



Iowans Walking Assessment Logistics Kit

A Community Walkability Program

Elkader Iowa

Fall 2014

IOWA STATE UNIVERSITY
Extension and Outreach
Community and Economic Development





Acknowledgements

I-WALK TEAM

Iowa Department of Public Health

Catherine J. Lillehoj Ph.D.
Sarah Taylor Watts, Project Coordinator

Iowa State University Extension and Outreach

Christopher J. Seeger, ASLA, GISP
Bailey A Hanson, GIS Specialist
Mariah Bakke, Research Assistant
Hannah Luloff, Research Assistant
Austin Javellana, Research Assistant

LOCAL BOARDS OF HEALTH

Clayton County Board of Health

Nancy Yeldon, RN
Director of Finley Visiting Nurse Association- Clayton Co. VNA

SUPERINTENDENTS & PRINCIPALS

Central Community School District
Superintendent and Elementary Principal: Nick Trenkamp

LOCAL COORDINATOR

Ashley Christensen, CHES
Regional Safe Routes to School Coordinator
Upper Explorerland Regional Planning Commission



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.



http://en.wikipedia.org/wiki/Elkader,_Iowa

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

** Bicycling and Walking in the US: 2012 Benchmarking Report, 2012



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).

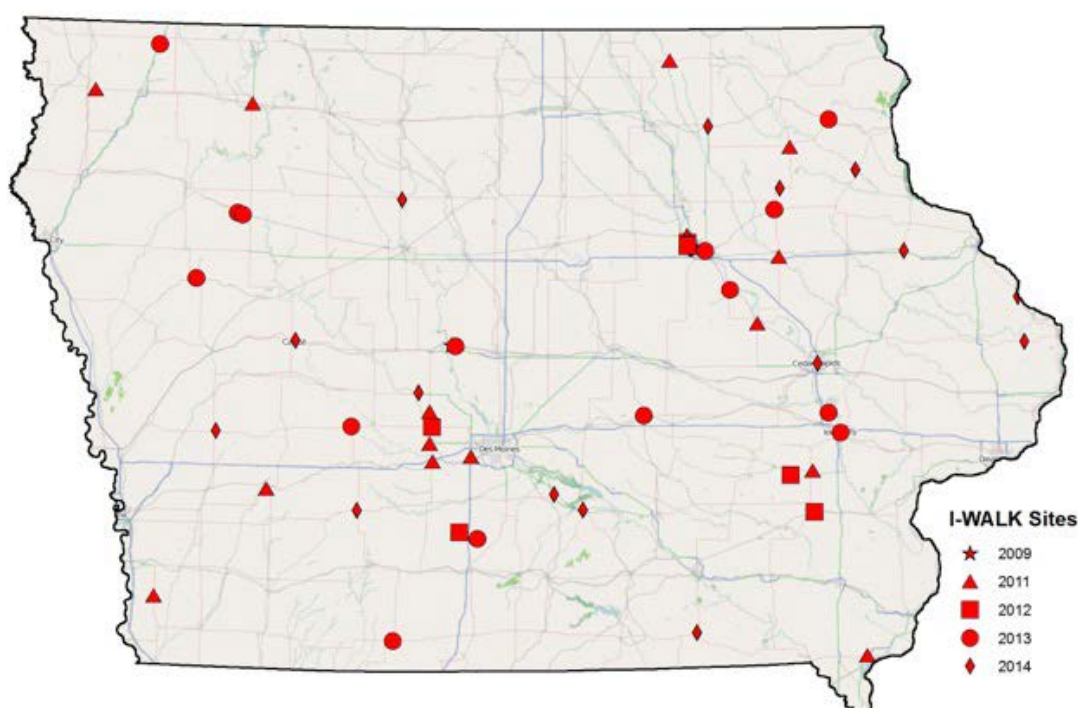
In July 2012, I-WALK piloted its first project specifically focusing on the aging adult population across Iowa.

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.





Teacher Tally

Teachers asked students to indicate by raise of hand how they travel to and from school during the Fall and Spring tally period. In addition to the standard modes of transportation, students responded to a School Bus Plus category to indicate they rode a school bus in addition to walking or biking as part of their travel to and from school. Results for individual grades and all participating schools can be found at the I-WALK website, www.i-walk.org.

School: _____

Teacher: _____

Grade: _____ Total No. students in class _____

No. students living in city _____ country _____

The purpose of this tally is to record how students get to and from school each day. On the first day, ask the class by raise of hand if they live within the city or in the country. Record this information above.

1. Ask the class to think about how they came to school. Did they walk to school, ride the bus or maybe walk to a local bus stop. Read through all the potential answers so the students know the choices.

2. Ask students, by a raise of hands, how many kids walk/bike/scoot to a local school bus stop. Count the hands raised and record that number in the School Bus Plus box. Note:

- Students that raise their hand for this may also raise their hand again for Walk, Bike or Scoot, but they should NOT raise their hand again for the School Bus Only option.
- A student that walks to the community bus stop in another town and then rides the bus should be counted as a School Bus Plus and Walker, not a School Bus Only rider.

3. Ask the class by raise of hand to answer "How did you arrive at school or your community school bus stop today?" Record results in the appropriate box along with the general weather that day (Sun, Rain, Overcast, Windy, SNow or COlder than normal).

4. Repeat for walking home and the remaining two days of the week.

5. At the end of the three days, you will need to visit www.i-walk.org, click on the Teacher Tally menu, then the link under Data Collection Forms. There you will enter the data collected from the 3-day tally.

I-WALK: Teacher Tally



Start Date _/_/_	Tuesday		Wednesday		Thursday	
	To	From	To	From	To	From
School Bus Plus						
Walk						
Bike						
Skate/Scoot						
School Bus Only						
Family Vehicle						
Carpool						
Public Trans.						
Other						
Weather (circle)	S, R, O, W, SN, CO	S, R, O, W, SN, CO	S, R, O, W, SN, CO	S, R, O, W, SN, CO	S, R, O, W, SN, CO	S, R, O, W, SN, CO

I-WALK is a joint project of the Iowa Department of Public Health and Iowa State University Extension and Outreach and is funded through an Iowa Department of Transportation SRTS non-infrastructure grant. The online and print tally form was developed by the ISU Campus Community Partnership for Health (CCPH).



IOWA STATE UNIVERSITY
Extension and Outreach





Teacher Tally Details

Fall 2014

To School

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	9	6.9%	19.5%	4.6%	47.7%	26.7%	1.5%	0%	0%
District gd. 2	3	6.5%	16.7%	6.5%	49.3%	27.4%	0%	0%	0%
District gd. 4	3	15.6%	17.7%	4.8%	49.7%	26.5%	1.4%	0%	0%
District gd. k	3	0%	24.3%	2.3%	44.1%	26%	3.4%	0%	0%

From School

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	9	5.5%	25.3%	4.4%	47.3%	21.6%	1.5%	0%	0%
District gd. 2	3	3.7%	21.1%	6.4%	49.1%	23.4%	0%	0%	0%
District gd. 4	3	14.9%	25%	4.1%	48.6%	20.3%	2%	0%	0%
District gd. k	3	0%	30.4%	2.2%	44%	20.7%	2.7%	0%	0%

Spring 2015

To School

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	9	0%	14.4%	1.6%	42.9%	39.6%	1.3%	0%	0%
District gd. 2	3	0%	9.4%	1.8%	47.1%	41.7%	0%	0%	0%
District gd. 4	3	0%	14.7%	3.3%	47.8%	33.7%	0.5%	0%	0%
District gd. k	3	0%	19.6%	0%	33.8%	42.6%	3.4%	0%	0%

From School

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	9	0%	23.2%	1.6%	45%	28.2%	1.6%	0%	0%
District gd. 2	3	0%	20.7%	1.8%	47.7%	29.7%	0%	0%	0%
District gd. 4	3	0%	17.4%	3.3%	46.2%	32.6%	0.5%	0%	0%
District gd. k	3	0%	31%	0%	40.9%	22.7%	4.4%	0%	0%

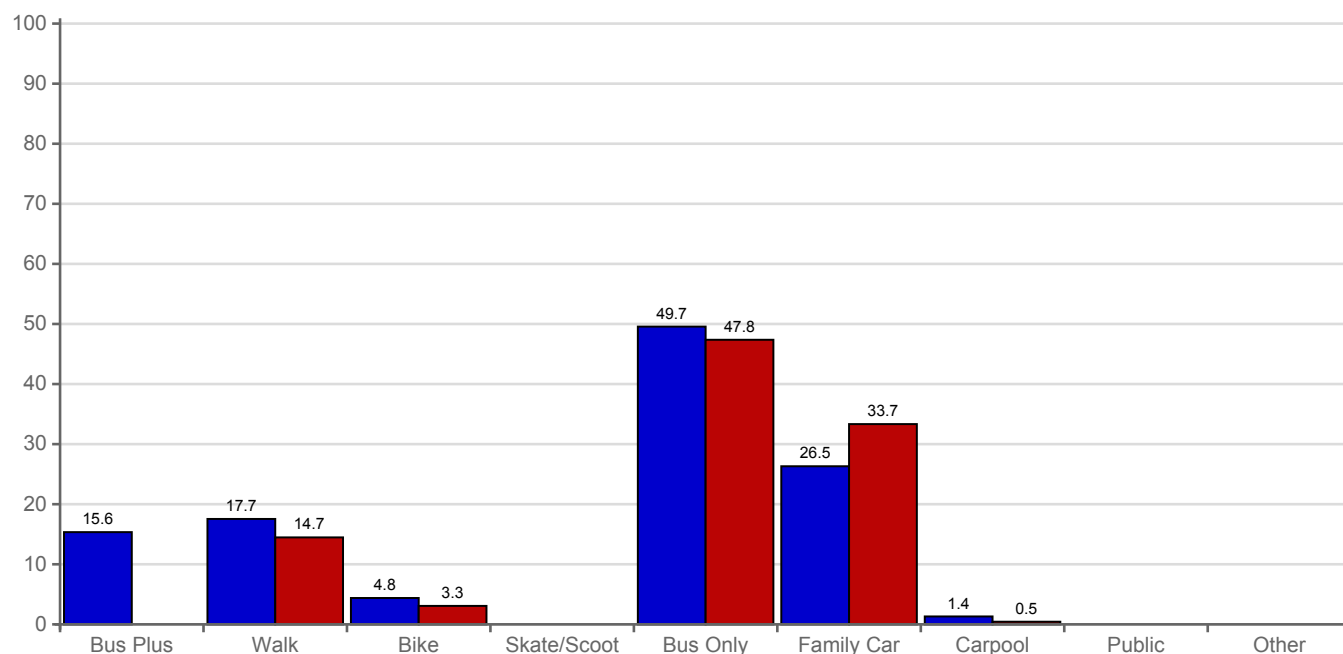
Notes:

Due to rounding the total percent may be less than 100%.

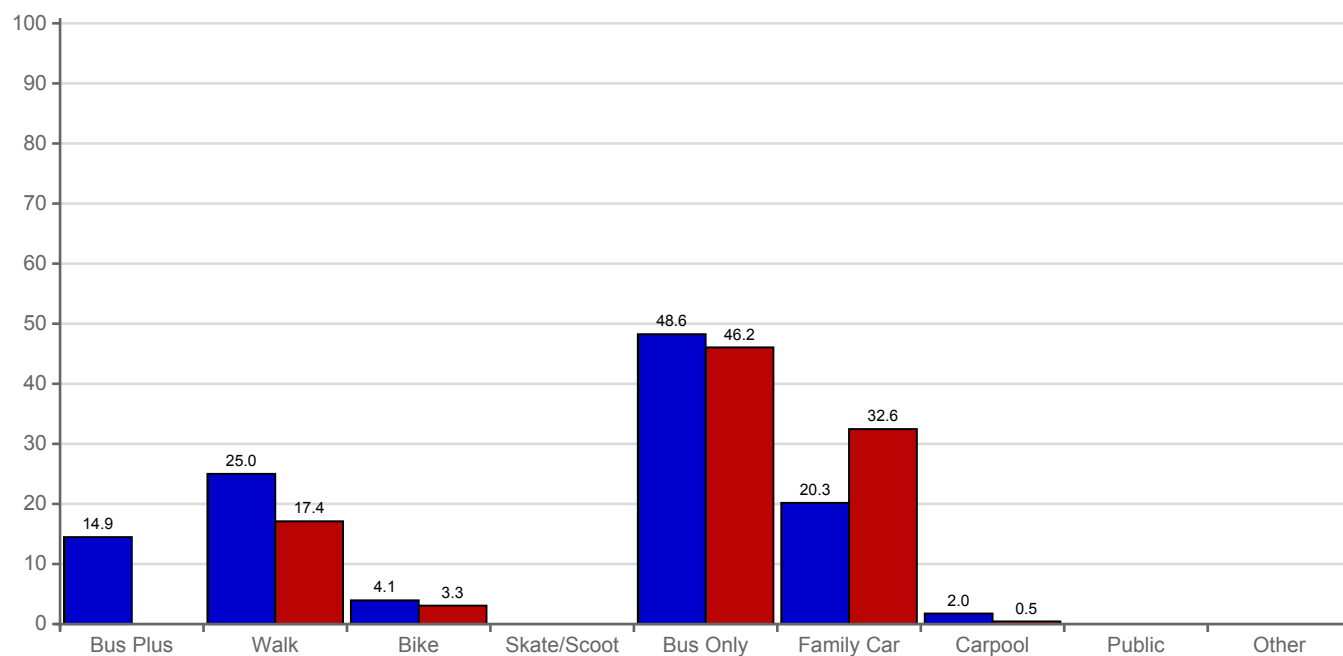
* In the event that a tally entry did not include the grade level, the values were combined into this record.



