Iowans Walking Assessment Logistics Kit

A Community Walkability Program

Harlan

Iowa

Fall 2014

IOWA STATE UNIVERSITY
Extension and Outreach
Community and Economic Development

IDPH Iowa Department of Public Health

i-walk

Acknowledgements

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Introduction

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

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

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

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

http://en.wikipedia.org/wiki/Harlan,_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).

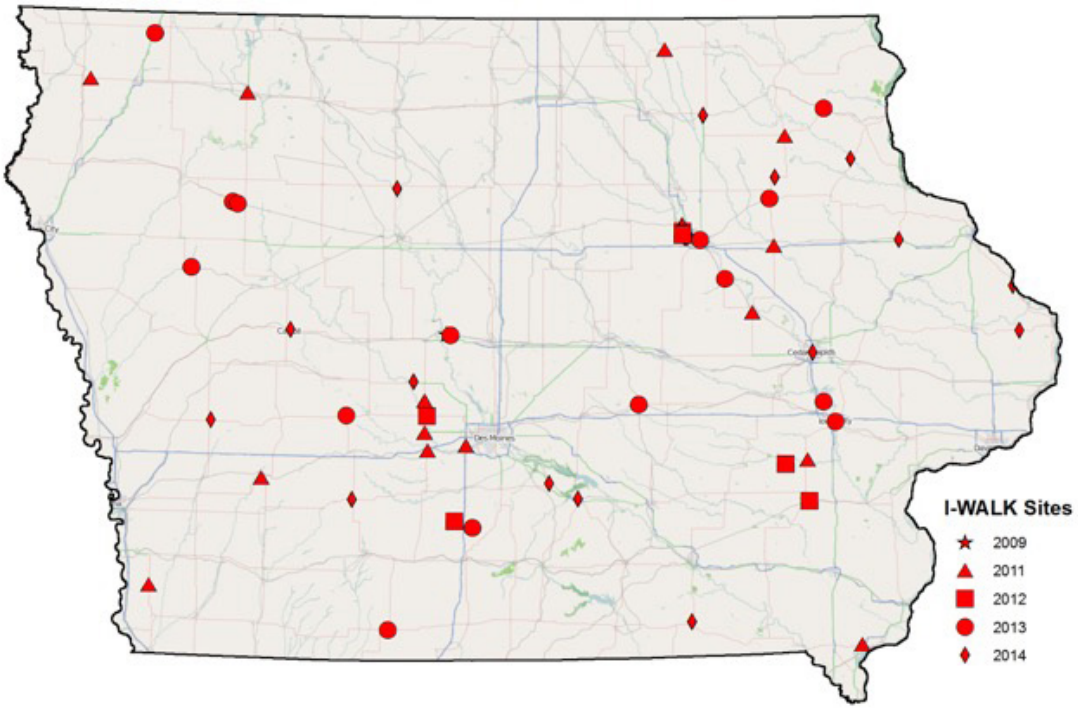
In July 2012, I-WALK piloted its first project specifically focusing on the aging adult population across Iowa.

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.



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"

Methodology

Community Coalitions

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

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

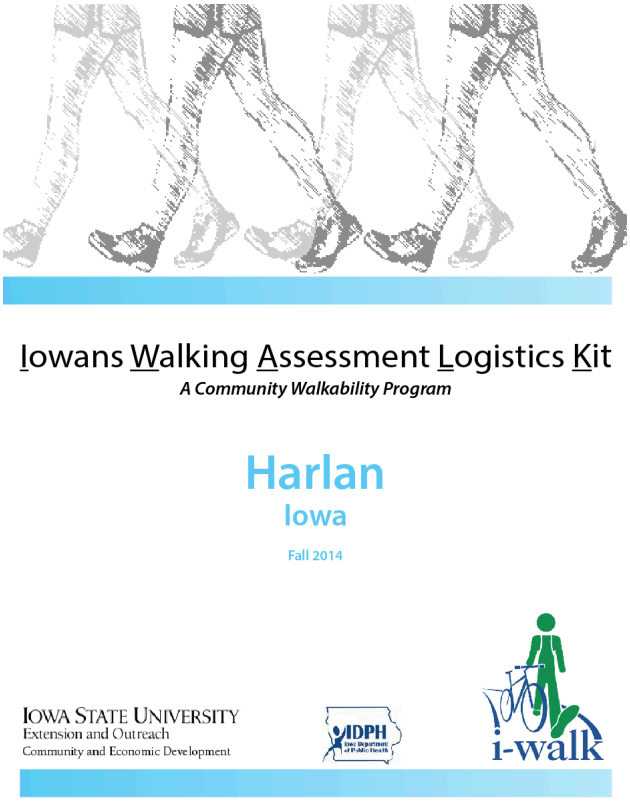
The following report includes the data compiled while evaluating the community.

	Participants
Area Agency on Aging Local Public Health	1 2
Community Representative/Citizen (local business; neighborhood & community association representatives; pedestrian, bicycle, & safety advocates)	1
Older Adult	2
Local Law Enforcement/Public Safety/School Resource Officer	
Municipal Representative/City Mayor	2
City Planner/City Engineer	
ISU Extension and Outreach	1
DNR (Department of Natural Resources) Representative	
Service or Volunteer Organization Representative	
Others	11
Totals	20

Methodology

A questionnaire consisting of 25 questions was used as the survey instrument. Questions addressed topics related to identifying the most frequented locations and distance to those locations, transport to and from frequented locations, barriers and assets of most frequented locations, walkability and bikeability of frequented locations, and neighborhood barriers and assets. Survey questions also requested demographic information such as age group, gender, and employment status.

Residents were invited to participate in the survey through a campaign that included fliers and individualized letters. A random sample of Greenfield residents were identified. Each resident was sent an invitation letter to participate in the survey. The letter included instructions on how to participate in the survey. Completed surveys were mailed to IDPH in the provided stamped envelope. Surveys were then transcribed into a digital format to be analyzed.



Many sidewalks are in need of maintenance, making pedestrian traffic nearly impossible

Community Survey

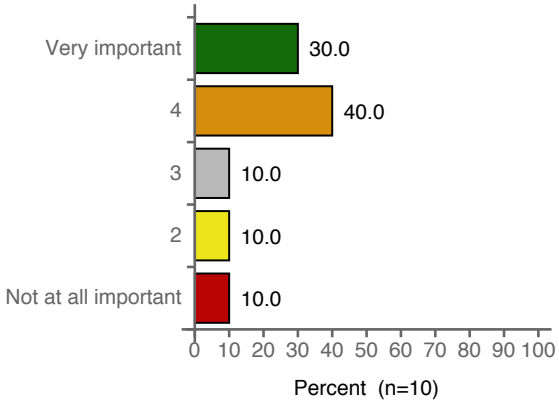
The purpose of the survey was to better understand how each respondent travels to and from community locales and what concerns, if any, they have about walking or biking to and from those identified locations.

There were four parts to this survey:

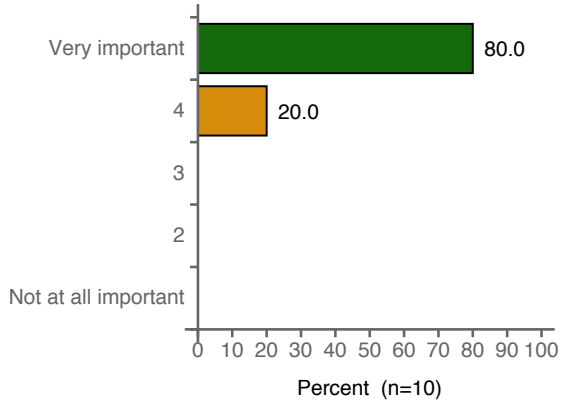
- Multiple choice survey questions
- Distance mapping between home and frequented locations
- Route mapping
- Barrier/opportunity mapping

7 surveys were completed and returned. The following graphs represent data collected from the survey completed by community residents. All survey responses were collected by the I-WALK program.

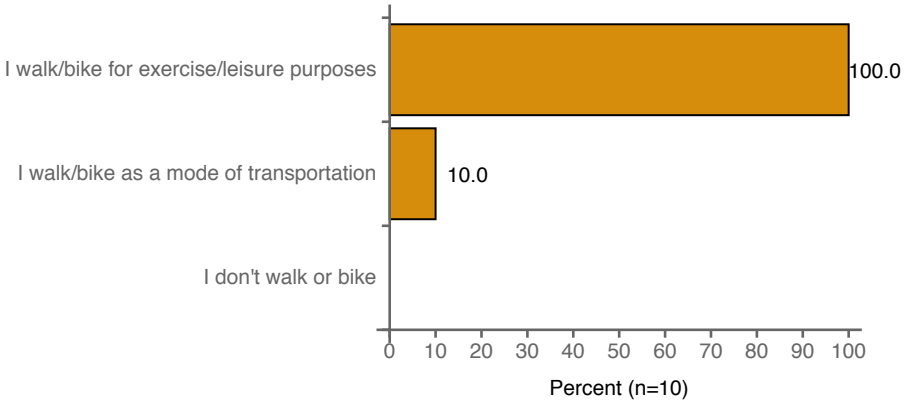
How important do you consider walking/biking as a form of transportation?



How important do you consider walking/biking as a form of physical activity/exercise?

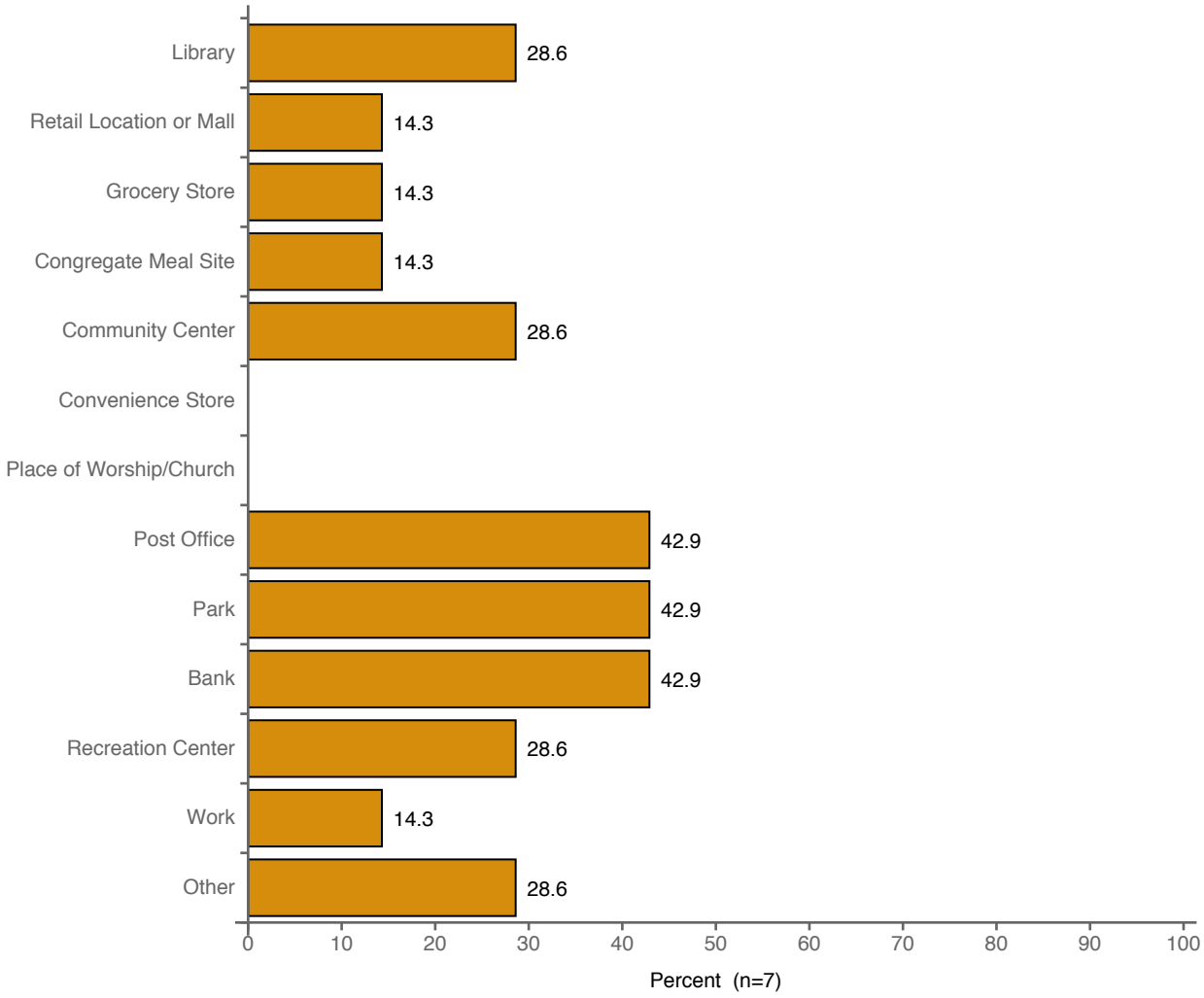


Check the statement that best describes your walking and biking habits.

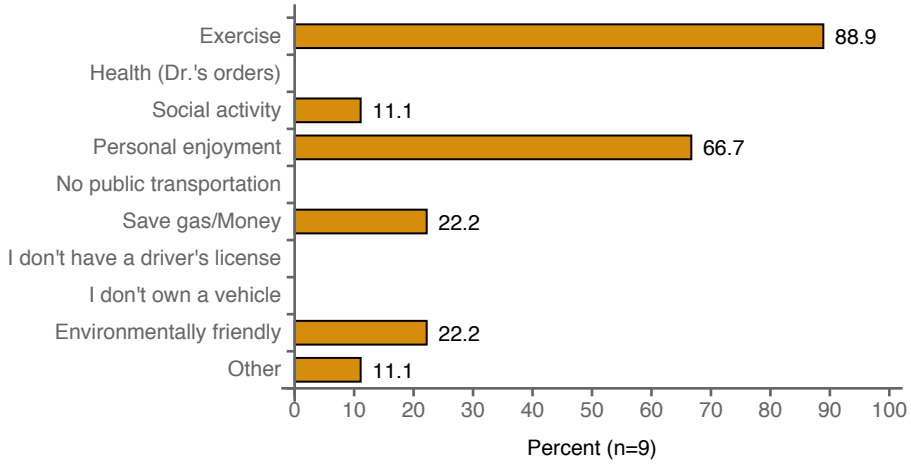


Community Survey

What type of community locations do you currently walk/bike to?

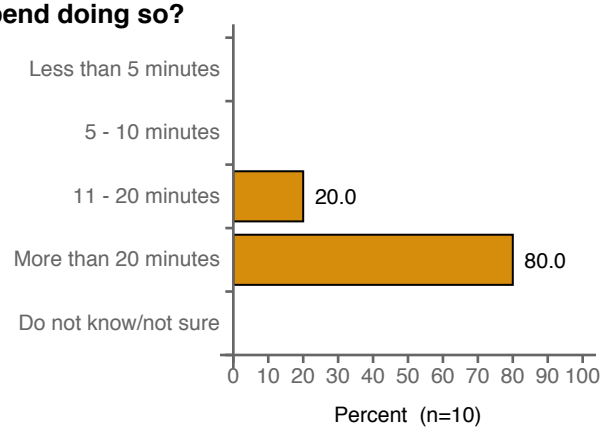


Why do you walk or bike to these locations?

