Iowans Walking Assessment Logistics Kit

A SRTS Program

Cora B. Darling Elementary

Postville, Iowa

Spring 2013

i-walk

Iowans Fit for Life
ACTIVE AND EATING SMART

IDPH
Iowa Department of Public Health

IOWA STATE UNIVERSITY
Extension and Outreach

Funding provided by

Iowa Department of Transportation

SAFE ROUTES TO SCHOOL IOWA

Acknowledgements

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Buena Vista County Board of Health
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Ida County Board of Health
Johnson County Board of Health
Osceola County Board of Health
Ringgold County Board of Health
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SUPERINTENDENTS & PRINCIPALS

Battle Creek Ida Grove Community School District
Superintendent: Nick Ouelette
Principal: Alan Henderson

Guthrie Center Community School District
Superintendent: Steve Smith
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Iowa City Community School District
Superintendent: Stephen Murley
Horn Elem Principal: Kristin Cannon
James Van Allen Elem Principal: Pat James

LaPorte City Community School District
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Superintendent: Joe Drake
Principal: Chris Elwood

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Wings Park Principal: Dan Ratcliff

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Superintendent: John Rothlisberger
Cora B. Darling Elementary School Principal: Chad Wahls

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Storm Lake Community School District
Superintendent: Carl Turner
Storm Lake Elementary School Principal: Juli Kwikkel
St. Mary's Superintendent: Dan Ryan
St. Mary's Grade School Principal: Beverly Mach

Warren County - Interstate 35 Community School District
Superintendent: Eric Sundermeyer
Principal: Casey Christensen

Waterloo Community School District
Superintendent: Gary Norris
Cunningham Elem School Principal: Elizabeth Crowley

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, the current generation of youth face a new and growing threat to their overall quality of life. In Iowa alone, 37.1% of 3rd grade students 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. The development of Safe Routes to School (SRTS) is a key component of advocating healthy behaviors. A vision of healthy Iowa communities must regard and value safe routes to and from school.

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 their SRTS plan. The I-WALK program is an Iowa SRTS project funded through the Iowa Department of Transportation, 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 systems (GPS) units to accurately map routes that children use to walk or bicycle to school and identify safety barriers and solutions. Creating environments that encourage children to walk or bicycle safely to school will improve health outcomes by providing additional opportunities to reach the recommended daily 60 minutes of physical activity, as well as normalize walking as part of a lifestyle habit.

I-WALK was piloted in 2010 and 2011 in twelve Iowa communities. IDPH selected the pilot communities by choosing two from each of the six public health regions in the state.

** Iowa Department of Public Health 2010 BMI Assessment*

The project team consists of Christopher J. Seeger, ISUEO landscape architect and associate professor of landscape architecture; Cathy Lillehoj, IDPH chief epidemiologist and program evaluator; Suzy Wilson, IDPH project manager; Alan Jensen, ISU Geospatial Technology Program Coordinator and Local Public Health (LPH) led efforts in each community.

The I-WALK project consists of four components: 1) teacher tally, 2) parent/child survey, 3) GPS walkability workshops and 4) community coalitions.

1. Teacher Tally

The Teacher Tally was developed to help communities determine how students get to and from school each day. This information provided the baseline data needed to determine any change in walking or bicycling to and from school and helped evaluate the short and long term effectiveness of the I-WALK program.

Over the course of several consecutive days, teachers listed the different ways students could get to school and then, with a show of hands, students indicated how they got to and from school that day. The teacher recorded the information along with the daily weather conditions on the teacher tally. Individual students were not identified on the tally sheet, only aggregate data were recorded.

2. Parent/Child Survey

The purpose of the survey was to better understand how each child gets to/from school and concerns parents have about their children walking or biking to/from school. While most of the survey focused on SRTS issues for those who walk or bike to school, parents and children that live in the country and ride the bus also participated. The survey is divided into the following parts:

- 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

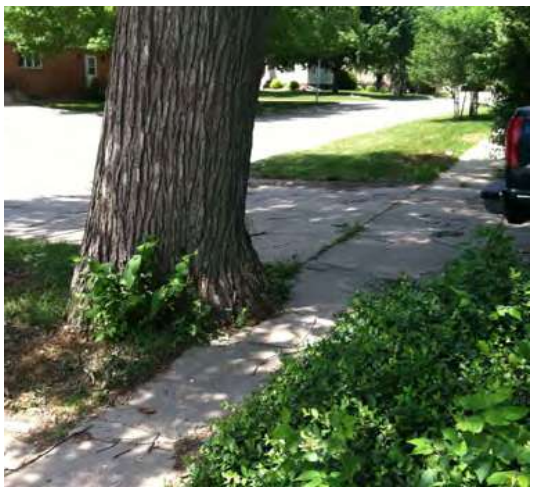
Introduction

3. GPS Walkability Workshops
Trained citizen volunteers conducted inventory of their community using iPhones equipped with the ESRI ArcGIS iPhone app customized for use in SRTS projects by ISUEO. The I-WALK team trained the volunteers in each of the pilot communities to use the iPhone app. The volunteers then took to the streets to collect data.

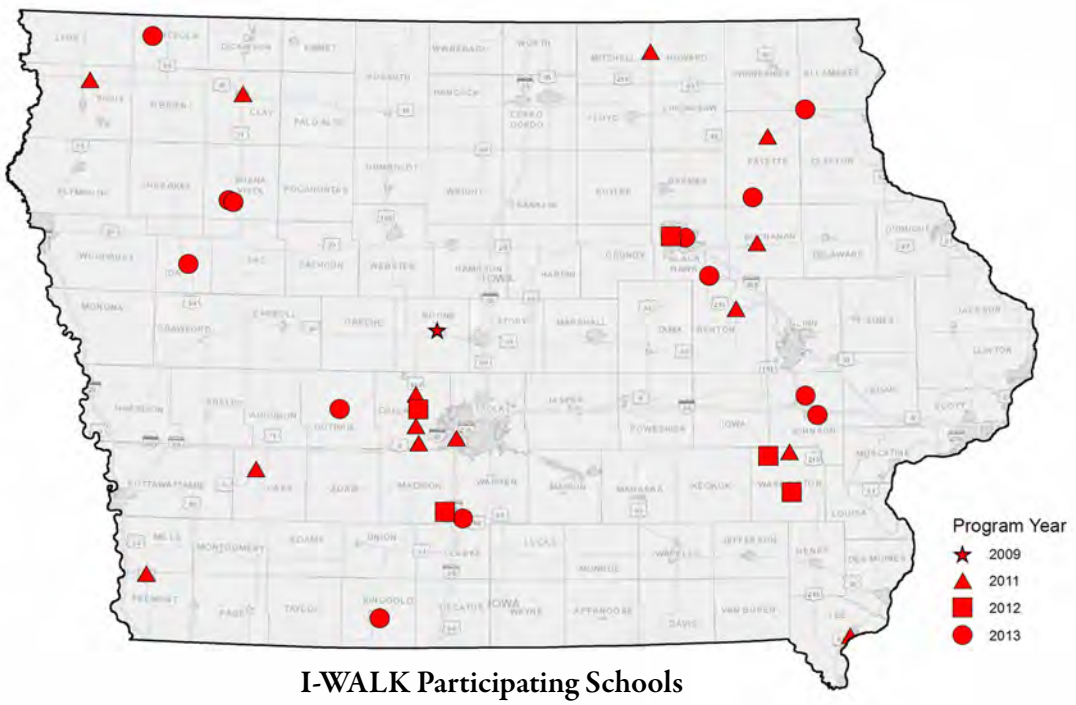
Citizen volunteers mapped information from three categories: intersections, midblock sidewalks, and additional features that impede pedestrians and cyclists. At intersections, volunteers indicated presence or absence of painted crosswalks and curb cuts, and what type of control system, if any, was in place (e.g., stop signs, stoplight, flashing light). Volunteers evaluated sidewalks at midblock, indicating presence or absence of sidewalks, sidewalk condition and width. Additional features included barriers (e.g., vegetation growth across the sidewalk, places where water frequently pools on the sidewalk, sidewalks that just end, barking dogs that scare children).

4. Community Coalitions
LPH led an effort to create a SRTS coalition in the community to help address issues identified by the assessments. The communities used resources from the SRTS website to guide invitations to local stakeholder involvement. Once the coalitions were created, communities started investigating funding for future projects.

The following report includes the data compiled while conducting the I-WALK assessment surrounding the elementary school.



Maintenance of vegetation along sidewalks is an important part of the SRTS plan.



I-WALK Participating Schools

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 Heath 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).

Teacher Tally Details

To School: Survey Start Date 09/25/12

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	6	0%	21.4%	12.7%	35.1%	18.1%	12.7%	0%	0%
District gd. 3	2	0%	24.6%	11.6%	32.6%	15.9%	15.2%	0%	0%
District gd. 4	2	0%	21%	12.3%	26.1%	23.2%	17.4%	0%	0%
District gd. 5	2	0%	17.9%	14.5%	48.7%	14.5%	4.3%	0%	0%

From School: Survey Start Date 09/25/12

Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	6	0%	21.6%	12.7%	35.1%	17.8%	12.7%	0%	0%
District gd. 3	2	0%	25.4%	11.6%	32.6%	15.2%	15.2%	0%	0%
District gd. 4	2	0%	21%	12.3%	26.1%	23.2%	17.4%	0%	0%
District gd. 5	2	0%	17.9%	14.5%	48.7%	14.5%	4.3%	0%	0%

To School: Survey Start Date 04/23/13

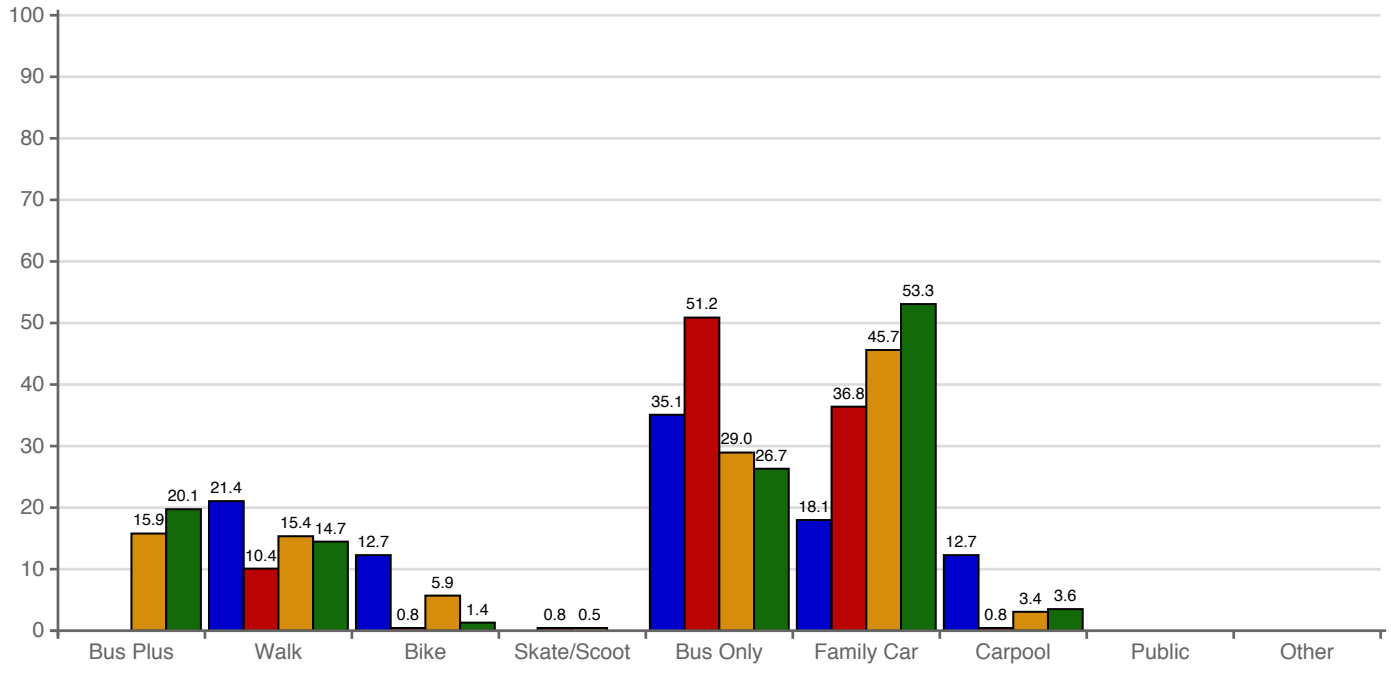
Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	14	0%	21.6%	1.8%	41.8%	29.1%	4.5%	0%	0%
District gd. 1	2	0%	24.8%	1.7%	48.8%	18.2%	6.6%	0%	0%
District gd. 2	2	0%	21%	3.5%	40.6%	22.4%	7%	0%	0%
District gd. 4	1	0%	4.2%	0%	49.3%	43.7%	1.4%	0%	0%
District gd. 5	1	0%	18.2%	1.8%	52.7%	27.3%	0%	0%	0%
District gd. 6	2	0%	35.3%	4.4%	38.2%	17.6%	4.4%	0%	0%
District gd. 7	1	0%	32.1%	1.9%	41.5%	22.6%	1.9%	0%	0%
District gd. 8	1	0%	30.8%	0%	30.8%	38.5%	0%	0%	0%
District gd. k	4	0%	18.1%	1%	36.7%	39%	5.2%	0%	0%

From School: Survey Start Date 04/23/13

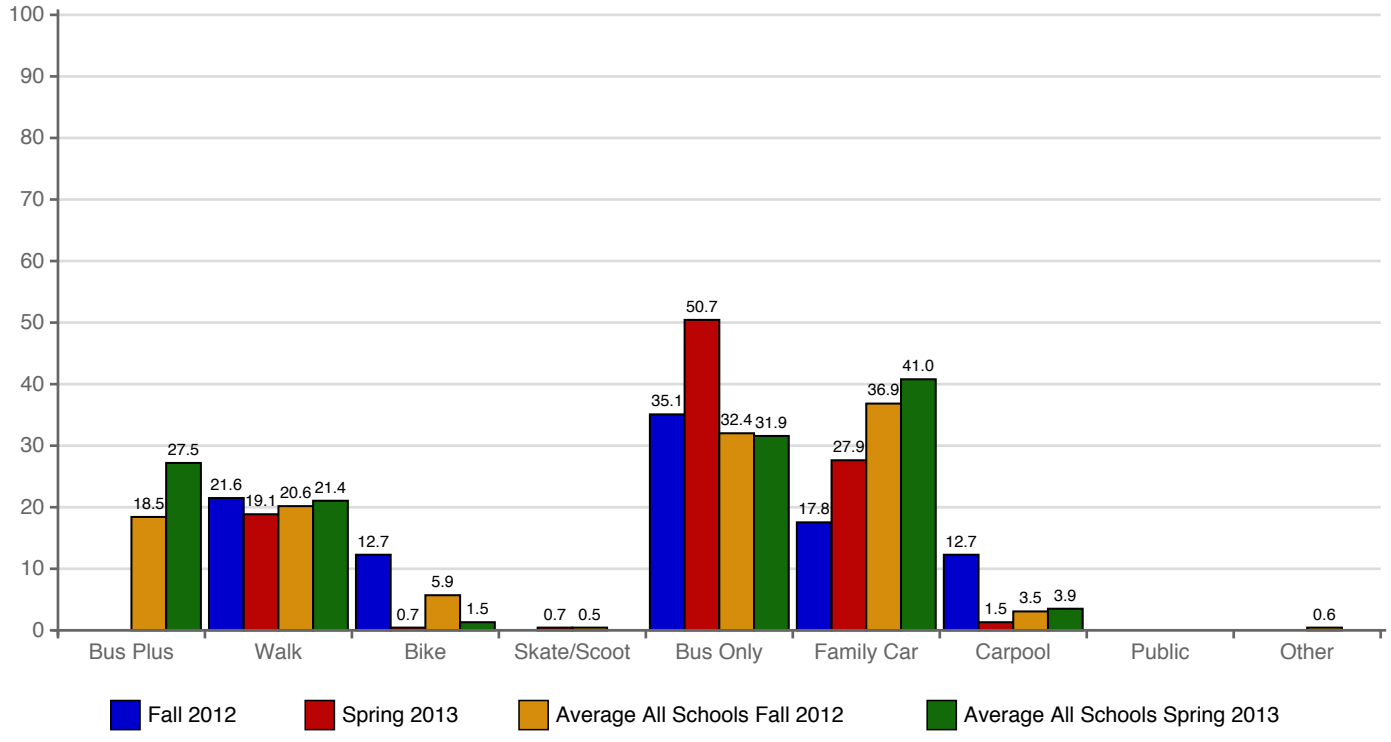
Sub Group	# Survey Forms	Bus Plus	Walk	Bike	Bus Only	Family	Carpool	Public	Other
District	14	0%	26.8%	1.7%	41.4%	23.2%	4.2%	0%	0%
District gd. 1	2	0%	26.4%	0.8%	47.9%	16.5%	8.3%	0%	0%
District gd. 2	2	0%	32.4%	3.4%	33.1%	18.6%	6.2%	0%	0%
District gd. 4	1	0%	16%	0%	39.5%	40.7%	2.5%	0%	0%
District gd. 5	1	0%	23.2%	1.8%	66.1%	8.9%	0%	0%	0%
District gd. 6	2	0%	45.8%	4.2%	34.7%	12.5%	2.8%	0%	0%
District gd. 7	1	0%	34%	1.9%	34%	28.3%	1.9%	0%	0%
District gd. 8	1	0%	26.3%	0%	31.6%	42.1%	0%	0%	0%
District gd. k	4	0%	19.9%	1%	42.7%	28.2%	3.9%	0%	0%

Teacher Tally

Percent To School



Percent From School



Parent-Child Survey

Present Conditions

Cora B. Darling Elementary/Middle School has 399 students between the grades of Pre-School through 8. Of the 133 students in grades 3 through 5, 29 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
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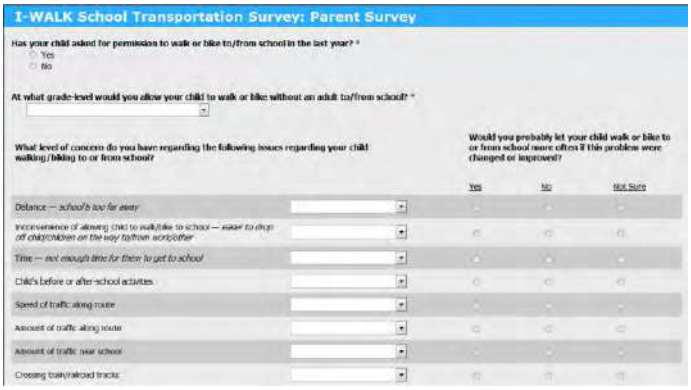
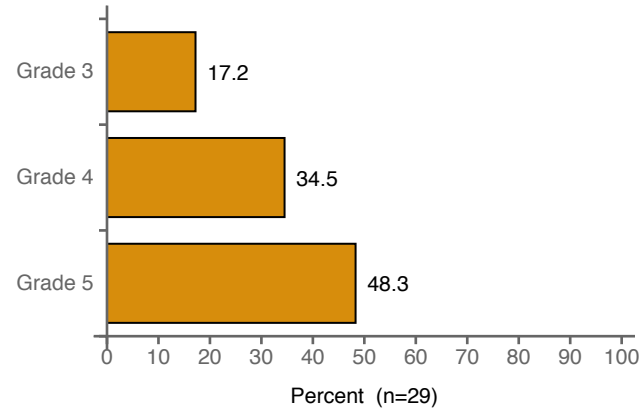
- Route mapping
  - Parent or Guardian and child completed together
- Barrier/opportunity mapping
  - Parent or Guardian and child completed together

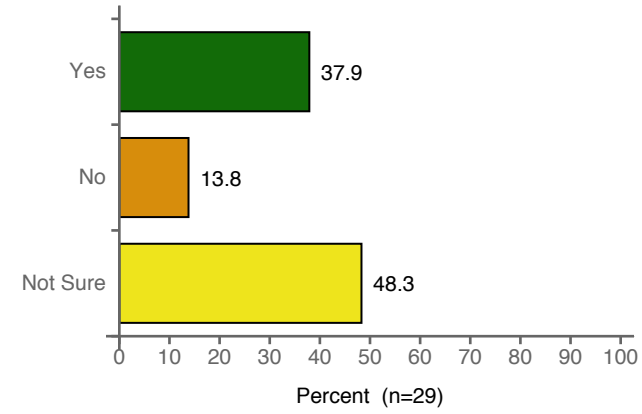


The following graphs represent data collected from the Parent/Child survey. Additional data is also available online at www.i-walk.org. Questions marked with an asterisk are from the National Safe Routes to School Survey.