Percent To School



Percent From School



■ Fall 2014 ■ Spring 2015



Parent-Child Survey

Present Conditions

Central Elementary School has 100 students between the grades of 3 through 5. Of the those students, 20 surveys were completed.

Parent/Child Surveys

The purpose of the survey was to better understand how each child gets to and from school and any concerns about child[ren] walking or biking to and from school. While parts of the survey focused on SRTS issues for those who walk or bike to school, survey participation was also requested from parents and children who live in the country and ride the bus.

There were four parts to this survey:

- Multiple choice survey questions
 - Parent or Guardian completed
- Distance mapping between home and school
 - Parent or Guardian completed
- Route mapping
 - Parent or Guardian and child completed together
- Barrier/opportunity mapping
 - Parent or Guardian and child completed together

I-WALK School Transportation Survey: Parent Survey

Has your child asked for permission to walk or bike to/from school in the last year? *

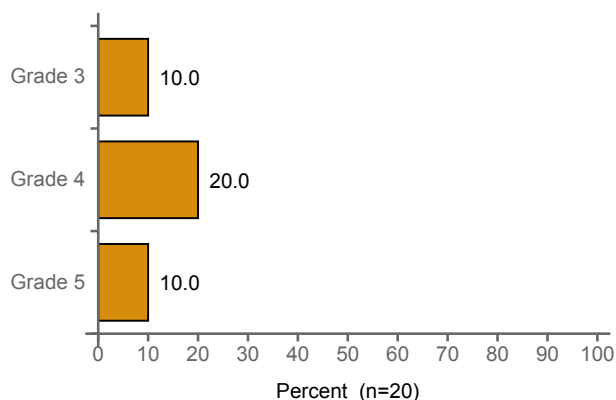
☐ Yes
☐ No

At what grade-level would you allow your child to walk or bike without an adult to/from school? *

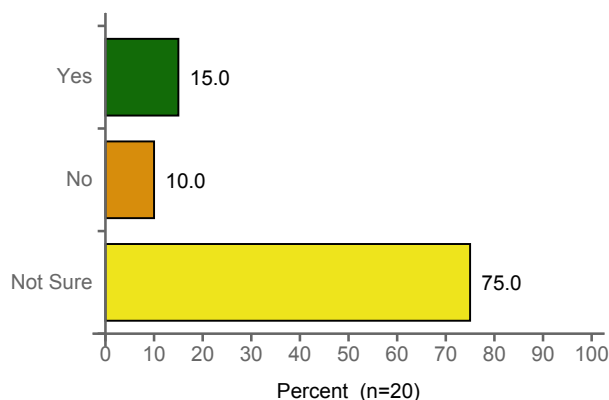
What level of concern do you have regarding the following issues regarding your child walking/biking to or from school? Would you probably let your child walk or bike to or from school more often if this problem were changed or improved?

	Yes	No	Not Sure
Distance — school is too far away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inconvenience of allowing child to walk/bike to school — easier to drop off child/children on the way to/from work/other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time — not enough time for them to get to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child's before or after-school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed of traffic along route	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amount of traffic along route	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amount of traffic near school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crossing train/railroad tracks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Current grade of child?



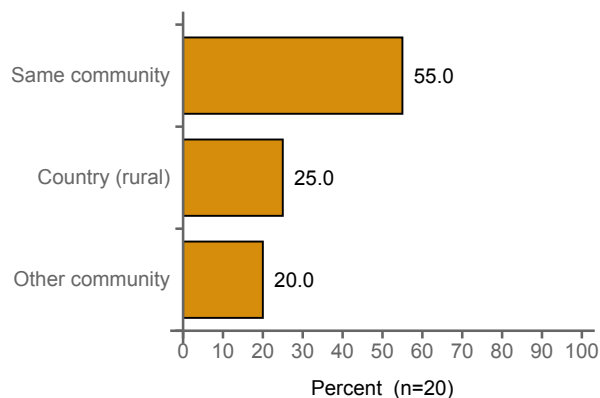
Does your school currently have an established SRTS Program?



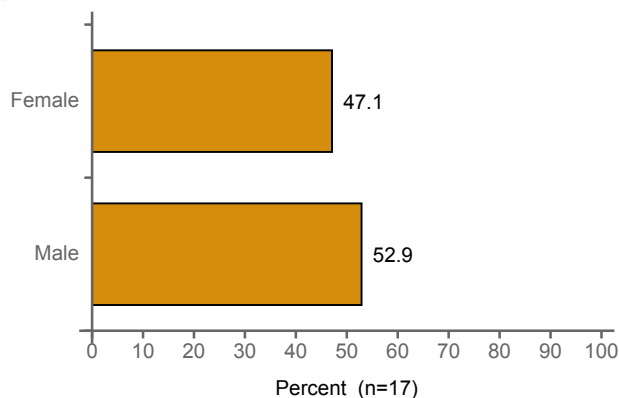


Parent-Child Survey

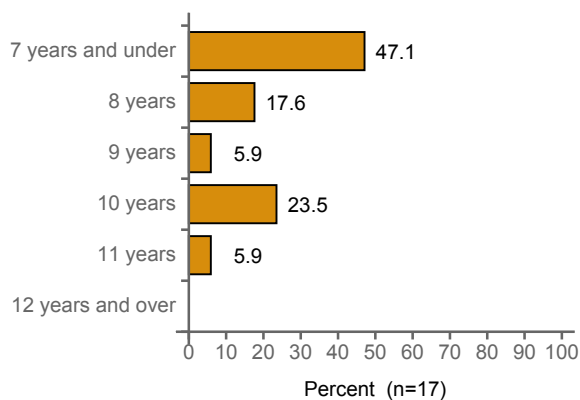
Do you live in the same town as the location of the school building your child attends?



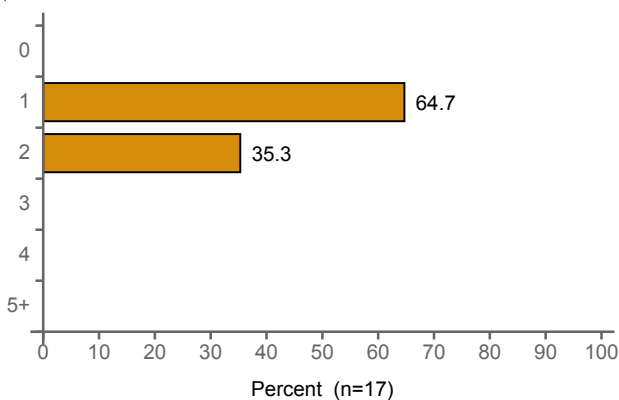
*Gender of child?



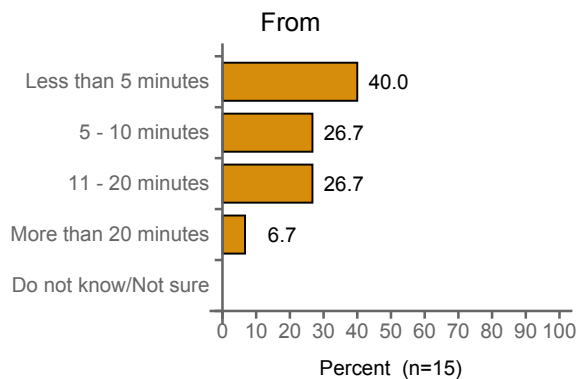
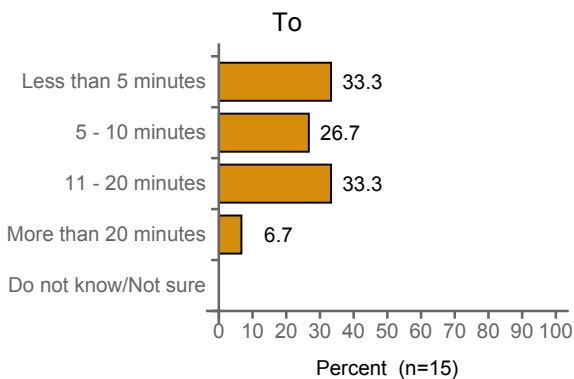
Age of Child?



*How many children do you have in Kindergarten through 8th grade?



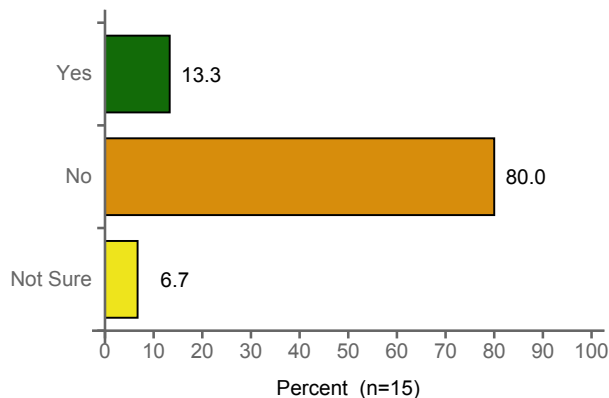
*How long does it normally take your child to get to/from school?



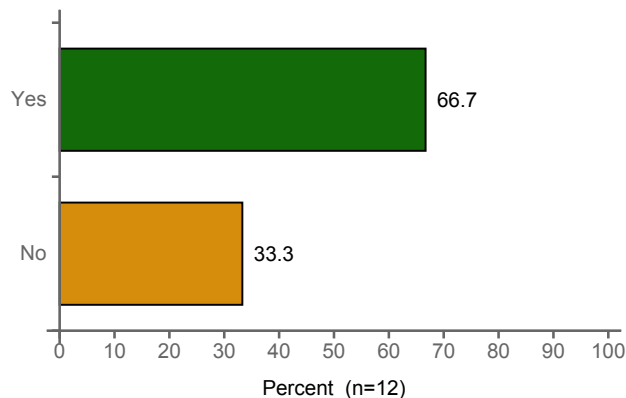


Parent-Child Survey

If your school provides an established location in your community for school busses to pick up the children and then take them to their school building does your child use it?

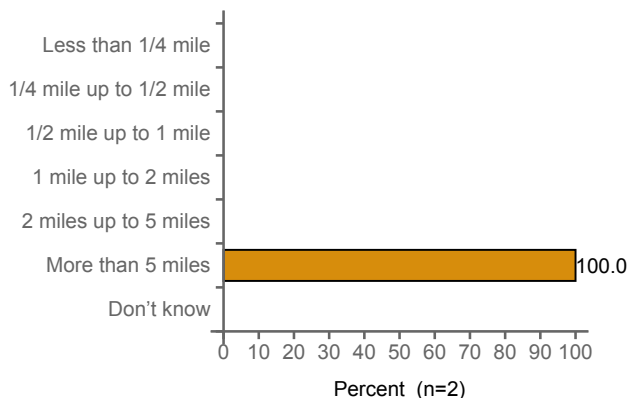


Has your child asked for permission to walk or bike to/from school in the last year?