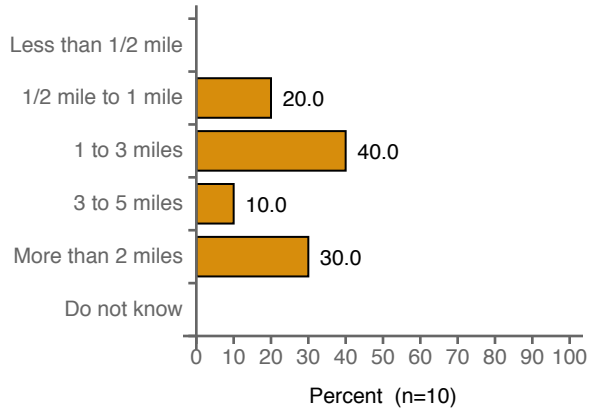


Community Survey

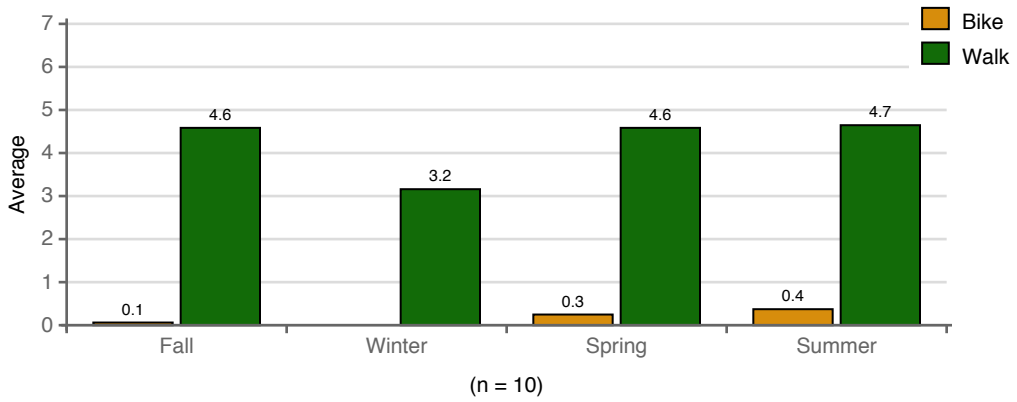
On days you walk/bike, how much time do you spend doing so?



On days you walk/bike, how far do you go?

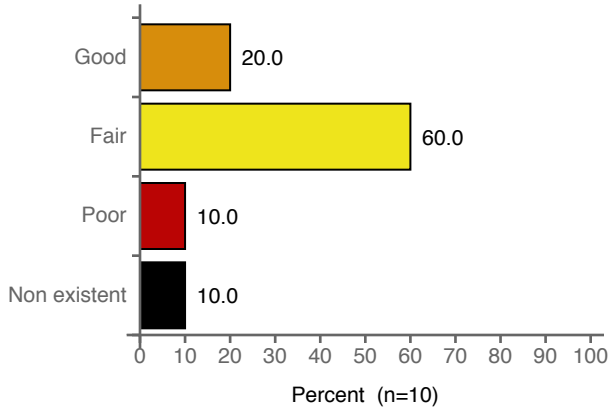


In a typical week during each season, how many DAYS PER WEEK do you walk or bike?

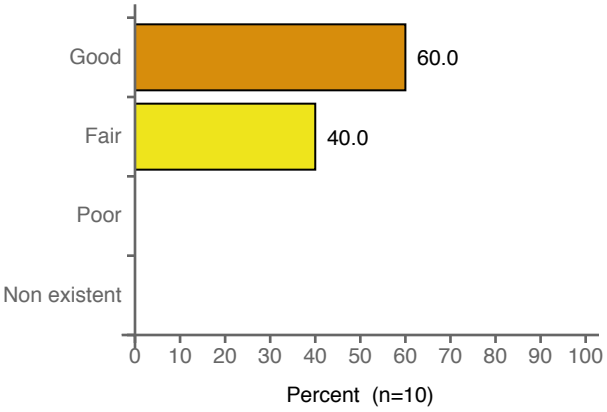


Rate the condition on your most used walking/biking route:

Condition of Sidewalks

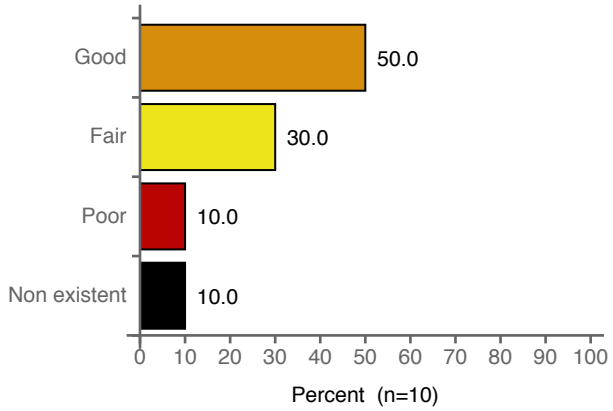


Street crossings/accessibility

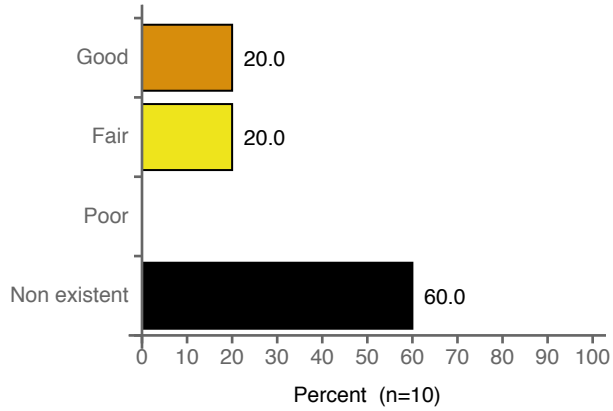


Community Survey

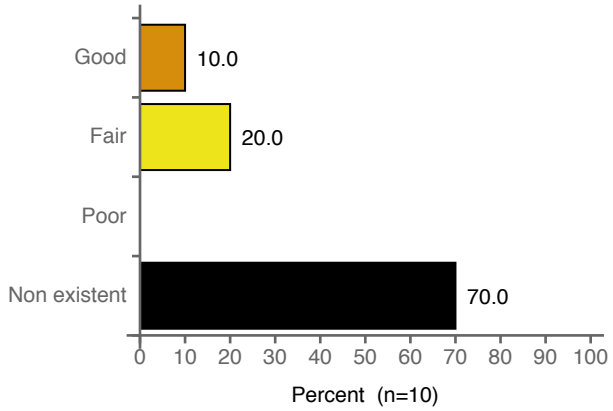
Traffic and driver behavior



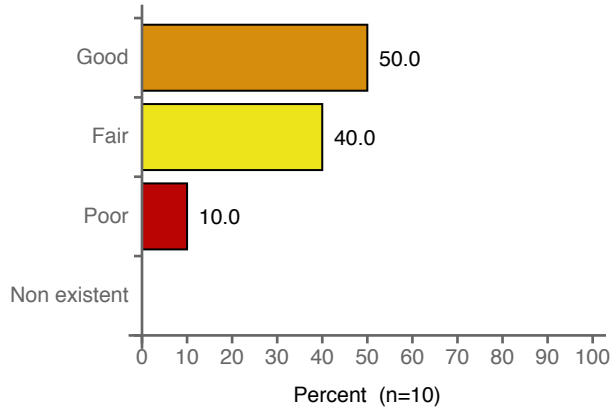
Public trail access



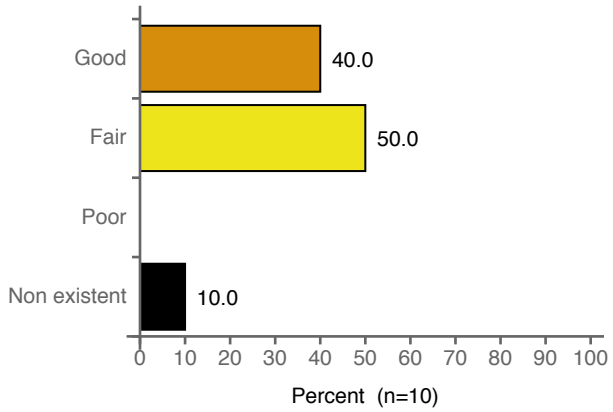
Public trail condition/ease of use



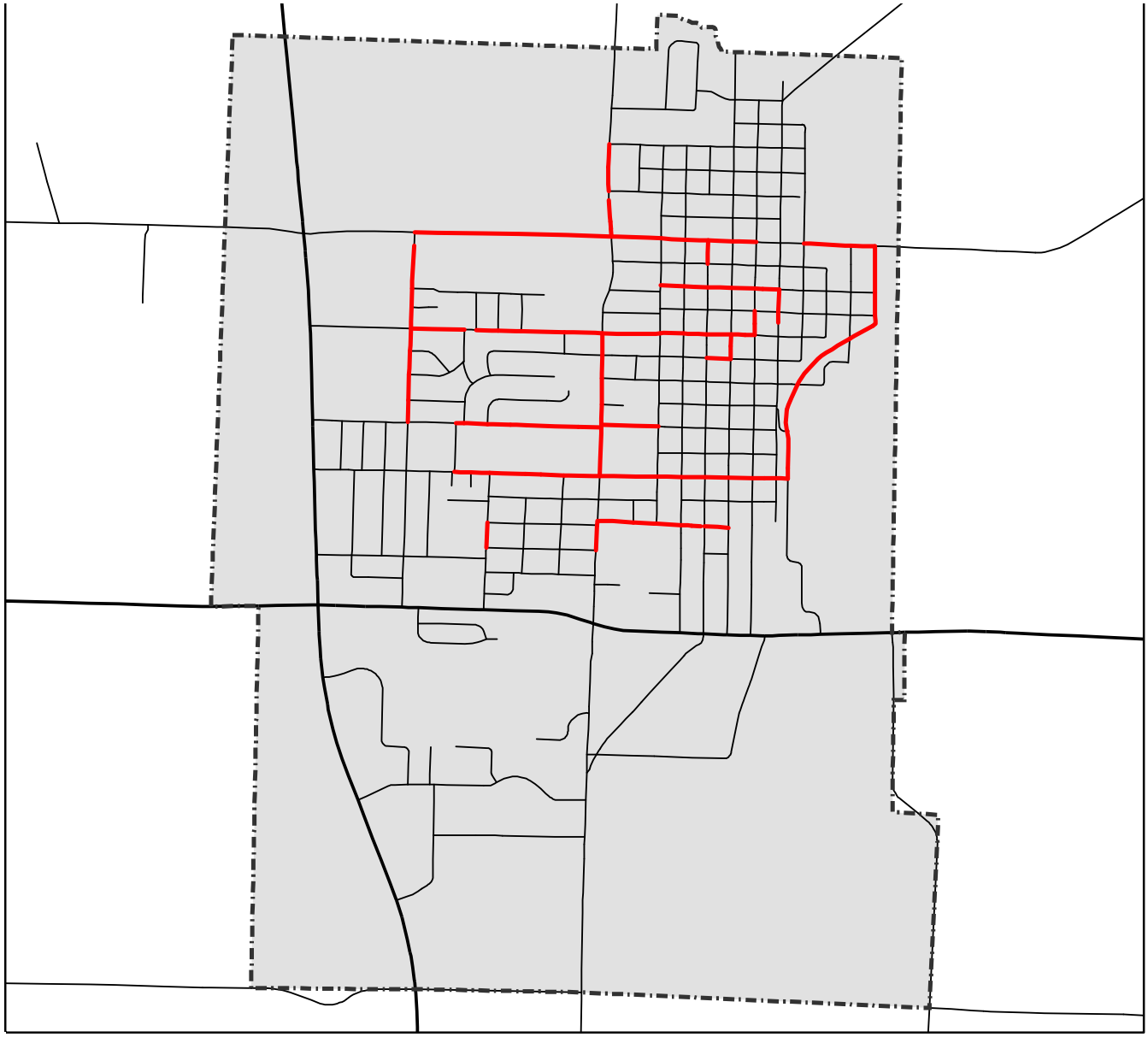
Safety



Visually appealing to walk/bike



Community Survey - Most Frequent Routes



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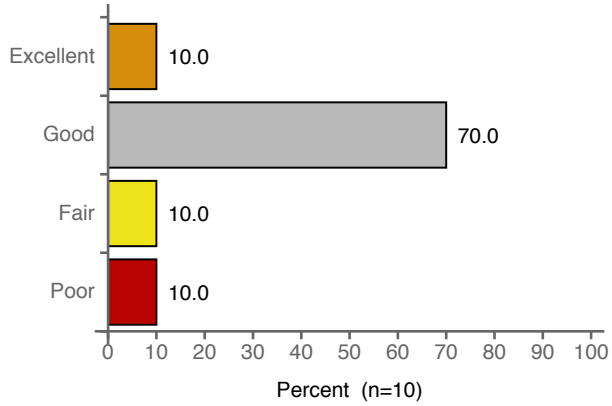
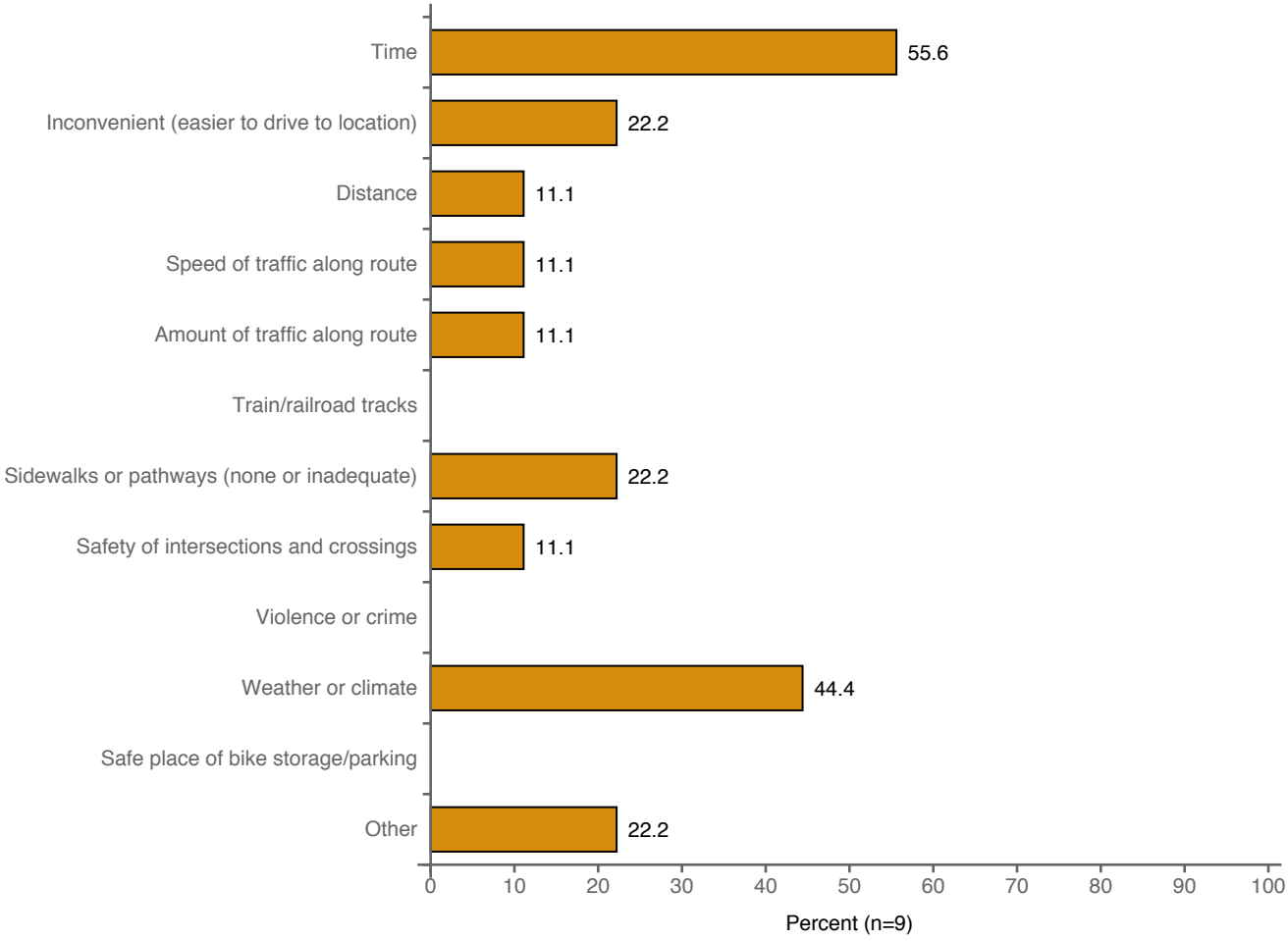
0 0.25 0.5 1 Miles