***Current grade of child?**

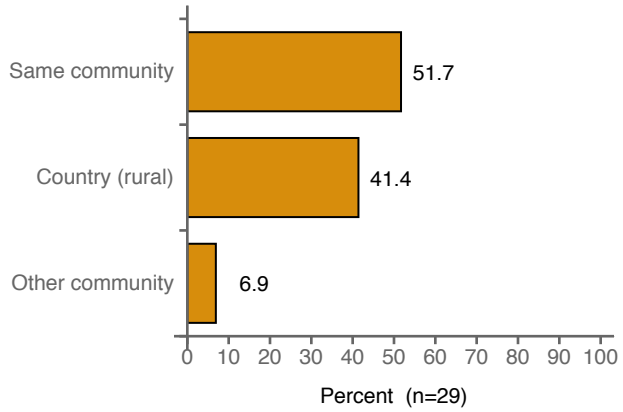


Does your school currently have an established SRTS Program?

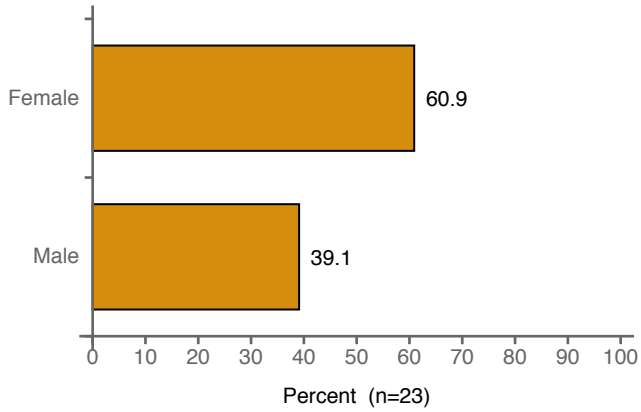


Parent-Child Survey

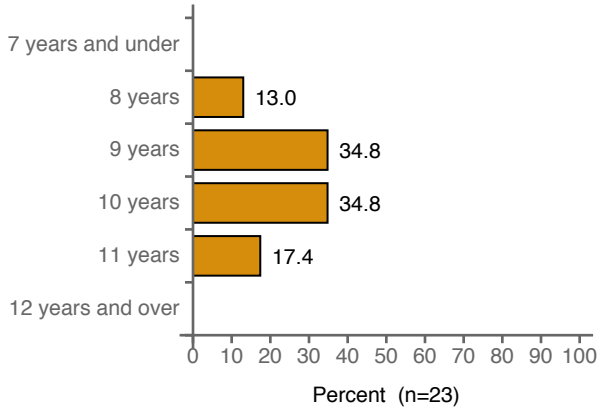
Do you live in the same town as the location of the school building your child attends?



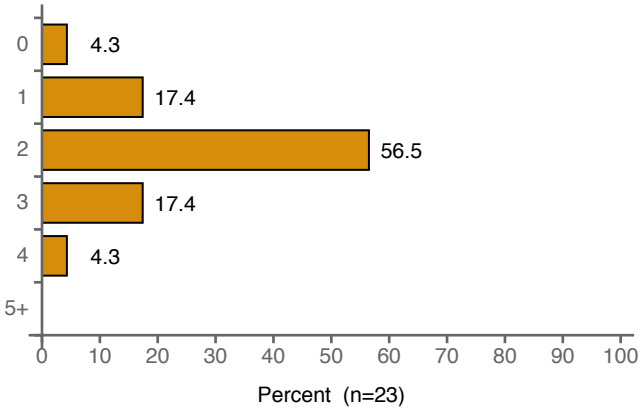
***Gender of child?**



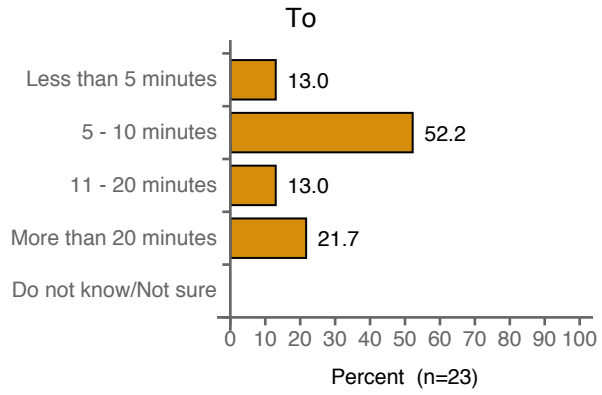
Age of Child?

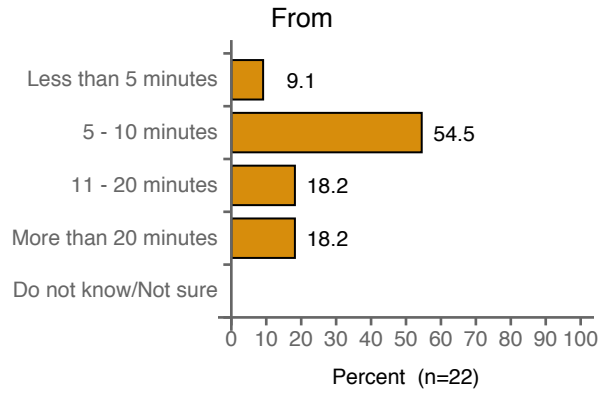


***How many children do you have in Kindergarten through 8th grade?**



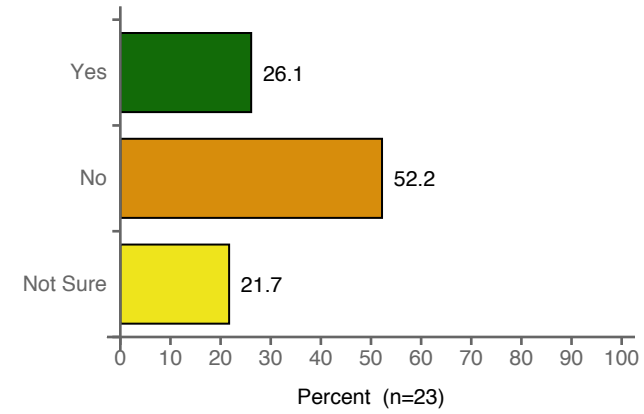
***How long does it normally take your child to get to/from school?**



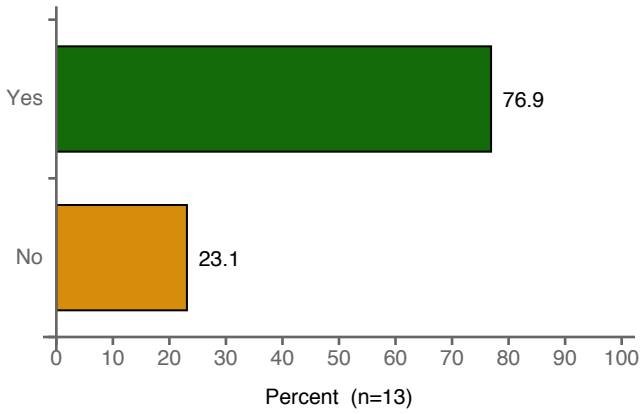


Parent-Child Survey

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?

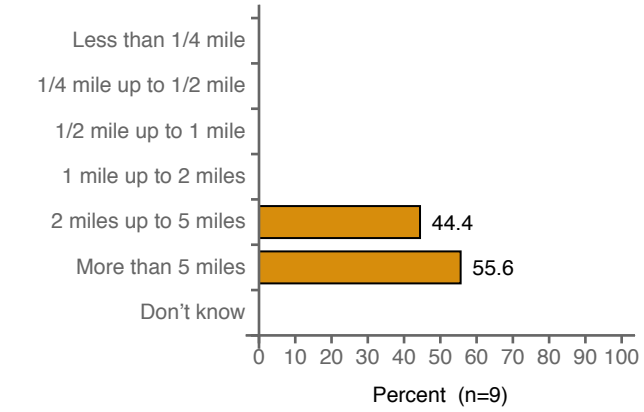


Has your child asked for permission to walk or bike to/from school in the last year?

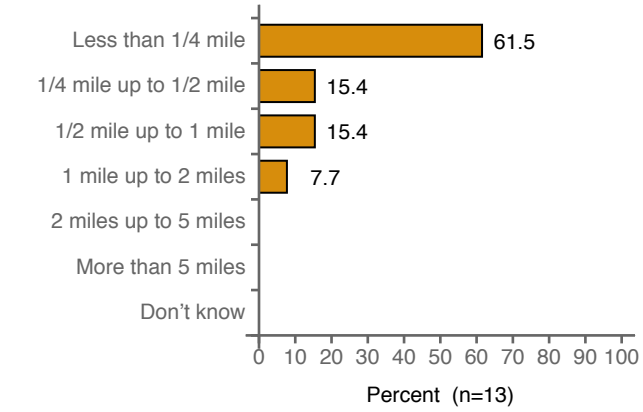


How far does your child live from the school or bus stop?

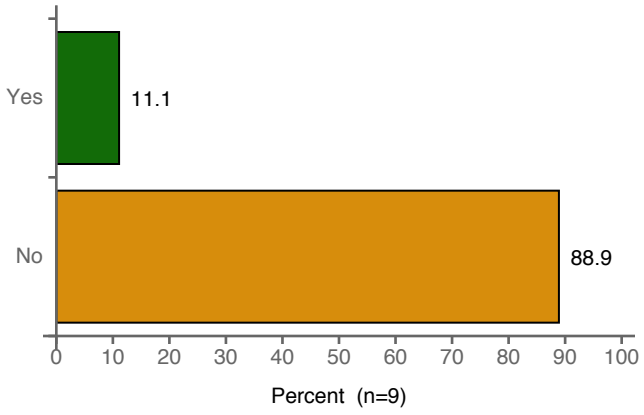
(Indicated they ride the bus)



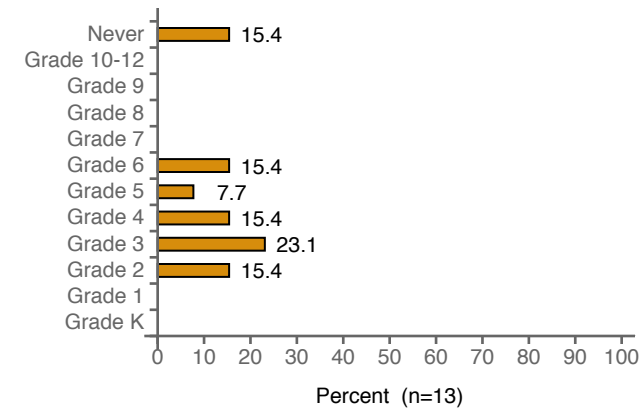
(Indicated they do not ride the bus)



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

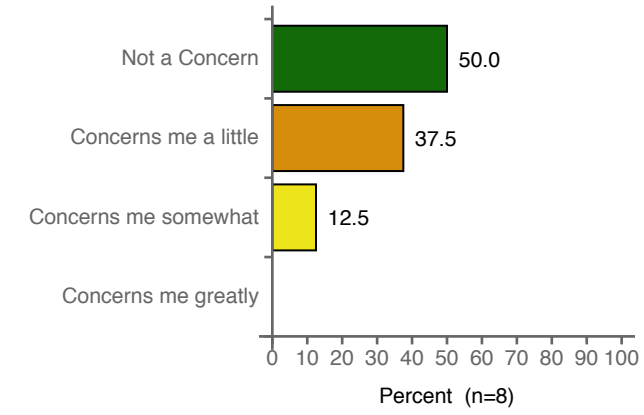
	Fall Aug, Sep, Oct, Nov	Winter Dec, Jan, Feb	Spring Mar, Apr, May, Jun
Walk	1.39	1.04	1.43
Bike	0.22	0.00	0.22
Skate/Scoot *(skateboard, scooter, inline skates, etc.)*	0.00	0.00	0.00
School Bus	2.22	2.00	2.00
Family vehicle *(only with children from your family)*	1.52	1.65	1.43
Carpool *(riding with children from other families)*	0.17	0.17	0.17
Public transportation *(city bus, subway, etc.)*	0.00	0.00	0.00

Average Days Per Week From

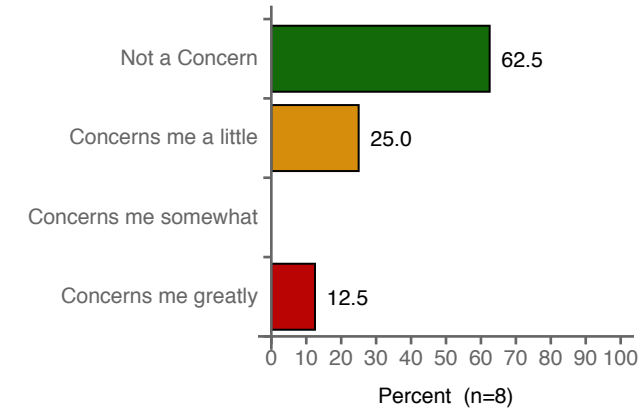
	Fall Aug, Sep, Oct, Nov	Winter Dec, Jan, Feb	Spring Mar, Apr, May, Jun
Walk	1.26	0.87	1.26
Bike	0.09	0.00	0.09
Skate/Scoot *(skateboard, scooter, inline skates, etc.)*	0.00	0.00	0.00
School Bus	2.09	2.09	2.09
Family vehicle *(only with children from your family)*	0.52	0.70	0.48
Carpool *(riding with children from other families)*	0.61	0.61	0.61
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?