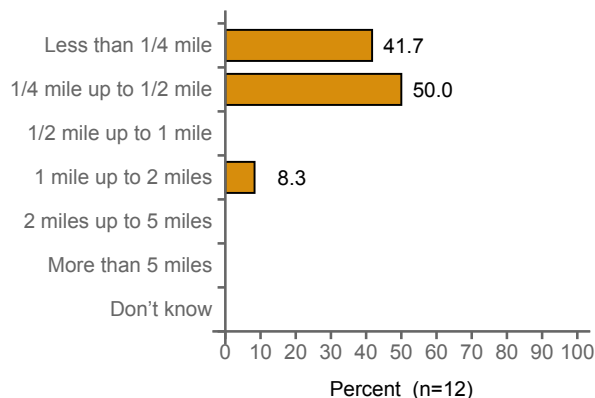


How far does your child live from the school or bus stop?

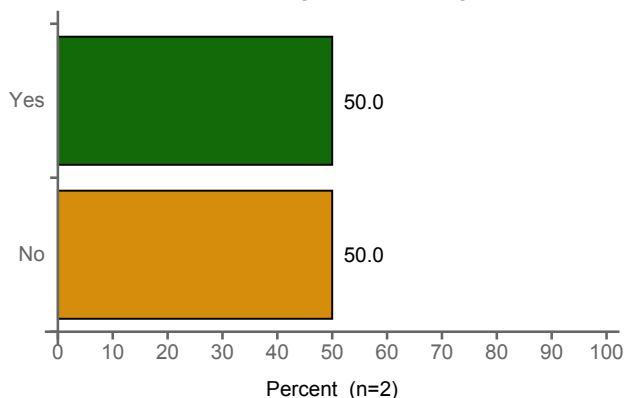
(Indicated they ride the bus)



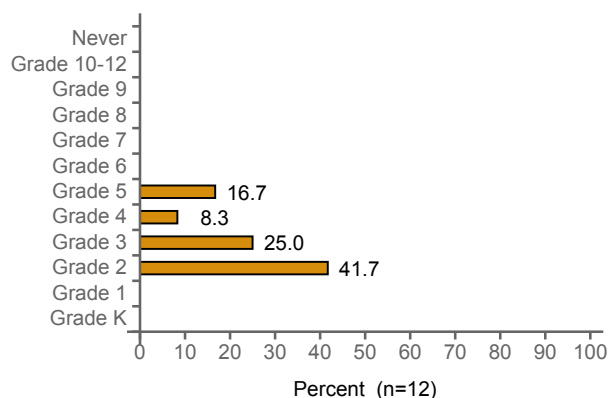
(Indicated they do not ride the bus)



If your child rides the bus, do they walk or ride bike (ride scooter/skate board, etc) to the location where the bus picks them up?



***At what grade-level would you allow your child to walk or bike without an adult to/from school?**





Parent-Child Survey

In a typical school week during each of the following seasons, how many days per week does your child use the following modes of transportation to get to and from school?

Average Days Per Week To

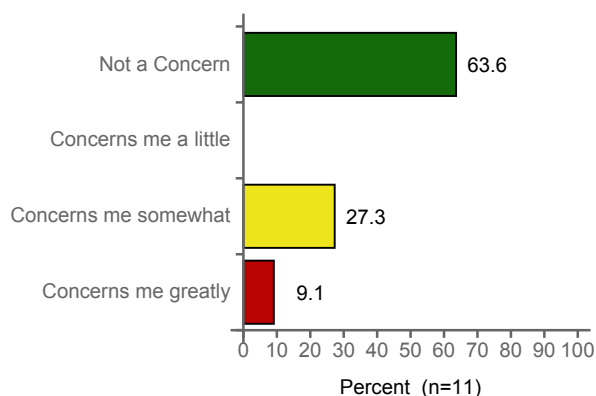
	Fall Aug, Sep, Oct, Nov	Winter Dec, Jan, Feb	Spring Mar, Apr, May, Jun
Walk	1.65	1.35	1.65
Bike	0.41	0.00	0.59
Skate/Scoot (skateboard, scooter, inline skates, etc.)	0.00	0.00	0.00
School Bus	1.06	1.06	1.06
Family vehicle (only with children from your family)	1.24	1.94	1.06
Carpool (riding with children from other families)	0.06	0.06	0.06
Public transportation (city bus, subway, etc.)	0.00	0.00	0.00

Average Days Per Week From

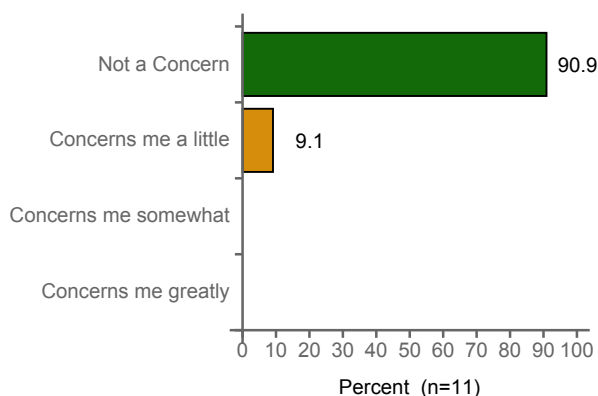
	Fall Aug, Sep, Oct, Nov	Winter Dec, Jan, Feb	Spring Mar, Apr, May, Jun
Walk	1.59	1.12	1.41
Bike	0.41	0.00	0.59
Skate/Scoot (skateboard, scooter, inline skates, etc.)	0.00	0.00	0.00
School Bus	0.82	0.82	0.82
Family vehicle (only with children from your family)	0.65	1.53	0.65
Carpool (riding with children from other families)	0.06	0.06	0.06
Public transportation (city bus, subway, etc.)	0.00	0.00	0.00

What level of concern do you have regarding the following issues and your child walking/biking to or from school?

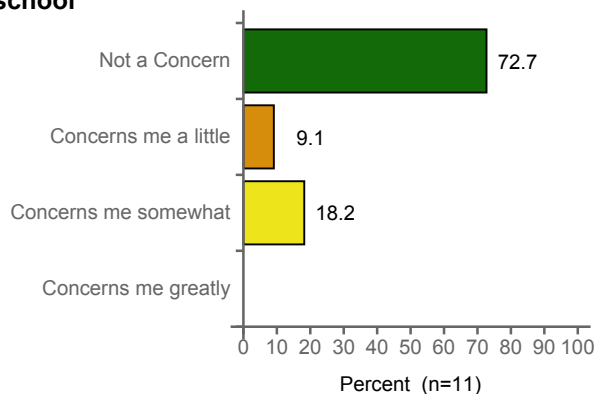
Distance — school is too far away



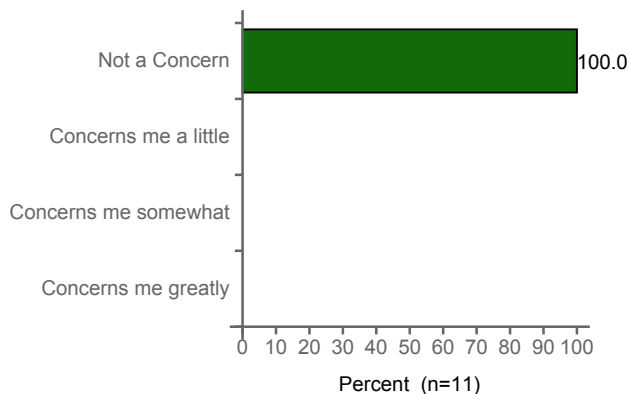
Time — not enough time to get to school



Inconvenience of allowing child to walk/bike to school



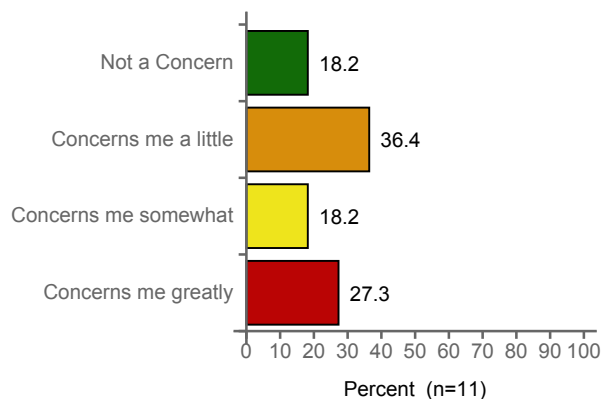
Child's before or after-school activities



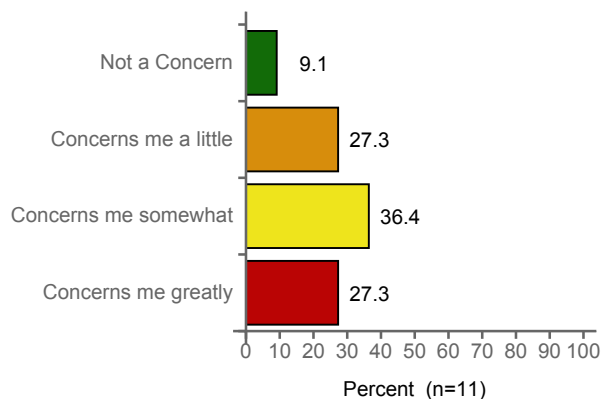


Parent-Child Survey

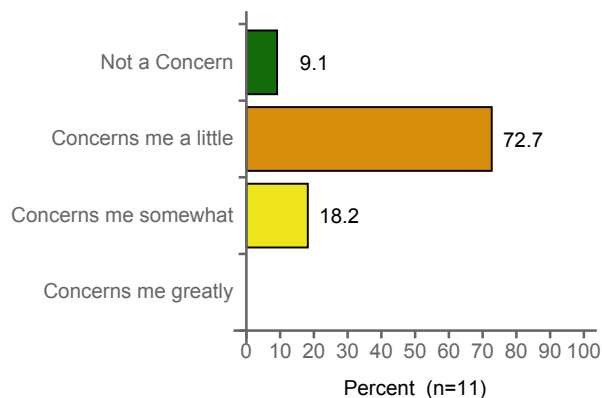
Speed of traffic along route



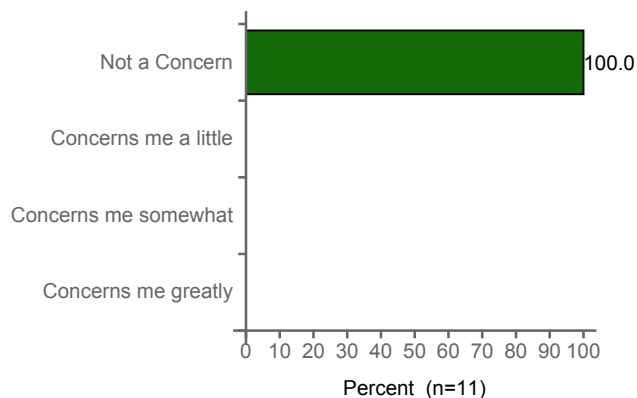
Amount of traffic along route



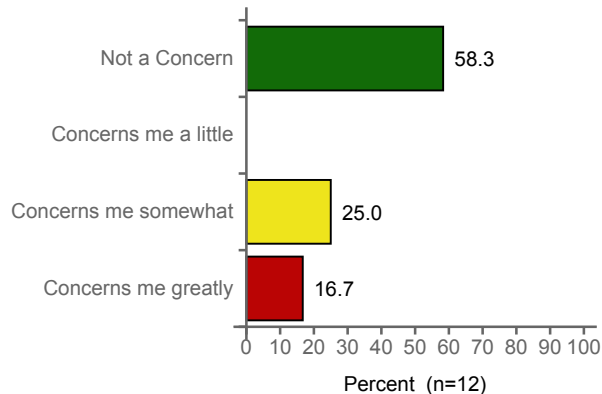
Amount of traffic near school



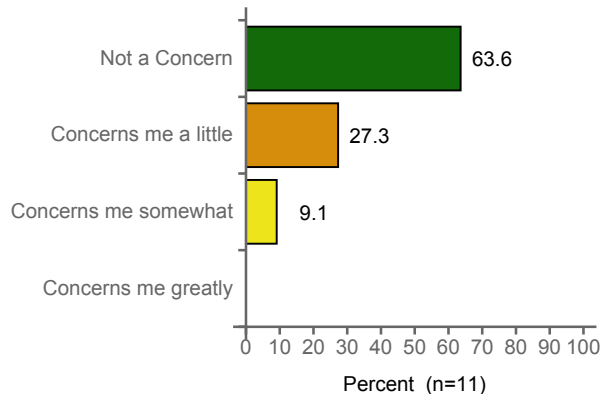
Crossing train/railroad tracks



Adults to walk or bike with — Child/children would be walking/bicycling alone to school