Overall rating of walkability/bikeability of your most frequented route

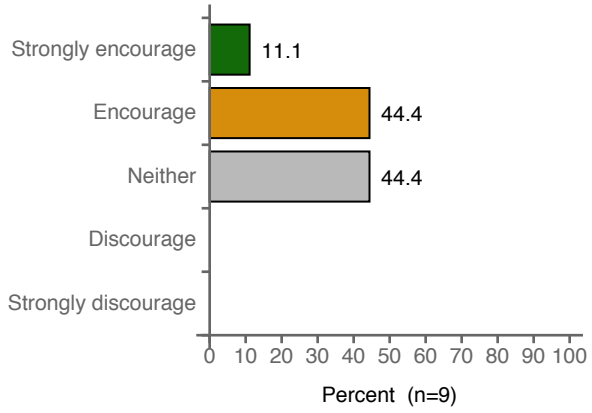


Community Survey

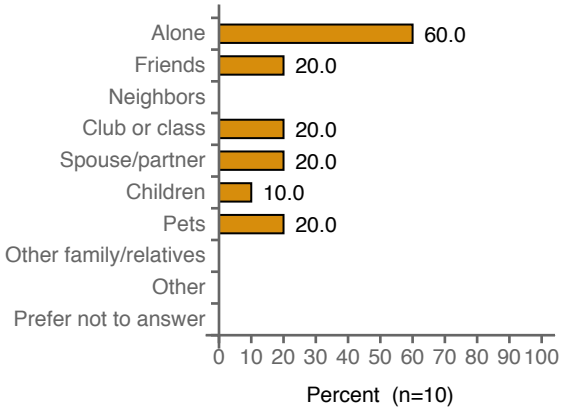
Which of the following keep you from walking or biking more often?



In your opinion, how much does your community encourage walking and/or biking?

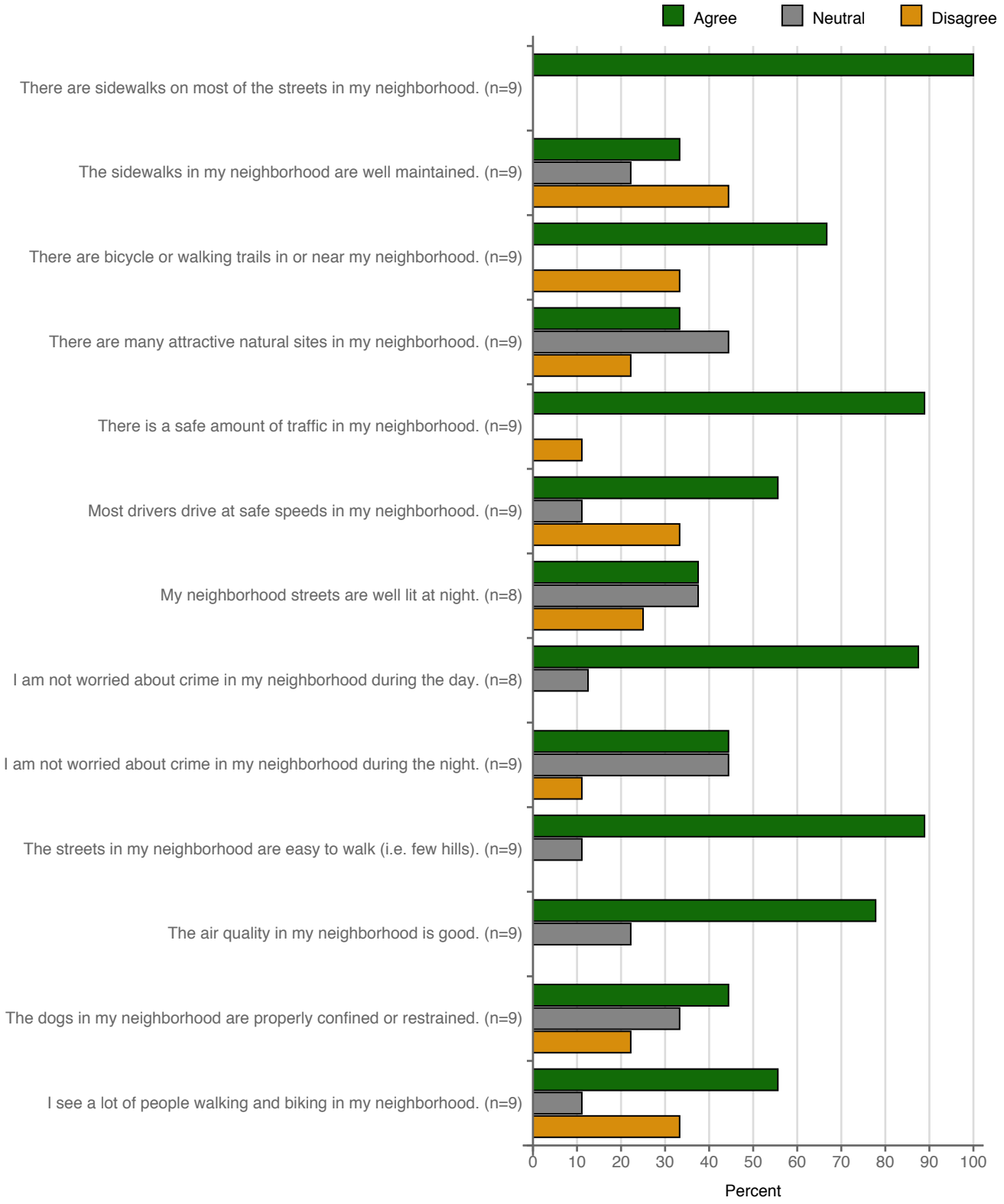


With whom do you walk most of the time?



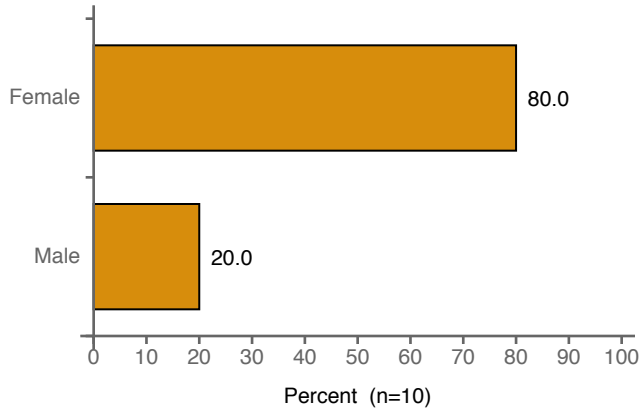
Community Survey

Indicate which of the following best applies to you and your neighborhood.

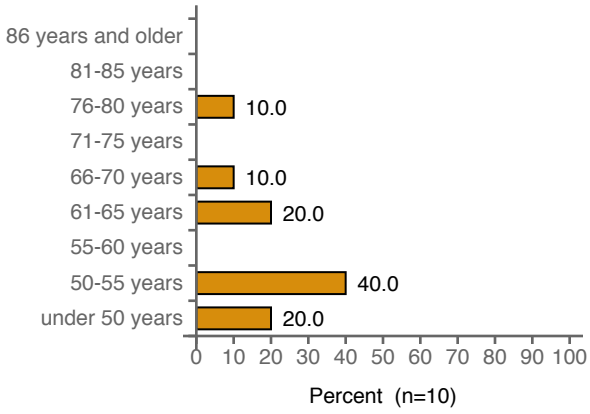


Community Survey

What is your gender?



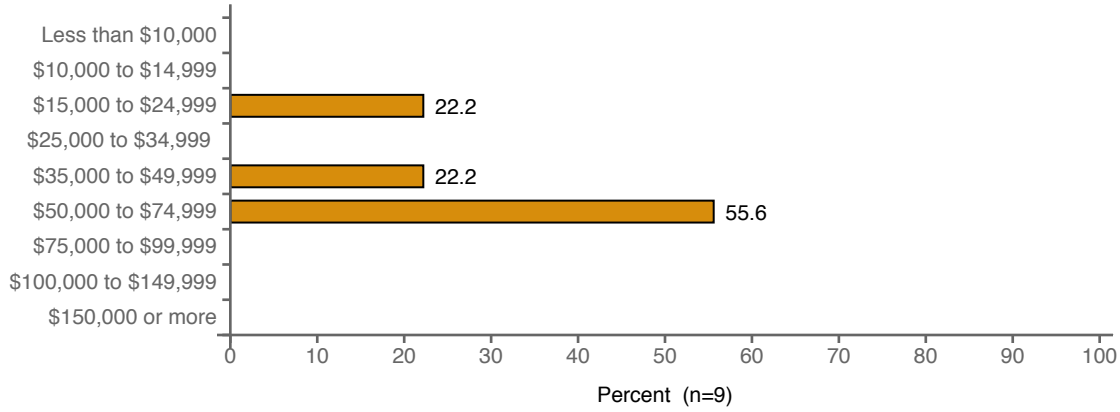
What is your age range?



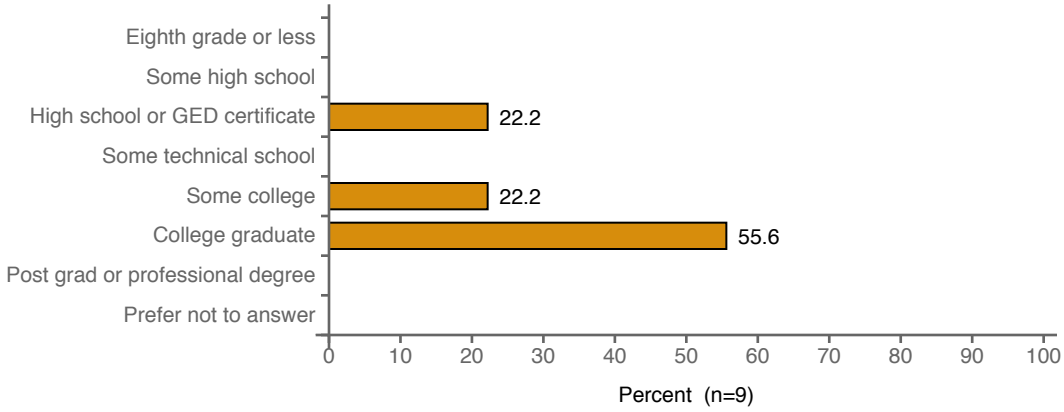
How many individuals reside in your home?
average: 2.10

Number of people under 18 residing in your home
average: 0.30

Within what range is your total annual household income?

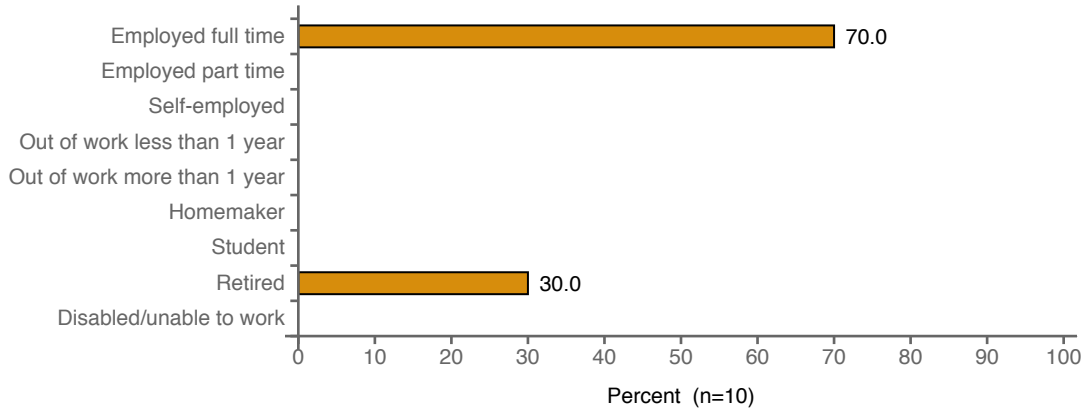


What is the highest grade or year of school you completed?

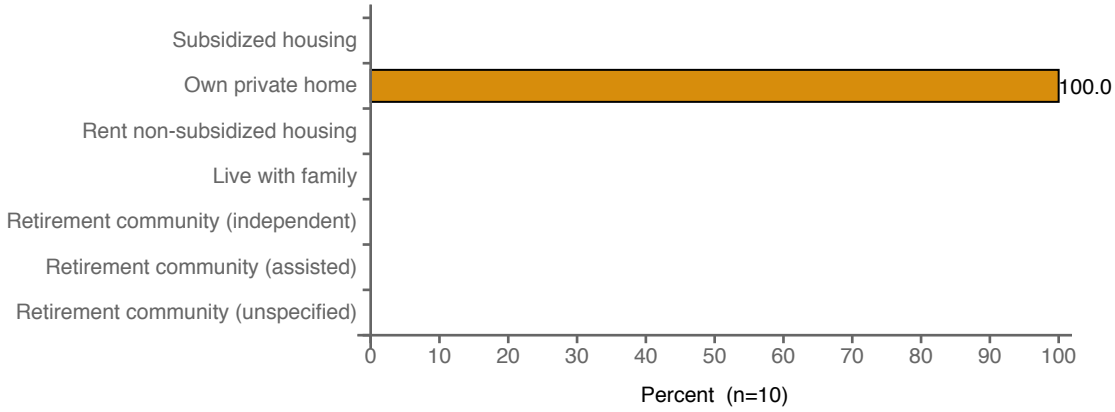


Community Survey

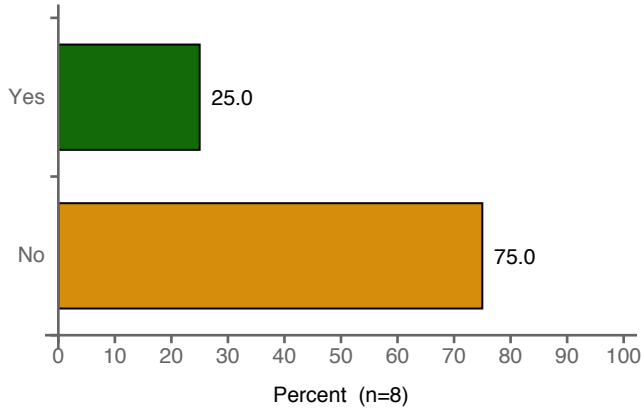
Are you currently?