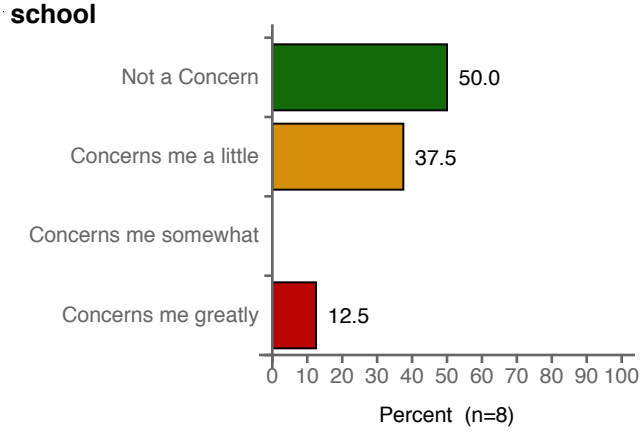
Distance — school is too far away



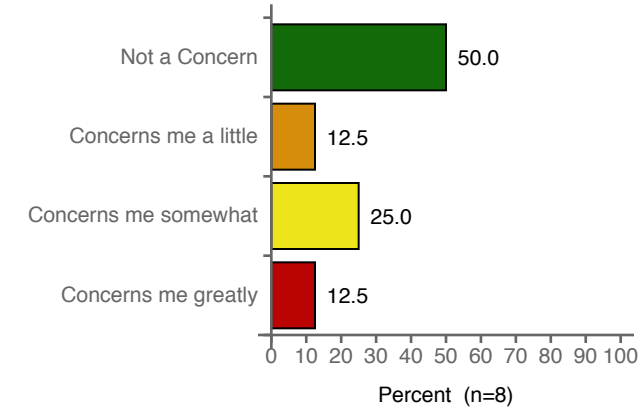
Time — not enough time to get to school



Inconvenience of allowing child to walk/bike to school

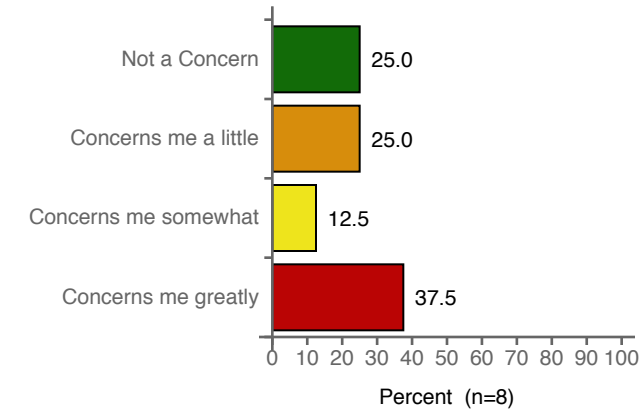


Child's before or after-school activities

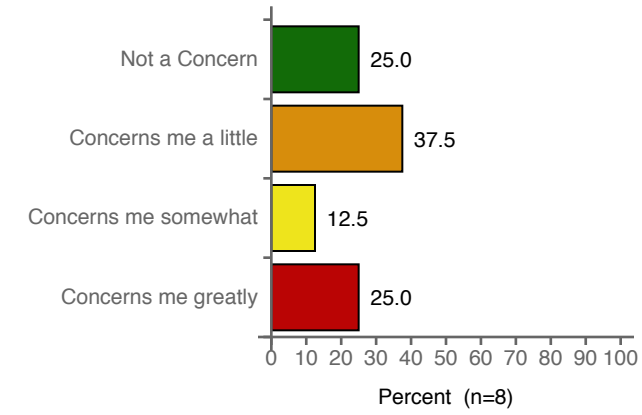


Parent-Child Survey

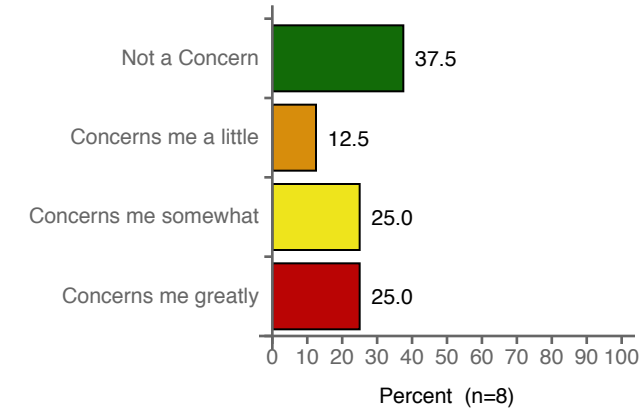
Speed of traffic along route



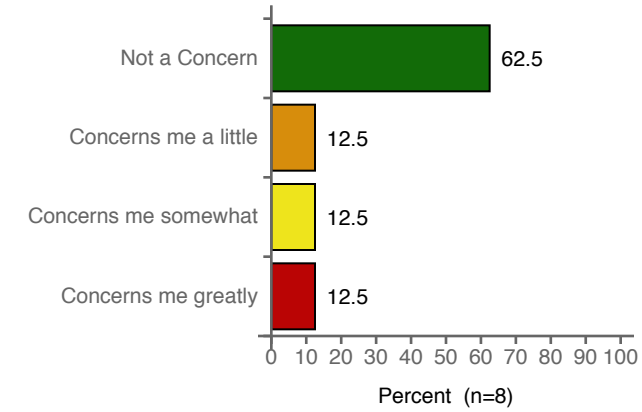
Amount of traffic along route



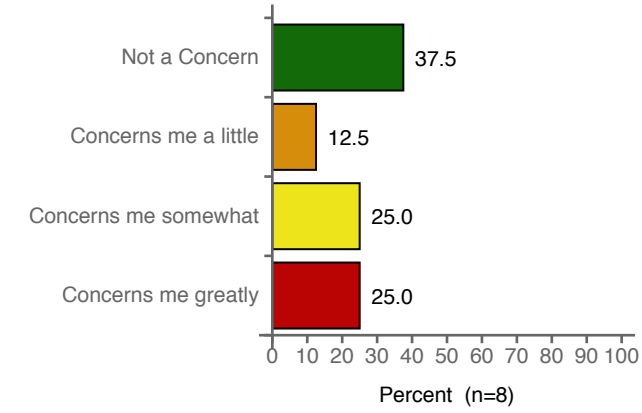
Amount of traffic near school



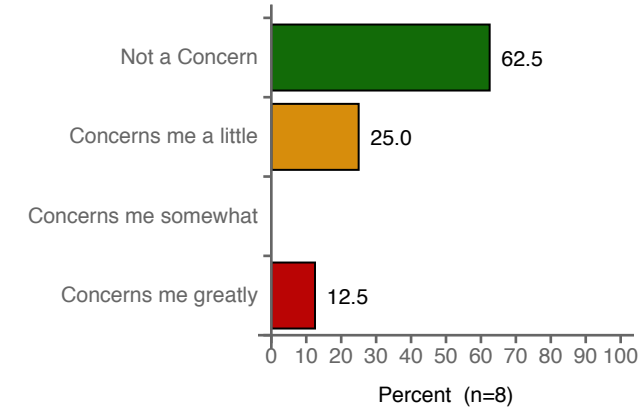
Crossing train/railroad tracks



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

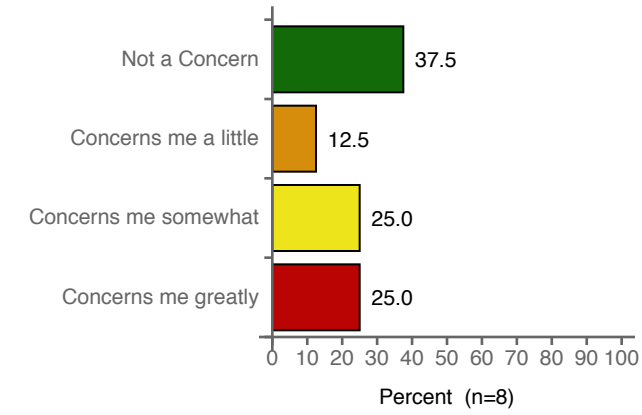


Sidewalks or pathways — none or inadequate

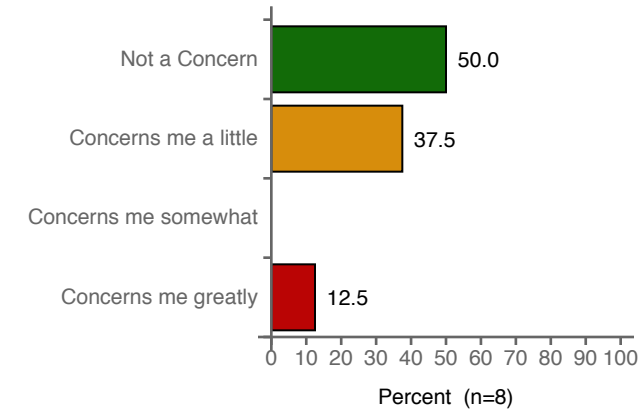


Parent-Child Survey

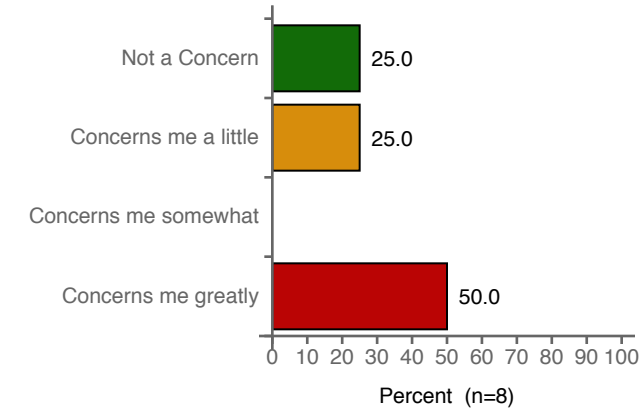
Safety of intersections and crossings



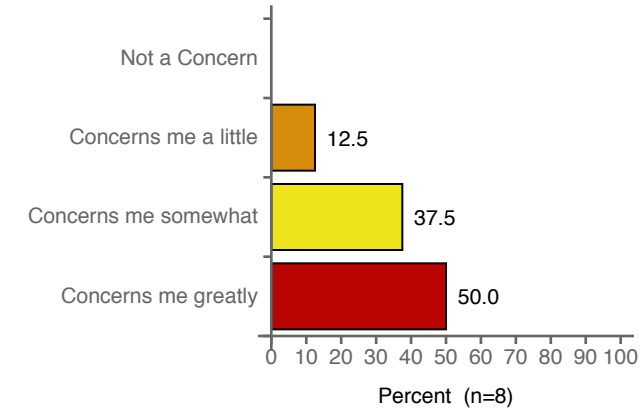
Crossing guards — none or inadequate



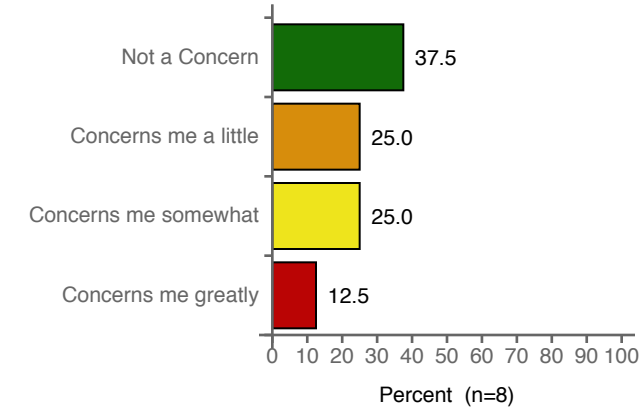
Violence or crime — stranger danger



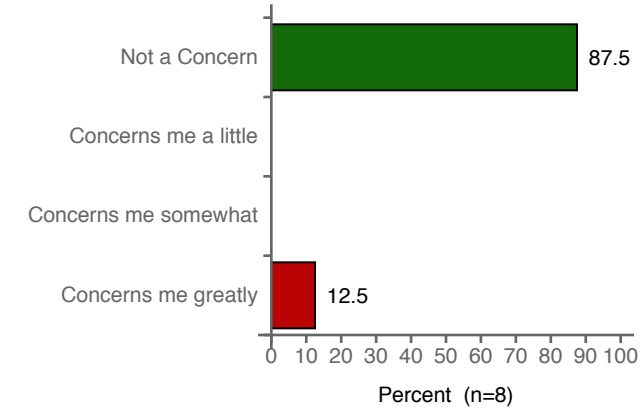
Weather or climate



Safe place for bike storage



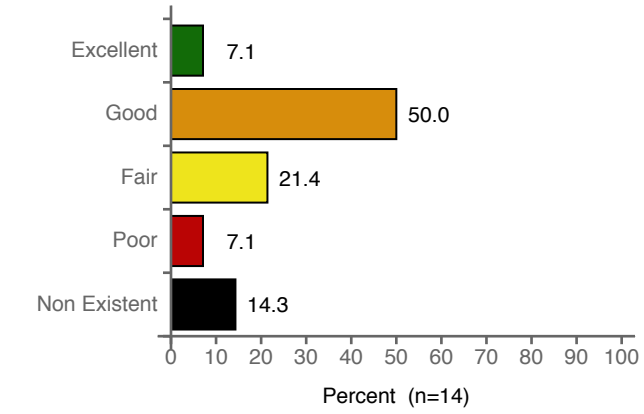
Child does not like to walk or bicycle to school



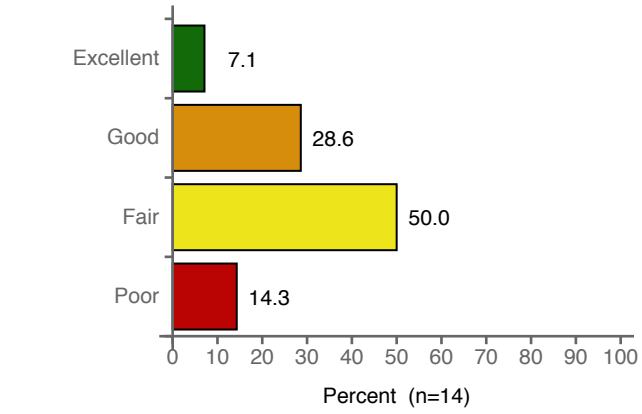
Parent-Child Survey

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

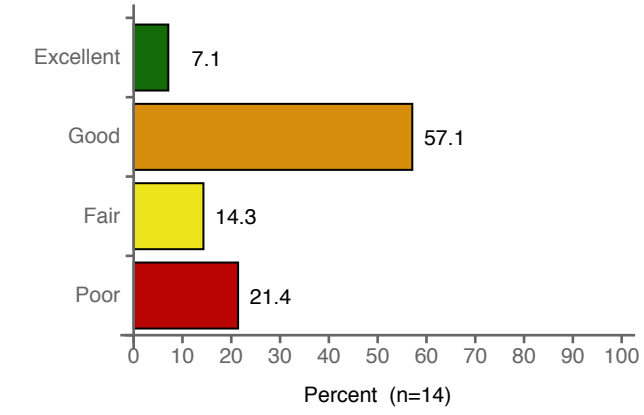
Condition of Sidewalks (condition, width)



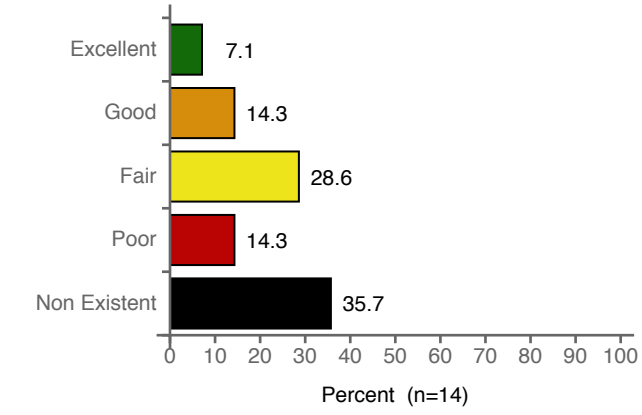
Traffic and Driver Behavior (speeding, busy traffic)



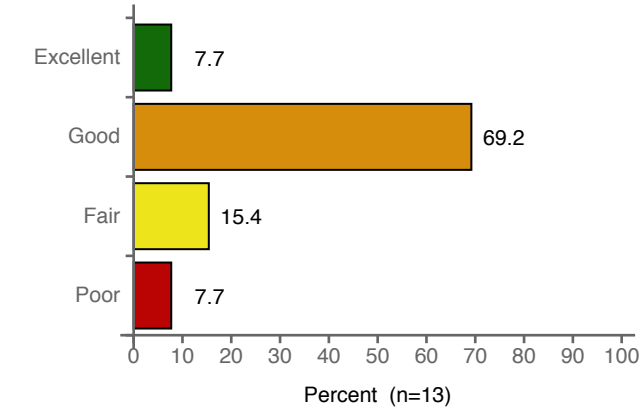
Street Crossings (condition, width, traffic control)



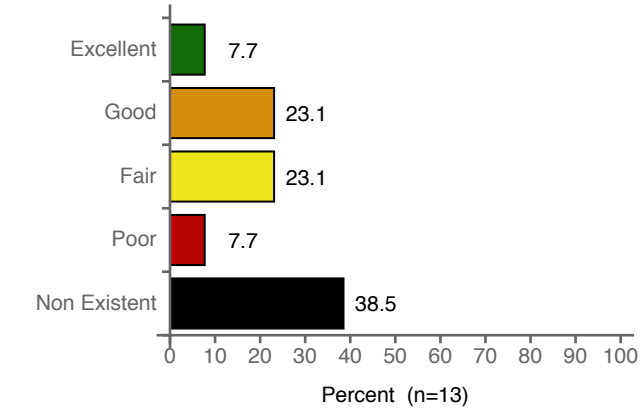
Public Trail Access



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

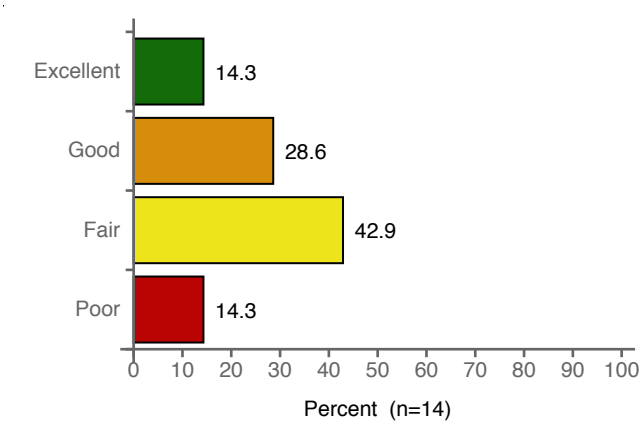


Public Trail Condition/Ease of use

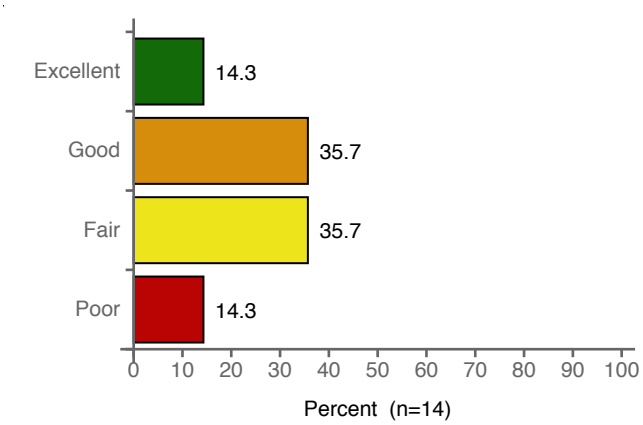


Parent-Child Survey

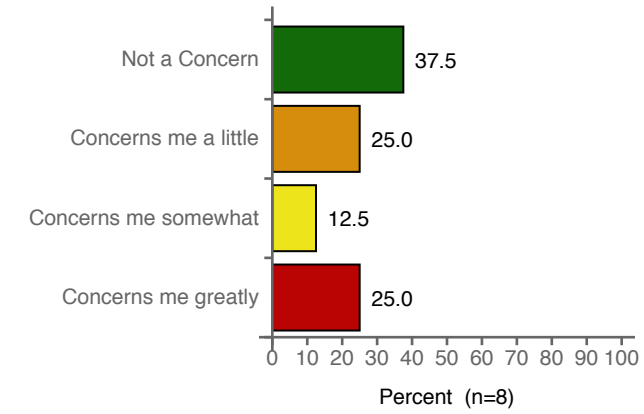
Safety (crime rates)



Landscape Appeal (visually interesting, scenic)

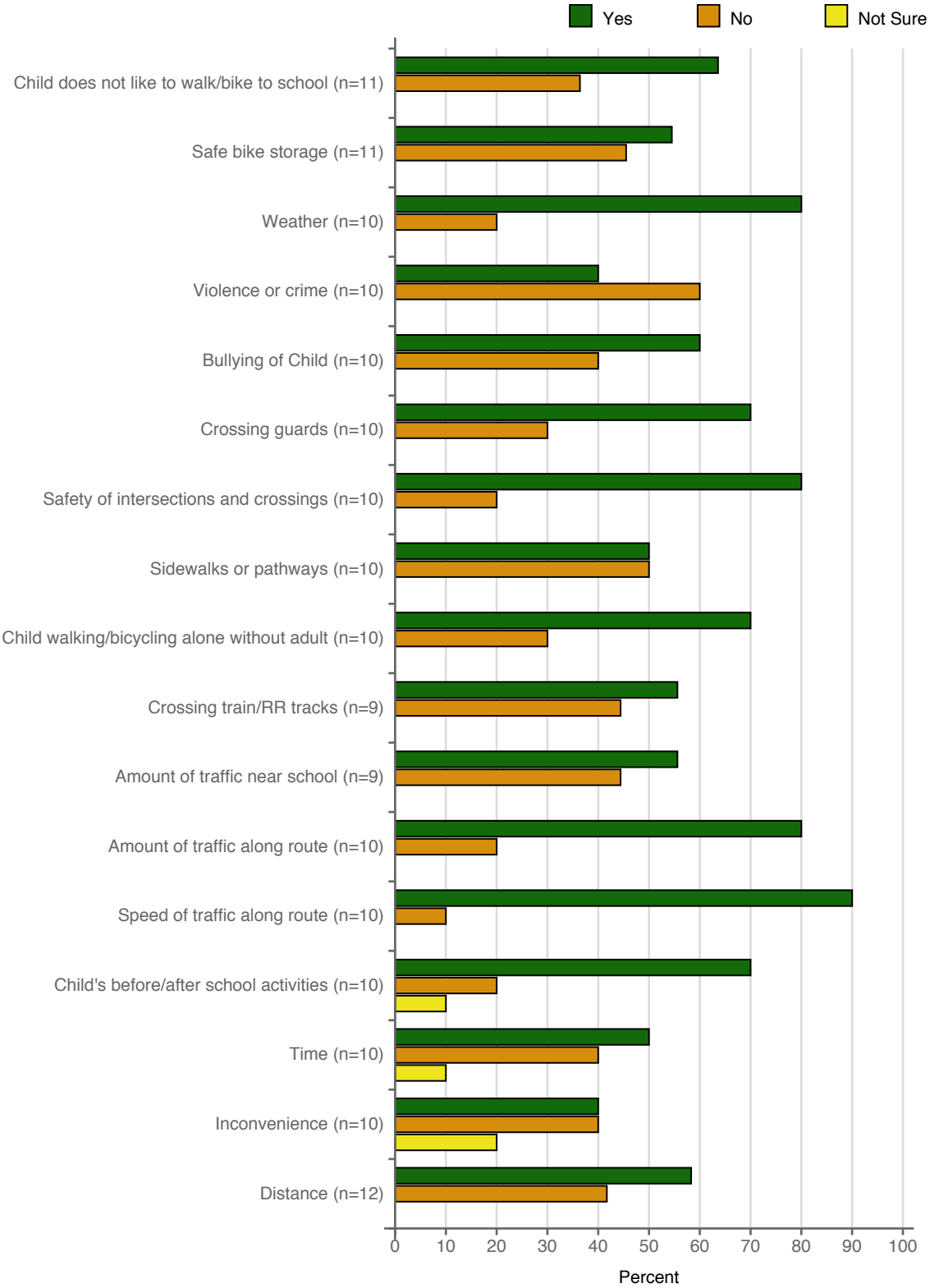


What type of concern do you have for bullying?