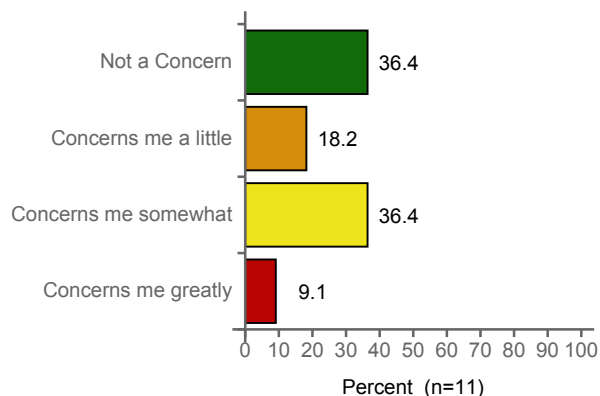
Sidewalks or pathways — none or inadequate



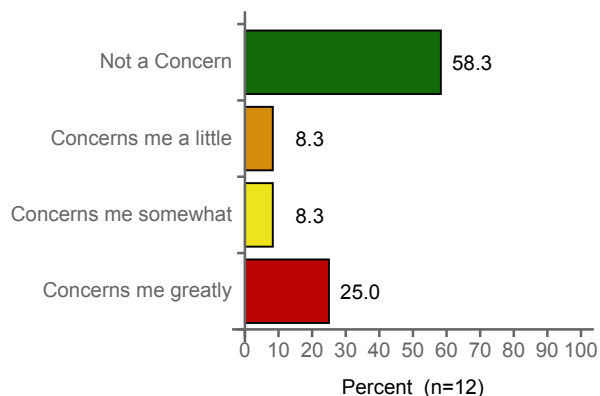


Parent-Child Survey

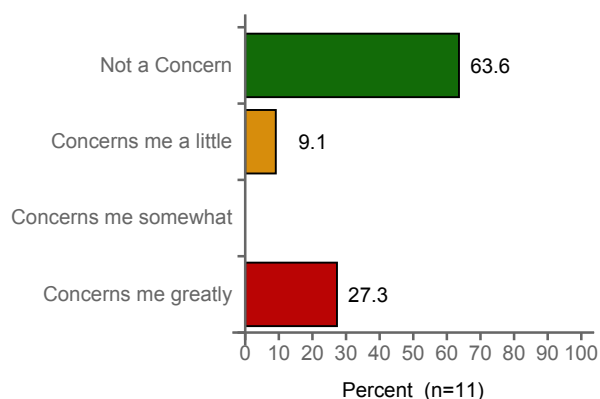
Safety of intersections and crossings



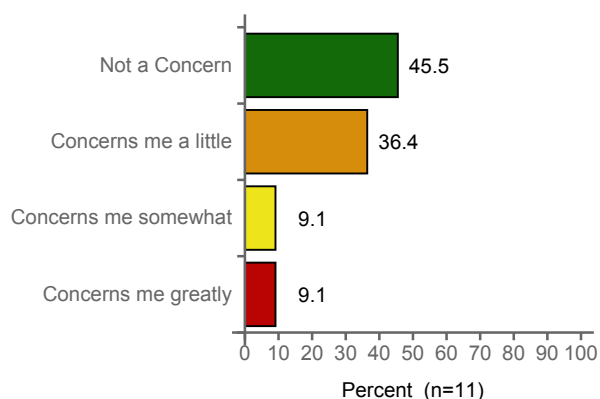
Crossing guards — none or inadequate



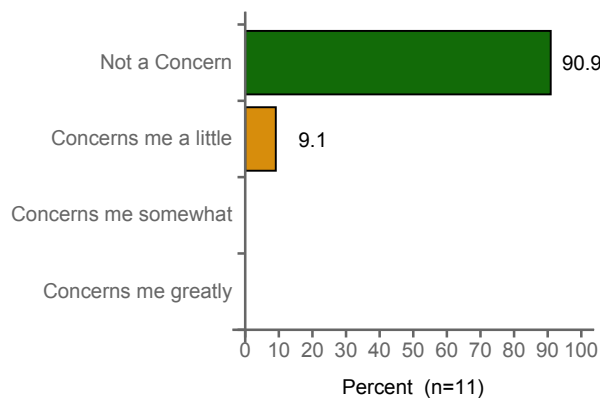
Violence or crime — stranger danger



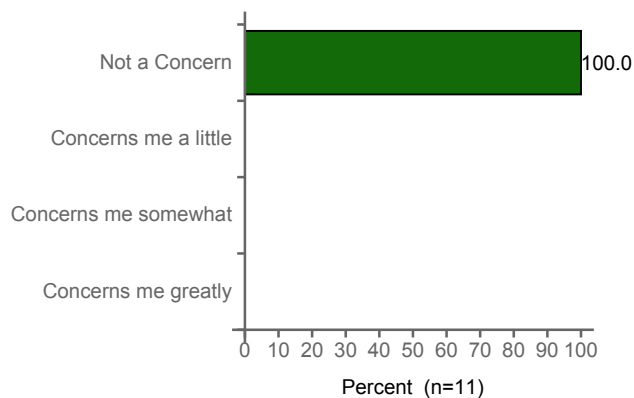
Weather or climate



Safe place for bike storage



Child does not like to walk or bicycle to school

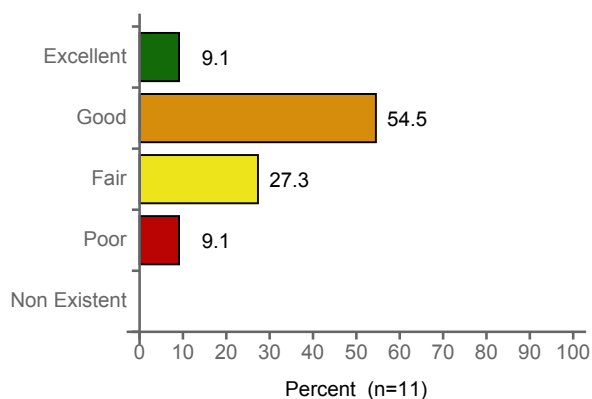




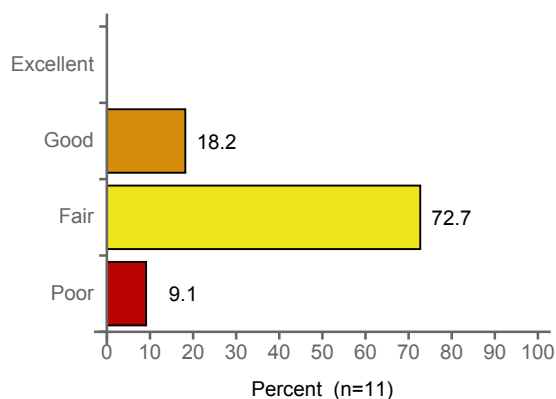
Parent-Child Survey

Please rate the following community conditions that may be present on your child's route to school:

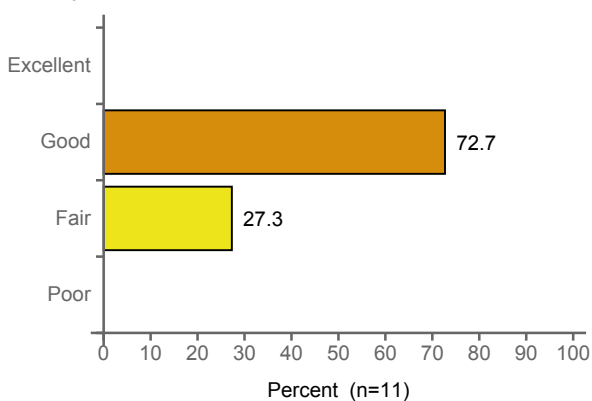
Condition of Sidewalks (condition, width)



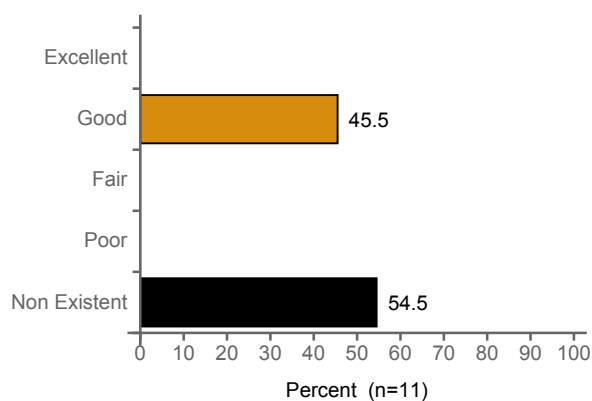
Traffic and Driver Behavior (speeding, busy traffic)



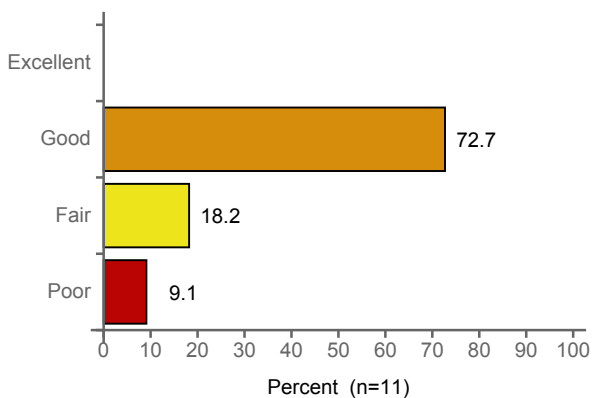
Street Crossings (condition, width, traffic control)



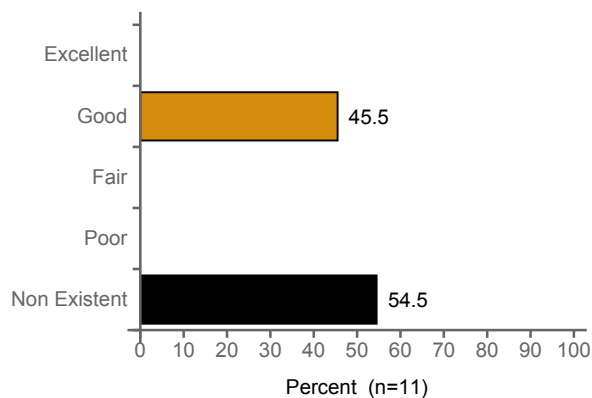
Public Trail Access



Street Crossing Accessibility (curb cuts, sidewalk to street transition)



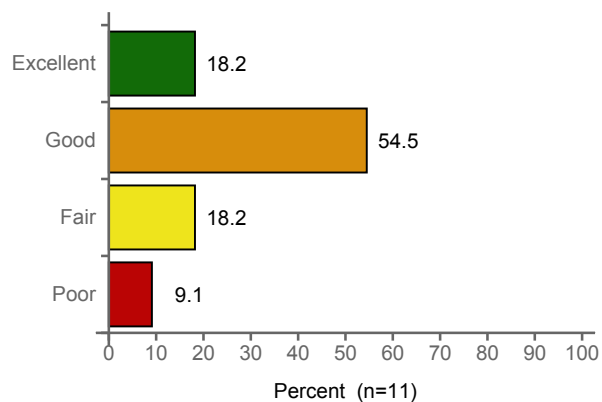
Public Trail Condition/Ease of use



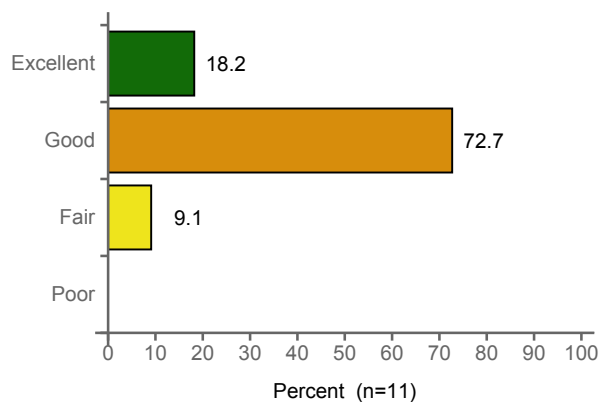


Parent-Child Survey

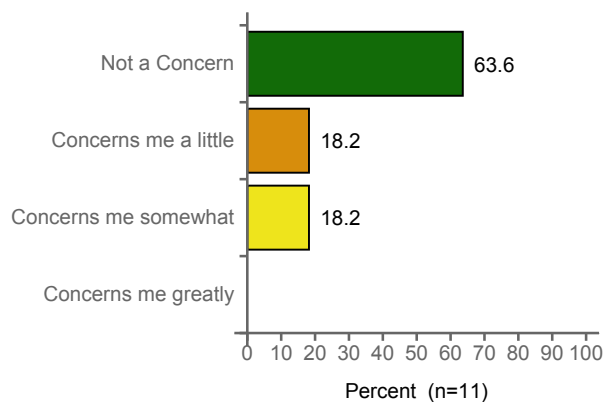
Safety (crime rates)



