Iowans Walking Assessment Logistics Kit
A Community Walkability Program

Cedar Rapids, Iowa
Oakhill Jackson Neighborhood

Fall 2014 GPS Data Collection

IOWA STATE UNIVERSITY
Extension and Outreach
Community and Economic Development
Acknowledgements

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Introduction

In the past three decades, the number of obese and overweight individuals in Iowa and across the nation has skyrocketed. With obesity comes the greater risk of health complications and life expectancy reduction. As a result, there is a new and growing threat to the overall quality of life. In Iowa alone, 64.8% of adults are identified as either overweight or obese.*

Given the prevalence of obese and overweight individuals, it is important to promote healthy behaviors for all Iowans. Engaging in physical activity is a key component of advocating for healthy behaviors. A vision for healthy Iowa communities must regard and value safe and accessibly walking routes in all locales.

The Iowans Walking Assessment Logistics Kit (I-WALK) program aims to provide community coalitions with relevant local information to assist them in continuously updating, implementing, and evaluating the walkability of their community. The I-WALK program is a project administered by the Iowa Department of Public Health (IDPH) and Iowa State University Extension and Outreach (ISUEO) and implemented by communities across Iowa.

I-WALK utilizes web mapping technologies and global positioning system (GPS) units to accurately map routes that community residents use to walk or bicycle in their locale and identify safety barriers and solutions. Creating environments that encourage community residents to walk or bicycle safely will improve health outcomes by providing additional opportunities to reach the recommended weekly 150 minutes of physical activity, as well as normalize walking as a healthy lifestyle habit.

U.S. Biking and Walking Levels**
- 12% of all trips are by bicycle (1.0%) or foot (10.5%).
- From 2000 to 2009, the number of commuters who biked to work increased by 57%.
- In 2009, 40% of trips in the U.S. were shorter than 2 miles, yet Americans use their cars for 87% of trips 1 to 2 miles.
- Residents of the largest U.S. cities are 1.7 times more likely to walk or bicycle to work than the national average.

Bicycle and Pedestrian Safety
- 14% of all U.S. traffic fatalities are bicyclists (1.8%) or pedestrians (11.7%).
- In the 51 largest U.S. cities, 12.7% of trips are by foot and 1.1% are by bicycle, yet 26.9% of traffic fatalities are pedestrians and 3.1% are bicyclists.
- Seniors are the most vulnerable bicyclists and pedestrians. Adults over 65 make up 10% of walking trips, yet comprise 19% of pedestrian fatalities and 6% of bicycling trips, yet account for 10% of bicyclist fatalities.

Public Health Benefits
- Bicycling and walking levels fell 66% between 1960 and 2009, while obesity levels increased by 156%.
- Between 1966 and 2009, the number of children who bicycled or walked to school fell 75%, while the percentage of obese children rose 276%.
- In general, states with the highest levels of bicycling and walking have the lowest levels of obesity, hypertension (high blood pressure), and diabetes and have the greatest percentage of adults who meet the recommended 30 minutes per day of physical activity.

Economic Benefits
- Bicycling and walking projects create 11-14 jobs per $1 million spent, compared to just 7 jobs created per $1 million spent on highway projects.
- Cost benefit analyses show that up to $11.80 in benefits can be gained for every $1 invested in bicycling and walking.

*IDPH 2011 Behavioral Risk Factor Surveillance System
Introduction

The program history of I-WALK starts with a pilot program funded by an Iowa Department of Transportation (IDOT) non-infrastructure grant, launched in September 2010 in 12 Iowa schools. Focusing on Safe Routes to School planning and transportation infrastructure data collection the goal of I-WALK is to provide community coalitions with relevant local information to help them continuously update, implement, and evaluate their community walking plans.

Including the success of the initial program I-WALK has been implemented in 31 schools through funding from a variety of sources including Iowans Fit for Life, Iowa Department of Public Health, Iowa Department of Transportation, Centers for Disease Control (CDC).

In July 2012, I-WALK piloted its first project specifically focusing on the aging adult population across Iowa.

During the spring of 2014, two additional school projects were added in Bloomfield and Perry as well as four adult projects in Carroll, Dyersville, Greenfield, and Knoxville.

The project team includes:
- Sarah Taylor Watts, IDPH Project Coordinator
- Catherine Lillehoj, Ph.D., IDPH Chief Epidemiologist and Program Evaluator
- Christopher J. Seeger, Iowa State University Extension and Outreach Landscape Architect and Associate Professor of Landscape Architecture
- Bailey A Hanson, GIS Analyst, Iowa State University Extension and Outreach

The I-WALK project consisted of three components: 1) Survey, 2) GPS Walkability Workshops and 3) Community Coalitions.
Methodology

GPS Walkability Workshops
ISU Extension and Outreach trained citizens to use iPhones equipped with Spatial Network’s Fulcrum application to conduct an inventory of their community. Following the 45 minute training, the volunteers then took to the streets to collect data.