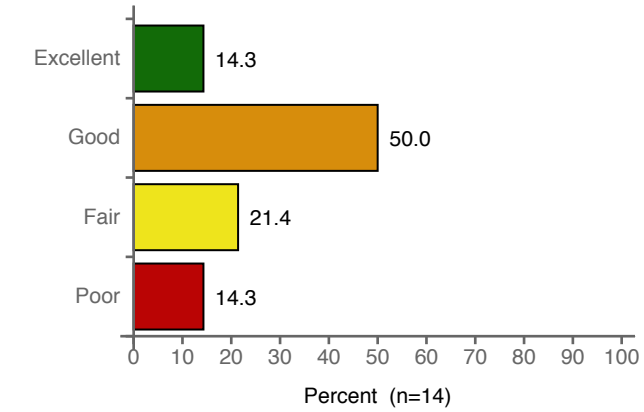
Parent-Child Survey

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

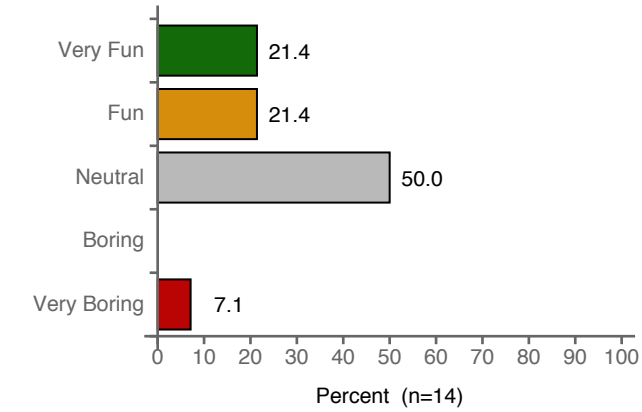


Parent-Child Survey

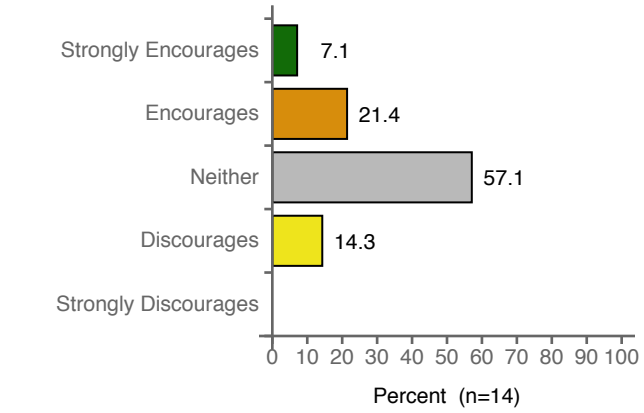
Overall rating of school route walkability/bikeability?



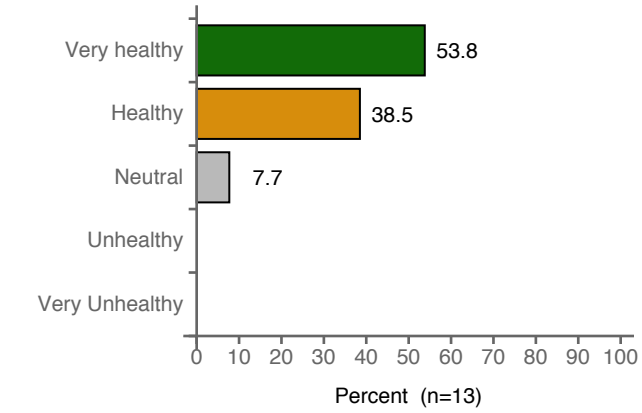
***How much FUN is walking or biking to/from school for your child?**



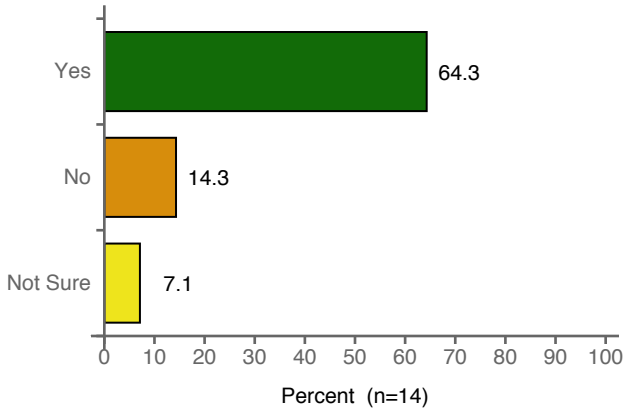
***In your opinion, how much does your child's school encourage or discourage walking and biking to/from school?**



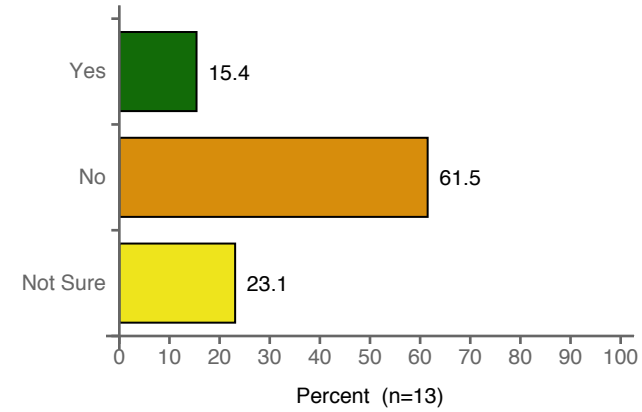
***How HEALTHY is walking or biking to/from school for your child?**



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

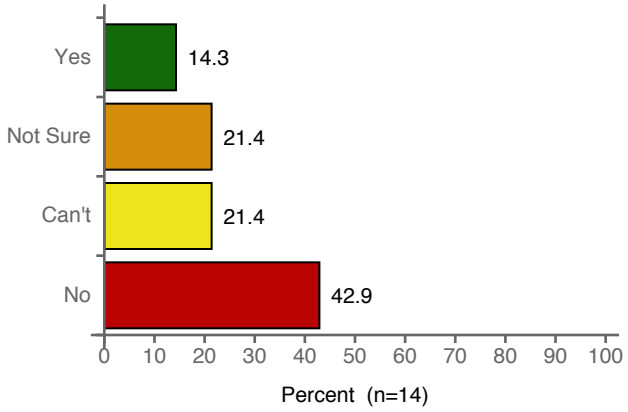


Would you be interested in volunteering to help plan, develop or improve a Safe Routes to School program?

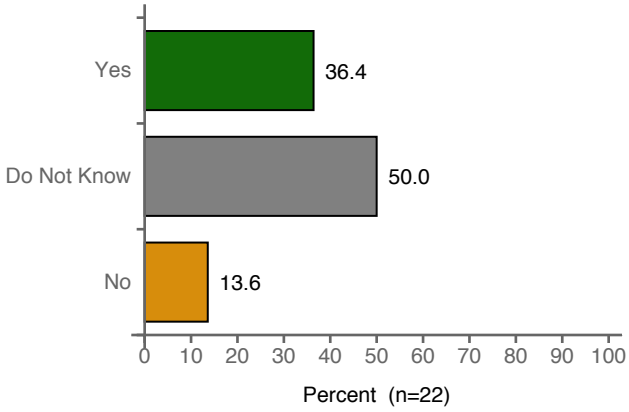


Parent-Child Survey

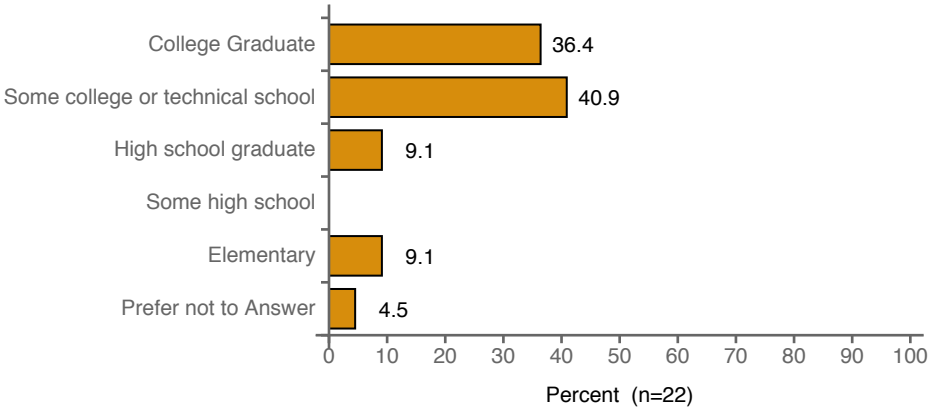
Would you be interested in escorting (walking with) a group of children to school one or more times a week?



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



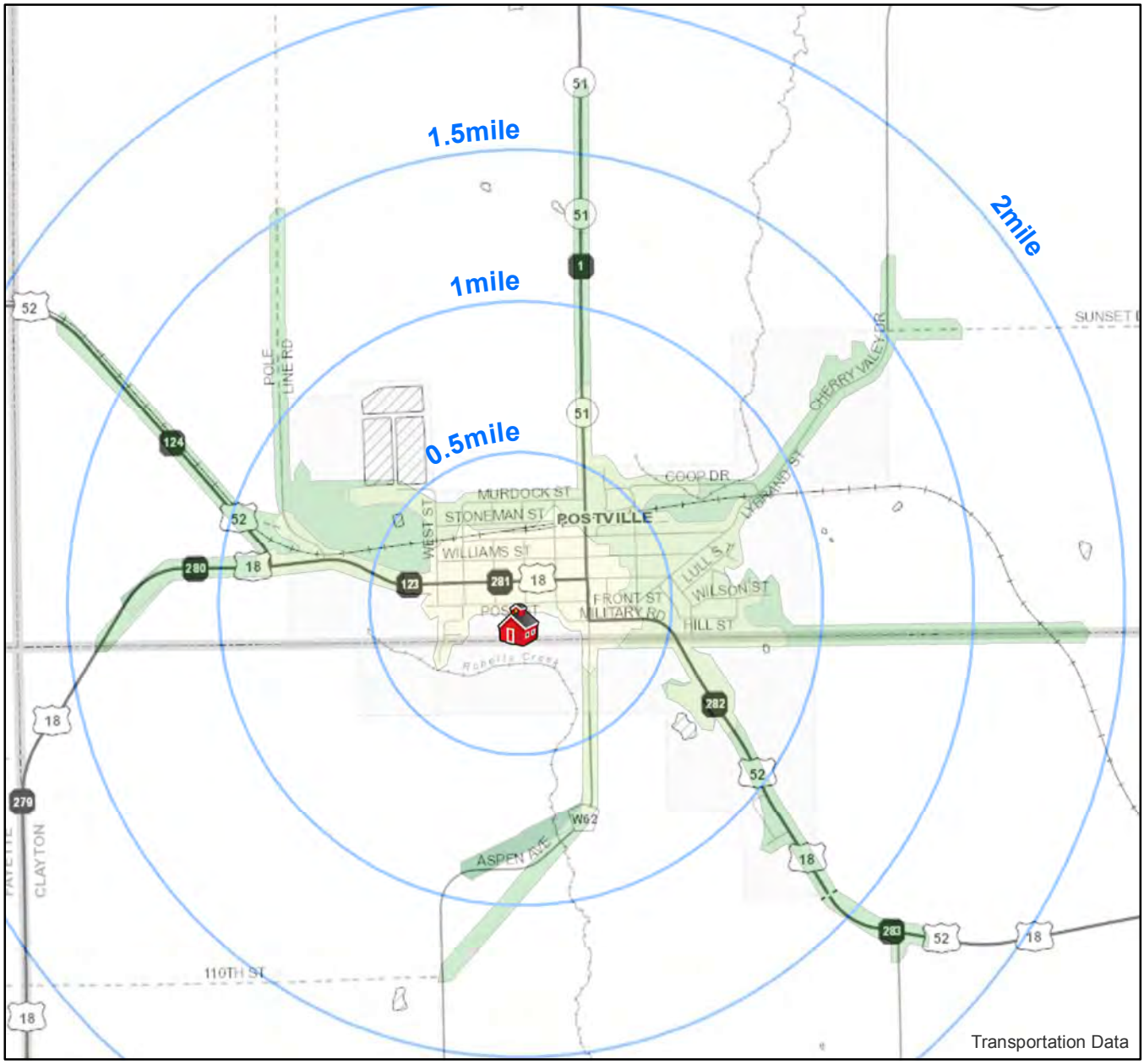
***What is the highest level of education you completed?**



School Distance Buffers

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.



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0 - 0.5 | 0.5 - 1 | 1 -1.5 | 1.5 - 2 Miles

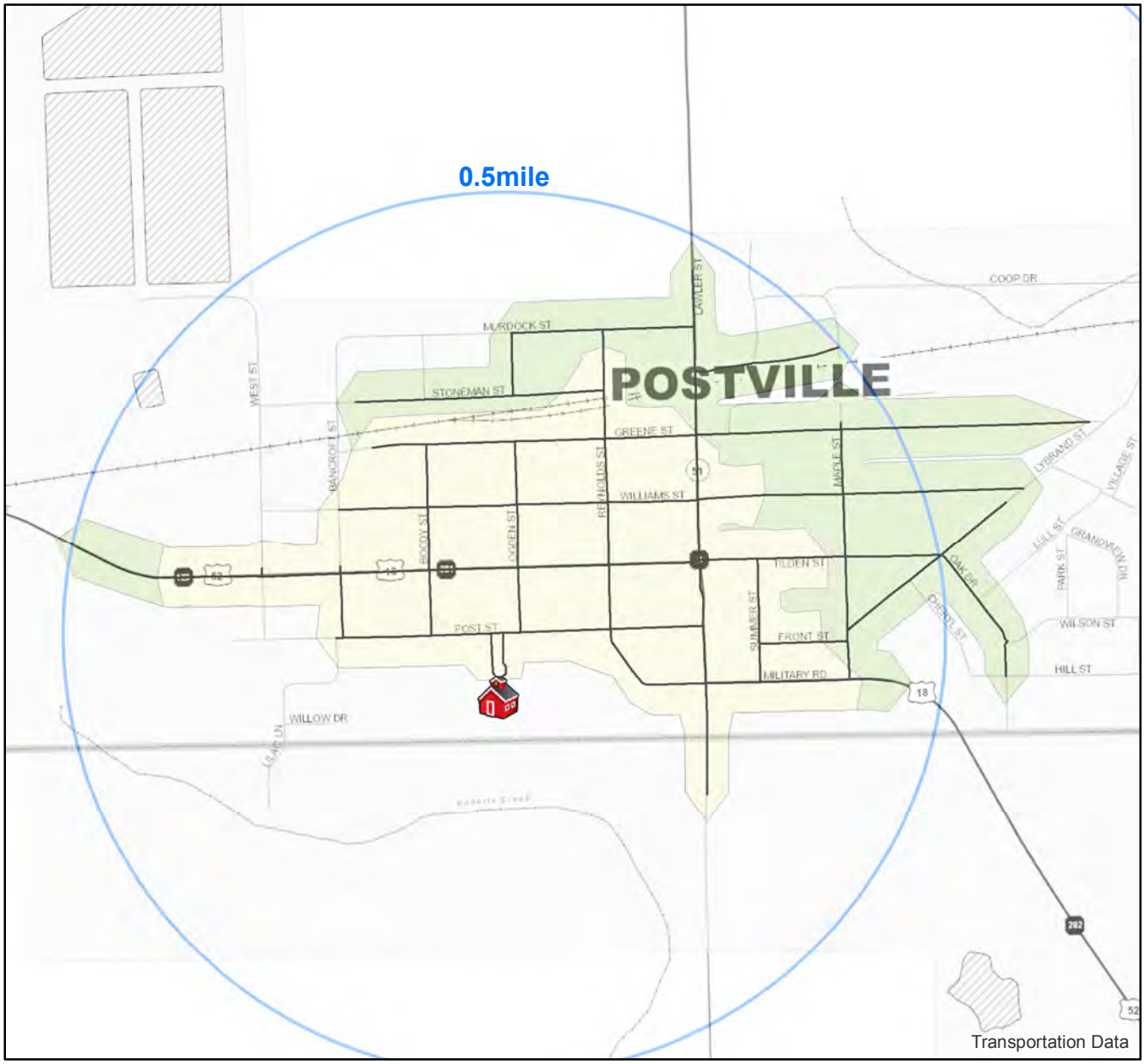
School

Miles

0 0.5 1 1.5

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.



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0 - 0.5 | 0.5 - 1 | 1 -1.5 | 1.5 - 2 Miles

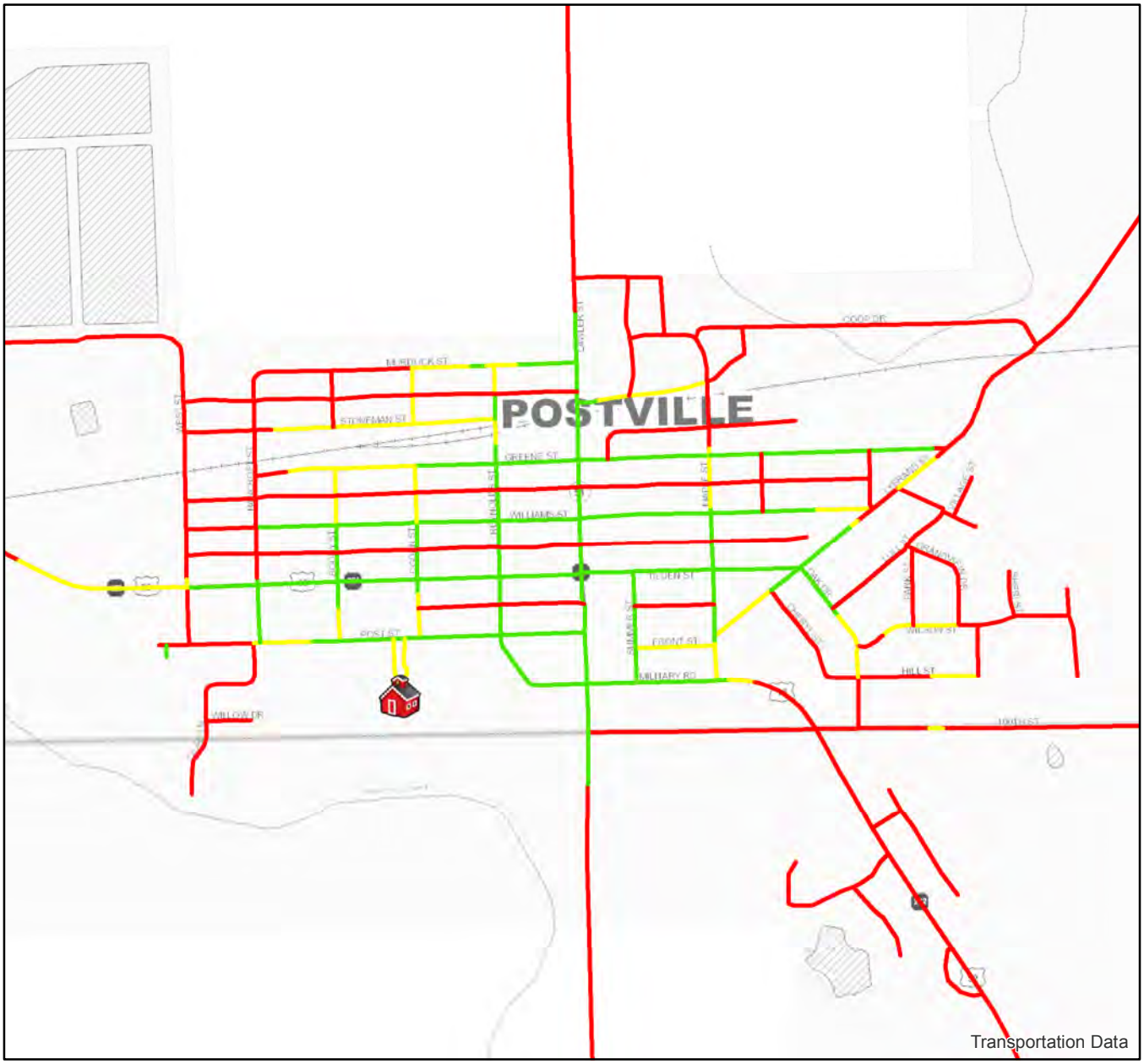
School | Existing Sidewalks

Miles

0 0.25 0.5

Sidewalk Availability

Using aerial photography and the data collected by the volunteers using the iPhone SRTS infrastructure tool, the map below identifies the streets that have incomplete sidewalks, sidewalks on one or both sides of streets with no sidewalks at all.