Landscape Appeal (visually interesting, scenic)



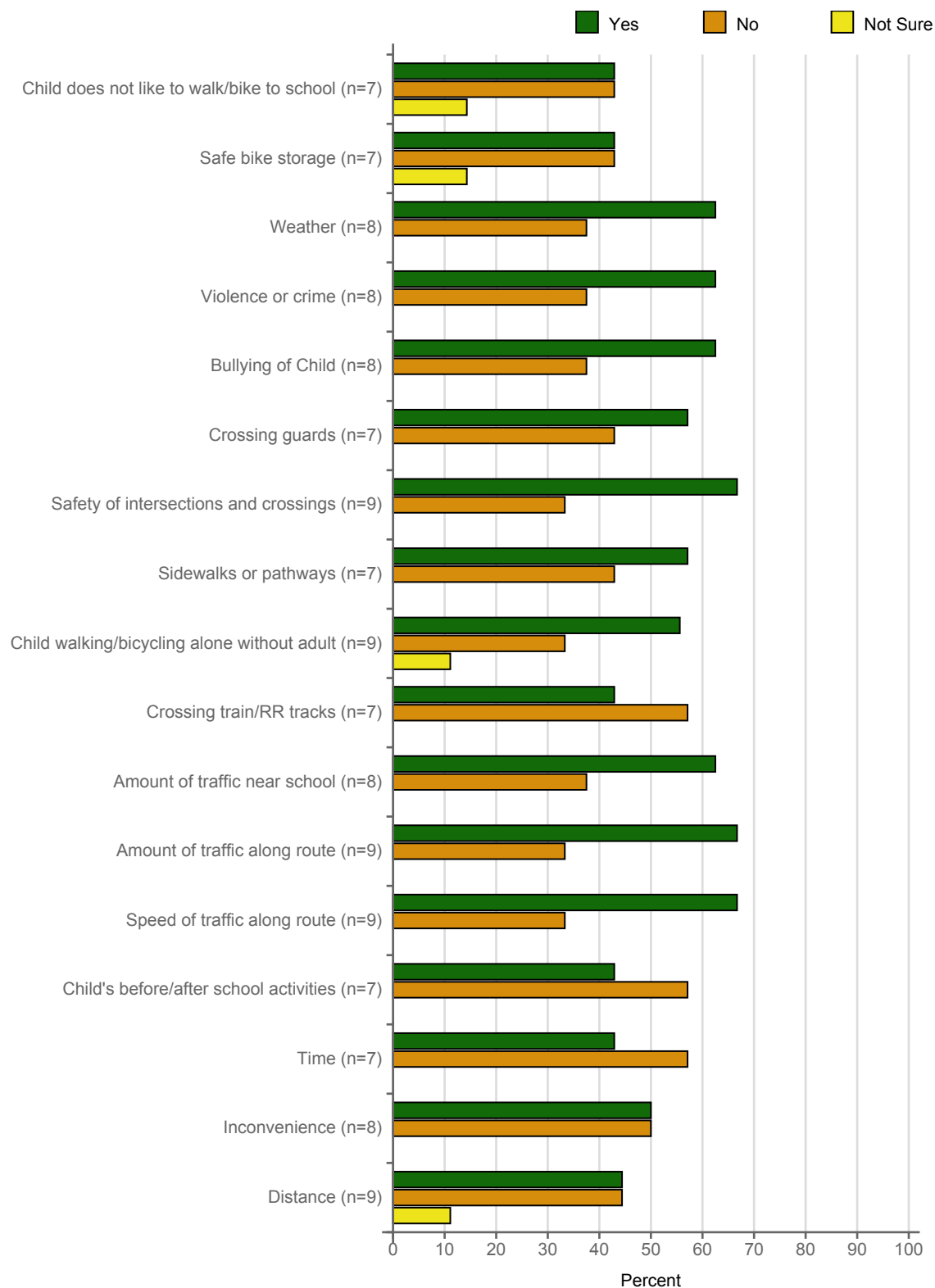
What type of concern do you have for bullying?





Parent-Child Survey

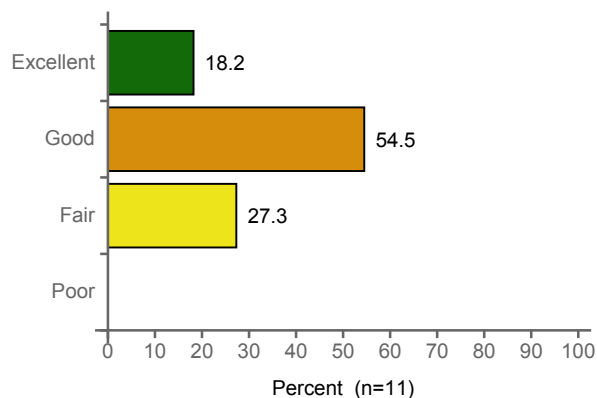
Would you probably let your child walk or bike to or from school more often if this problem were changed or improved?



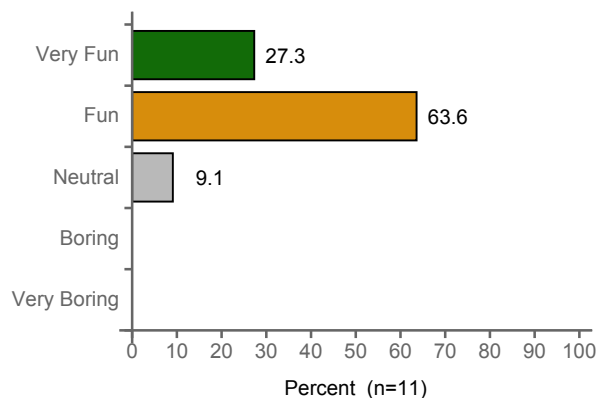


Parent-Child Survey

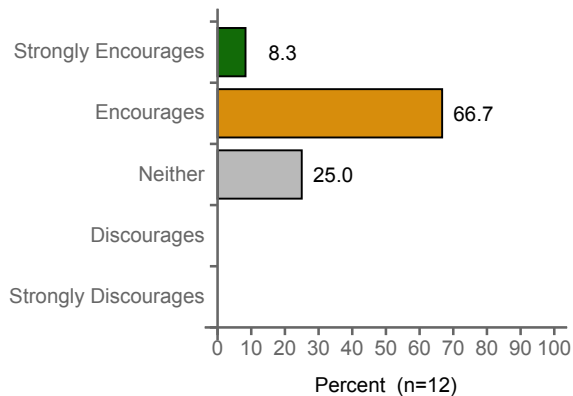
Overall rating of school route walkability/bikeability?



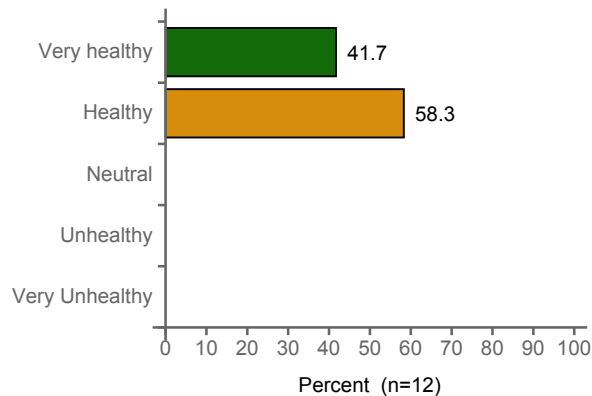
*How much FUN is walking or biking to/from school for your child?



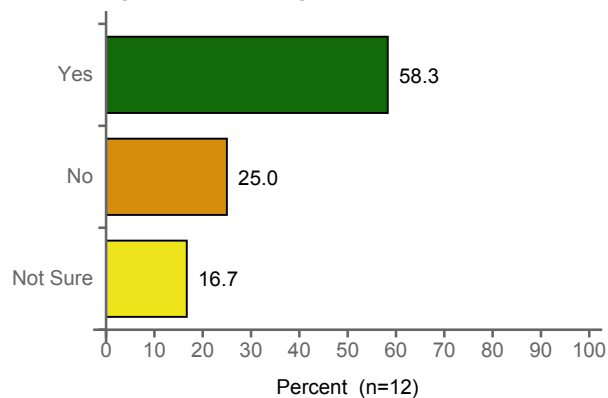
*In your opinion, how much does your child's school encourage or discourage walking and biking to/from school?



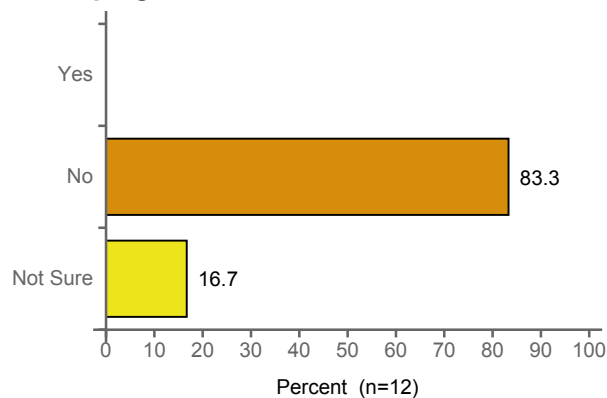
*How HEALTHY is walking or biking to/from school for your child?



Would you allow your child/children to participate in a Safe Routes to School program if adult supervision was provided?



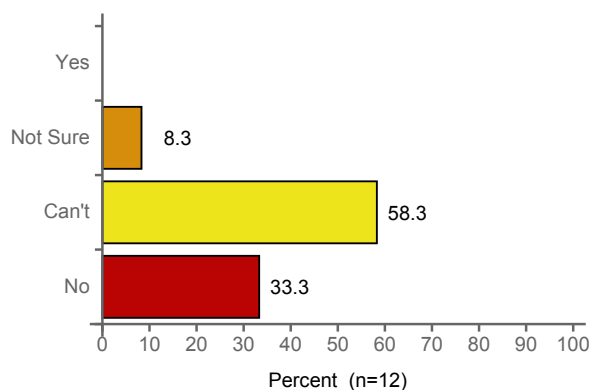
Would you be interested in volunteering to help plan, develop or improve a Safe Routes to School program?



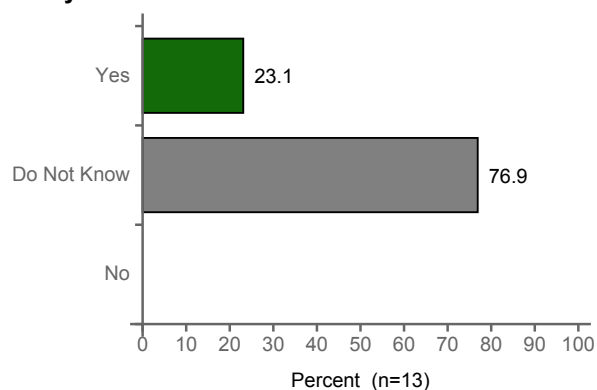


Parent-Child Survey

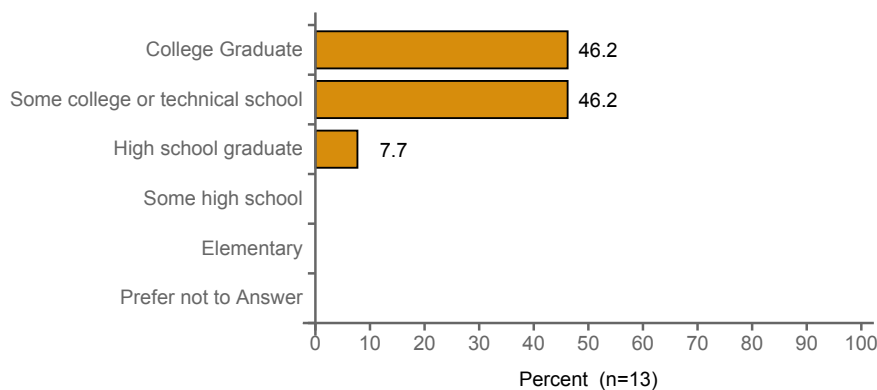
Would you be interested in escorting (walking with) a group of children to school one or more times a week?