What is your current housing situation?

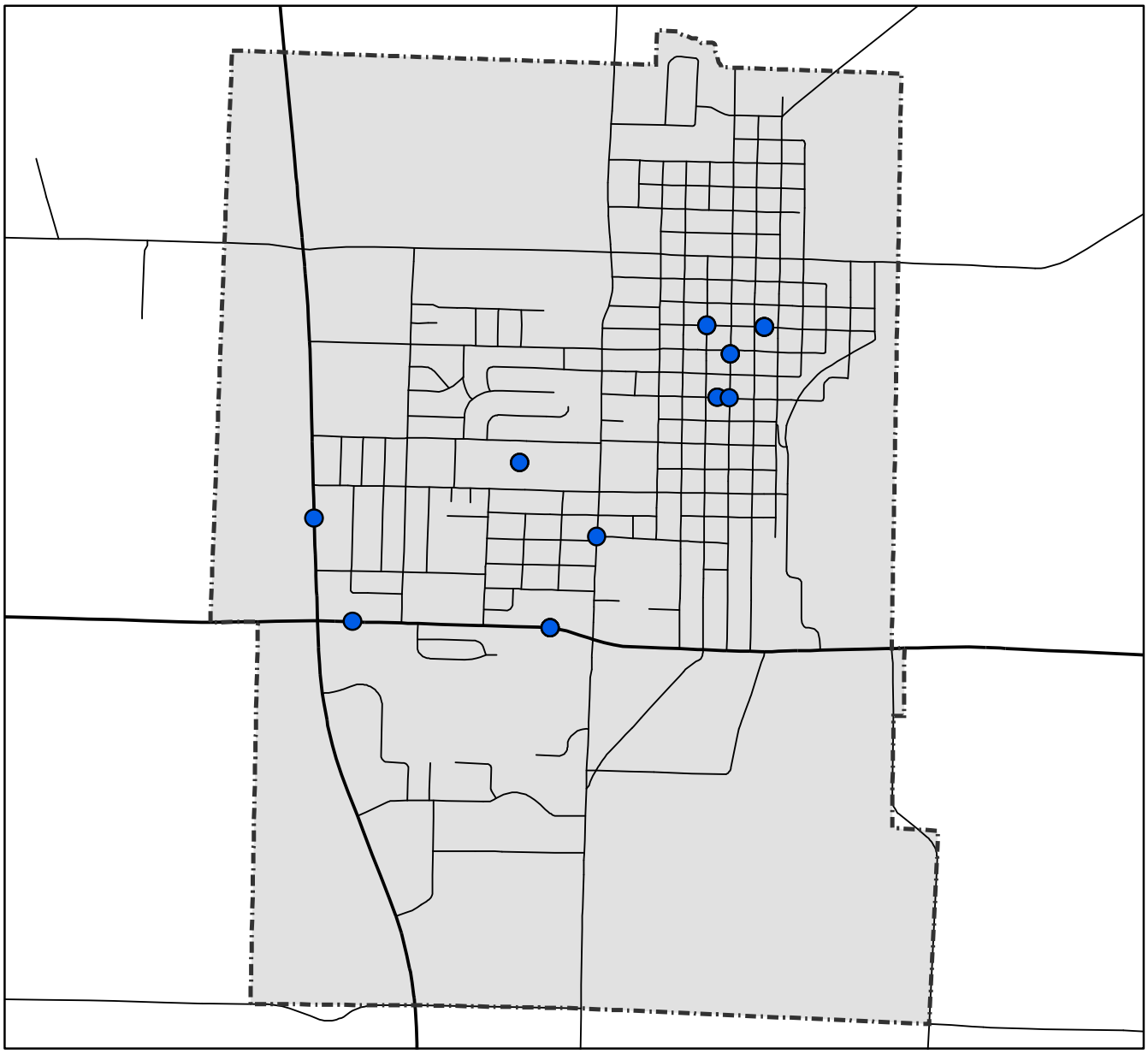


I would like to participate in a walking assessment of our community.



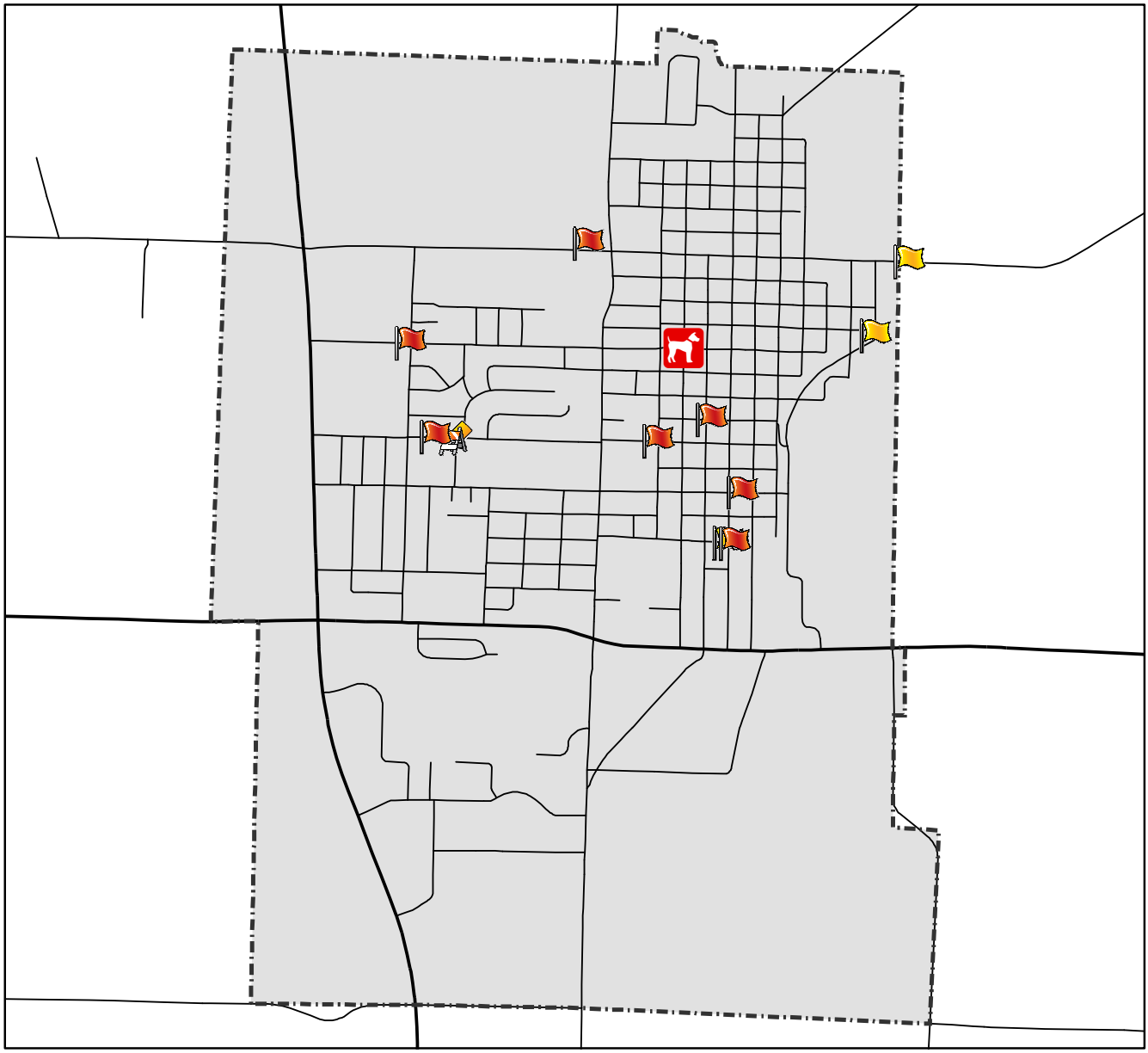
Community Survey - Frequent destinations

The density map below illustrates (dark blue) the locations identified most often by respondents as locations to which they walk or bike.



Community Survey - Sidewalk Trail

The map below illustrates locations that respondents indentified as barriers that hinder sidewalk traffic.



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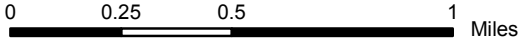
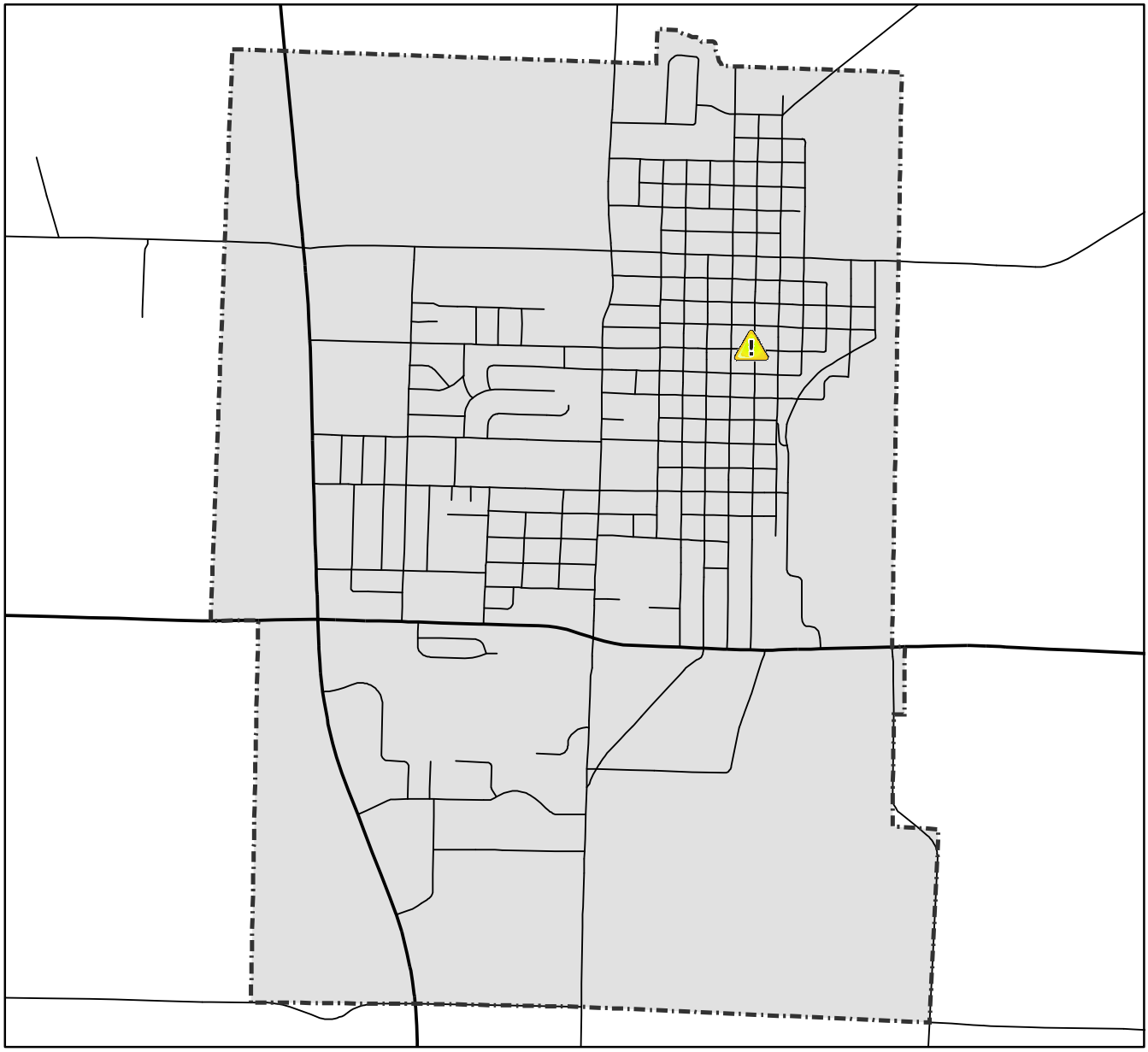


Community Survey - Vehicular Traffic

Respondents identified locations where they notice traffic issues.