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Sidewalk: No 1 side 2 sides unknown

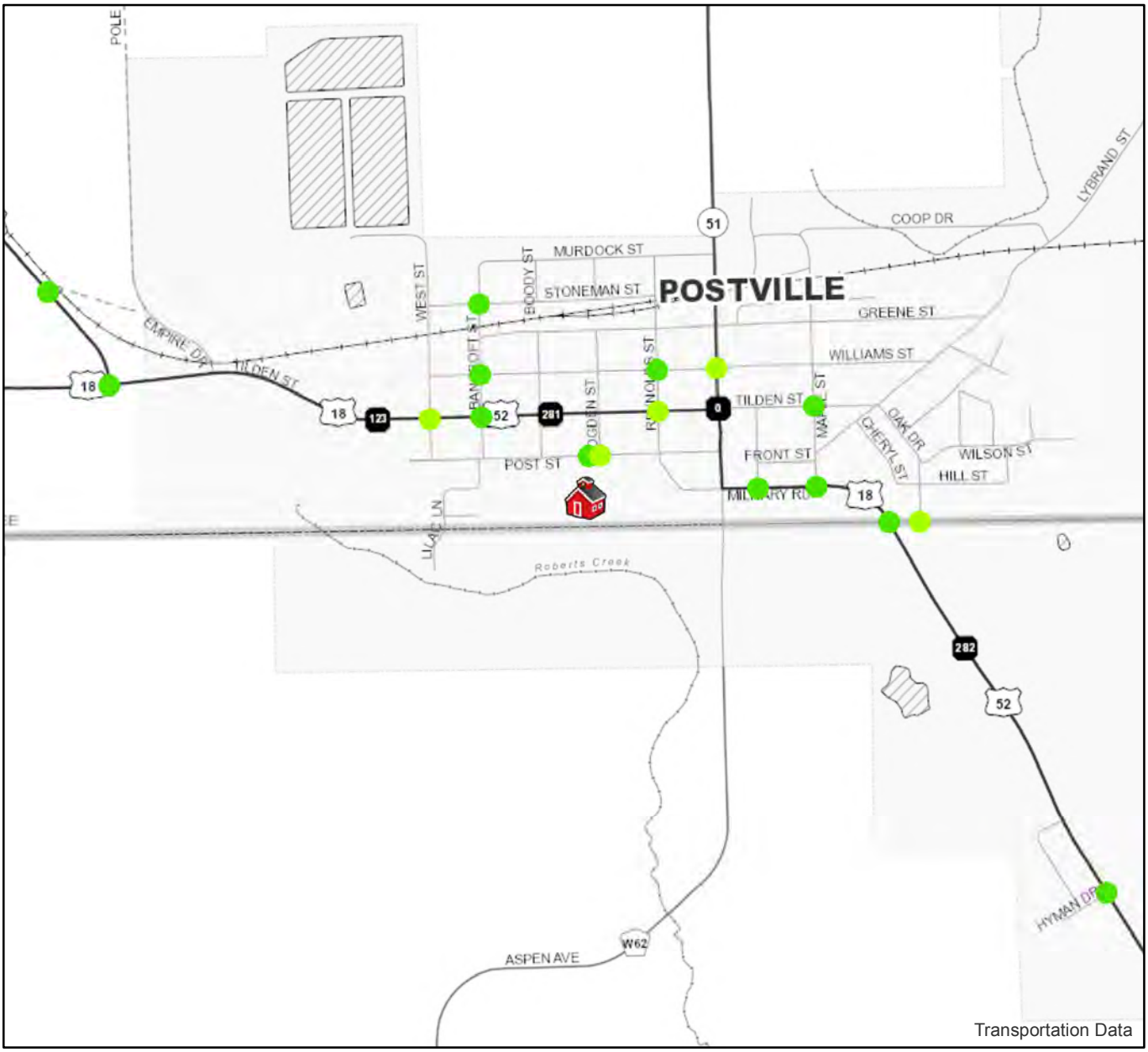
School

Miles

0 0.25 0.5

Intersection Crash Summary

The map below uses Iowa Department of Transportation data from 2009 through April 2013 to identify the intersections where accidents occurred. Special consideration should be given to these intersections when identifying routes for walking programs.



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All Crashes

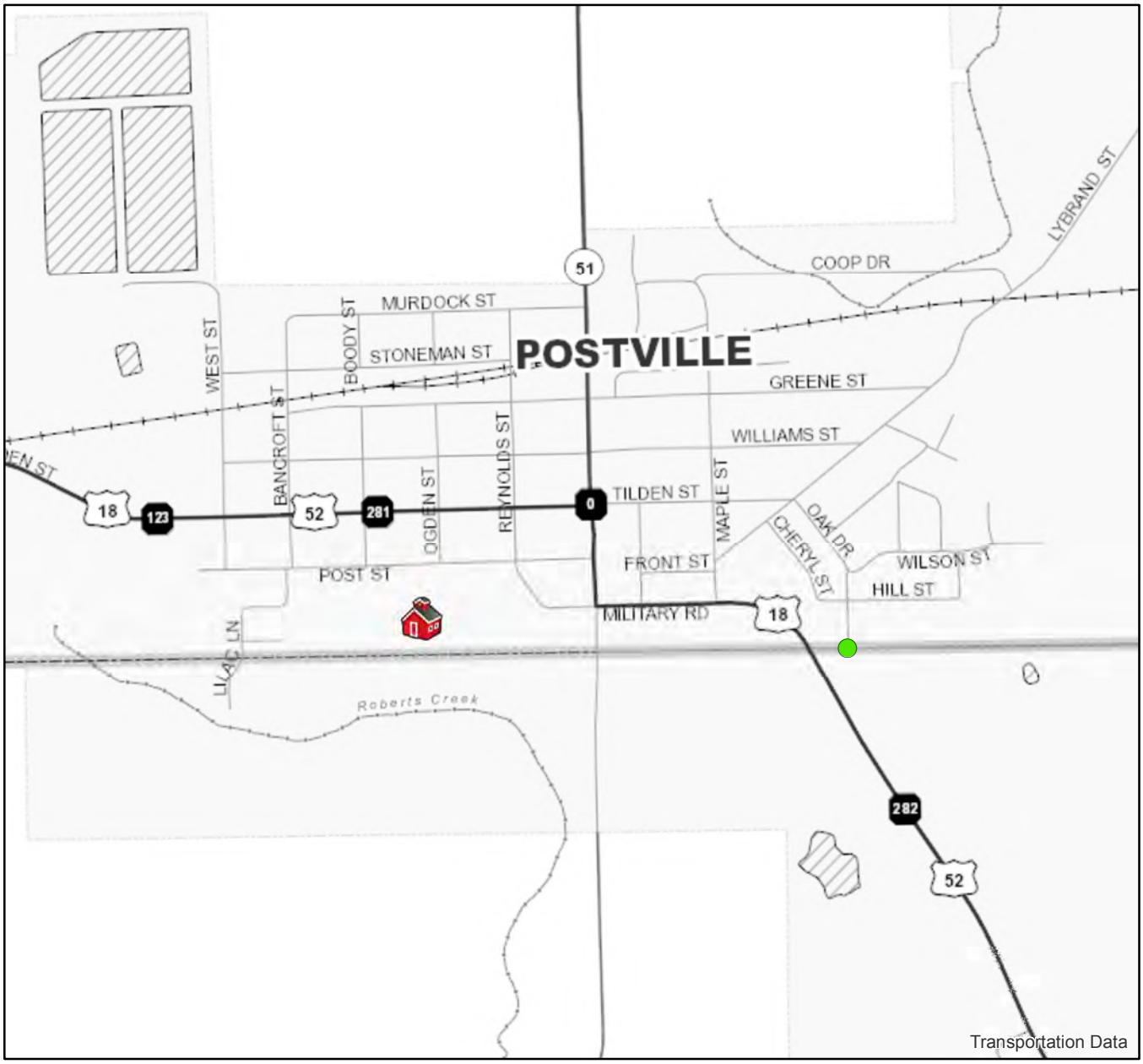
1 2 - 3 4 - 6 7 - 10 10+

Miles

0 0.25 0.5 0.75 1

Automobile & Pedestrian Crash Data

The map below uses Iowa Department of Transportation data from 2009 through April 2013 to identify the locations where accidents with non-motorists occurred. Special consideration should be given to these locations when identifying routes for walking programs.



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School

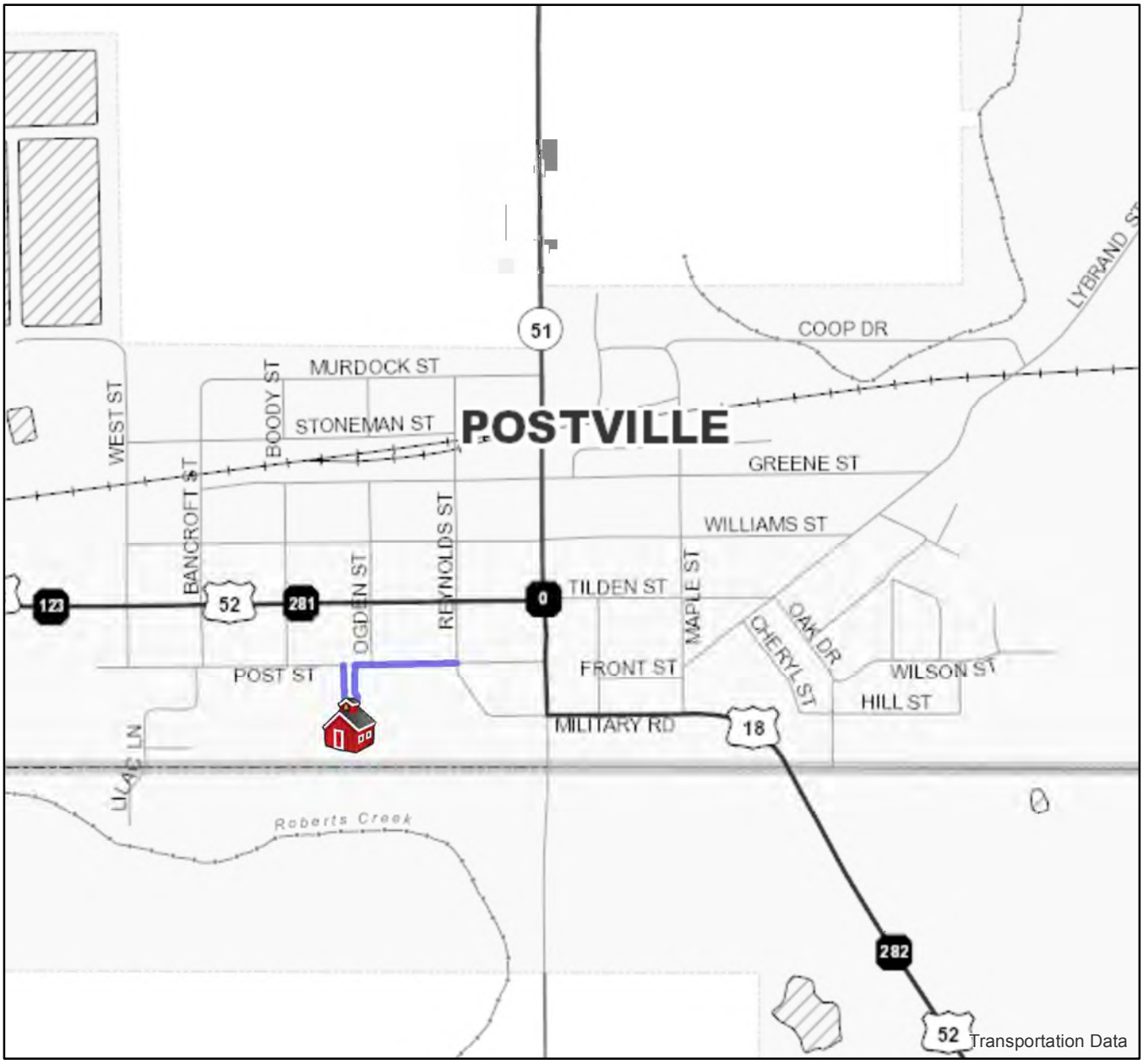
Miles

0 0.25 0.5 0.75

Skater	Pedestrian	Cyclist
1	1	1
2 - 3	2 - 3	2 - 3
4 - 6	4 - 6	4 - 6
7 - 10	7 - 10	7 - 10
10+	10+	10+

Identified Routes To/From School

As part of the Parent/child survey, students identified the routes they would use or consider using to walk or bike to school. The map below shows the routes that were identified by multiple students. These routes should be considered when developing the SRTS plan.



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School

Popular Routes to School

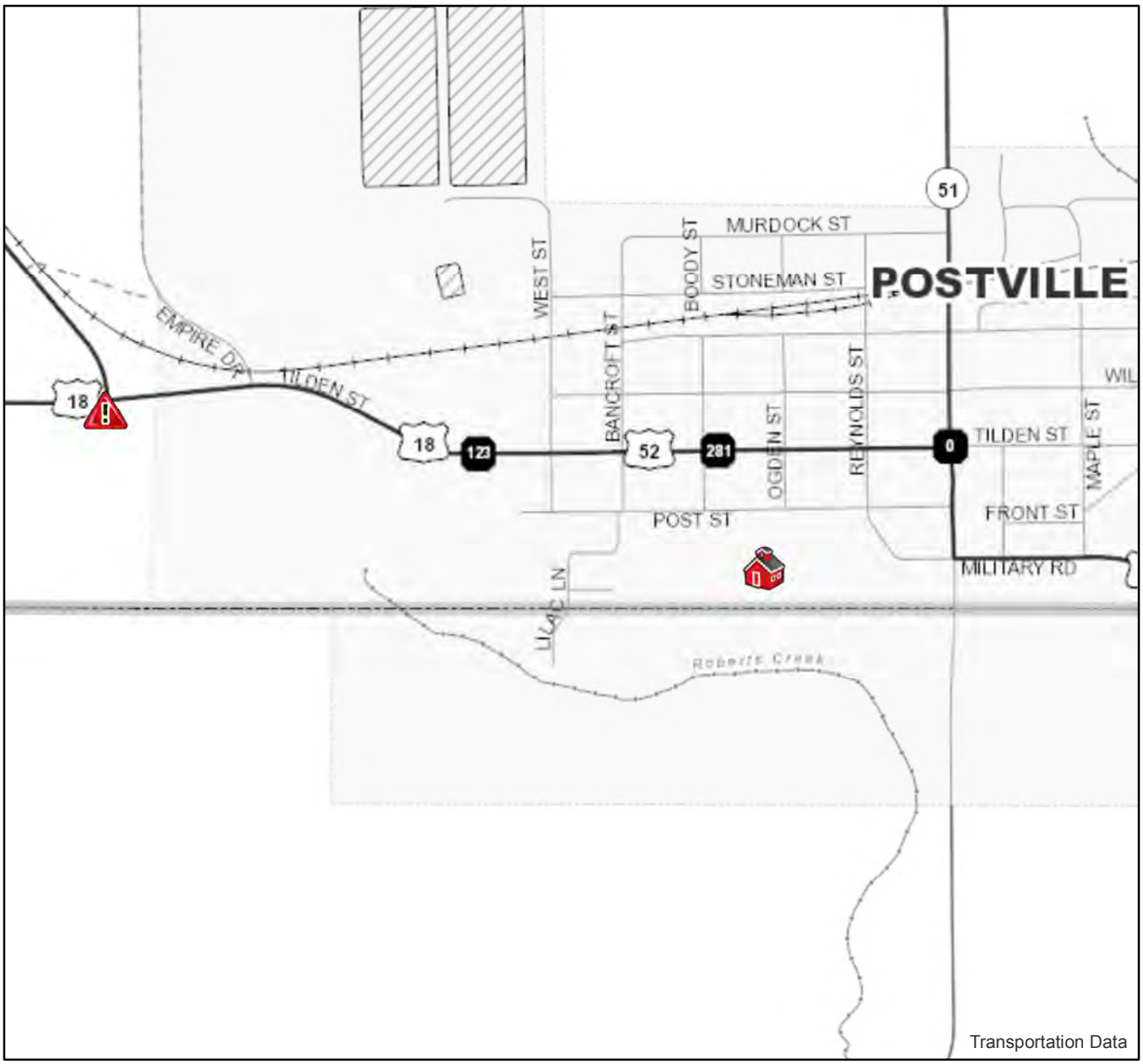
- 0 - 2
- 3 - 5
- 6 - 10
- 11 - 20
- 21 - 32

Miles

0 0.5 1

Perceived Dangerous Intersections

The map below shows intersections that parents identified in the Parent/Child online survey as being dangerous. The definition of dangerous was a judgment of the parent with no specified criteria established.