Workshop participants mapped information from three categories: intersections, midblock sidewalks, and additional features that impede pedestrians and cyclists.

At intersections, volunteers indicated whether or not there were painted crosswalks and curb cuts and what type of control system, if any, was in place (e.g., stop signs, stoplight, flashing light).

Volunteers evaluated sidewalks at midblock, indicating whether or not there were sidewalks, and if so, whether or not they were in good condition and wide enough for two people to walk side by side.

Additional features included barriers such as vegetation growth across the sidewalk, places where water frequently pools on the sidewalk, sidewalks that suddenly end and barking dogs.
Methodology

Community Coalitions
Inviting and involving key partners to be a part of the community coalition is essential to having a successful I-WALK program. The community was charged with identifying key organizations and individuals ready to be involved in the discussions surrounding a safe and healthy environment for residents to walk or bicycle to and from various locations. A community coalition should be a well-rounded group that represents a wide range of interests and expertise related to walking and biking. Local public health representatives accessed online resources, developed specifically for I-WALK, to engage and lead the coalition members.

LPH led an effort to create a coalition in the community to help address issues identified by the assessment. The communities used resources from the I-WALK website to guide their invitations to local stakeholders that could be involved. Coalitions were asked to invite all of these people to be involved in the effort. After the coalitions were created, the communities started assembling funding for future projects.

The following report includes the data compiled while evaluating the community.

<table>
<thead>
<tr>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Agency on Aging</td>
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<tr>
<td>Local Public Health</td>
</tr>
<tr>
<td>Community Representative/Citizen (local business; neighborhood &amp; community association representatives; pedestrian, bicycle, &amp; safety advocates)</td>
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<tr>
<td>Older Adult</td>
</tr>
<tr>
<td>Local Law Enforcement/Public Safety/School Resource Officer</td>
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<tr>
<td>Municipal Representative/City Mayor</td>
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<tr>
<td>City Planner/City Engineer</td>
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<tr>
<td>ISU Extension and Outreach</td>
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<tr>
<td>DNR (Department of Natural Resources) Representative</td>
</tr>
<tr>
<td>Service or Volunteer Organization Representative</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td>Totals</td>
</tr>
</tbody>
</table>
Using data collected by the volunteers using the iPhone walkability infrastructure tool, the map below identifies the streets that have sidewalks on one side or both sides of the street, incomplete sidewalks or no sidewalks at all.

Are there sidewalks at the midblock?
- Green: Complete on both sides
- Yellow: Complete on one side & incomplete on the other
- Orange: Complete on one side & no sidewalk on the other
- Brown: Incomplete on both sides
- Red: Incomplete on one side & no sidewalk on the other
- Black: No sidewalks on either side
Sidewalk Conditions

Using the iPhone devices, volunteers identified the condition of the sidewalks using a scale of good, fair or poor.

What is the condition of the sidewalk?
- green: good
- yellow: fair
- red: poor
Sidewalk Width

Using the iPhone devices, volunteers identified sidewalks not wide enough for two adults to walk side-by-side.
Sidewalk Setbacks

Using the iPhone devices, volunteers identified sidewalks that were not set back from the street.

Is the sidewalk set back from the street?
- green: yes
- red: no
- yellow: unsure
Volunteers identified if the particular street was pleasant to walk based on a combination of features.
Volunteers identified whether or not parking was allowed along the street.
Using the iPhone devices, volunteers identified the number of streets intersecting.
Using the iPhone devices, volunteers identified how traffic is controlled at each intersection.

How is traffic controlled at this intersection?

1. One way stop
2. Two way stop
3. Three way stop
4. Four way stop

- Traffic light
- Yield
- Flashing alert
- No traffic control

Iowa State University Extension & Outreach
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Using the iPhone devices, volunteers identified intersections where they would not feel safe crossing the street.
Using the iPhone devices, volunteers identified intersections where the sidewalks did not have curb cuts connecting to the street or curb cuts that need improvement.
Using the iPhone devices, volunteers identified areas that had visible painted crosswalk.

How many painted crosswalks at an intersection?
- all
- some
- none
Crossing Time

Using the iPhone devices, volunteers identified intersections where the data collector did not consider there to be sufficient time to cross the street safely.
Using the iPhone devices, volunteers identified intersections where items might make it difficult for a motorist to see the pedestrian or for the pedestrian to see motorists.
Using the iPhone devices, volunteers identified various infrastructure challenges (e.g., car blocking a sidewalk) and assets (e.g., presence of a bike rack).
Automobile & Pedestrian Crash Data

The map below uses Iowa Department of Transportation data from 2009 through early 2014 to identify the locations where accidents with non-motorists occurred. Special consideration should be given to these locations when identifying routes for walking programs.
The map below uses Iowa Department of Transportation data from 2009 through June 2014 to identify the intersections where accidents occurred. Special consideration should be given to these intersections when identifying routes for walking programs.
Sidewalk Network