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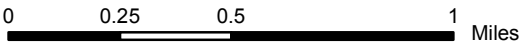
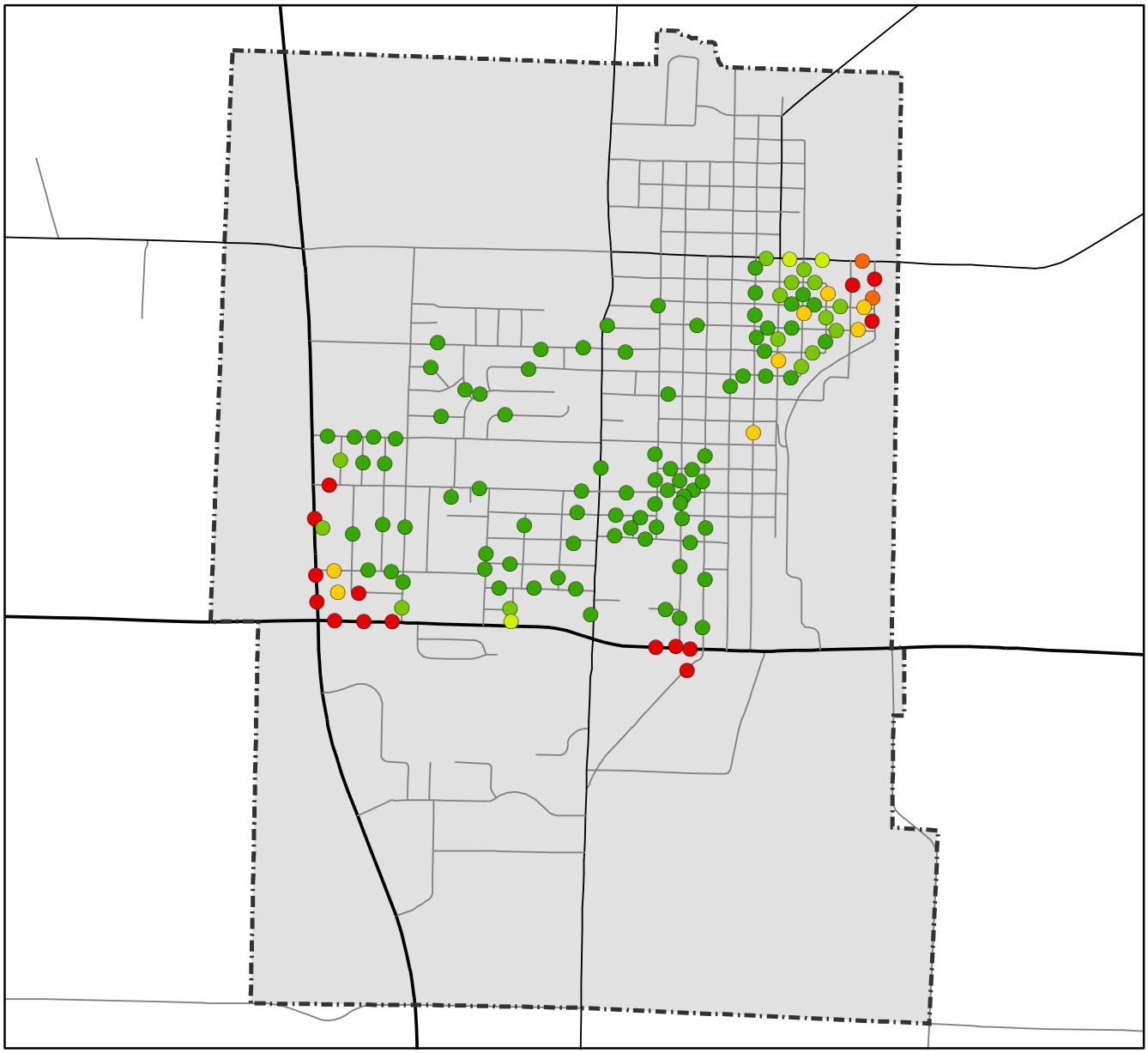


- Speeding Traffic
- Driver Behavior
- Heavy Traffic
- Parking
- Difficult Crossing
- Dangerous Intersection

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.



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W E
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October 2014