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May 2013

Dangerous intersection

Difficult crossing

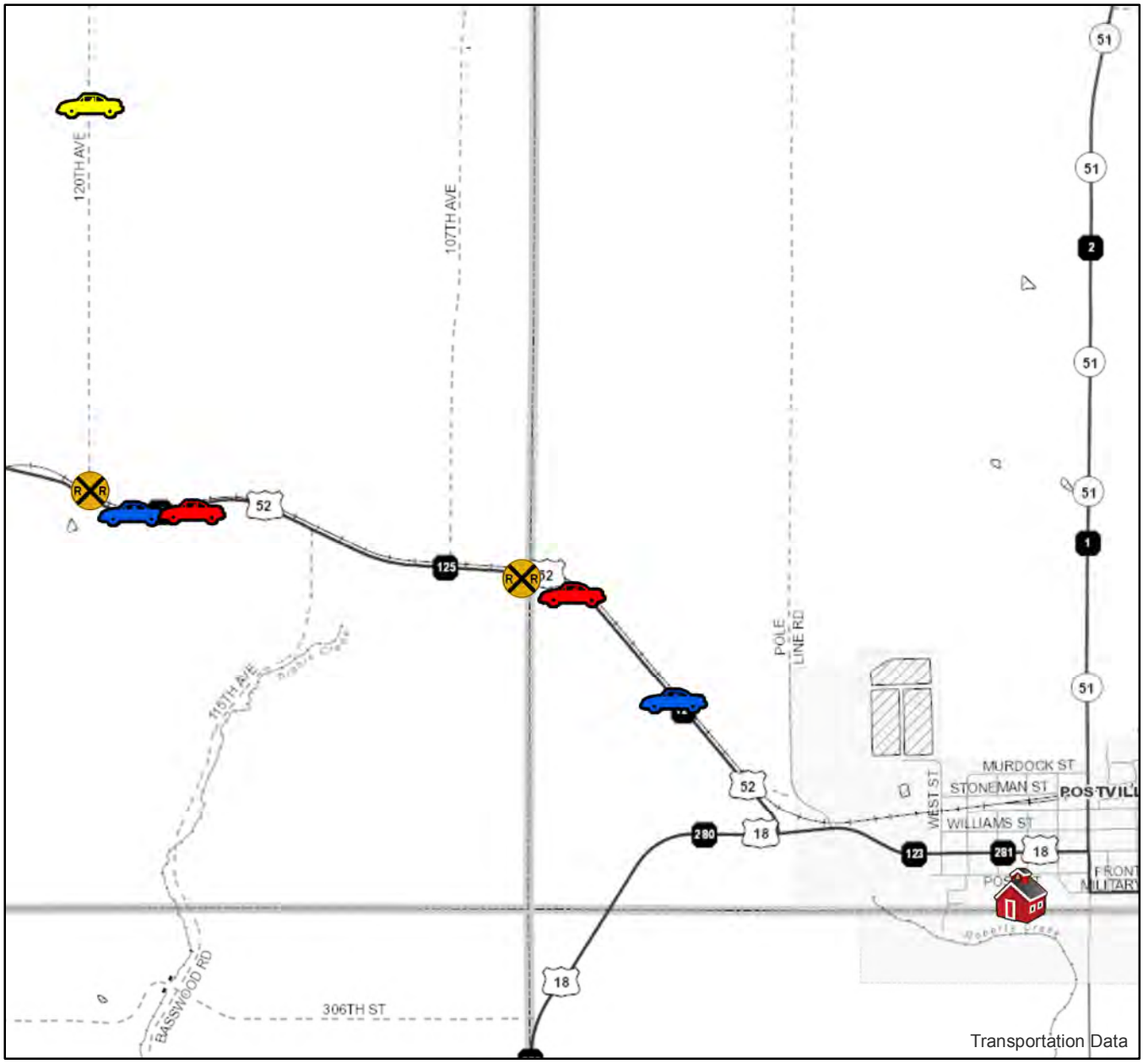
School

Miles

0 0.5 1

Perceived Traffic Issues

The map below shows perceived traffic issues that parents identified in the Parent/Child online survey. The location of a particular traffic issue was up to the judgment of the parent with no specified criteria established.



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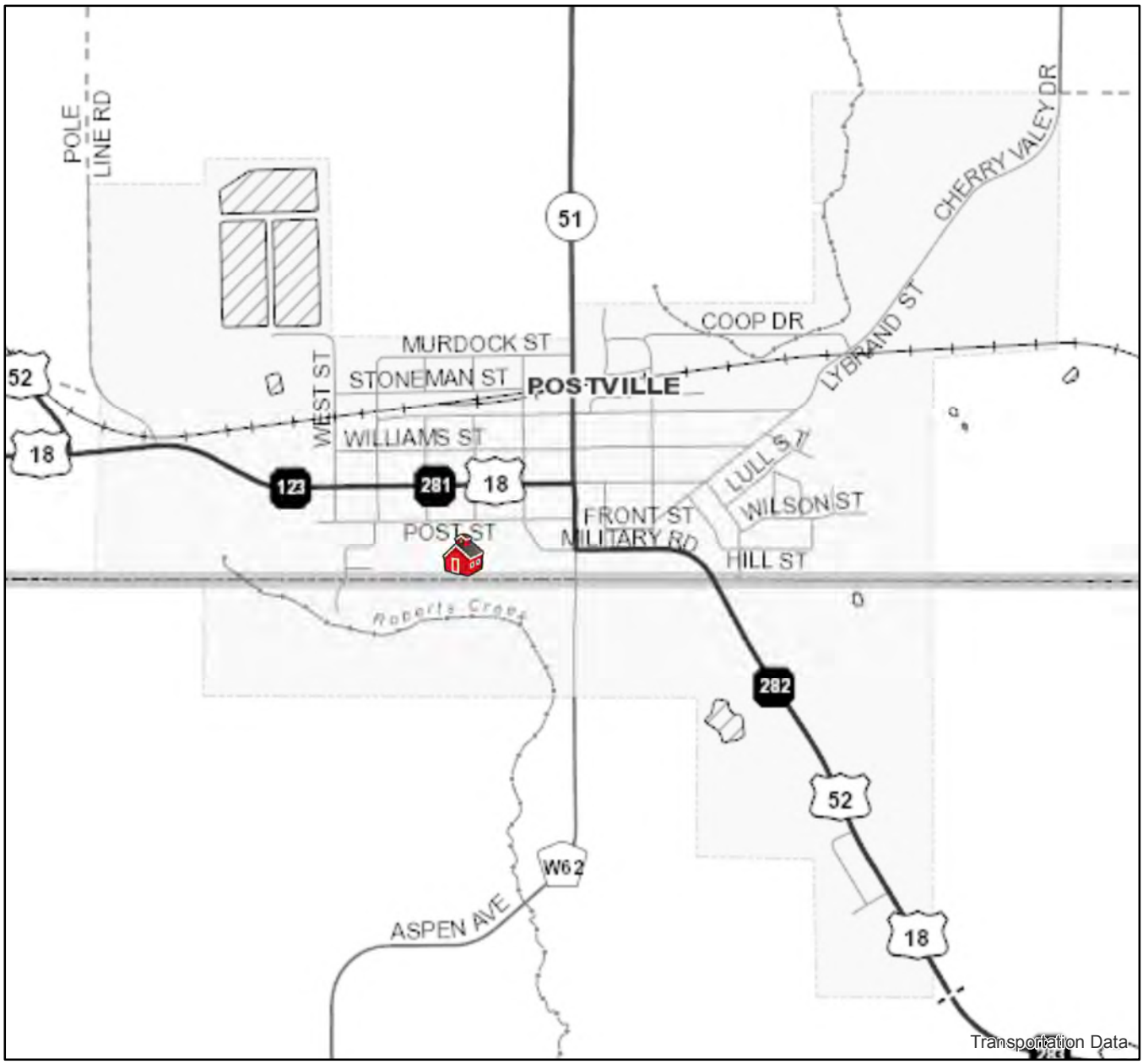
May 2013

Miles
0 0.5 1 1.5 2

Driver behavior
Railroad crossing
Heavy traffic
Speeding traffic
Parking
School

Potential Improvements

The map below shows potential improvements that were identified in the Parent/Child online survey.



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Add bike rack

Add crossing signal

Add short connection

Curb cuts needed

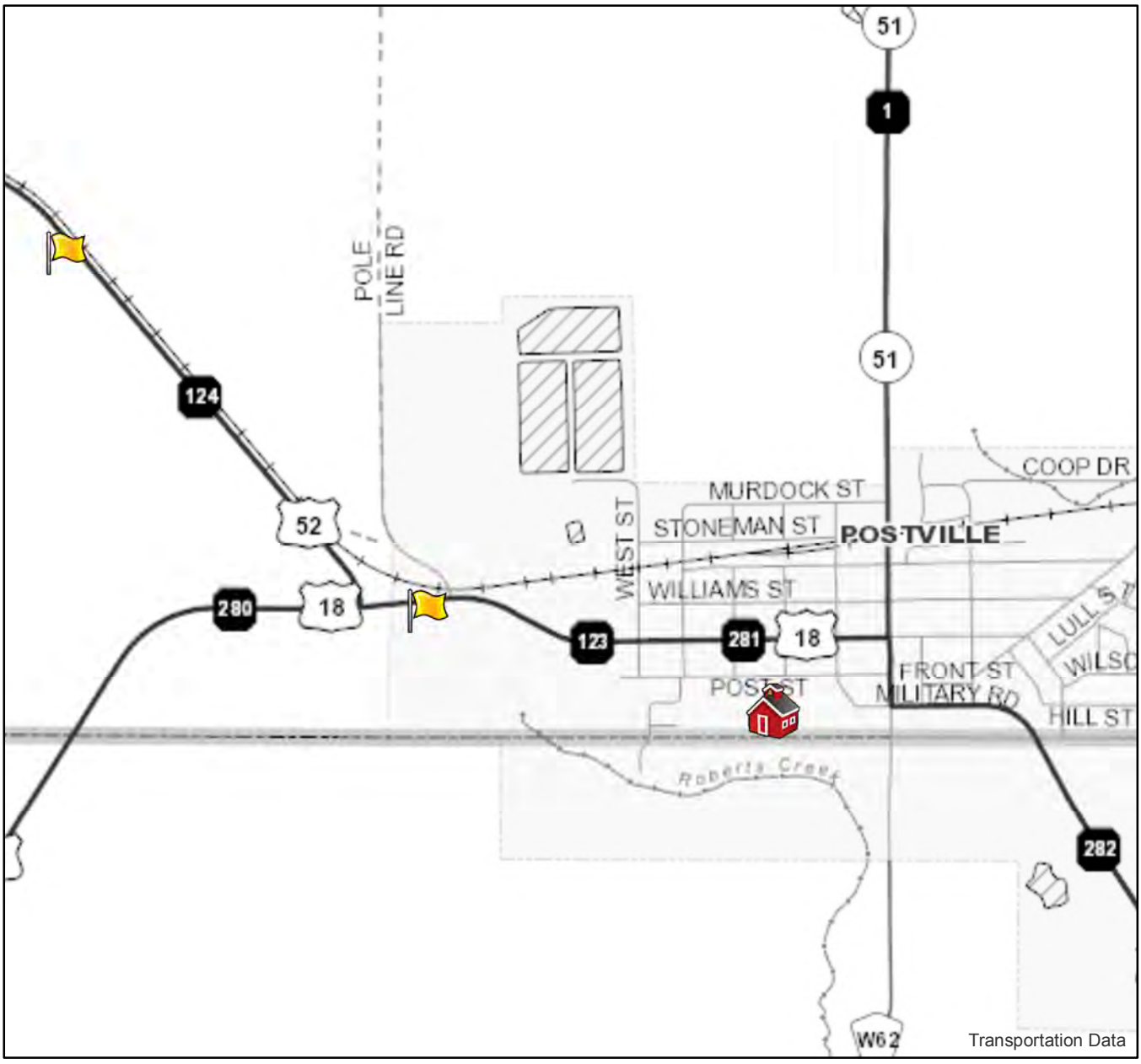
School

Miles

0 0.5 1 1.5

Perceived Infrastructure Issues

The map below shows perceived infrastructure issues that parents identified in the Parent/Child online survey. Identified locations near the school or along major walking routes should be a top priority



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Damaged
No sidewalk
Blocked
Other
Landscape maintenance
Scary animals
School

Miles
0 0.5 1 1.5

GPS Training Session

GPS Walkability Workshops trained citizens to conduct a community iventory using iPhones equipped with a copy of the ESRI ArcGIS app that was customized by ISUEO for the purpose of mapping SRTS infrastructure and saving this information to a geographic information system (GIS) at ISU.

During a one-day workshop, the I-WALK team trained volunteers in each of the communities to use the iPhone app. The volunteers then took to the streets to collect the data. Volunteers were asked to evaluate intersections and mid-block areas and to document any additional resources that may impact the walkability of the area around the school. The following figures show questions the volunteers were asked at each location and additional features that could be mapped as well as the iPhone interface. Answer options identified in bold text were default rsponses for each question. Additional data is also available online at www.i-walk.org

Midblocks: Are their sidewalks in the Midblock?

Are there sidewalks midblock?	Complete on both sides of street Complete on one side of street & no sidewalk on the other Complete on one side of the street & incomplete on other Incomplete on one side & no sidewalk on other Incomplete on both sides of street No sidewalks on either side
What is the condition of the sidewalk?	• Good - free of major cracks and uneven areas, can easily walk or bicycle • Fair - has some major cracks and uneven areas, but still able to ride a bicycle • Poor - is uneven or has major cracks or missing concrete throughout
Is the sidewalk wide enough for two adults to walk side by side?	• **Yes** • No • Unsure
Is the sidewalk set back from fast-moving traffic?	• **Yes** • No • Unsure
Is the route pleasant to walk? (no litter, visually interesting)	• **Yes** • No • Unsure
Is street lighting provided?	• **Yes** • No • Unsure
How many dedicted bike lanes along the road	• **0**, 1, 2
Comment:	

Additional Features

Bike Rack

Bus Stop

Cars Blocking Sidewalk

Cracked Sidewalk

Crossing Guard

Crosswalk not at intersection

Scary Dogs

Sidewalk ends

Sidewalk with Stairs

Vegetation Blocking Route

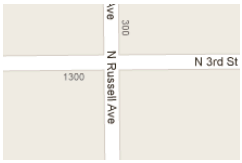
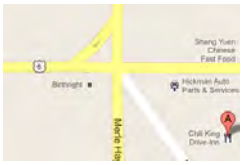
Often has standing water

Other

Large Truck Traffic

GPS Training Session

Intersection-Elementary student feel safe?

Do you think an elementary student would feel safe crossing this street?	Yes Maybe No --
Do you think an adult would feel safe crossing this street?	• **Yes** • No
How many streets intersect? For Example: 3 streets  4 streets  5 streets	1, 2, 3, 4, 5, 6 (Type in number)
How is traffic controlled at the intersection?	• Yield • One Way stop • Two Way stop • Three Way Stop • Four Way Stop • Roundabout • Traffic Light • Flashing alert • No traffic control
Is there a traffic light pedestrian crossing signal? (Walk/Don't Walk)	• Yes • **No**
Do the sidewalks have curb cuts/ramps?	• **Yes** • Yes, but curb cut/ramp needs improvement • No
How many streets have painted crosswalks?	1, 2, 3, 4, 5, 6 (Type in number)
Is the road too wide to cross safely?	• Yes • **No** • Unsure
Is there enough time to cross the street?	• **Yes** • No
Are there items that make it difficult for you to see traffic or for traffic to see you?	• Yes • **No**
Comment:	

GPS Data Collection Evaluation

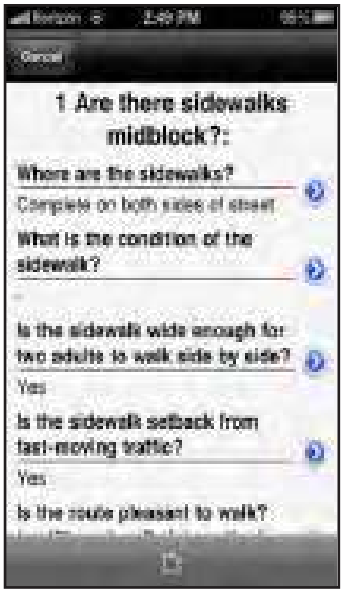
Selecting the community from the list of maps displayed a map of the community on the screen.

The map of the community could be zoomed and panned as necessary. Points already collected by other volunteers (red dot) were dynamically shared across devices.

Opening the toolbox icon, users could collect new features to add to the map.

Features could be mapped at an intersection, midblock or as a random event.

GPS Data Collection



Once a type of feature was selected, questions regarding the feature were presented.

Questions were answered by selecting the correct result from a pick list.

After answering the questions, the user could locate the feature on the map. This could be done by clicking on the correct location on the map, or using the GPS to place the feature at the current location.

In addition to collecting feature location and attributes, users had the option of taking a photo and saving it as part of the documentation.

Points saved with the iPhone were automatically transmitted back to ISU's GIS server where they could be shared with other devices and later used in analysis.

GPS Data Collection Evaluation

A detailed evaluation of the GPS Assessment Training was conducted at the workshop conclusion to guide future developments of the activity. The training evaluation was used to measure participants' reactions, learning, understanding and application of the mapping activity. A questionnaire was administered to the volunteers after \ completing the mapping activity. Respondents were community residents. Results from the evaluation are presented below.