Are Safe Routes to School program components a part of your school's Wellness Policy?



***What is the highest level of education you completed?**





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.



Citizens collect data with iPhone application "Fulcrum"



Sidewalk Availability

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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

Are there sidewalks at the midblock?

- Complete on both sides
- Complete on one side & incomplete on the other
- Complete on one side & no sidewalk on the other
- Incomplete on both sides
- Incomplete on one side & no sidewalk on the other
- 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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

What is the condition of the sidewalk?

- good
- fair
- poor



Sidewalk Width

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



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

Is the sidewalk wide enough for two adults to walk side by side?

- yes
- no



Sidewalk Setbacks

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



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

**Is the sidewalk set
back from the street?**

- yes
- no
- unsure



Pleasant Routes

Volunteers identified if the particular street was pleasant to walk based on a combination of features.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Is this route pleasant to walk?

- no
- unsure
- yes
- Comment



Infrastructure Challenges and Assets

Using the iPhone devices, volunteers identified various infrastructure challenges (e.g., car blocking a sidewalk) and assets (e.g., presence of a bike rack).



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Additional Features



Bike rack



Bus stop



Car blocking sidewalk



Crosswalk not at intersection



Large truck traffic



Pedestrian railroad crossing



Scary Dog



Sidewalk damaged



Sidewalk ends



Sidewalk with stairs



Standing water



Vegetation blocking route



Other



Parking

Volunteers identified whether or not parking was allowed along the street.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

**Is parking allowed
along the street?**

- both sides
- one side
- ▲ no or not sure



Intersection Type

Using the iPhone devices, volunteers identified the number of streets intersecting.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

What type of intersection is this?

- 3-way
- 4-way
- 5 or more way



Traffic Control

Using the iPhone devices, volunteers identified how traffic is controlled at each intersection.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

How is traffic controlled at this intersection?

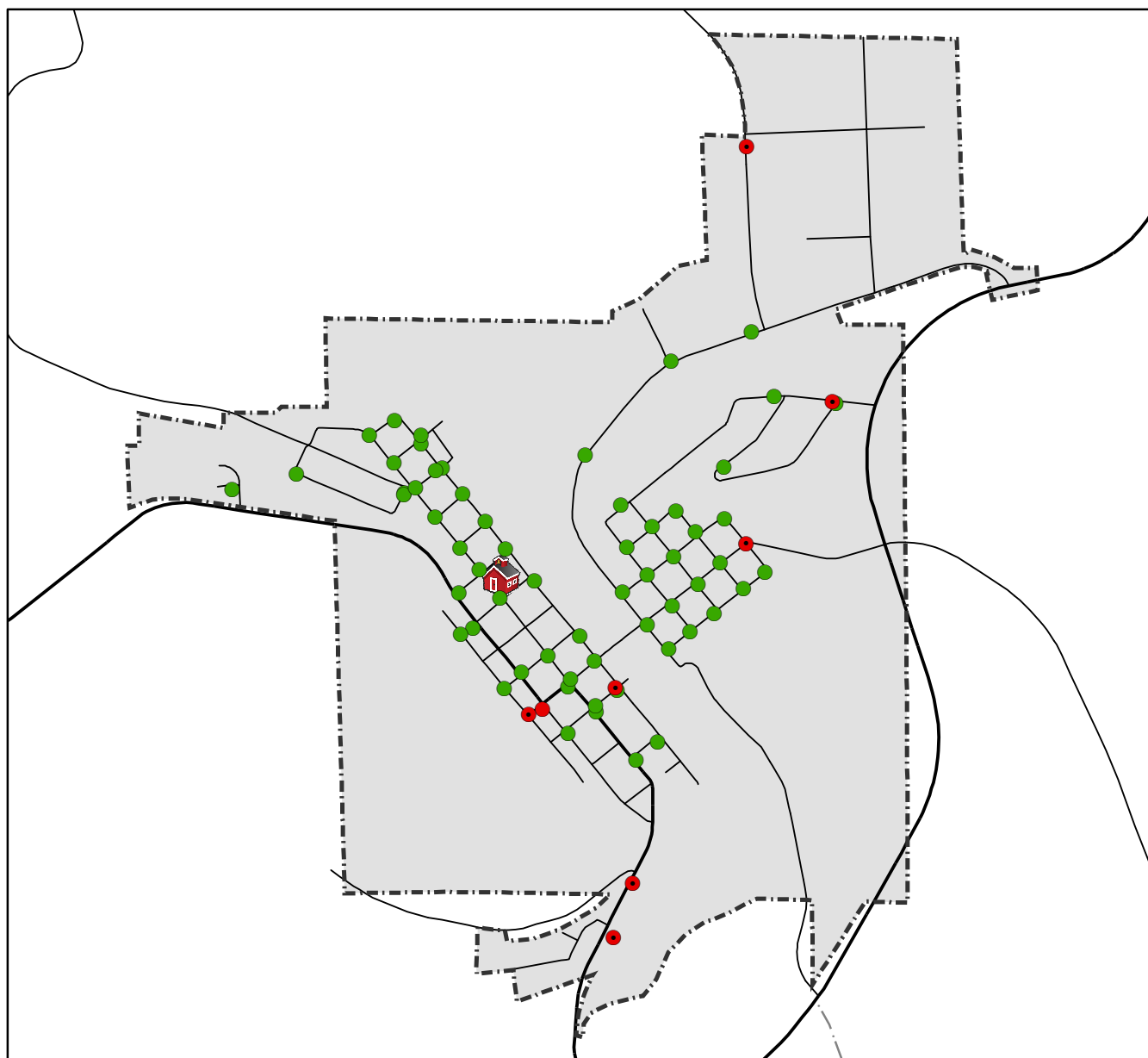
- ① One way stop
- ② Two way stop
- ③ Three way stop
- ④ Four way stop

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



Would Not Feel Safe Crossing the Street

Using the iPhone devices, volunteers identified intersections where they would not feel safe crossing the street.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

Do you think an adult would feel safe crossing this street?

- yes
- no
- unsure
- Comment



Intersection Curb Cuts

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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Does the Intersection have curb cuts?

- yes
- yes, need improvement
- no



Painted Crosswalks

Using the iPhone devices, volunteers identified areas that had visible painted crosswalk.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

**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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

0 0.175 0.35 0.7 Miles

**Is there enough time
to cross the street?**

- yes
- unsure
- no



Visual Barriers for Traffic

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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
October 2014

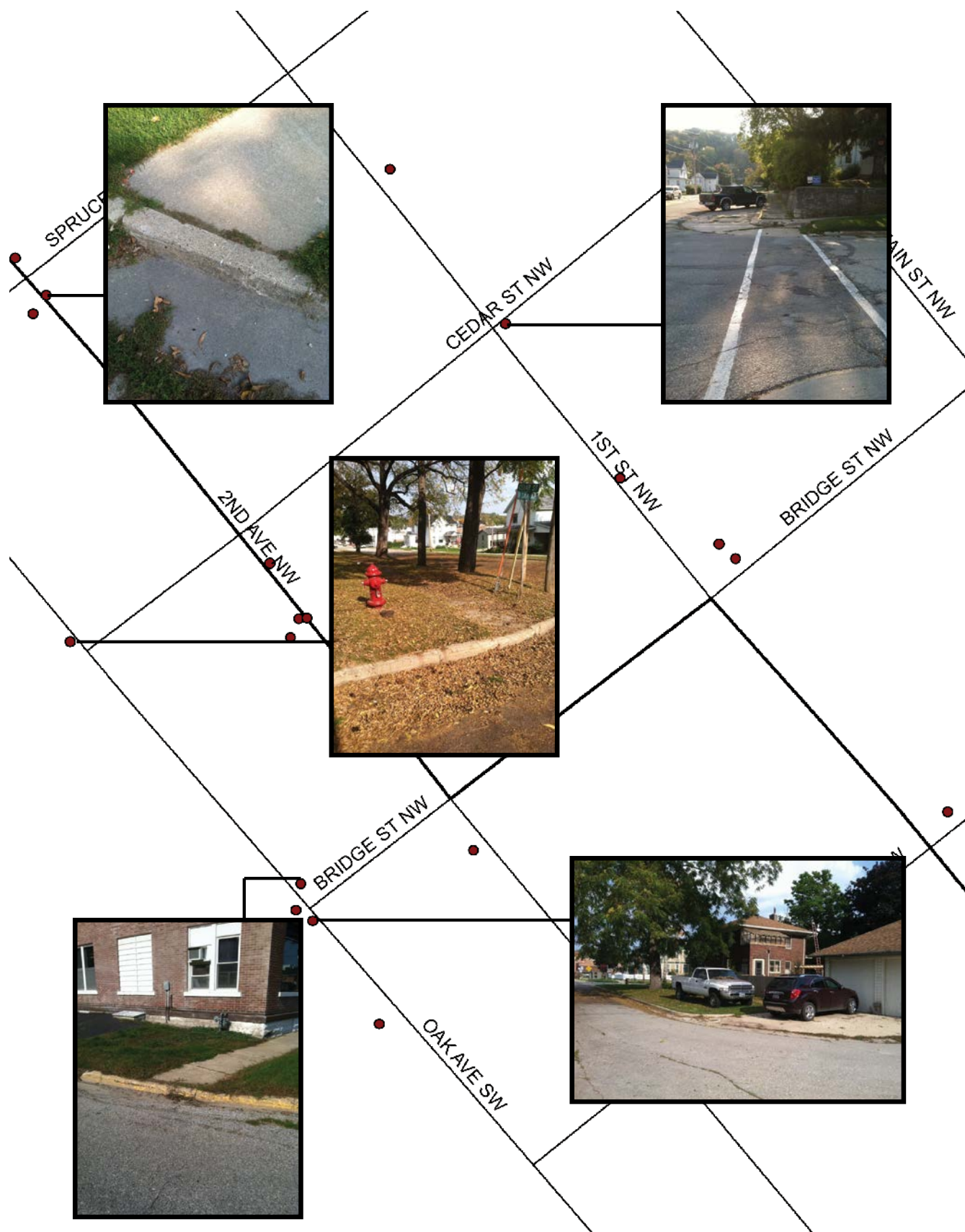
0 0.175 0.35 0.7 Miles

**Difficult for you to see traffic
or traffic to see you?**

- no
- yes



Community Mapping Workshop





Community Mapping Workshop





Intersection Crash Summary

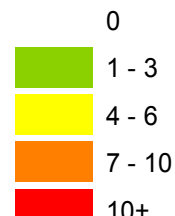
The map below uses Iowa Department of Transportation data from 2009 through June 2014 to identify the intersections where accidents occurred. Special consideration should be given to these intersections when identifying routes for walking programs.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