Using aerial photography and the data collected by the volunteers, the map below identifies the streets that have sidewalks on one side or both sides of the street or a partial sidewalk.
Walk Score is a nationwide measurement tool that scores the walkability of any area based on the distance to nearby places (dining & drinking, groceries, shopping, errands, parks, schools and culture & entertainment) and pedestrian friendliness. A Walk Score can range from 0-100, defining an area car-dependent to a walkers paradise. More information about Walk Score is available at https://www.walkscore.com. This map shows a 500ft grid of cells containing the Walk Score for the represented.
This map shows the Walk Score from the previous map broken into descriptive categories: N/A (no score available), Car-Dependent, Somewhat Walkable, Very Walkable and Walkers Paradise (if available).
Walk Score

This map combines the Walk Score and the sidewalk network infrastructure collected during this study. Only the areas considered Car-Dependent by Walk Score are displayed. The grid cells are broken into three categories. Green areas contain sidewalks and partial sidewalks. Red areas have no sidewalks, and yellow areas have a combination of sidewalks, partial sidewalks and no sidewalks. Areas that show up in green have a strong sidewalk network but may not have many places for people to walk to. While areas that show up in red don’t have places to walk or the infrastructure to support walking. Communities should look to add or link to destinations in the green or yellow areas that would encourage people to make more use of the existing infrastructure.
This map combines the Walk Score and the sidewalk network infrastructure collected during this study. Only the areas considered Very Walkable by Walk Score are displayed. The grid cells are broken into three categories. Green areas contain sidewalks and partial sidewalks. Red areas have no sidewalks, and yellow areas have a combination of sidewalks, partial sidewalks and no sidewalks. Areas that show up in green are very walkable areas that have a strong sidewalk network. While areas that show up in red have a lot of places for people to walk to but do not have any sidewalks. Areas in red should be evaluated closer for possible infrastructure improvements.
While the eastern part of the neighborhood surrounding the meal site has sidewalks, the general condition was poor and many are very narrow. These should be replaced with new wider sidewalks. This area was also identified as being unpleasant to walk.

Mount Vernon Road SE, 8th Avenue SE and 12th Avenue SE were all identified as to having intersections that the volunteer’s evaluating the intersection felt were difficult to cross. The additional of painted crosswalks, signals and pedestrian crossing at focused points would be beneficial.

A large portion of the study area was missing painted crosswalks. Identifying the primary or most used pedestrian routes would go a long way to improving the visibility of where pedestrians might cross.

Mount Vernon road was also often identified as a location where there was insufficient time to cross. A closer study at the time allotted on the pedestrian signal should be conducted to ensure there is sufficient time to cross.

The intersections of 12th Avenue SE and 10th Street SE as well as the intersection of Mount Vernon Road SE and 15th Street SE were identified as locations that had visual barriers that made it difficult to see or be seen by traffic. A closer look to identify the exact barriers and how they might be mitigated is recommended.

Over the past five years there have been several bicycle and pedestrian crashes with automobiles along Mount Vernon Road SE and 3rd Street SE according to the Iowa DOT crash data. These locations should be a focus for additional study and improvement.
Additional Resources

Evaluation
Evaluation is used to determine if the aims of the strategies are being met and to assure that resources are directed toward efforts that show the greatest likelihood of success. Also, evaluation can identify needed adjustments to the program while it is underway. This information describes how to conduct a SRTS program evaluation that is tailored to that program’s objectives and strategies.

The I-WALK website offers many useful resources to those looking for more information:
Webinars
Infrastructure
Iowa Safe Routes to School Workshops
Iowa Department of Natural Resources
Iowa Department of Transportation
...and many more

Walking with a Purpose
This resource will help your school conduct a walkability assessment of its neighborhood. The checklist will help assess what makes the walking environment inviting and safe, as well as identify barriers that exist. After the assessment, school staff can help students become advocates for a more walkable community.

Healthy Community Design Checklist
The Healthy Community Design Initiative’s (HCDI) Healthy Community Design Checklist is a plain-language checklist for community members with little or no knowledge of the public health and built environment connection. It includes healthy community design elements that should be considered while participating in a land-use planning process.

In the new report, the Alliance for Biking & Walking ranks all 50 states and the 51 largest U.S. cities on bicycling and walking levels, safety, funding and other factors. The report is funded by CDC’s Healthy Community Design Initiative.

Federal Highway Administration: Livability Fact Sheets
The fact sheets provide information and examples on how considering livability during the transportation decision-making process can benefit communities. The fact sheet topics include health, housing costs, freight, land use, safety, management and operations, rural communities and the environment.

Complimentary Copies Of The 2012 Minnesota Bike Guide Are Available Now
To encourage more to become, or stay active this year’s guide has expanded its pages offering information to more than 200 bike related events, many bike-friendly maps of places we all like to ride and helpful tips. Printed courtesy of our many wonderful sponsors, guides come in bundles of 25 and are available by contacting us.

To access these resources and others, visit www.i-walk.org and click on “Resources”.

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A PDF version of this report and other supplementary materials is available at wwwI-WALK.org