

## **Bikeability – What's it Worth for the State of Wisconsin?**

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Bicycling in the state of Wisconsin is important for many reasons, including but not limited to economic, health, and environmental benefits.

In our study conducted in January 2010 for State Representative Spencer Black, we found that the direct economic impact from sales, tax revenues, and jobs of bicycle recreation in Wisconsin is \$532,883,557. However, that does not include the indirect impacts (secondary effects on suppliers of an industry) and induced impacts (effects resulting from changes in household income). We determined the total economic impact of bicycle recreation in the state of Wisconsin to be \$924,211,000, contributing 12,193 jobs for both Wisconsin and non-Wisconsin residents. Part of the economic benefit is attributable to bicyclists coming to Wisconsin from other states, totaling approximately \$535 million. When added to the estimate of economic impact of manufacturing, sales, and services as determined by the Bicycle Federation of Wisconsin and the Wisconsin Department of Transportation in 2006, the total economic benefit of bicycling in the state of Wisconsin totals approximately \$1.5 billion (\$593 million + \$924 million).

In our study published in *Environmental Health Perspectives* in January 2012 entitled, *Air Quality and Exercise-Related Health Benefits from Reduced Car Travel in the Midwestern United States*, we quantify the health, economic, and environmental benefits of bicycling instead of driving for all short car trips in the 11 largest cities in the Upper Midwest (including Madison and Milwaukee, WI) during the warmest six months of the year. We used state-of-the-art approaches to modeling transportation, emissions, air pollution in the form of fine particulates (PM<sub>2.5</sub>) and ozone (O<sub>3</sub>), and the health effects of air pollution and active transport. These models determine the net health benefit from improved air quality—a benefit that extends beyond city limits—at \$4.94 billion per year, saving 608 lives. We estimated the annual regional health benefits from increased physical activity to be \$3.8 billion, resulting from avoided mortality and reduced health care costs. In terms of air quality, we saw a reduction in annual average urban fine particulate air pollution (PM<sub>2.5</sub>) by 0.1 µg/m<sup>3</sup>. We also found a slight increase in summer ozone (O<sub>3</sub>) (a major component of smog) in cities with a decrease in ozone regionally. In regards to physical activity, the total regional benefit was a reduction of about 700 deaths annually, with a savings of about \$3.8 from this reduced mortality. Total combined benefit from both improved air quality and increased physical activity in the region is estimated at a savings of about \$8.7 billion with mortality declining by 1,295 deaths per year.

### **Specific Air Quality Benefit to Wisconsin - \$105 million**

#### **Madison**

565 fewer cases respiratory problems = \$37,000 (PM<sub>2.5</sub>)

3 fewer cases cardio problems = \$230,000 (PM<sub>2.5</sub>)

135 fewer cases acute respiratory symptoms = \$9,000 (O<sub>3</sub>)

1.25 lives saved = \$11 million (PM<sub>2.5</sub> and O<sub>3</sub>)

#### **Milwaukee**

3,407 fewer cases respiratory problems = \$220,000 (PM<sub>2.5</sub>)

21 fewer cases cardio problems = \$1.72 million (PM<sub>2.5</sub>)

134 fewer cases acute respiratory symptoms = \$8,000 (O<sub>3</sub>)

12.2 lives saved = \$95 million (PM<sub>2.5</sub> and O<sub>3</sub>)

### **Specific Physical Activity Benefit to Wisconsin - \$279 million:**

#### **Madison**

12 fewer deaths Madison - \$65 million savings

Number to benefit = 19,010 people

#### **Milwaukee**

50 fewer deaths - \$214 million savings

Number to benefit = 61,522 people

**Total Wisconsin Savings: \$384 million**