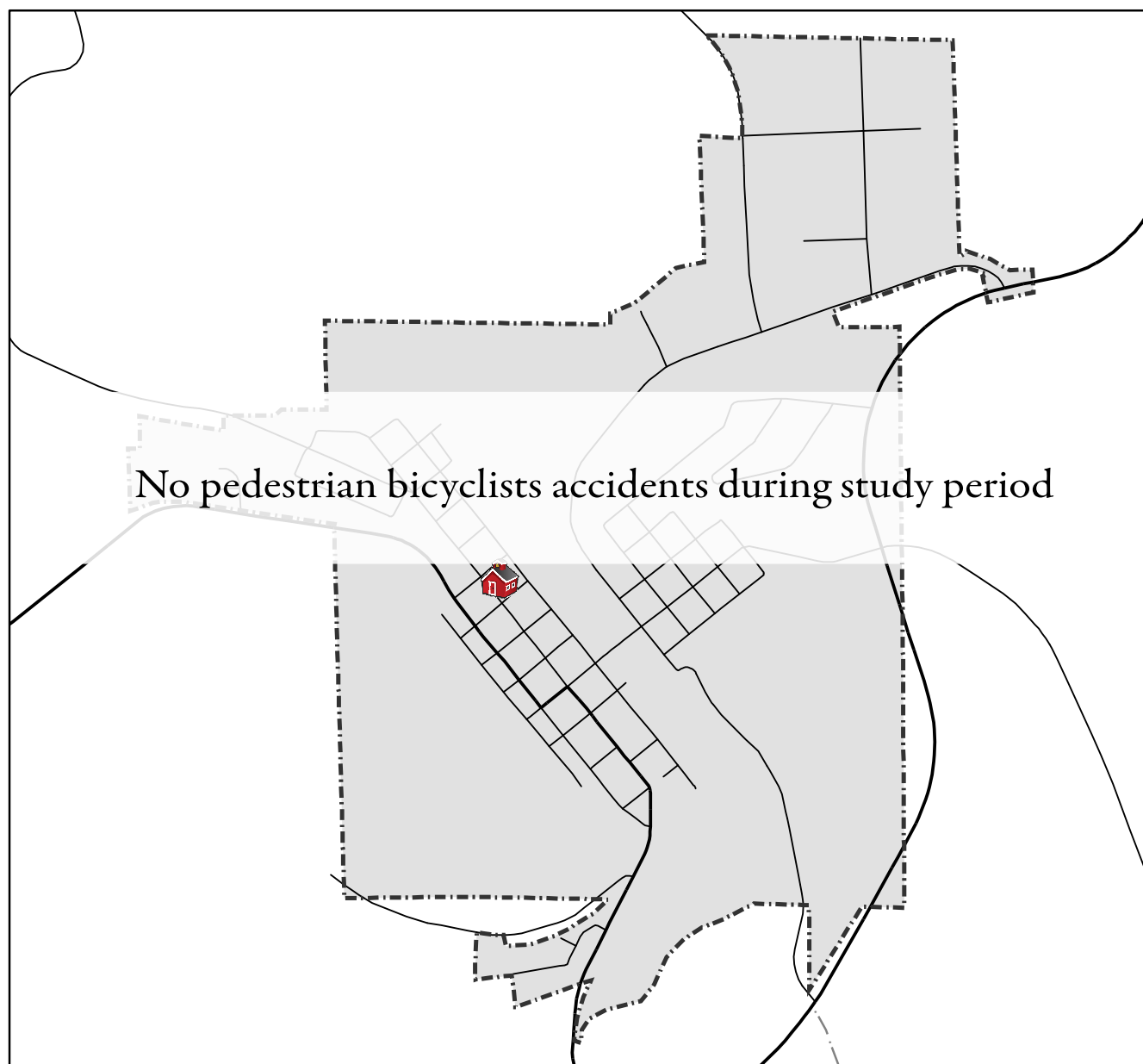
Intersection Crash





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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Iowa DOT Crash Data

- ▲ Pedestrian
- Bicyclist
- Skater



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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Sidewalk

- no sidewalk
- partial sidewalk
- sidewalk



School Distance Euclidean Buffer Map

Euclidean buffers (as the crow flies) are often used to determine the distance students live from a school and are illustrated in the map below. However, SRTS planning teams should be cautioned that the true distance for a child to walk along a network (street, sidewalk or trail) to the school could be a longer distance.

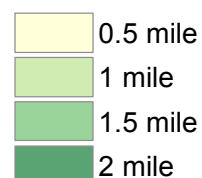
Network buffer maps take into account the street network and are more appropriate when determining the distance a student would travel to get to school if all streets provided adequate sidewalks and crossings.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.175 0.35 0.7 Miles

Buffer Distance





School Sidewalk Network Connectivity

Expanding upon the network buffer in the previous map, streets with walkable sidewalks on either side were identified and included in the network analysis. The result is a map that illustrates the distance a student could travel from the school if limited to only those streets that included at least one adjacent sidewalk. The city core, which is generally an older residential area typically has sidewalks along both sides of the street and presents a robust network of walking paths. Areas of newer development typically have an irregular or absent network with little or no connectedness, making safe walking a challenge for the student.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

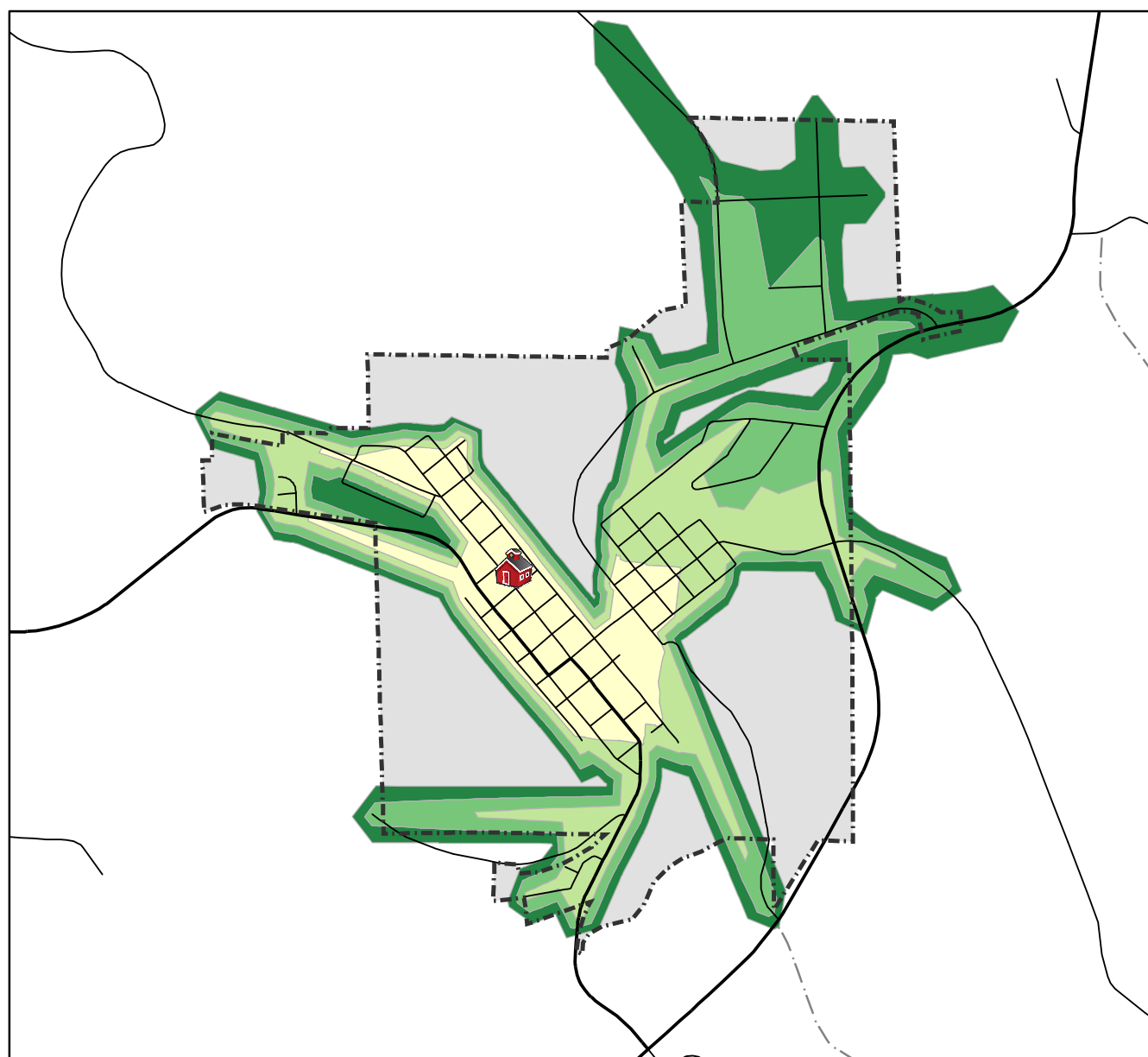
0 0.175 0.35 0.7 Miles





School Sidewalk Network Connectivity

In an ideal situation, all streets would have a complete sidewalk along both sides of the street as well as a proper crossing. The map below illustrates what the walking distances would be if there were adequate sidewalks along all streets in the community.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
Fall 2014

0 0.2 0.4 0.8 Miles





Community Coalition

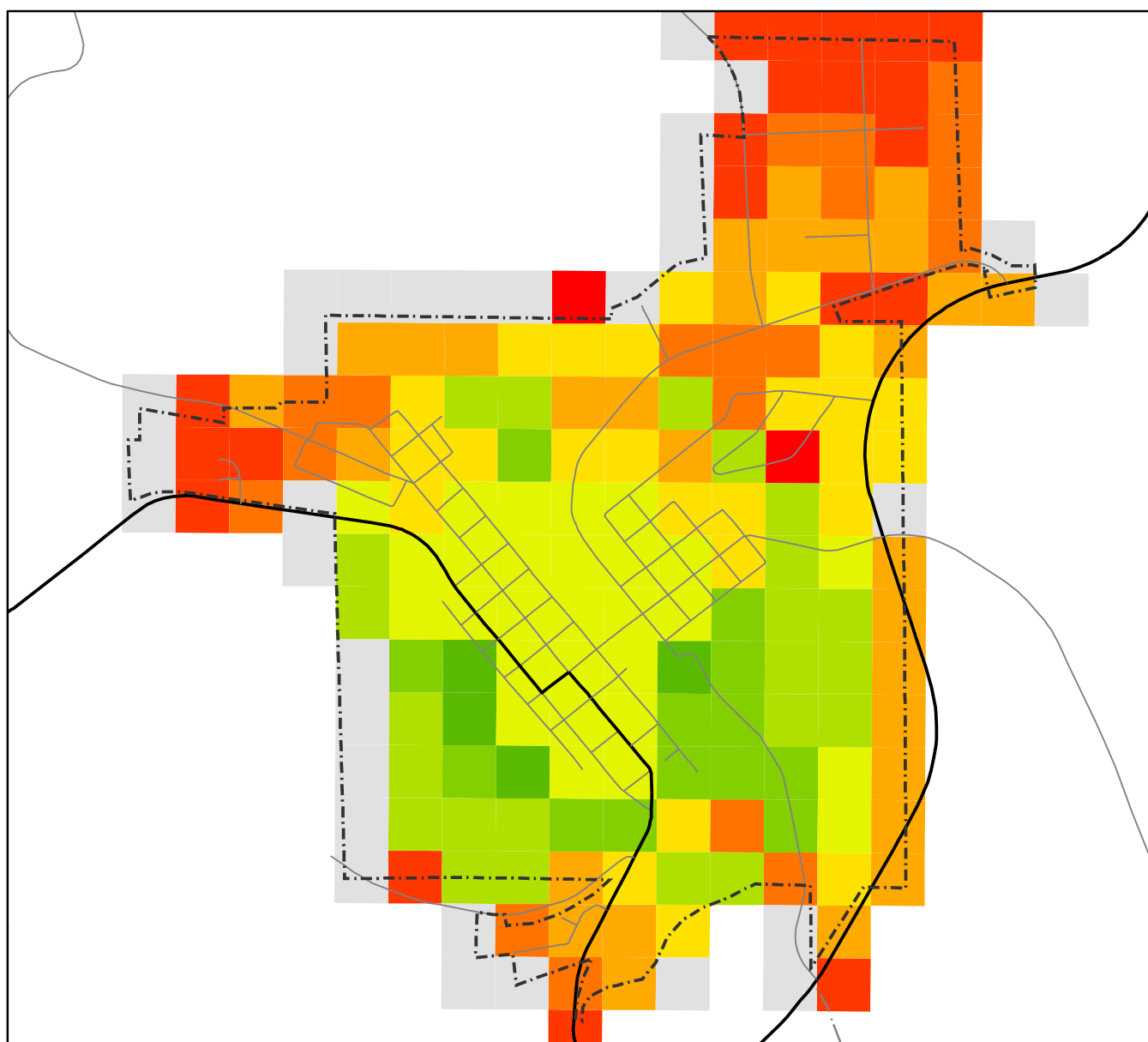
Inviting and involving key partners to be a part of the community coalition is essential to having a successful Safe Routes to School (SRTS) program. Each community was charged with identifying key organizations and individuals ready to get involved in the discussions surrounding a safe and healthy environment to send students to and from school. A community coalition should be a well-rounded group that represents a wide range of interests and expertise that are related to SRTS. Local public health representatives accessed online resources, developed specifically for I-WALK, to engage and lead the coalition members.