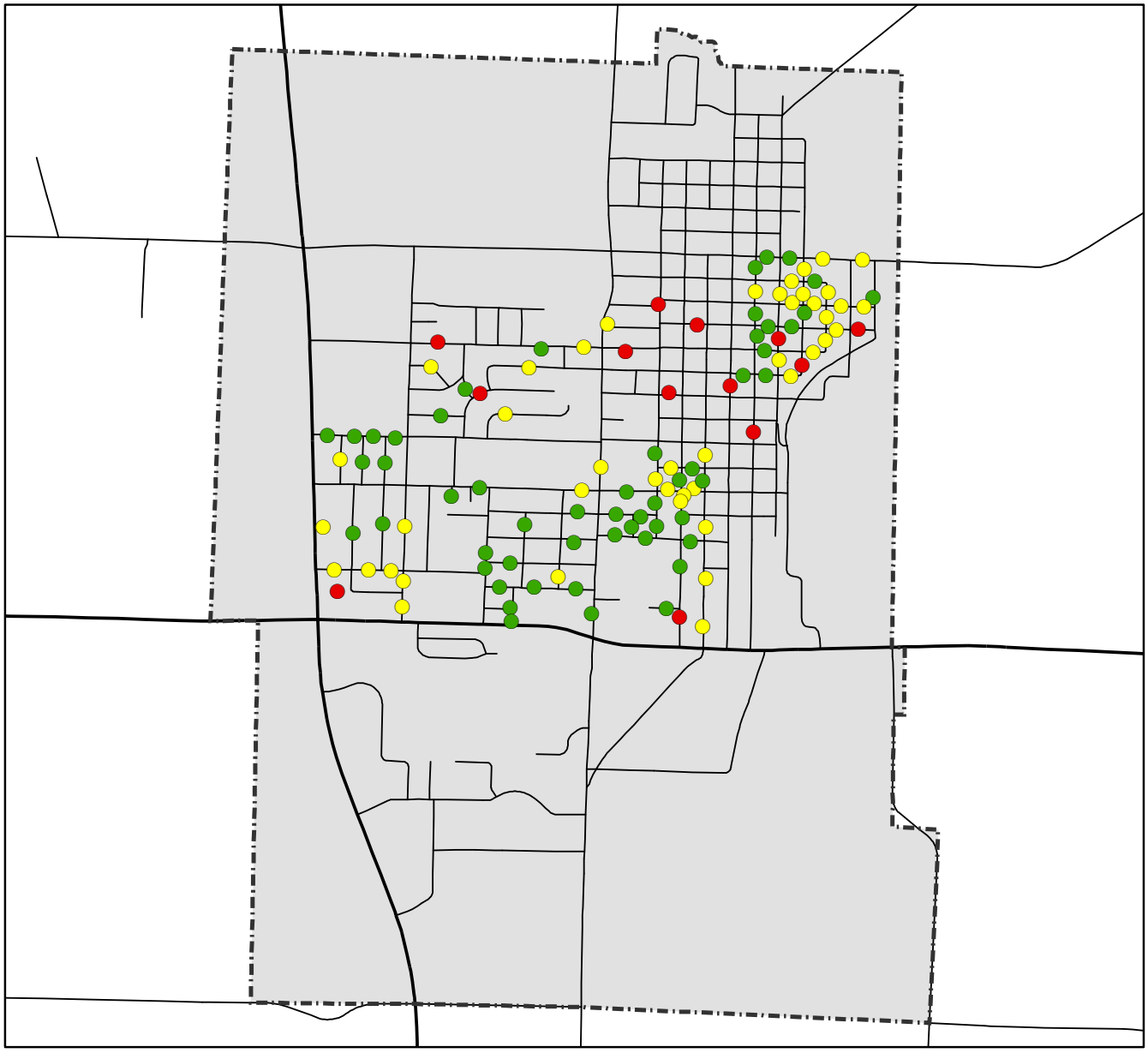
0 0.25 0.5 1 Miles

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

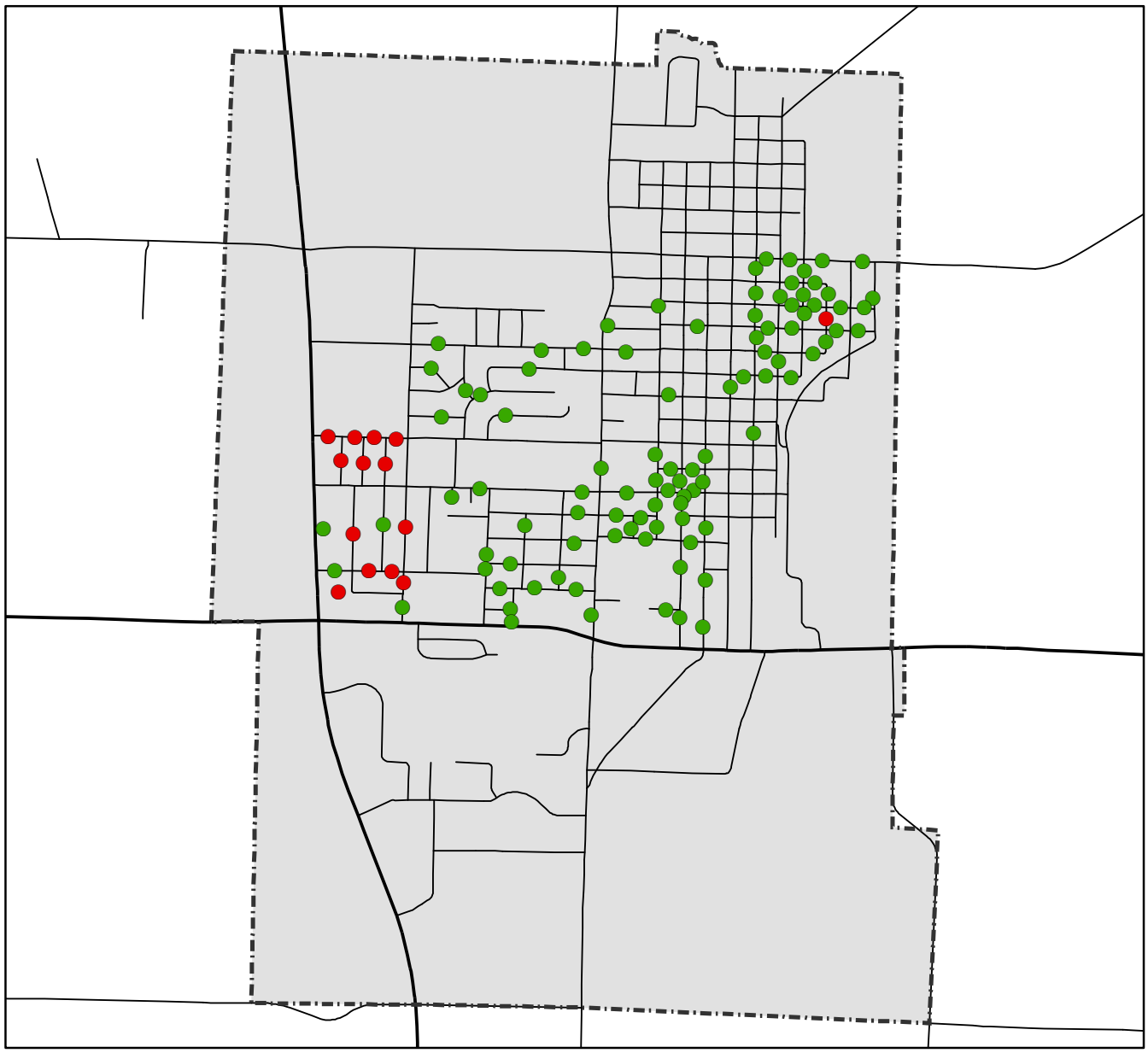
Sidewalk Conditions

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



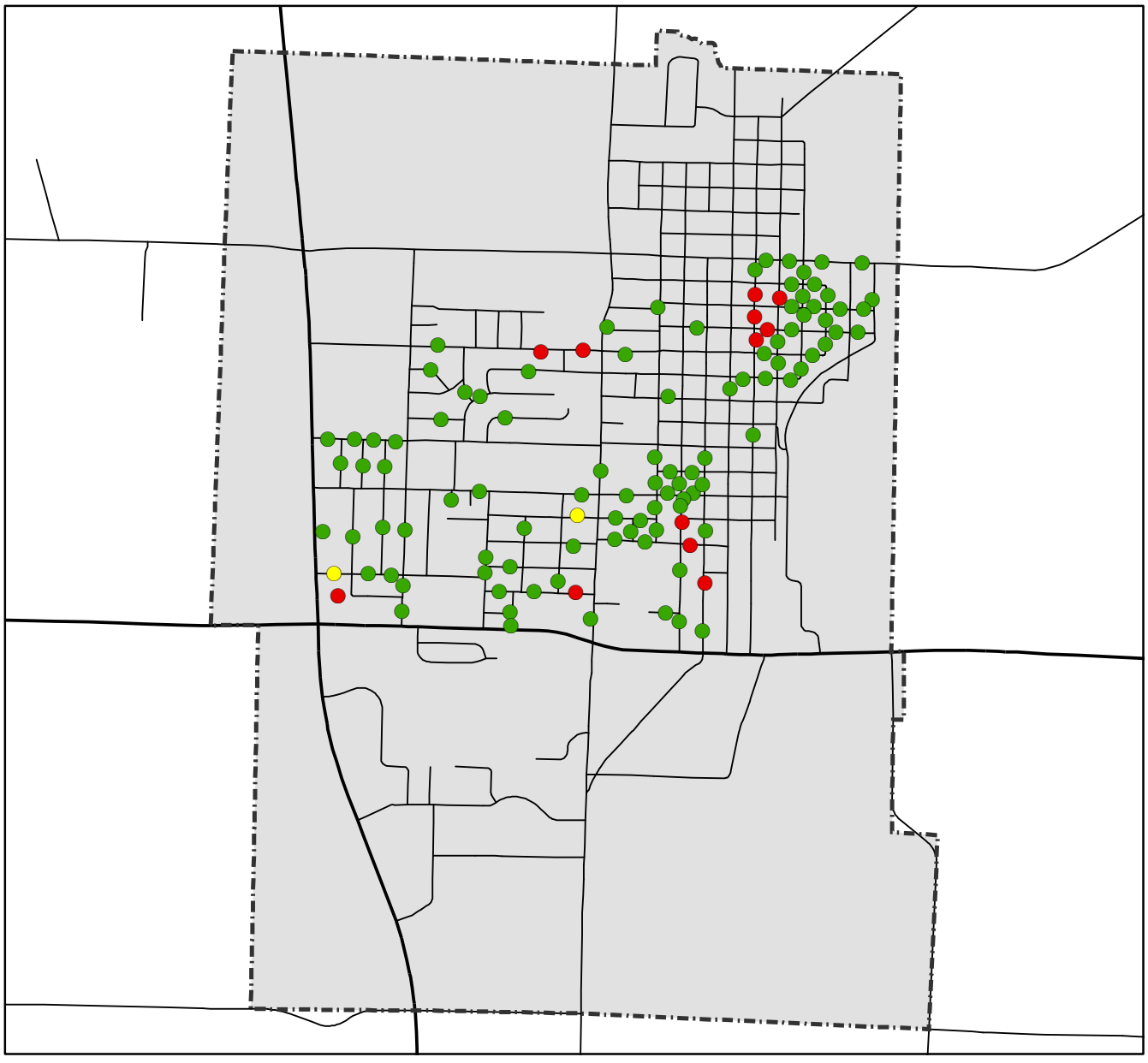
Sidewalk Width

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



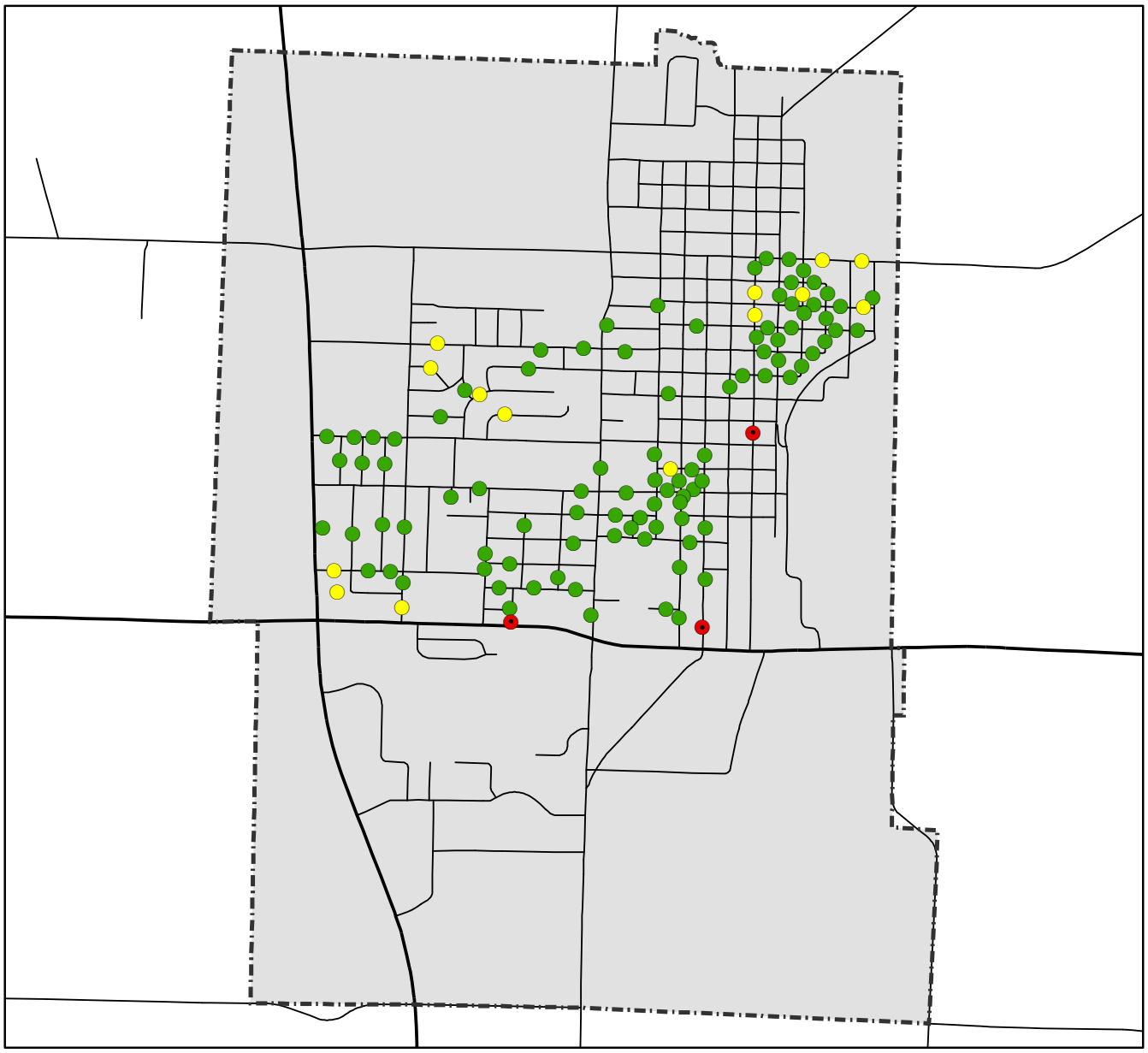
Sidewalk Setbacks

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



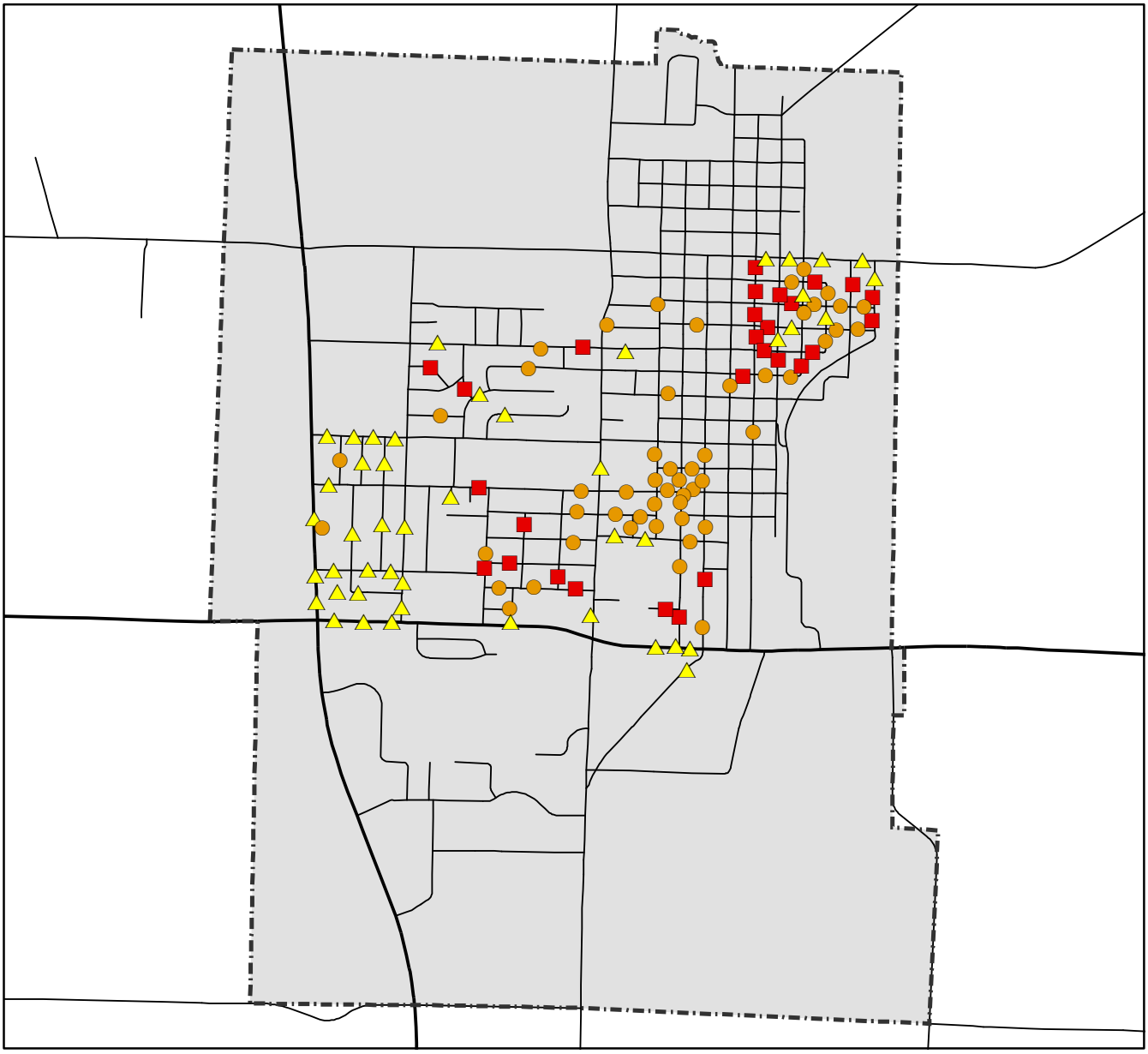
Pleasant Routes

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



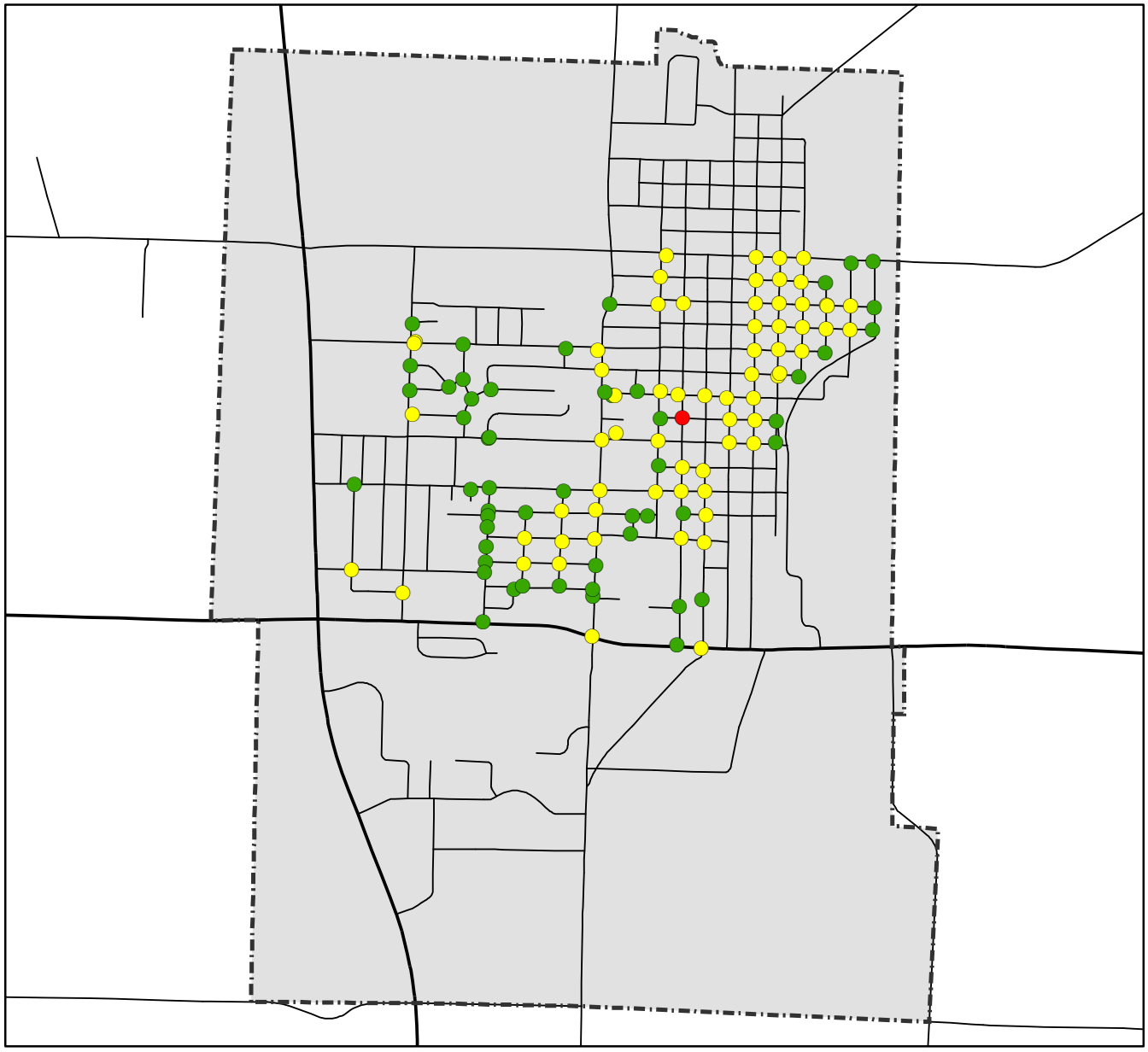
Parking

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



Intersection Type

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



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Fall 2014

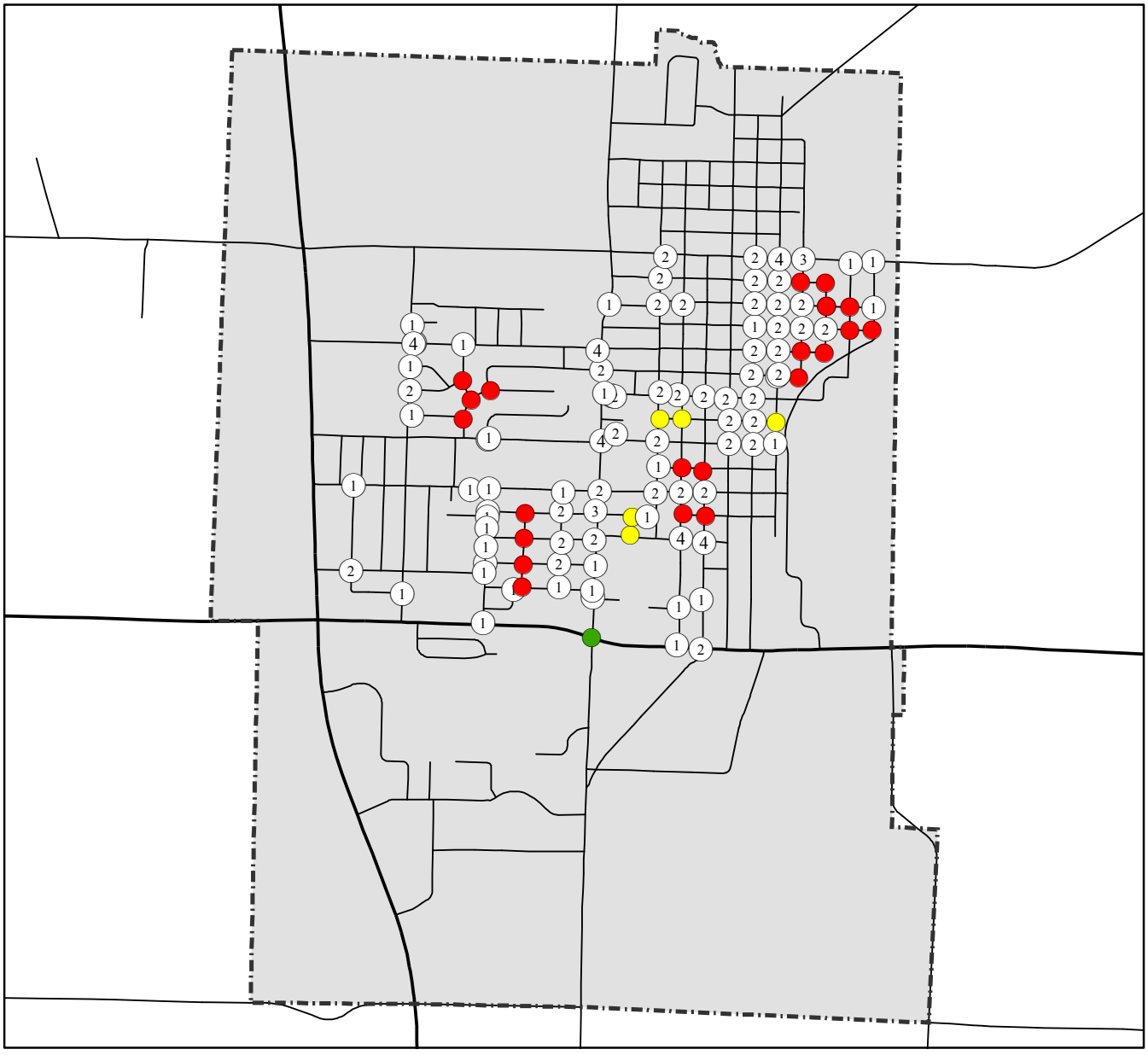
What type of intersection is this?