GPS Assessment Training Evaluation Results

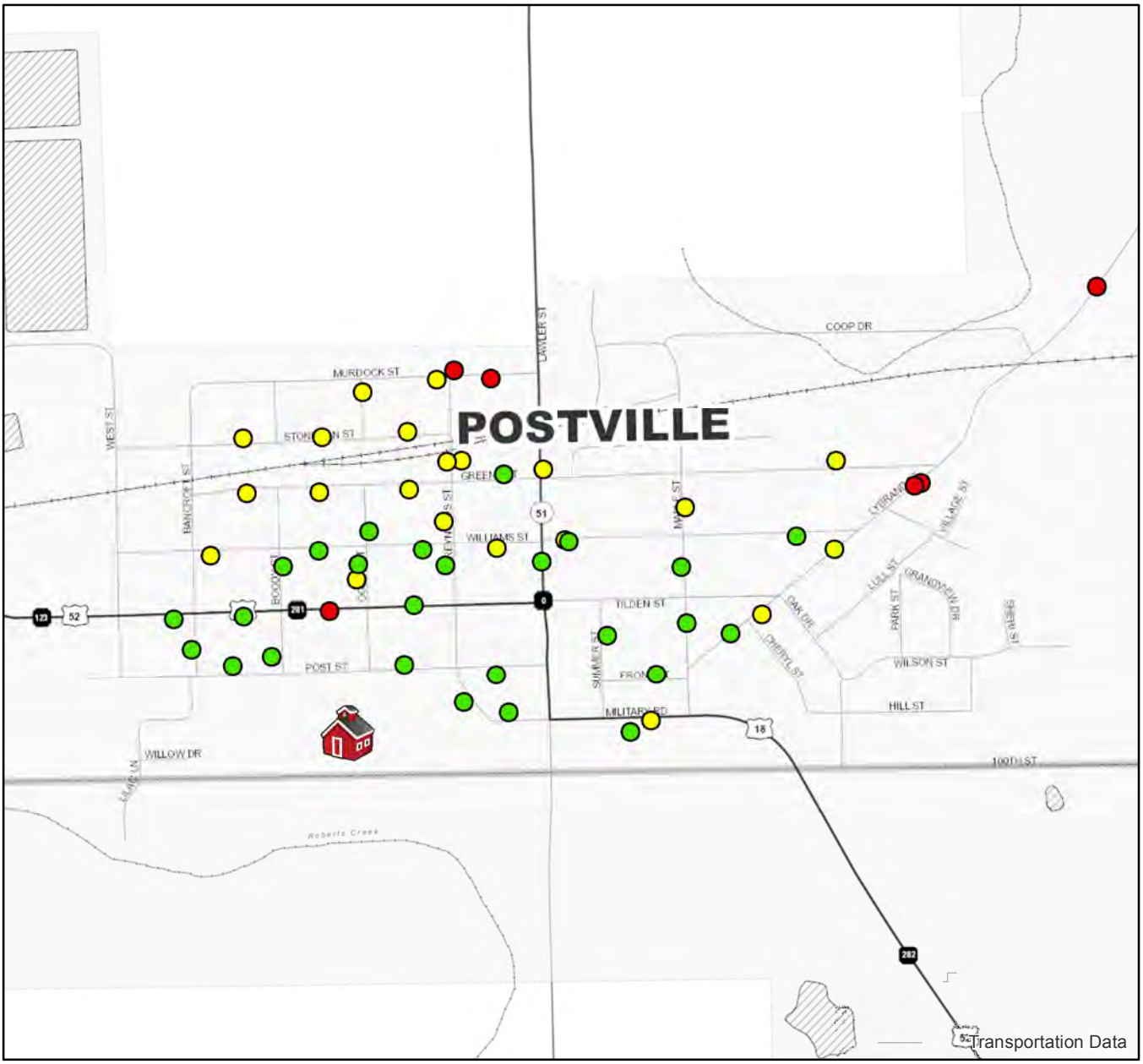
When you left the training, how prepared did you feel to conduct a GPS walkability assessment	1.5
Were the materials presented in a way that made sense and flowed smoothly	1.5
Was the training organized and arranged in a manner that made sense and "user friendly"	1.1
How helpful is it to practice GPS assessment before actually doing it	1.2
Were you given ample opportunity to ask questions during the training	1.1
Did the answers to your questions make sense	1.1
Overall rating of workshop	4.5
Rating of trainer	4.9
Rating of organization of workshop	4.4
Rating of usefulness of workshop	4.4
Rating of understanding of GPS Assessment Procedures	4.0
Rating of understanding of effectiveness of GPS Assessment	4.1

- The first question asked community volunteers how prepared they were to conduct a walkability assessment following the training (1 "Very well prepared" – 5 "Not at all prepared"). For the most part, community volunteers were very well prepared to conduct the walkability assessment.
- Respondents reported the training materials were presented in a way that made sense and flowed smoothly (1 "Very well" – 5 "Not at all").
- The training was organized and arranged in a manner that made sense (1 "Very well organized" – 5 "Not at all organized").
- It was very helpful to practice a GPS assessment before actually doing it (1 "Very helpful" – 5 "Not at all helpful").
- Community volunteers were given ample opportunity to ask questions during the training (1 "Very much opportunity" – 5 "Not at all provided opportunity").
- For the most part, answers to questions posed during the training made sense to the volunteers (1 "Yes," 2 "Somewhat," 3 "No").

Overall, the training workshop and the trainer were rated as excellent (1 "Very poor" – 5 "Excellent"), and the workshop was very organized (1 "Very disorganized" – 5 "Very organized"). In addition, the workshop was very useful (1 "Not useful at all" – 5 "Very useful"). The GPS assessment procedures were very well understood (1 "Not understood at all" – 5 "Very well understood"), as well as the understanding of the effectiveness of the GPS assessment.

Damaged Sidewalks

Areas with damaged sidewalks identified by the volunteers using the iPhone device.



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May 2013

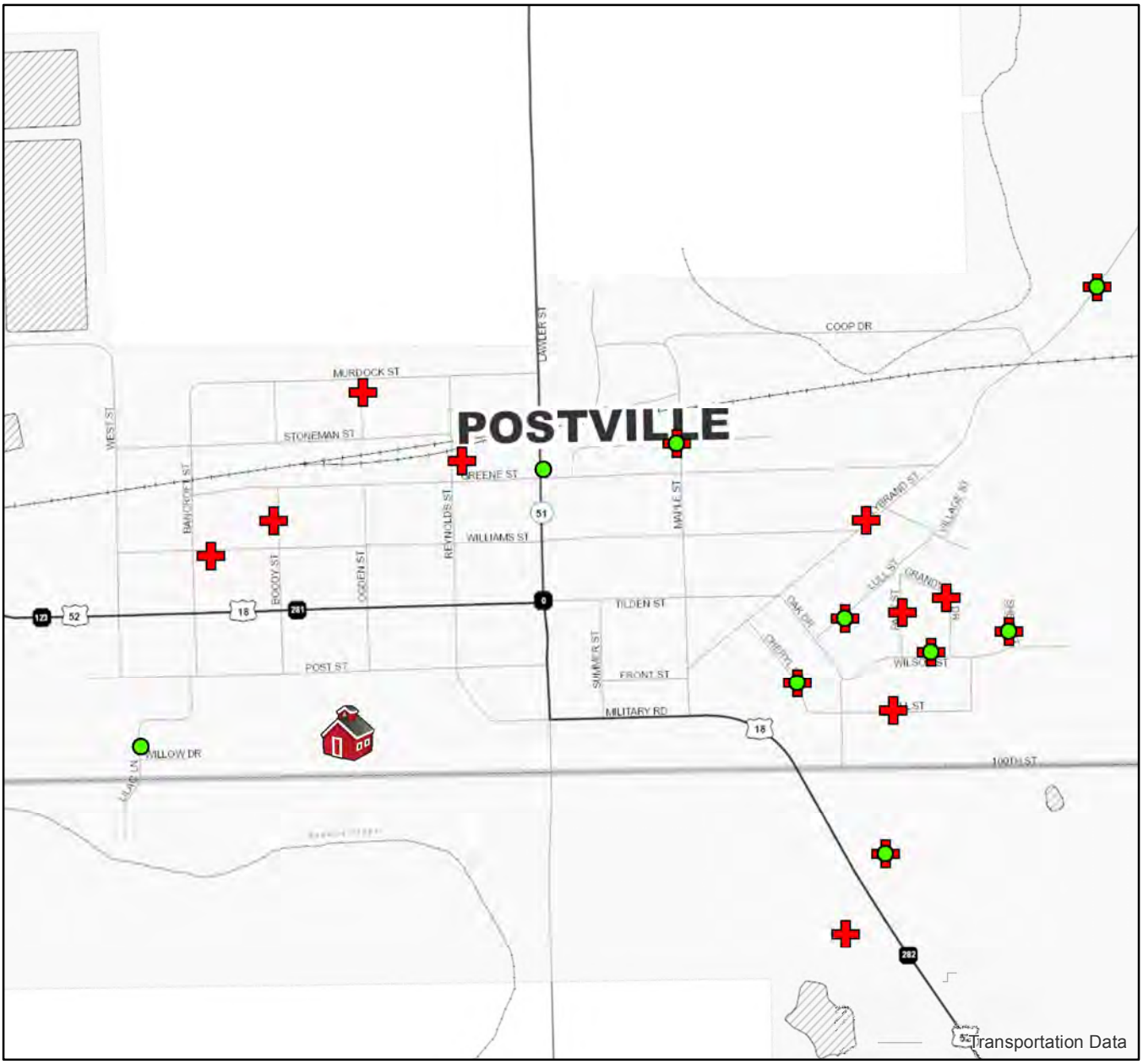
Miles

0 0.25 0.5

- Poor - is uneven or has major cracks or missing concrete throughout
- Fair - has some major cracks and uneven areas, but still able to ride a bicycle
- Good - free of major cracks and uneven area, can easily walk or bicycle
- School

Sidewalk Setbacks and Sidewalk Width

Using the iPhone devices, volunteers identified sidewalks that were not set back from the street as well as sidewalks not wide enough for two adults to walk side-by-side.



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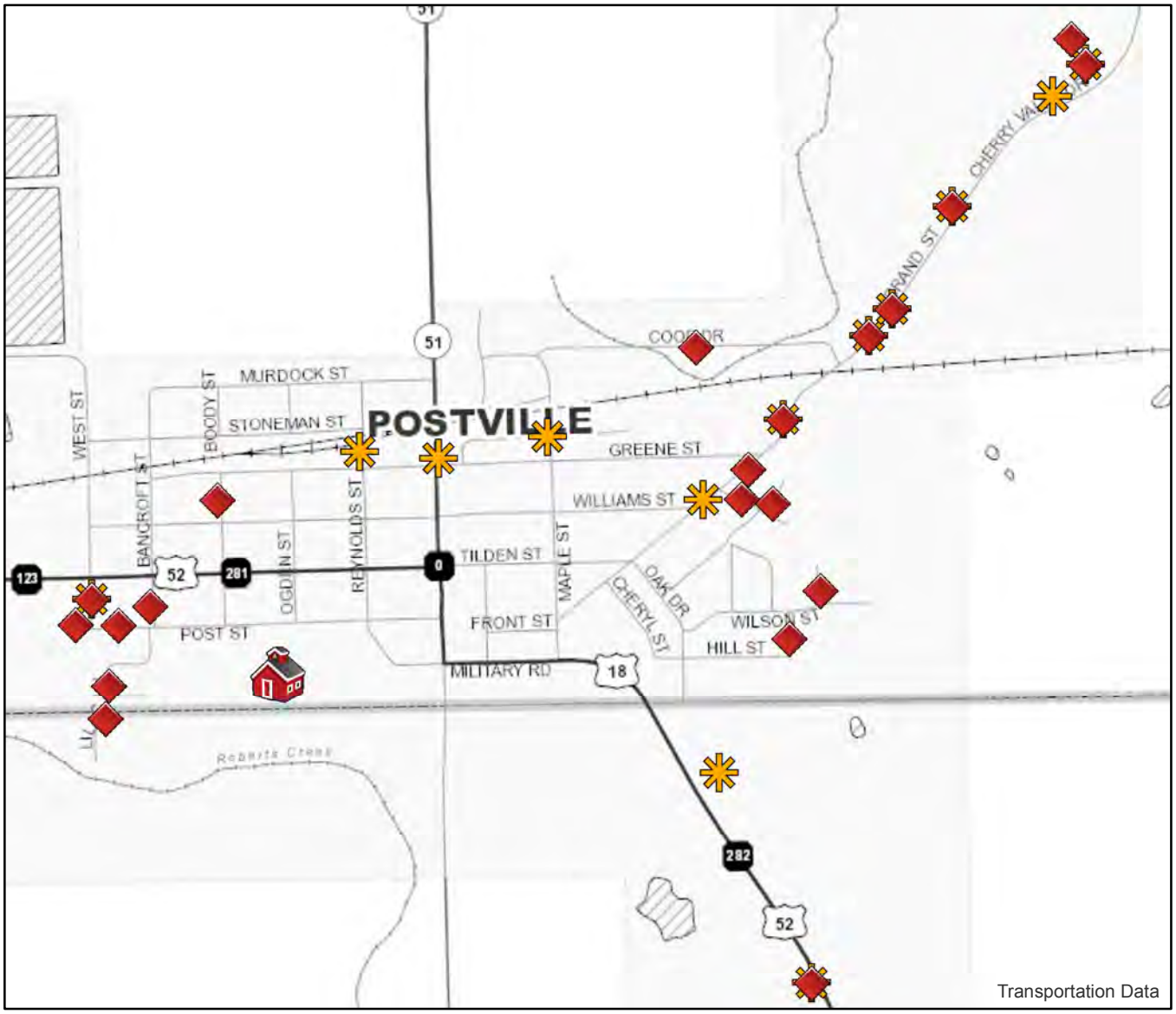
0 0.25 0.5

- Sidewalks not set back from traffic
- Sidewalk not wide enough for two adults to walk side by side
- School

Street Lighting and Pleasant Routes

Volunteers evaluated at the midblock if they could see that street lighting was provided at the nearest intersection or along the street. Volunteers also identified if the particular street was pleasant to walk.



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Miles

0 0.25 0.5 0.75

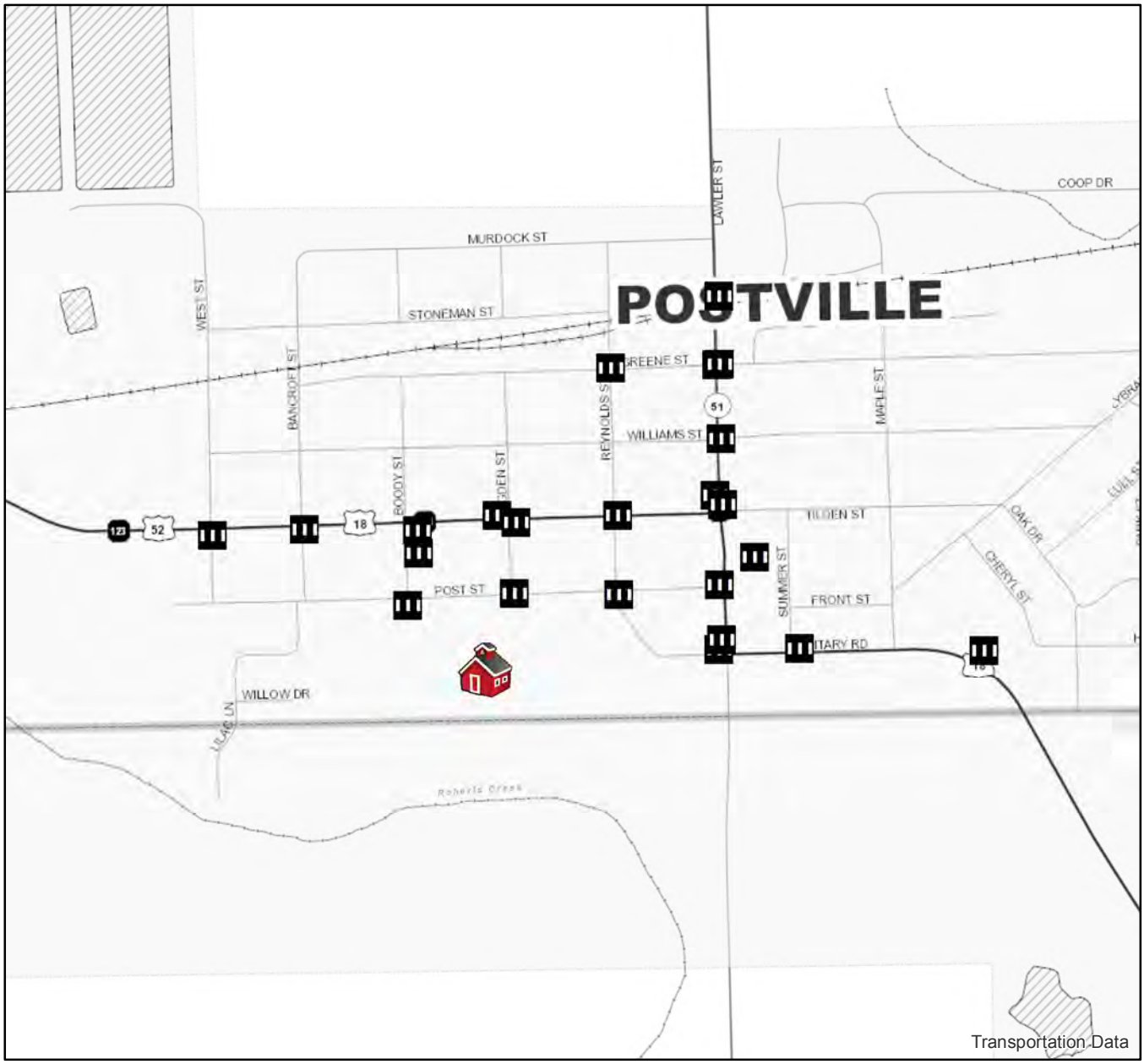
School

No street lighting

Route not pleasant to walk or has litter

Painted Crosswalks

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



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Painted Crosswalks

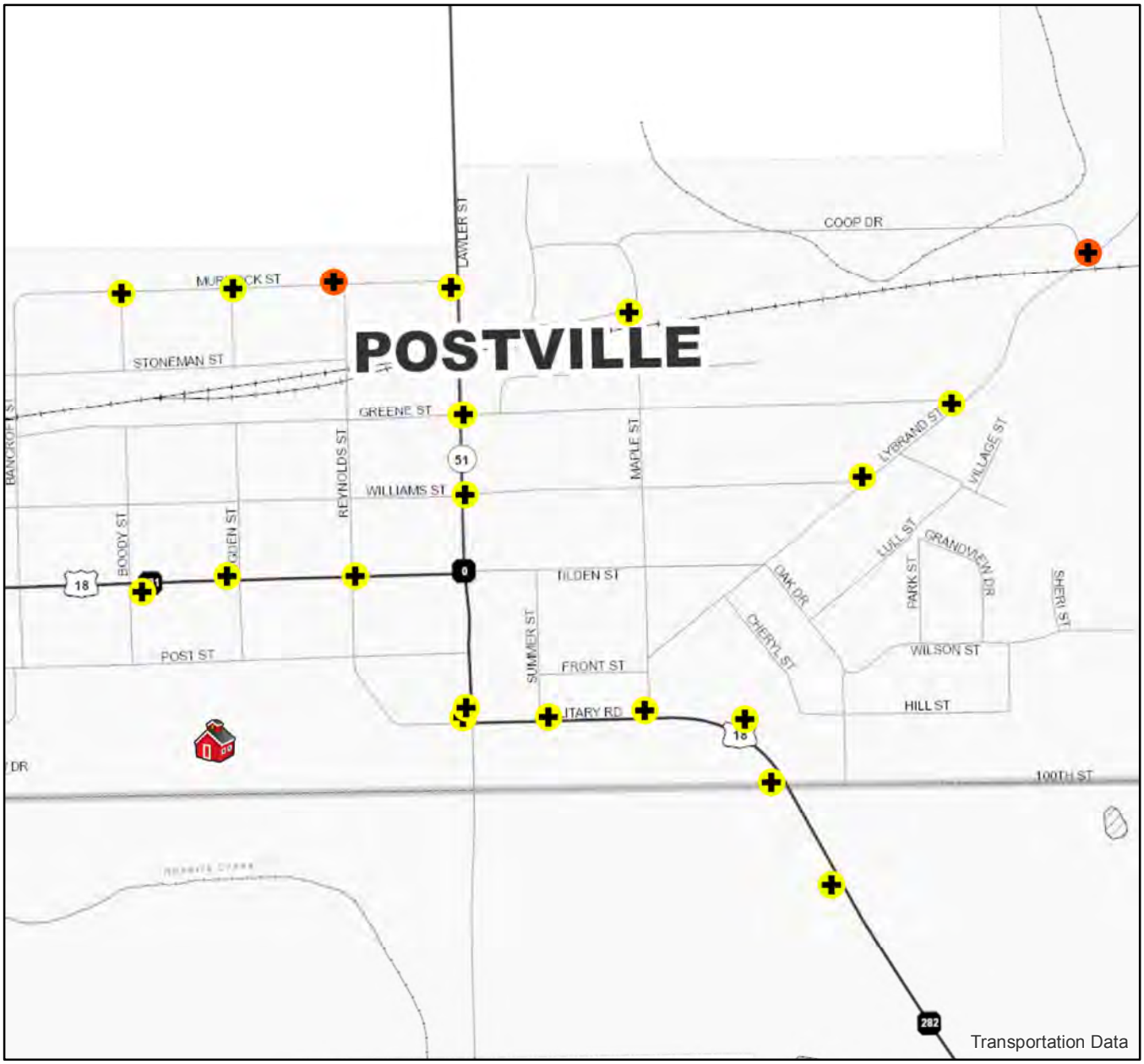
School

Miles

0 0.25 0.5

Would Not Feel Safe Crossing the Street

Using the iPhone devices, volunteers identified areas that they thought as an adult that a student would not feel safe crossing. In addition, specific intersections were also identified as being equally unsafe for an adult to cross.



