

# Executive Summary

Government officials and advocates try to promote bicycling and walking, but until now there has been no way to evaluate progress. In order to improve something, one must have the means to measure it. This Report is the first to show trends in bicycling and walking levels, policies, and provisions across all 50 states and 50 major U.S. cities.

The Thunderhead Alliance Benchmarking Project is an on-going effort to collect and analyze data on bicycling and walking in all 50 states and at least the 50 most-populated U.S. cities. Thunderhead will continue to expand the scope of this project while refining its methods. This is the first biennial report. The next report is scheduled for publication in the fall of 2009.

## Benchmarking Objectives

### (1) Improve Data Collection and Availability

Thunderhead's Benchmarking Project identifies gaps in collection and availability of data on bicycling and walking. This report highlights areas where improved data collection is necessary and makes recommendations on improving data collection and accessibility. This project also provides data on cycling and walking to states and cities in a standardized format that otherwise does not exist.

### (2) Measure Progress and Evaluate Results

Thunderhead's Benchmarking Project aims to provide data to Thunderhead member organizations and government officials in a format that helps them measure their progress towards increasing bicycling and walking and 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, 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

Ultimately, this Benchmarking Project supports the efforts of bicycle and pedestrian advocacy organizations and government officials 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 and praise successes, encourage communities making progress, and make communities aware of areas needing more effort. By highlighting the top states and communities, other states and communities 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

Whenever possible, Thunderhead researchers collected data for this report directly from uniform government data sources. Researchers collected data that was not readily accessible from national sources through three surveys for cities, states and advocacy organizations. From December 2006 through April 2007, the project team reached out to advocacy organizations and government officials to collect the data for their organization, state, or city. The survey data, combined with data from government data sets, was combined and analyzed for this report.

## Results

### Status of Bicycling

Nationwide, cycling has been declining since 1960 and rates of cycling are low compared to other industrialized countries. On

average, 0.4% of all trips to work in the U.S. are by bicycle. Although it is difficult to determine bicycle mode share for all trips because of limited data, the National Household Travel Survey (NHTS) estimates that 0.90% of all trips are by bike nationwide. Cities have slightly higher rates of cycling with approximately 0.94% of all trips by bike. Looking at cycling demographics, non-white workers are only slightly more likely to bike to work than the average worker. The gap between the sexes, however, is noticeably wide. Men outnumber women cyclists 3:1. There is almost no difference in cycling rates among different income classes, suggesting that cycling is a universal activity. Fatality data indicate that cyclists are at a disproportionate risk of being killed, representing 1.7% of all traffic fatalities.

### Status of Walking

Pedestrian mode share is also higher in cities (11.0% of all trips) than nationwide (8.7% of all trips). There is a greater gap between non-white vs. white pedestrian commuters (than among cyclists), however, the gap between the sexes is minor. The pedestrian mode share also differs among income classes with the lowest income categories representing the highest number of pedestrians. However, in some places, such as New York City, there is relatively equal distribution of pedestrians among income categories, suggesting income is less of a determining factor in the choice to walk. Pedestrians are also at disproportionate risk of dying in a traffic crash, representing 11% of all traffic fatalities. The disparity is even greater in cities where 11% of trips are estimated to be on foot, yet 14% of all traffic fatalities are pedestrians.

### Bicycling & Walking 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. States and cities ranked poorly overall on strong policies for cycling and walking. Most cities surveyed have goals for increasing cycling and walking and for increasing cycling and walking facilities. However, most cities and states answered “no” to whether or not they had spending targets for bicycle and pedestrian projects, and most have yet to adopt a complete streets policy.

### Funding Bicycling and Walking

Officials’ responses on bicycle and pedestrian funding were extremely limited, so data from the National Transportation Enhancements Clearinghouse and the Federal Highway Administration were used to assess funding.