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

0 0.25 0.5 1 Miles

Traffic Control

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



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0 0.25 0.5 1 Miles

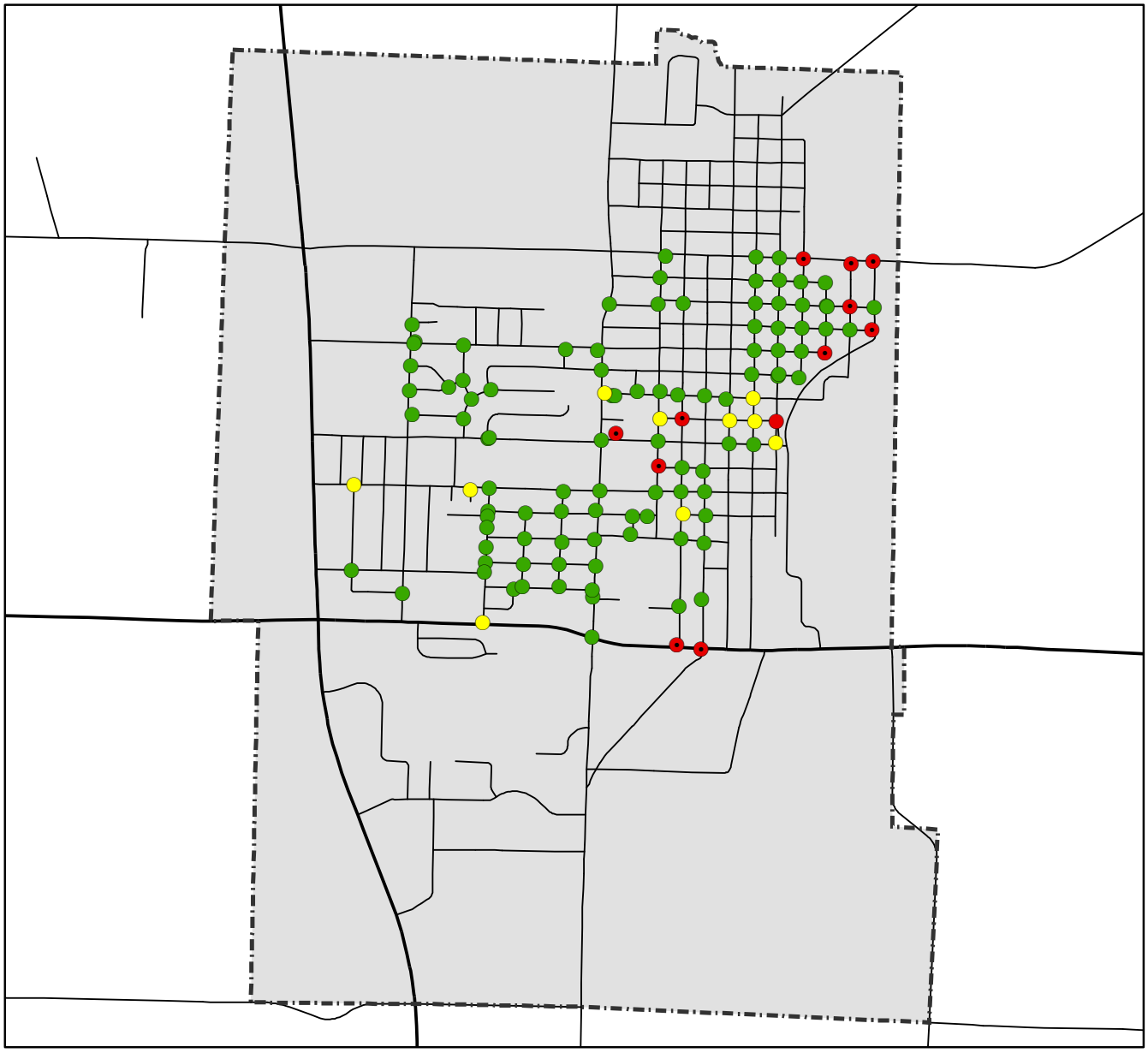
How is traffic controlled at this intersection?

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

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

Intersection Safety

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



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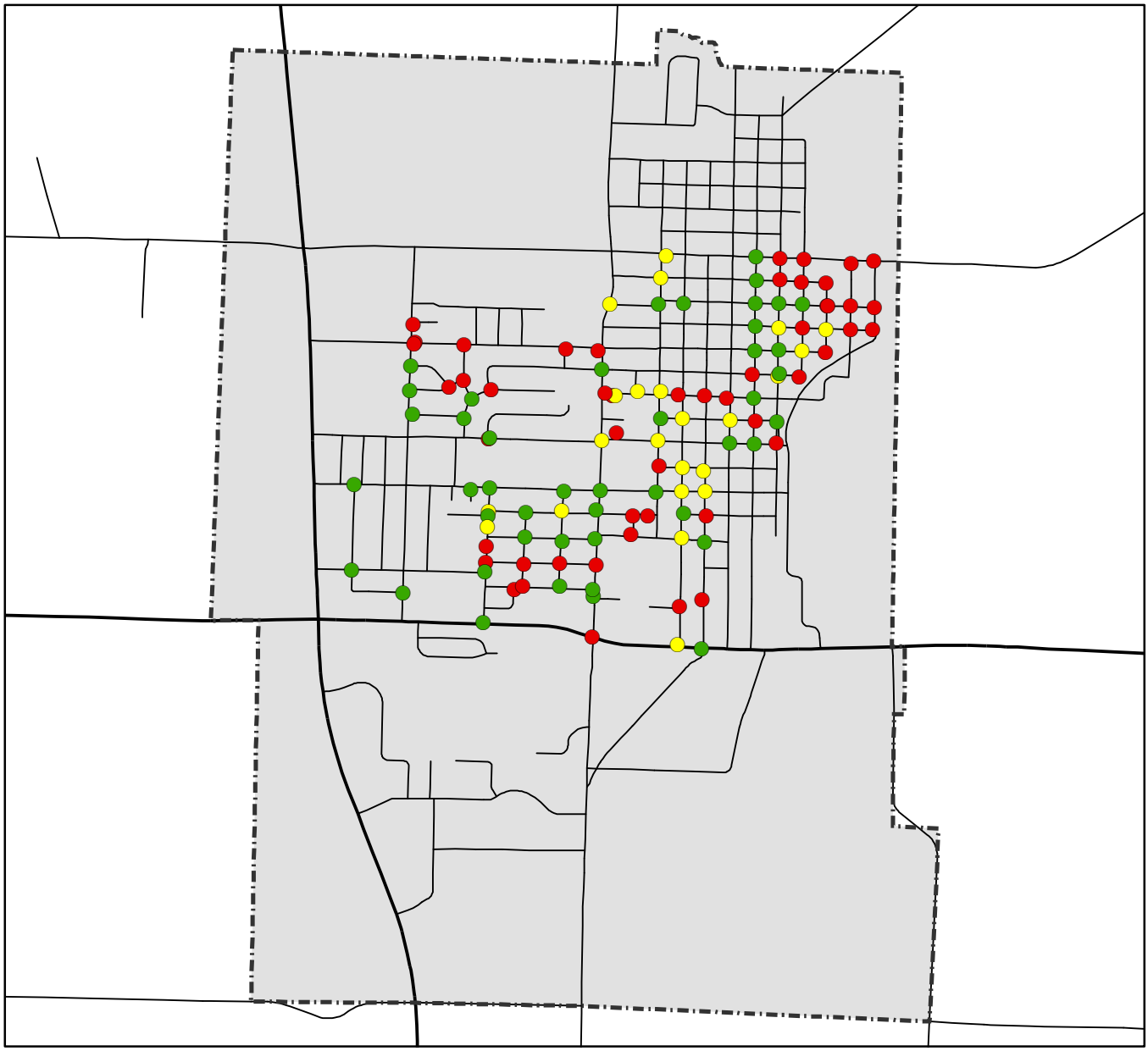
0 0.25 0.5 1 Miles

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

- yes
- no
- unsure
- Comment

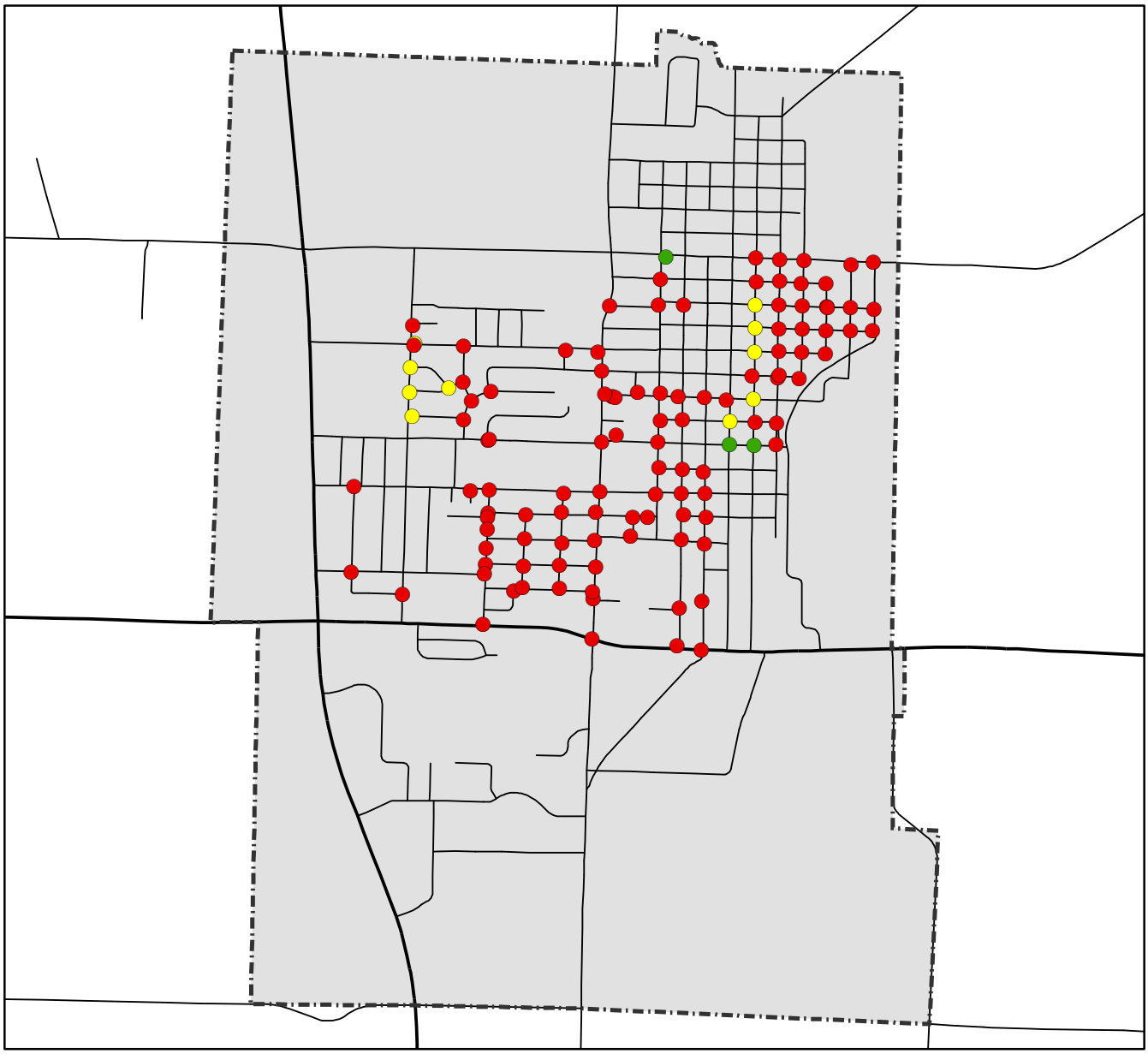
Intersection Curb Cuts

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.



Painted Crosswalks

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



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Fall 2014

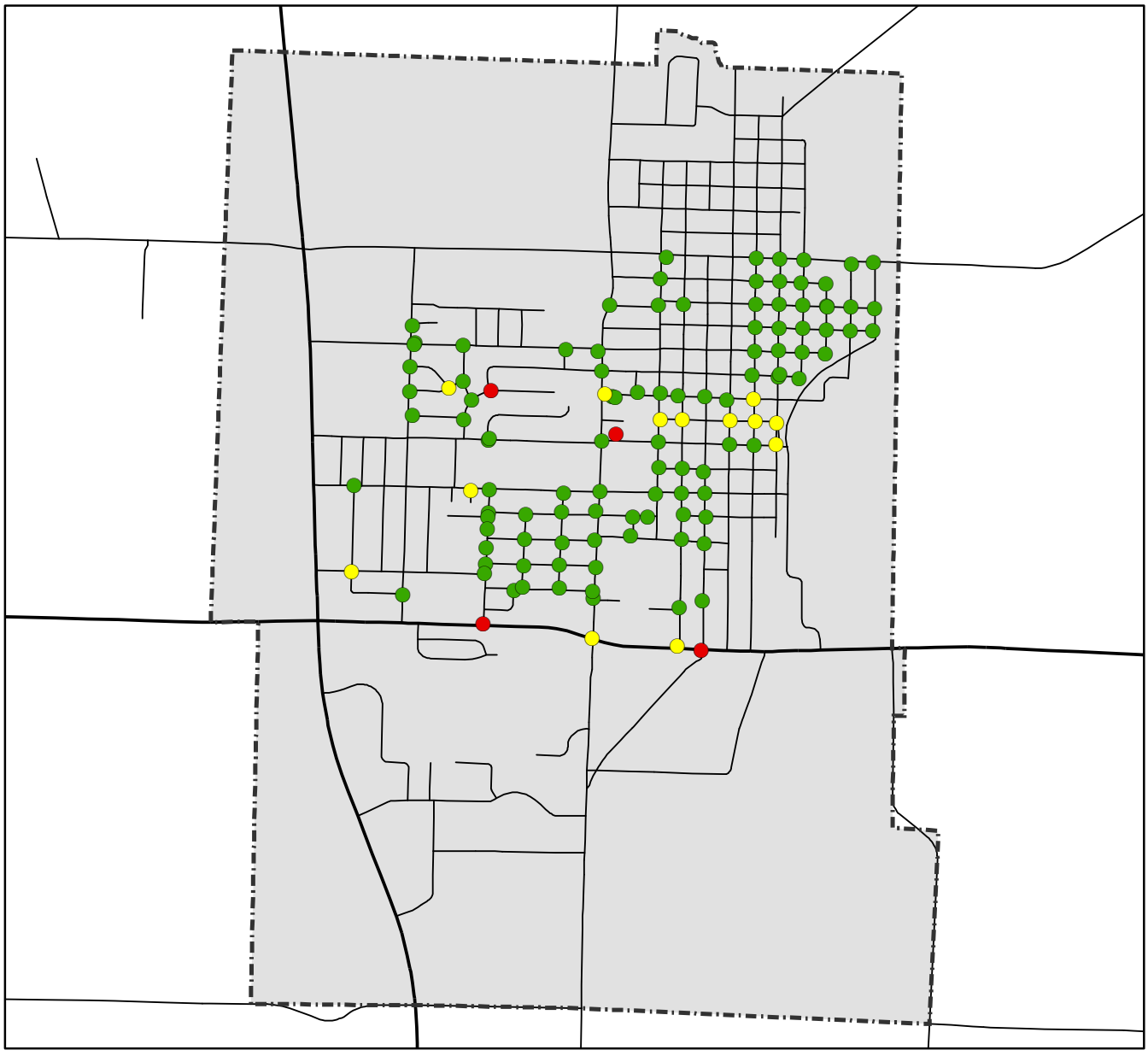
0 0.25 0.5 1 Miles

How many painted crosswalks at an intersection?