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School

Adult Wouldn't Feel Safe

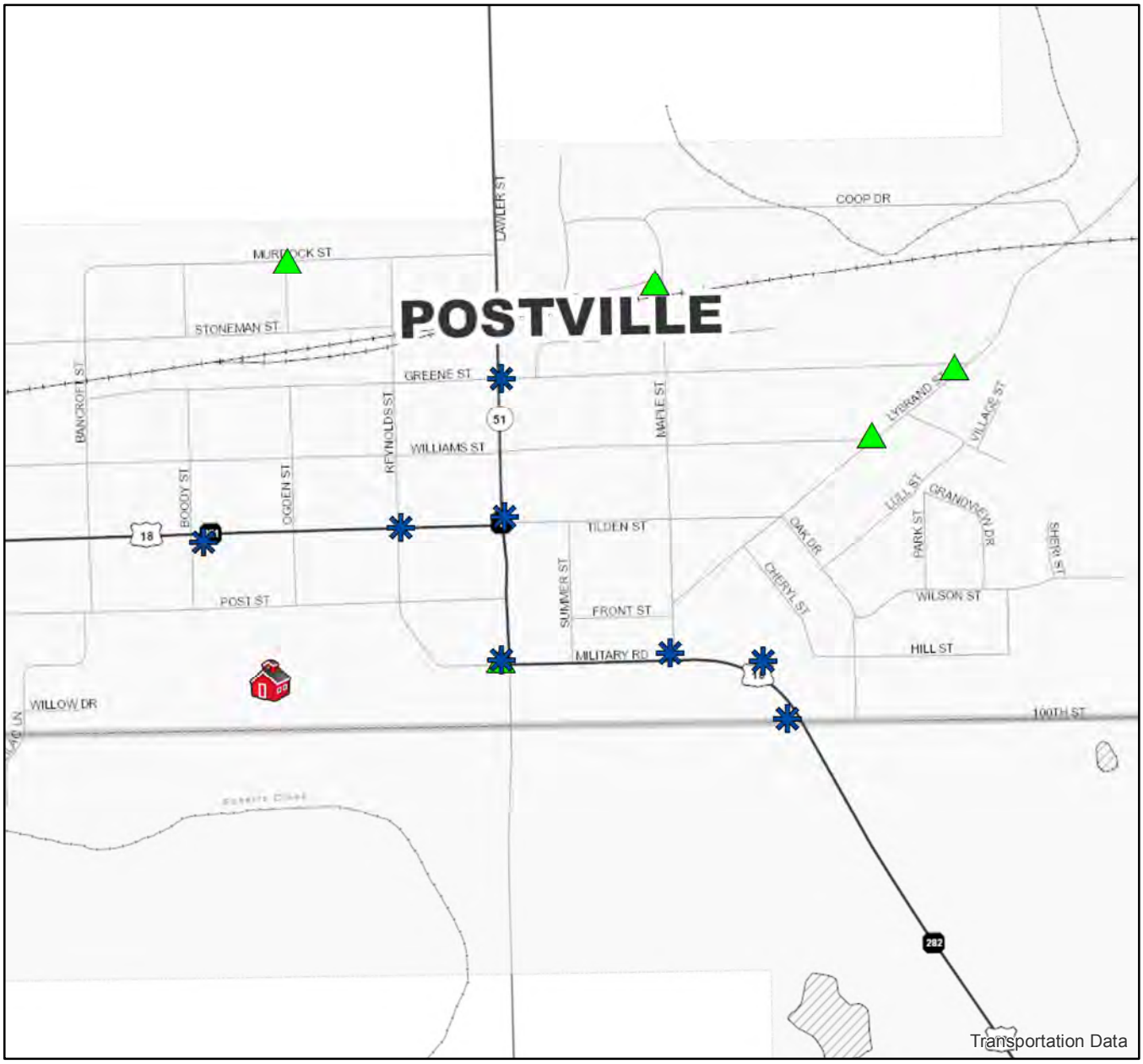
Student Wouldn't Feel Safe

Miles

0 0.25 0.5

Insufficient Time to Cross Street

Using the iPhone devices, volunteers identified intersections where the data collector did not consider there to be sufficient time to cross the street safely as well as intersections where items might make it difficult for motorist to see children or for children to see motorists.



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Miles

0 0.25 0.5

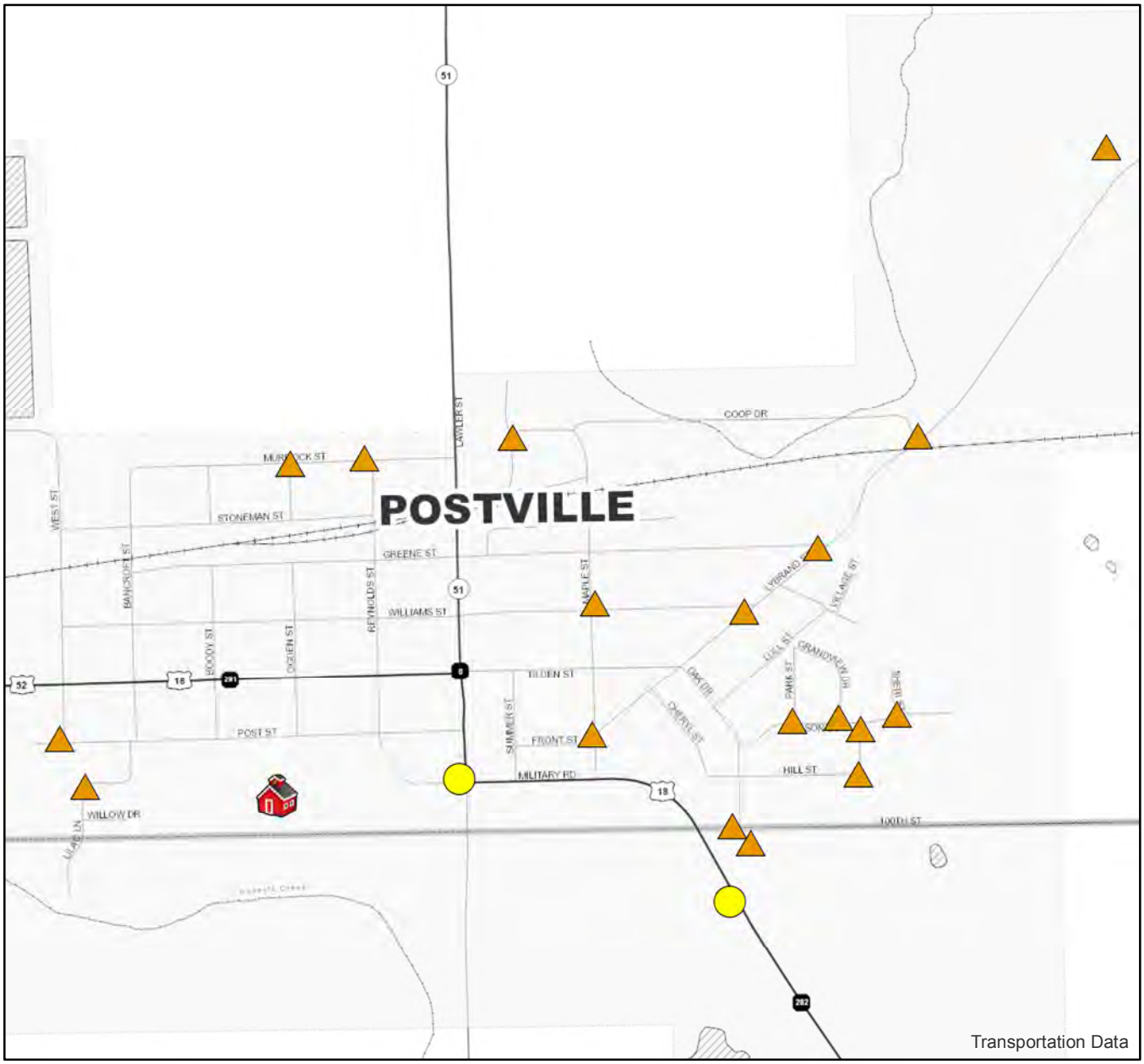
Not enough time to cross the street

Items blocking view

School

Intersection Curb Cuts and Road Width

Using the iPhone devices, volunteers identified intersections where the sidewalks did not have curb cuts connecting to the street and where the street might be too wide for a child to safely cross.



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Miles

0 0.25 0.5

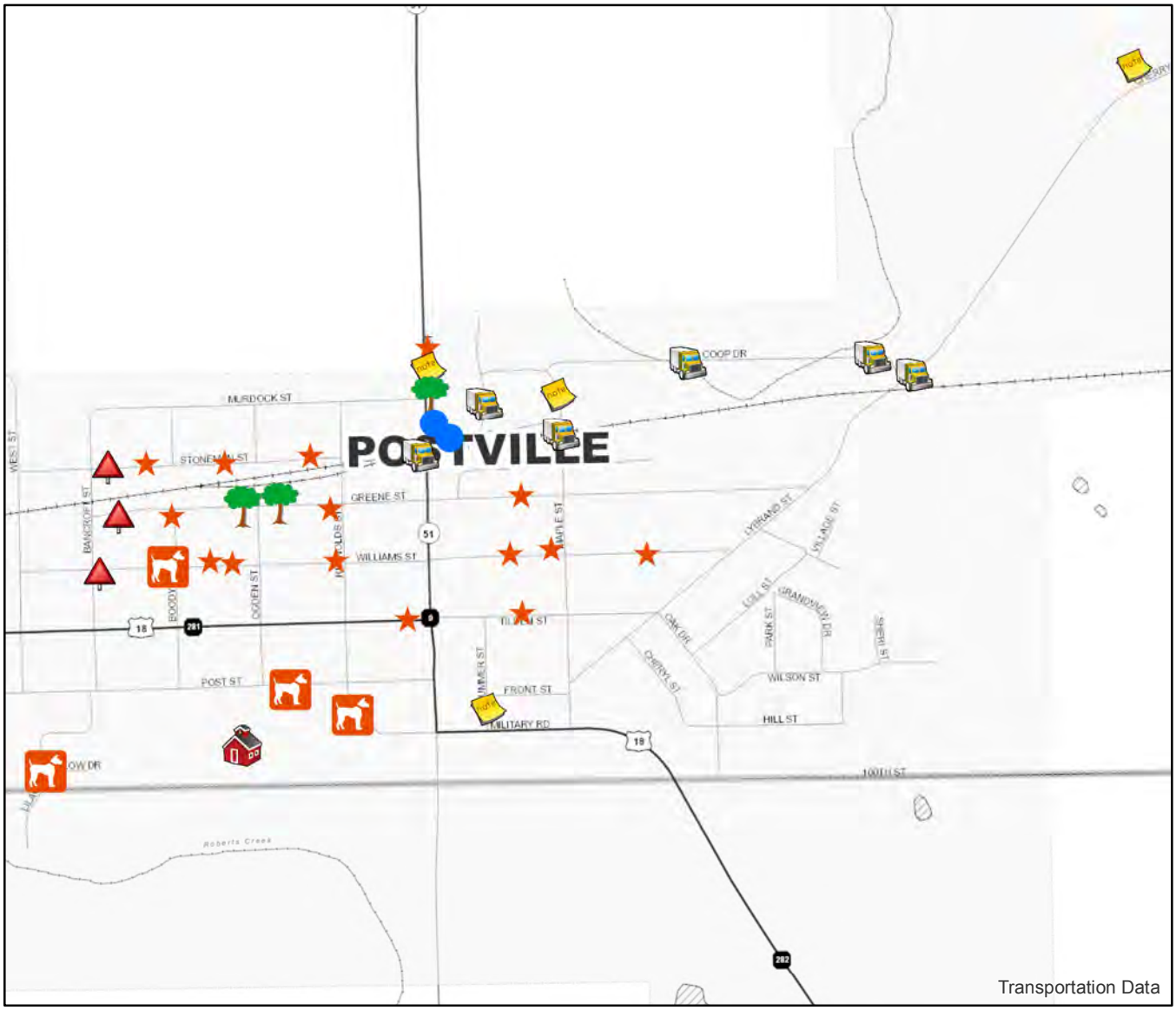
Sidewalks do not have curbcuts/ramps

Road is too wide to cross safely

School

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).



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May 2013

Miles
0 0.25 0.5

- Bike Rack
- Bus Stop
- Sidewalk ends
- Cracked Sidewalk
- Crossing Guard
- Scary Dogs
- School
- Vegetation Blocking Route
- Sidewalk with Stairs
- Crosswalk not at intersection
- Cars blocking sidewalk
- Often has standing water
- Large Truck Traffic
- Other

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	1
School representative	2
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	
Safe Routes to School	
Other	2
Totals	7

General Recommendations to Communities

The goal of SRTS programs is to give a community the opportunity to make walking and bicycling to school safer and more accessible for children, including those with disabilities, and to increase the number of children who choose to walk and bicycle. On a broader level, SRTS programs can enhance children's health and well-being, ease traffic congestion near the school and improve air quality and improve community members' overall quality of life.

Communities are encouraged to tailor a combination of engineering, education, encouragement, and enforcement strategies to address the specific needs of their schools.

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.

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.

General Recommendations to Communities

The first step of SRTS is to do an assessment like I-WALK. Once the infrastructure data is collected, the next step is to observe how kids get to and from school. Communities are encouraged to spend time observing how and where students cross the street. Using the data provided in the infrastructure assessment and parent survey as a guide, evaluators can determine where observations should start.

The primary focus area should be ½ mile around the elementary school. Past this point it becomes increasingly unlikely that a child will walk and if the first one-half mile is not walkable, it does not matter what the second one-half mile is like.

After the observation step has been completed, the community should use the collected data and observations to prioritize where to begin improvements.

The following recommendations are "general" recommendations to all communities. The word "general" does not imply that they are of lesser importance than any of the specific recommendations for each one of the school districts and their respective community. These are common recommendations of importance to create safer pedestrian and bicycle environments while at the same time encourage walking and bike riding to and from school.

Community

- Focus on projects that are the low cost and easy to implement first.
- Implement Complete Streets.
- Update the city's comprehensive plan every two years.
- With each comprehensive plan update, specifically address access to physical activity infrastructure in the street and sidewalk section, and in the parks and recreation section by all segments of the population.
- In the comprehensive plan set specific goals and evaluation criteria for access to and availability of the physical activity infrastructure including (but not limited to):
  - Sidewalks
  - Bike paths
  - Walking and hiking trails
  - Recreation facilities
  - Skating rinks and other winter outdoor activity facilities
  - Any other initiatives to encourage and facilitate physical activity and enjoyment of the outdoors.
- Implement annual inspection and repair of all physical activity infrastructure.
- Develop and initiate city or school-sponsored programs to retrofit sidewalks in developed areas where sidewalks are absent and/or had not been required.
- Limit vehicular traffic in the school vicinity, especially during the times immediately before and after school.
- Require high school drivers to take a driver awareness short course on pedestrian and bicycle safety in order to be able to have a parking permit at the school. Provide a reward such as a special parking sticker.
- Keep walkway/bikeways separate from the street (buffer with planting or even a bike lane)
- Ensure sidewalks are the appropriate width for the site conditions (sidewalks adjacent to a street should be wider).
- Provide a sidewalk on both sides of the street to prevent the need for jumping from one side to another.
- Provide two ramps (at curbs) per corner = one per four way intersection.

General Recommendations to Communities

- Mark ALL crosswalks in community.
  - Use the zebra stripe pattern as opposed to the simple striped lines across the road.
  - Provide 'shark teeth' paint markings to show where cars should stop for crosswalks – particularly on multi lane roads.
  - While flashers and crosswalk may seem to be an area to focus, be aware that studies show you only get about a 3 mile per hour reduction in speed when these devices are installed. Putting up signs that remind drivers that it is the law that pedestrians have the right of way and that there is a fine for not following the law can also be effective.
- Review the MUTCD (Manual on Uniform Traffic Control Devices) to ensure that signage is current. See figure below or visit http://mutcd.fhwa.dot.gov/htm/2009/part7/part7_toc.htm
- Do not spend an excessive amount of time and money making the drop/off pickup more convenient. It needs to be safe, but if made easy then it will be more likely that kids are dropped off and picked up at school as opposed to walking/biking.
- Post traffic control signs on each I-WALK Route with the fine listed for violation. Nail a few violators in the first few days of posting.
- Publish walking maps for each neighborhood that include:
  - Community amenities and services such as schools, libraries, playgrounds, city offices, etc.
  - Unique vegetation, bird species
  - Distances between destinations
  - Walking times to destinations
  - Safest routes, crossings, etc.

School

- Move bike racks away from the Bus/Parent pickup points to avoid congestion in those areas.
- Provide bike racks that allow the frame of the bike to be attached to the rack – not just the wheels.
- In instances where motor vehicles turn at the same time the crossing light is green consider using a Leading pedestrian interval instead of a concurrent signal
- Use methods to slow traffic around the school
  - Speed bump
  - Street Diet (Go from 4 to 2 lanes)
  - Extend curb into road (also creates a shorter distance for the student to cross).

2009 Edition Part 7 Figure 7B-6. In-Street Signs in School Areas

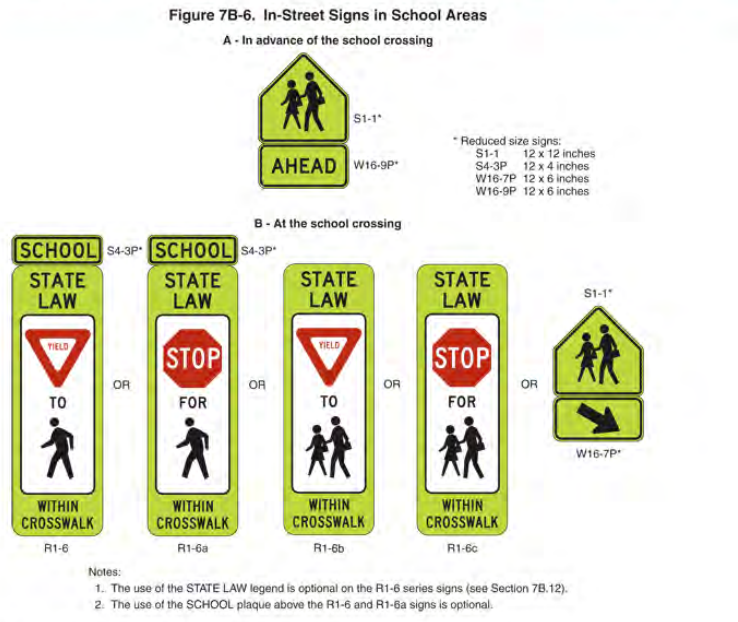

Figure 7B-6. In-Street Signs in School Areas

Additional survey and GPS maps for Castalia, a PDF version of this report and other supplementary materials available at
www.i-walk.org

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