

# Isanti County Active Living

## Measuring Change in Perception and Behavior

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**Background:** In 2003, Isanti County MN received an Active Living by Design grant from the Robert Wood Johnson Foundation to increase physical activity through environmental changes.

**Purpose:** The goal of the Isanti County Active Living project was to provide leadership in promoting environments that offer choices for active living and increase the physical activity of community members. The project conducted two surveys to examine whether project activities had helped in shaping levels of physical activity and perceptions of the built environment.

**Methods:** The project conducted a mail survey with a random sample of Isanti County adult residents in February–March 2005 and repeated this survey in August–December 2008, using the same methodology for survey administration.

**Results:** There was a significant increase between 2005 and 2008 in the percentage of Isanti County adults who reported participating in moderate physical activity. In contrast, there was no change in the percentage of Minnesota adults as a whole who reported comparable amounts of moderate physical activity between 2005 and 2007. On measures of the physical environment, there was a significant increase between 2005 and 2008 in the percentage of residents who perceive that their neighborhood encourages physical activity.

**Conclusions:** The Isanti County Active Living project likely contributed to the increase in moderate physical activity in Isanti County as well as to perceptions of a safe environment conducive to physical activity.

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### Introduction

In 2003, Isanti County MN received an Active Living by Design grant from the Robert Wood Johnson Foundation to increase physical activity through environmental changes. Studies<sup>1–4</sup> have found strong evidence that creating or enhancing access to places for physical activity combined with informational outreach activities, community-scale and street-scale urban design, and land use policies were effective strategies to increase physical activity. The goal of the Isanti County Active Living project was to create an inviting environment that offers choices for active living and increases physical activity for residents in Isanti County.

The project included the creation of long-term land use and development plans. Over 5 years, the project worked with the county and the cities of Cambridge, Isanti, and Braham to change policies on issues such as paving shoulders and changing ordinances requiring sidewalks and trails for new developments. Since the inception of the grant, the project has developed new or enhanced walking trails and walk/bike crossings, created biking and walking maps and signs throughout the community, planned and promoted programs and events such as the Rum River Bicycle Classic, and created a Master Plan for Active Living that was incorporated into the Isanti County Comprehensive Plan. In addition, lighting and traffic-calming medians, as well as sidewalks and bike lanes on both sides of the street, were incorporated into new and reconstruction traffic projects.<sup>5</sup>

The project conducted two surveys to examine whether levels of physical activity and perceptions of the built environment changed after project activities were underway. This article reports on selected survey results. The data suggest that the Isanti County Active Living project likely contributed to changes seen.

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## Methods

A baseline survey of Isanti County adult residents (aged  $\geq 18$  years) was conducted February–March 2005, and a second survey using a different sample of adults was conducted August–December 2008. Both surveys were conducted by mail and used the same sampling strategy. Technical assistance was provided by the Minnesota Department of Health (MDH). The selection of respondents occurred in two stages. In the first stage, a random sample of Isanti County household addresses was purchased from the Marketing Systems Group, who constructed the sample using the U.S. Postal Service's Delivery Sequence File. For the second stage of sampling, the adult with the most recent birthday within a household was selected to complete the survey.

In both surveys, survey packets were mailed to 5900 sampled households. A postcard reminder and two additional mailings of the survey packet were sent at intervals to those who continued not to respond. The survey response rates were 50.6% in 2005 and 51.3% in 2008.

The survey instrument was developed by staff from MDH, Isanti County Public Health, and the Isanti County Active Living project. Because of space limitations on the questionnaire, single items were used to measure respondents' current levels of moderate and vigorous activity and usual activities during a normal day. These three items were adapted from Behavioral Risk Factor Surveillance System (BRFSS) items.<sup>6</sup> Seven questions, five from the International Physical Activity Prevalence Study,<sup>7</sup> asked about the physical environment of the neighborhoods in which respondents live. Ten items addressed perceived barriers to being more physically active (results reported in *Isanti County Active Living: Report of 2005–2008 Survey Findings*, unpublished report, 2009). Gender, age, number of household adults, and other demographic characteristics also were assessed.

In both years, the survey data were weighted to account for the survey design by adjusting for the number of adults in each sam-

pled household, and poststratified by age and gender using 2004 and 2007 U.S. Census estimates. Cross-tabulation analyses were conducted using the SPSS (version 14) Complex Sampling module; Pearson chi-square tests of independence were used.