States spend just 1.54% of their federal transportation dollars on bicycle and pedestrian projects. This amounts to just \$2.50 for bicycling and walking per capita each year. The Transportation Enhancement (TE) program accounts for 73% of all bicycle and pedestrian funds. The second greatest funding category is the Congestion Mitigation and Air Quality program, representing 9% of all federal bicycle and pedestrian funding. Over 50 federal funding programs contributed to bicycle and pedestrian projects over a three year period, though most in a relatively small amount. The variations in allocation of federal dollars to bicycle and pedestrian projects among states and cities is an indicator of the role of states and local jurisdictions in determining how their federal transportation dollars are spent.

Although TE is the largest funding source for bicycle and pedestrian infrastructure improvements, slightly less than 50% of these funds go towards bicycle and pedestrian projects (the remainder going to other spending categories allowed by the program). Only a very small amount of these funds for bicycle and pedestrian projects are in the “bicycle and pedestrian education and safety” category. Variation is great among cities and states in the use of these funds, with some spending 100% of TE funds on bicycle and pedestrian projects and some spending zero.

Safe Routes to School is the newest federal funding source that is completely dedicated to bicycle and pedestrian safety and improvements around schools. Passed by Congress in 2005, it has limited data at this point. The states that did report on spending showed a 24:76 split between education and capital projects. Allocation of funds to education and capital projects spanned the entire allowable range.

### Staffing Bicycling and Walking

Through Thunderhead surveys, officials were asked to report the number of full-time-equivalent (FTE) staff dedicated

to bicycle and pedestrian programs. On average, state Departments of Transportation (DOTs) employ 0.3 FTE staff per one million people in their state. The rate is higher among cities, which average 2.8 FTE bicycle and pedestrian staff per million people. DOTs were also surveyed on Safe Routes to School staffing, and responses indicate that while most states average just one FTE staff person dedicated to Safe Routes to School, some states have more than one and a few report no dedicated staff at this time. Some states use innovative mechanisms for increasing Safe Routes to School staffing capacity.

### **Bicycle and Pedestrian Infrastructure**

City Surveys asked cities to report miles of existing and planned facilities including sidewalks, on-street striped bike lanes, multi-use paths, and signed bike routes. The resulting data show that cities average 1.23 miles of bicycling facilities per square mile. Cities plan to double bicycle and pedestrian facilities, on average. Cities were also asked to report the number of existing bicycle racks and spaces per rack. The average number of bike parking spaces per 10,000 people is 24 spaces. The amount of bicycle parking varied greatly, with some cities reporting no bicycle parking and some cities reporting relatively large number of bike parking spaces.

### **Bike-Transit Integration**

To measure how well cities integrate cycling and transit, City and State Surveys collected data on bike parking at transit stops, bike racks on buses, and hours per week bicycles are allowed on trains. Most cities rank well regarding bike-bus integration by providing bike racks on 100% of city buses, but many ranked low on parking for cyclists at transit stops. Cities averaged 1.7 bike parking spaces per 10,000 residents at transit stops and hubs. While data for bike access on trains was sparse, cities that did report allow bikes on trains for an average of 137 hours per week (out of a total of 168). Thirty percent of cities reported that bikes are allowed on trains at all hours of the day.

### **Thunderhead Alliance Advocacy Organizations**

The number of Thunderhead Alliance state and local

bicycle and pedestrian advocacy organizations has been increasing steadily since Thunderhead was founded in 1996. This report measures organization capacity of Thunderhead Alliance member organizations and determines standards for membership, revenue, staffing and media exposure. Results from Thunderhead 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 Thunderhead began this report.

Survey responses indicate that state-wide organizations operate on three cents per state resident (on average). Organizations representing cities earn 11 cents per resident (3.7 times the amount earned by state-wide counterparts). The revenue sources of Thunderhead organizations are diversified and composed primarily of membership and donations, program fees and events, and government grants and contracts. Organizations take in a relatively small amount of funds from foundation grants and an even smaller amount from bike shops and manufacturers. Looking at membership rates, state-wide organizations average one member per 56,579 residents and organizations representing cities have higher rates with one member per 11,100 residents. When comparing staffing levels, city organizations again have a higher rate averaging 1.6 FTE staff per million people while state-wide organizations average 0.4 FTE staff per million residents.