	Participants
Local Public Health	
School representative	1
Parent	
School Transportation Director	
Student	
Community Representative (local business; neighborhood & community association representatives; pedestrian, bicycle, & safety advocates)	2
Parks and Recreation Department	
Public Safety/School Resource Officer/Law Enforcement	
City Planner	
ISU Extension	
DNR (Department of Natural Resources) Representative	
Grandparent	
Service or Volunteer Organization Representative	1
Safe Routes to School	1
Other	
Totals	5



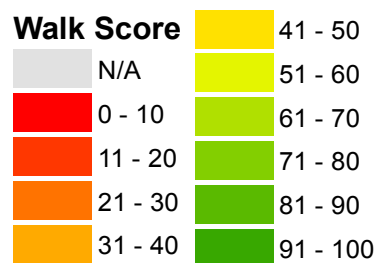
Walk Score

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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
March 2015

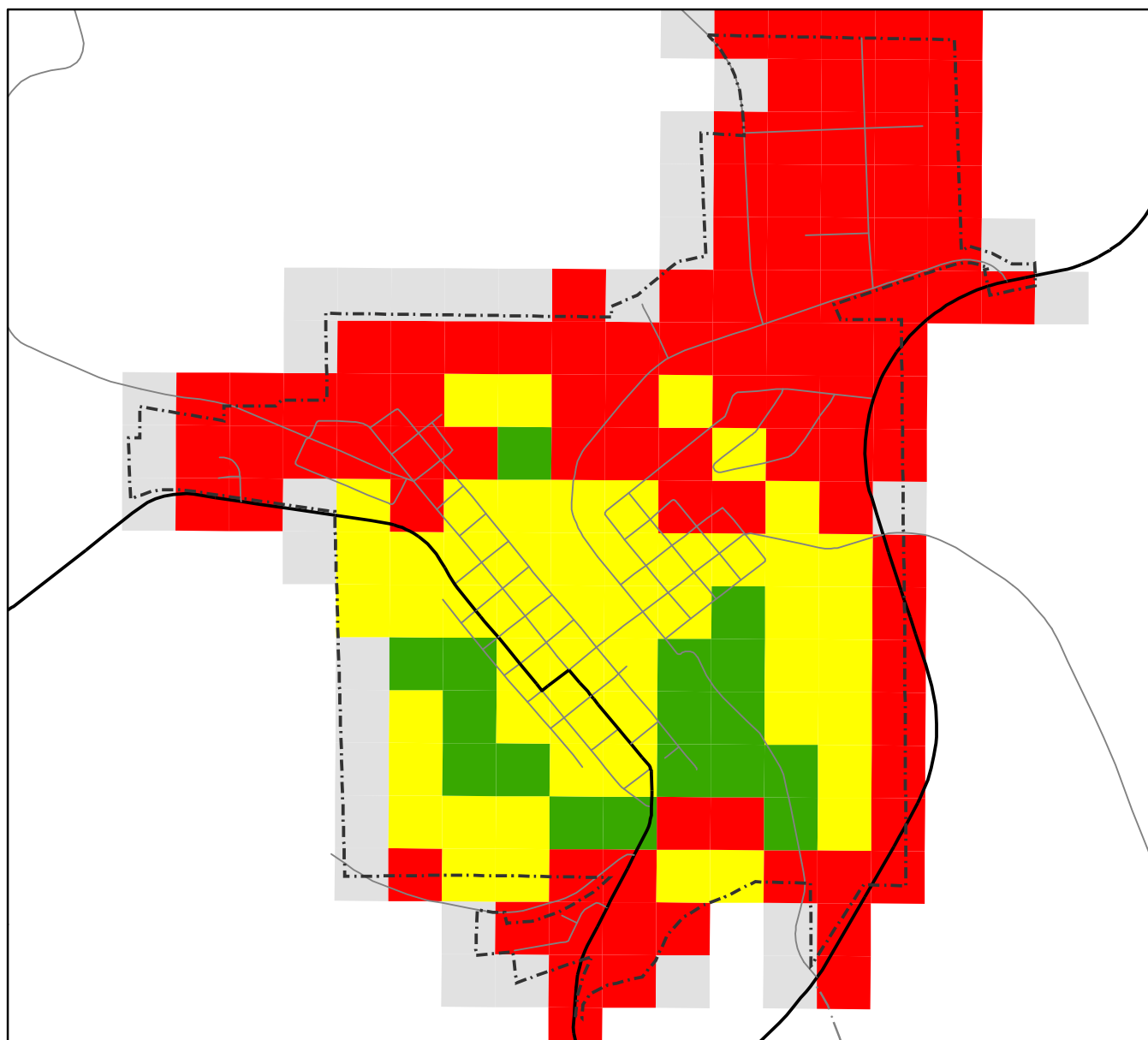
0 0.175 0.35 0.7 Miles





Walk Score

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).



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
March 2015

0 0.175 0.35 0.7 Miles

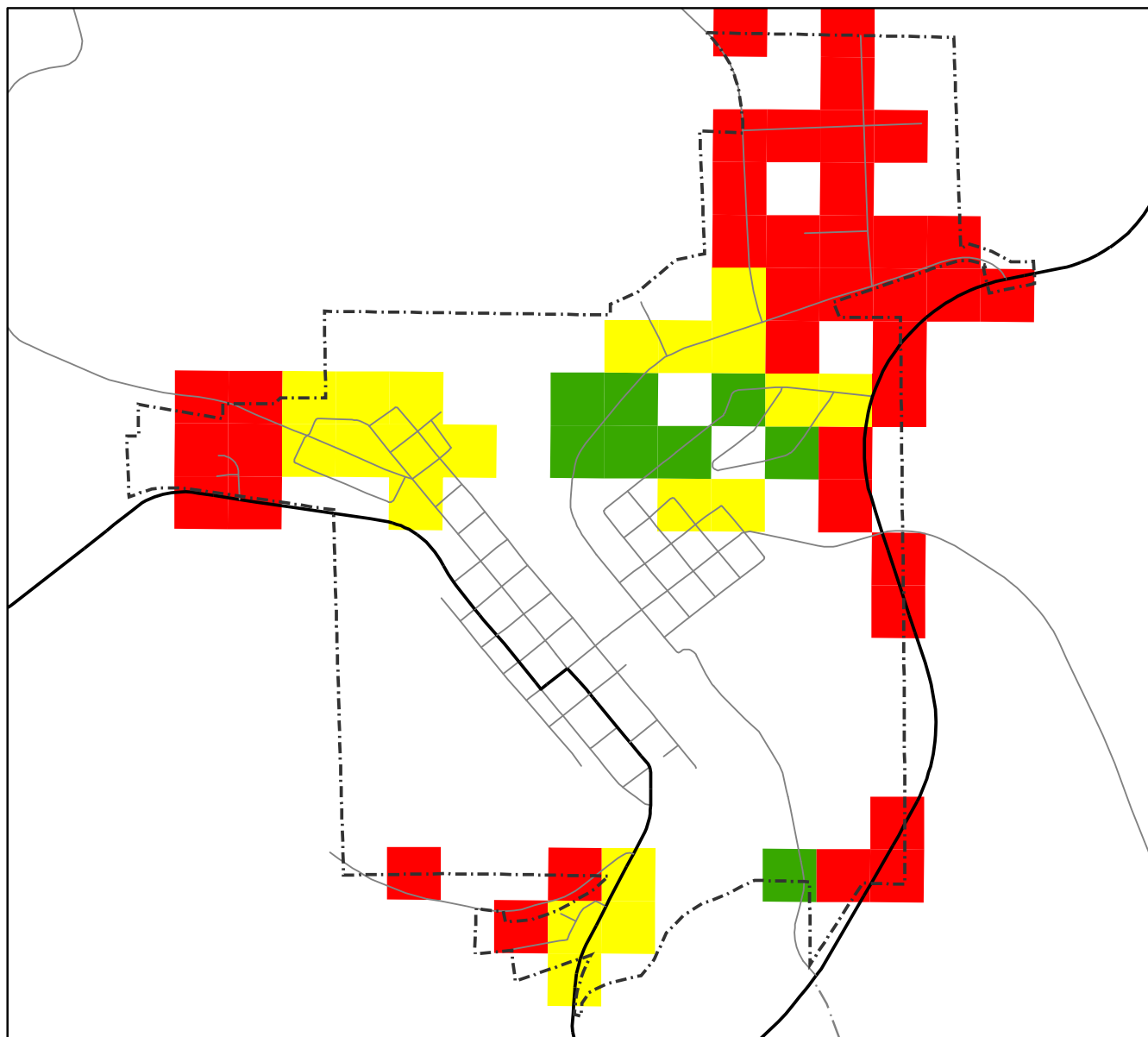
Walk Score

Grey	N/A
Red	Car-Dependent
Yellow	Somewhat Walkable
Green	Very Walkable



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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
March 2015

0 0.175 0.35 0.7 Miles

Car Dependent Walk Score

- with sidewalks
- without sidewalks
- with and without sidewalks



Walk Score

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.



Iowa State University Extension & Outreach
Extension Community Economic Development
Contact: Chris Seeger cjseeger@iastate.edu
March 2015

0 0.175 0.35 0.7 Miles

Very Walkable Walk Score

- with sidewalks
- without sidewalks
- with and without sidewalks



General Recommendations to Communities

The goal of I-WALK is to give a community the opportunity to make walking and bicycling to and from various locations safer and more accessible for residents of all abilities and to increase the number of residents who choose to walk and bicycle. On a broader level, I-WALK can enhance health and well-being, ease traffic congestion, improve air quality and improve community members' overall quality of life. Communities are encouraged to tailor a combination of engineering, education, encouragement, evaluation, and enforcement strategies to address the specific needs of their community.

Engineering

“Engineering” is a broad concept used to describe the design, implementation, operation and maintenance of traffic control devices or physical measures, including both low and high-cost capital measures. Engineering approaches can improve children's safety to enable more bicycling and walking. Engineering should also improve the accessibility of walking and bicycling routes for children with disabilities.

Enforcement

Enforcement, especially for SRTS programs, is a network of community members working together to promote safe walking, bicycling and driving. This can be accomplished through safety awareness, education and, where necessary, the use of ticketing for dangerous behaviors. Enforcement includes students, parents, adult school crossing guards, school personnel and neighborhood watch programs working in conjunction with law enforcement to enforce rules for safe walking, bicycling and driving.

Encouragement

Encouragement strategies are about having fun, they generate excitement and interest in walking and bicycling. Special events, mileage clubs, contests and ongoing activities all provide ways for parents and children to discover, or rediscover, that walking and bicycling are doable and a lot of fun.

Increase the number of children who walk and bicycle to school safely. In particular, encouragement and education strategies are closely intertwined, working together to promote walking and bicycling by rewarding participation and educating children and adults about safety and the benefits of bicycling and walking.

Education

While education dovetails with engineering and enforcement, it is most closely linked to encouragement strategies. For example, children may learn pedestrian and bicyclist safety skills and then get the chance to join a mileage club that rewards children for walking or bicycling to school. Encouragement activities also offer “teachable moments” to reinforce pedestrian and bicyclist safety education messages.





Community Recommendations

Identify and paint crosswalks with zebra striping at the critical intersections within the one-half-mile radius identified in this study.

Install pedestrian right-of-way signs around the school and then enforce them.

Further reduce the speed on North Main Street northeast of the school during drop-off/pick-up times.

Install additional traffic calming within the one-half-mile radius of the school; especially target those areas where erratic driving and speeding were identified in the Parent/Child survey. Apply speed bumps, expansion of street corners into the street, allow parking on both sides of street to narrow the traffic lanes.

Require high school drivers to take a driver awareness short course on pedestrian and bicycle safety before issuing them a parking permit at the school.

Create awareness for parents about Safe Routes to School program and how they can support the program.

Establishing a coordinator for Safe Routes to School inviting parents to come to the school and hear more about the program and get involved.

When fixing sidewalks ensure that they are at least four-feet wide and that they have curb-cuts at the intersection.

Establish sidewalk setbacks near school for the safety of children from heavy vehicular traffic and speeding.

Create a program for crossing guard stations around important crosswalks to help control traffic around the school.

Provide a sidewalk on both sides of the street to prevent jumping from one side to the other.

Intersection crash summary indicated a few areas around the school need to be monitored for vehicular collisions.





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.

Alliance for Biking and Walking: Bicycling and Walking in the United States: 2012 Benchmarking Report

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".**

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



IOWA STATE UNIVERSITY Extension and Outreach

The US Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue SW, Washington, DC 20250-9410, or call 800-795-3272 (voice) or 202-720-6382 (TDD).

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the US Department of Agriculture. Cathann Kress, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.