- Bike to Work Day event—Response corrected to "no": Las Vegas
- Open Streets/Ciclovia event—Response corrected to "no": Baltimore, Chicago, Phoenix

Page 106:
- City-sponsored bike ride—Response corrected to "no": Las Vegas; Response corrected to "yes": Phoenix

Page 110:
- City-sponsored bike ride, number of participants—New York City response corrected to 30,000 participants for all three years (2006-2008); Phoenix ride added: 924 participants (2006), 912 participants (2007), 1,023 participants (2008)

6: Grassroots Advocacy

Page 120:
- Residents per one member—Colorado should be 693 adults per one member

Appendix 5: Resources

- The correct website for the National Bicycle and Pedestrian Documentation Project is http://bikepeddocumentation.org/

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