## Results

There was an increase (from 63% to 69%,  $p < 0.05$ ) between 2005 and 2008 in the percentage of Isanti County adults who reported participating in moderate-intensity physical activity (moderate activities for  $\geq 30$  minutes three or more times per week). In contrast, there was no change in the percentage of Minnesota adults as a whole who reported comparable amounts of moderate-intensity physical activity between 2005 and 2007, according to BRFSS data<sup>8</sup> (57% in both years; physical activity questions were not included on the statewide BRFSS in 2008). There was no change between 2005 and 2008 in the percentage of Isanti County adults who reported participating in vigorous physical activity (vigorous activities for 20 minutes or more three or more times per week; 13% in both years). Adults in Minnesota were slightly less likely to report vigorous physical activity in 2007 (13%) than in 2005 (16%); however, the decrease was not significant.

On six of the seven measures of the physical environment, there was a significant increase between 2005 and 2008 in the percentage of residents who perceived that their neighborhood encourages physical activity (Table 1). This includes those who agreed that there are sidewalks on most of the streets in their neighborhood, and that there are places to

**Table 1.** Responses to neighborhood physical environment questions, Isanti County Active Living Survey, 2005 and 2008, %

Survey question	2005 (n=2985)	2008 (n=2704)	Change in %
<b>Strongly or somewhat agree</b>			
Many shops, stores, markets, or other places to buy things I need are within easy walking distance of my home.	18	20	+2
There are sidewalks on most of the streets in my neighborhood.	23	31	+8*
There are places to bicycle in or near my neighborhood, such as special lanes, paths, or trails.	27	33	+6*
<b>Strongly or somewhat disagree</b>			
There is so much traffic on the streets that it makes it difficult or unpleasant to walk in my neighborhood.	53	61	+8*
The speed of the vehicles traveling on the streets is so fast that it makes it difficult to walk in my neighborhood.	47	53	+6*
There is so much traffic on the streets that it makes it difficult or unpleasant to ride a bicycle in my neighborhood.	52	60	+8*
The speed of the vehicles traveling on the streets is so fast that it makes it difficult to ride a bicycle in my neighborhood.	48	54	+6*

\*Change is significant ( $p < 0.05$ ).

bicycle. It also includes those who *disagreed* that the amount and speed of traffic in their neighborhood makes it difficult or unpleasant to walk or bicycle.

## Discussion

Results from the two surveys showed an increase in moderate physical activity among Isanti County adults and an increase in perceptions that the physical environment in the county is accessible and safe for participating in physical activities. These changes occurred after Isanti County Active Living project activities were underway, suggesting that the project had played a part in shaping these levels of physical activity and perceptions of the built environment. Moreover, levels of moderate activity in the state as a whole did not change during this time period.

Implicit in the comparisons over time is an assumption that there is an association between the work that the Isanti County Active Living project did during the 3-year period and any change seen in perceptions or behaviors between 2005 and 2008. However, it cannot be concluded that the project *caused* the change in perception or behavior for two reasons. First, causation cannot be established from the type of questions asked in the survey. Second, a simple pre–post survey cannot control for all factors that may have changed in Isanti County between 2005 and 2008, which may have contributed to changes in perceptions or behavior. However, given other studies<sup>1–4</sup> showing that change in the built environment leads to increased physical activity, it is expected that the Isanti County Active Living project contributed to the changes in perception and behavior.

The high-profile project adopted was likely a key contributing factor in the changes. The project had regular articles in the local papers and made monthly presentations at public meetings, such as county and school board meetings and city council meetings. The project was highlighted on a regional TV news program and on local radio shows. A website was developed where walking and biking maps could be posted. All three cities, the schools, the county, and the medical center linked to this site. Photo opportunities with key political leaders, such as Congressman James Oberstar, were published. Creative naming of walking routes reflected local interests such as Braham Pie Days. At every step, the project staff engaged key public leaders to help carry the message. Having a bike/walk trail system incorporated into the county com-

prehensive plan took many hours of attending meetings and garnering support. Hardly a week passed without some aspect of the project being in the public arena.

## Conclusion

The Isanti County Active Living project likely contributed to an increase in moderate physical activity as well as to increased perceptions of a safe environment conducive to physical activity in Isanti County. This project's experience also illustrates that a simple pre–post survey can be a useful tool for examining changes in perception and behavior in active living projects.

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