### **Factors Influencing Cycling, Walking and Safety**

This report examines the relationship between biking and walking levels, safety, and a number of environmental and demographic variables. The environmental factors considered included weather, residential density, and cycling infrastructure. While weather seems to have little impact on cycling levels, residential density and cycling facilities may be positively linked to cycling levels. Denser cities also have higher levels of cycling and walking on average ( $r = 0.69$ )<sup>(1)</sup>. Cities with more miles of cycling facilities per square mile generally have higher levels of cycling ( $r=0.50$ ).

(1) "r" refers to the correlation coefficient, a measure of the interdependence of two variables where +1 equals a perfect positive correlation, -1 equals a perfect negative correlation, and 0 is the absence of correlation.

Demographics including income and car ownership were also considered for their impact on cycling and walking. While almost no variation in cycling levels is observed among different income classes, walking levels do decline in higher income brackets. Car ownership data from the 2000 Census and Journey to Work data from the 2005 American Community Survey (ACS) indicate that residents of cities with higher rates of cycling and walking own fewer cars ( $r = 0.76$ ). Whether not owning a car causes someone to bike or walk or vice versa cannot be determined from this report.

To explore the impact of levels of cycling and walking on safety, the Benchmarking team compared data on bicycle and pedestrian fatalities reported by cities to ACS 2005 bike and walk to work numbers. Data show a positive correlation between levels of biking and walking and safety. Cities with the highest levels of walking also had the lowest pedestrian fatality rates ( $r = -0.57$ ). The same was true for cities with the highest levels of biking which generally had lower rates of bicycle fatalities ( $r = -0.55$ ).

Lastly, the Benchmarking team examined the impact of advocacy on cycling and walking. Despite noted difficulties in measuring advocacy capacity, the team compared bike and walk to work mode share with standardized income and staffing levels of Thunderhead organizations. Data points to a positive correlation between these measures of advocacy capacity and combined biking and walking levels ( $r = 0.58$  income,  $r = 0.55$  staffing).

### Impacts of Cycling & Walking on Public Health

To see how cycling and walking impact public health, the Benchmarking team looked at trends in both levels of cycling and walking and obesity. Between 1960 and 2000, levels of bicycling and walking to work fell 67% while adult obesity levels rose 241%. At the same time, the number of children who bike or walk to school fell 68% as levels of obese children rose 367%. A negative correlation exists between current levels of adult obesity compared to current levels of biking and walking to work ( $r = -0.42$ ). The same is true for other health indices including high

blood pressure levels ( $r = -0.69$ ) and levels of diabetes ( $r = -0.66$ ). A positive correlation was found between the percent of adults who report 30 + minutes of daily physical activity and levels of biking and walking in states ( $r = 0.68$ ). Maps comparing current levels of biking and walking with obesity levels show similarities among states in the low and high range for both variables. For instance, Southern states have the lowest levels of biking and walking and the highest levels of obesity.

## Conclusions

There are many limitations with the data in this report, the most significant is the lack of reliable data on levels of cycling and walking for all trips. Despite these limitations, it is likely that levels of cycling and walking are under-reported across the board, which would still allow for comparisons among states and cities based on available data. Data from this study suggests:

1. A positive relationship exists between the built environment and levels of biking and walking.
2. Where levels of biking and walking are higher, bicycle and pedestrian safety is greater.
3. Cities with strong Thunderhead organizations generally have high levels of biking and walking.
4. Higher levels of biking and walking coincide with lower levels of obesity, high blood pressure and diabetes and higher levels of adults meeting recommended levels of daily physical activity. This suggests that increased biking and walking would contribute to a healthier society.
5. Data revealed that while some cities and states lead others as models for bicycle and pedestrian policies and provisions, all states and cities have a need for improvement.

Thunderhead makes several recommendations to government officials and advocates based on these conclusions. Recommendations include how to use this report to advocate for a greater investment in biking and walking and how to improve data collection to support future benchmarking efforts.