- all
- some
- none

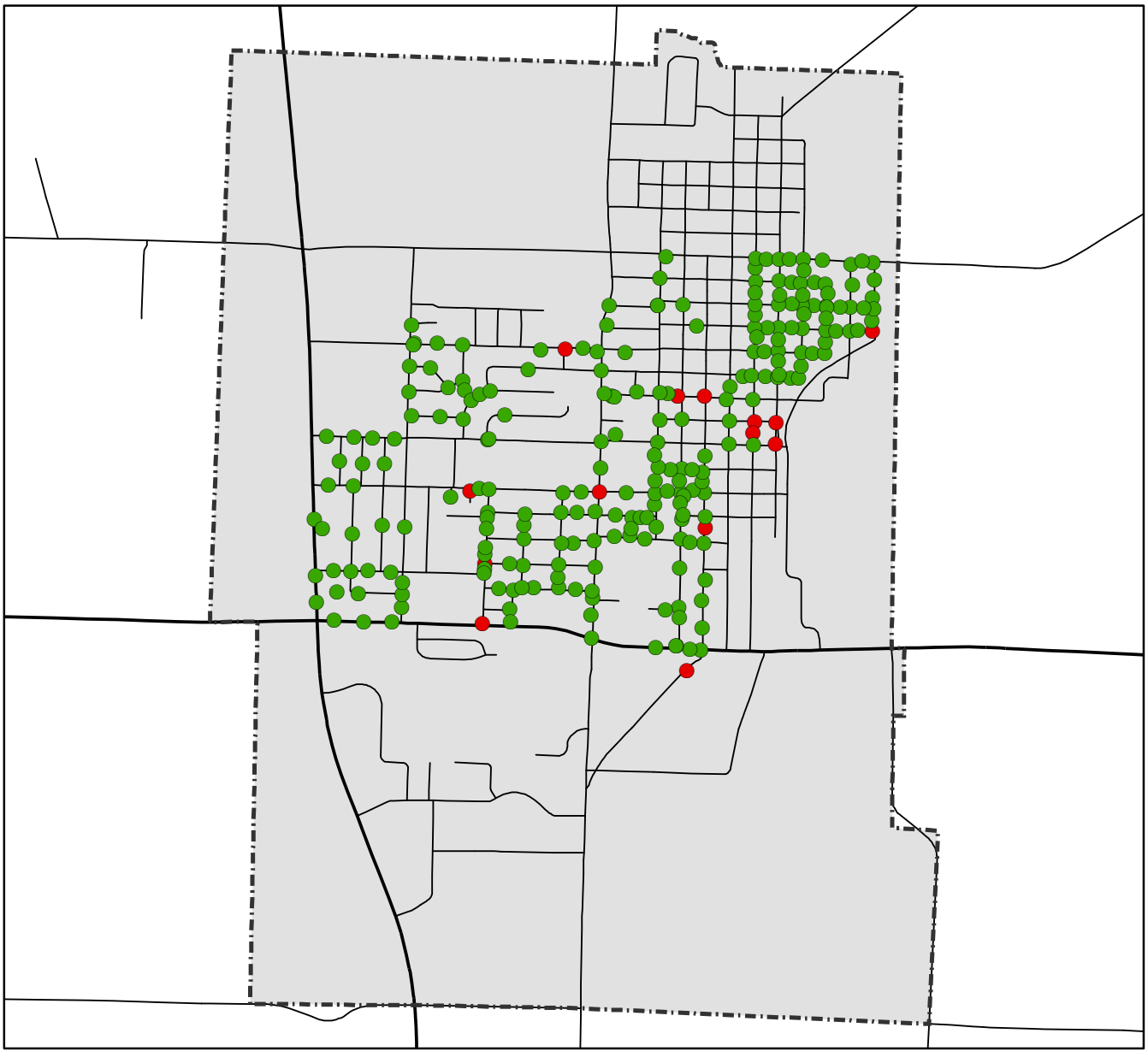
Crossing Time

Using the iPhone devices, volunteers identified intersections where the data collector did not consider there to be sufficient time to cross the street safely.



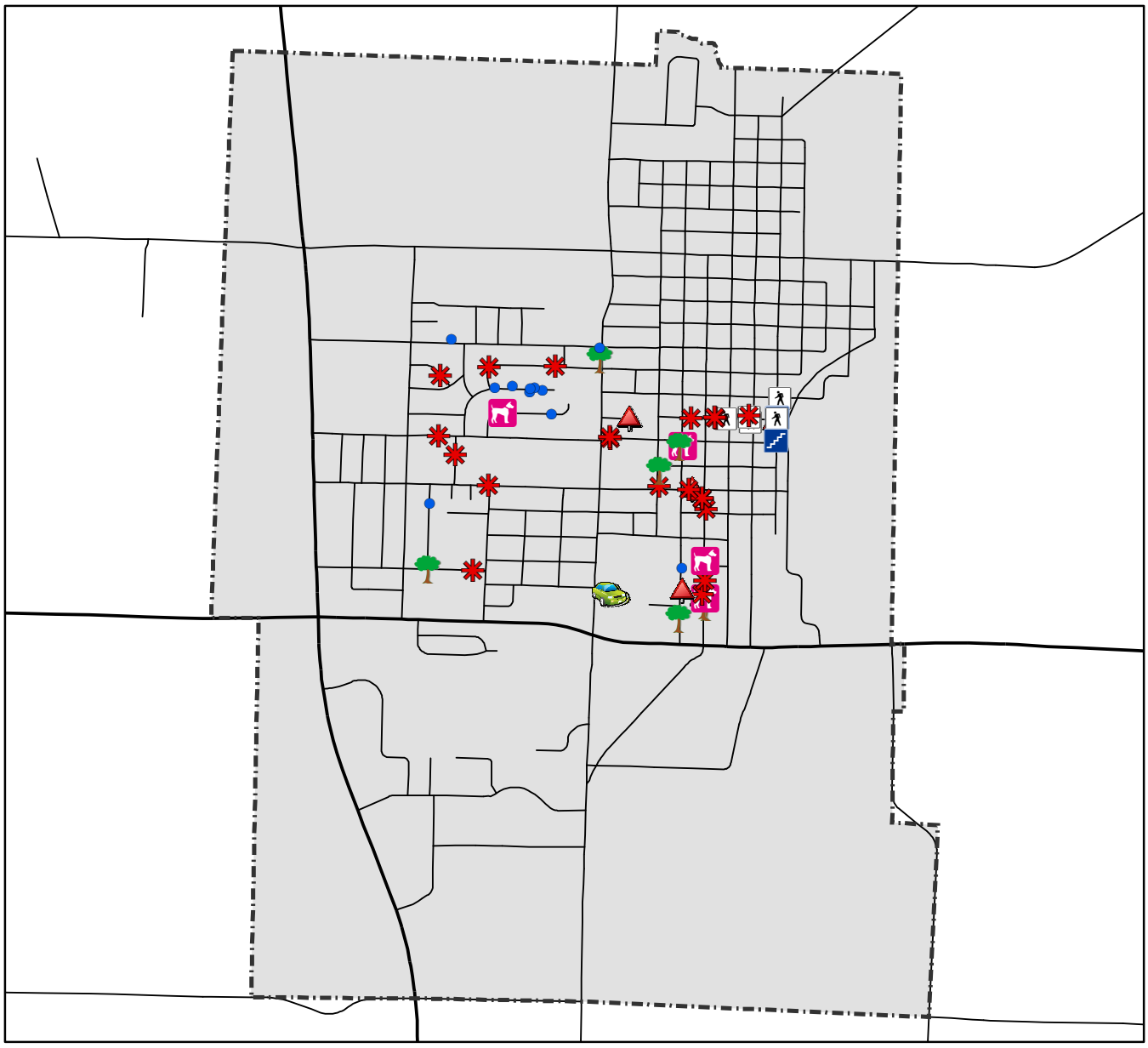
Visual Barriers for Traffic

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.



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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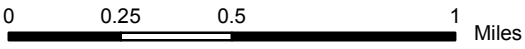
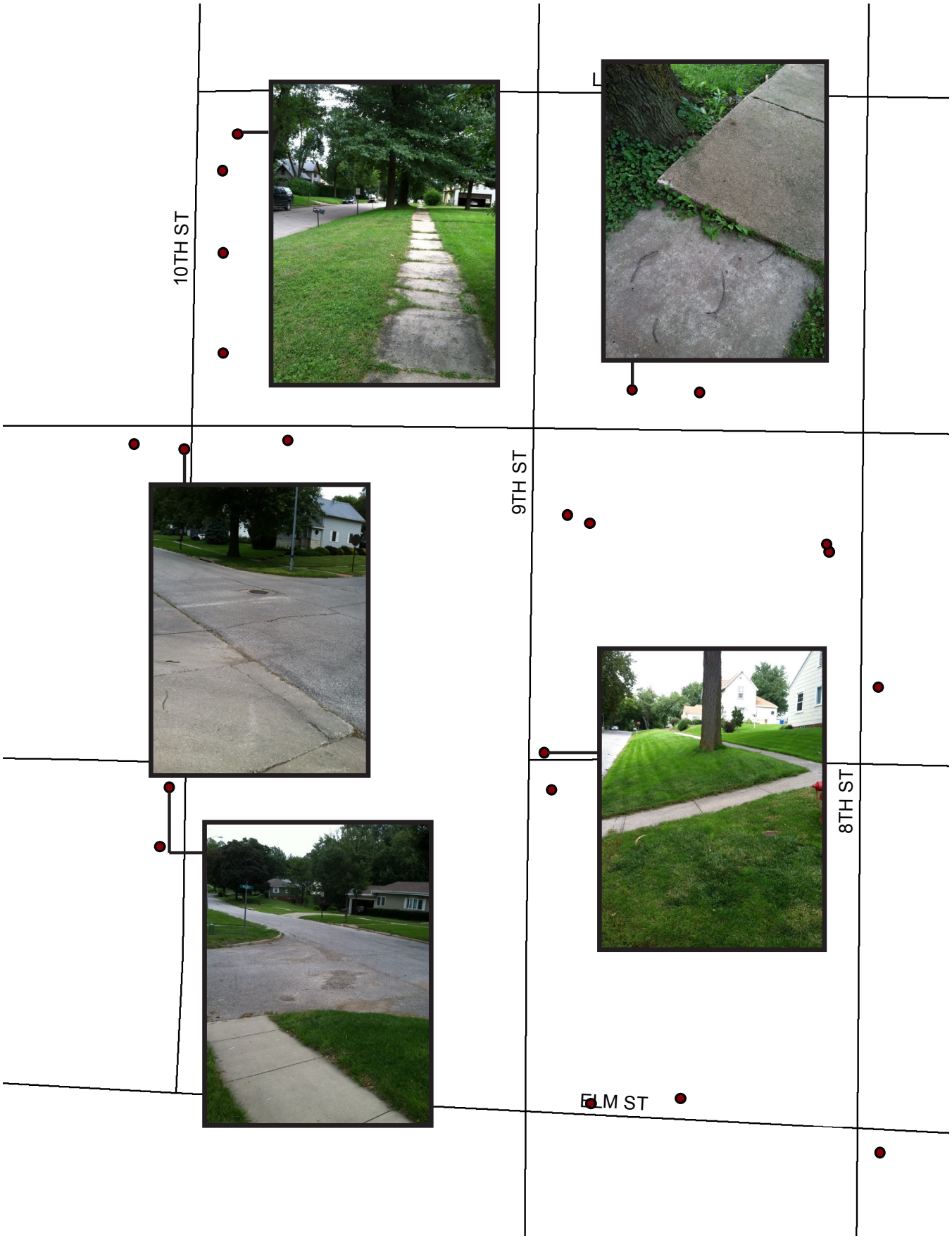


Additional Features

- 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

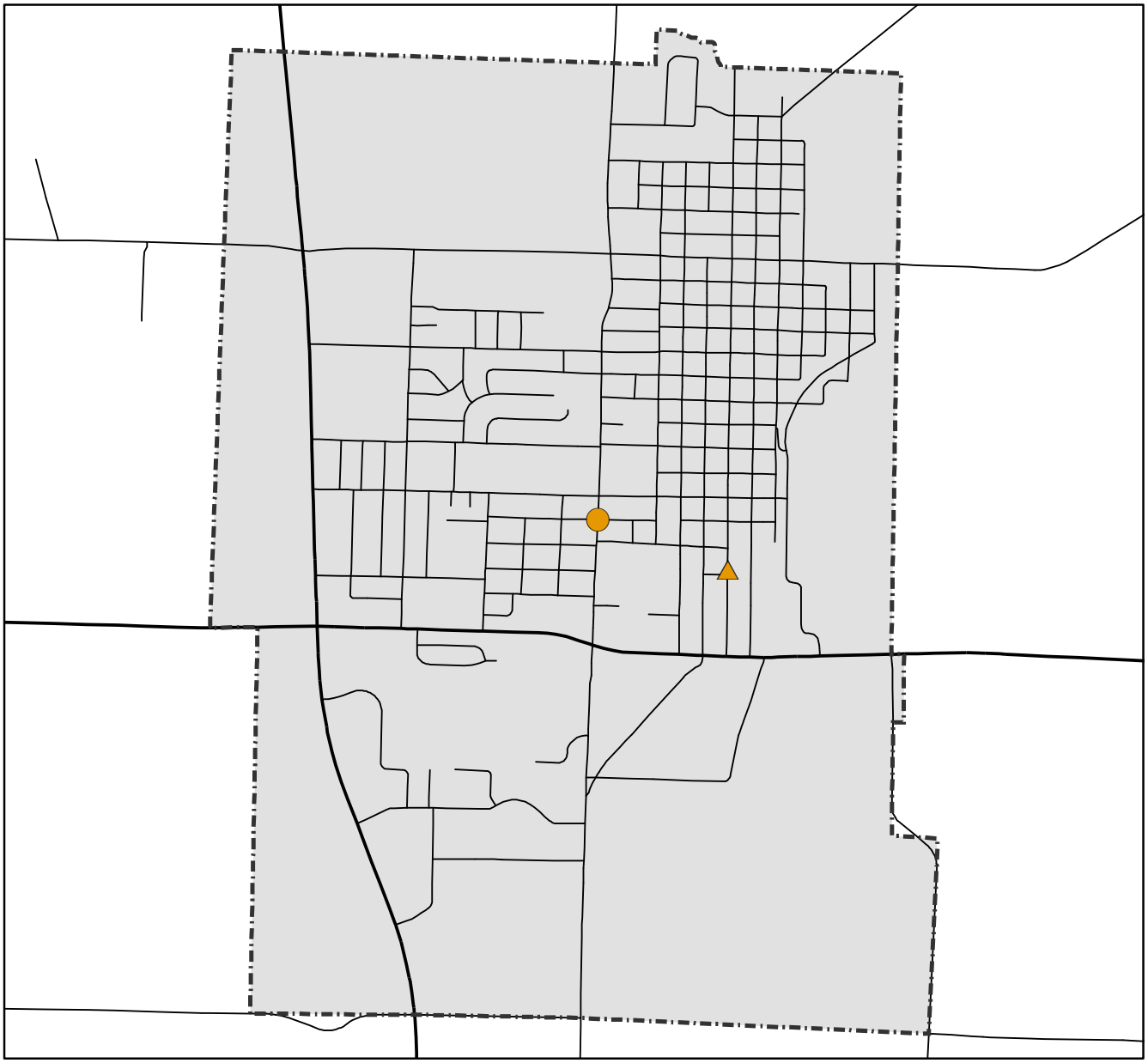
Community Mapping Workshop



Community Mapping Workshop

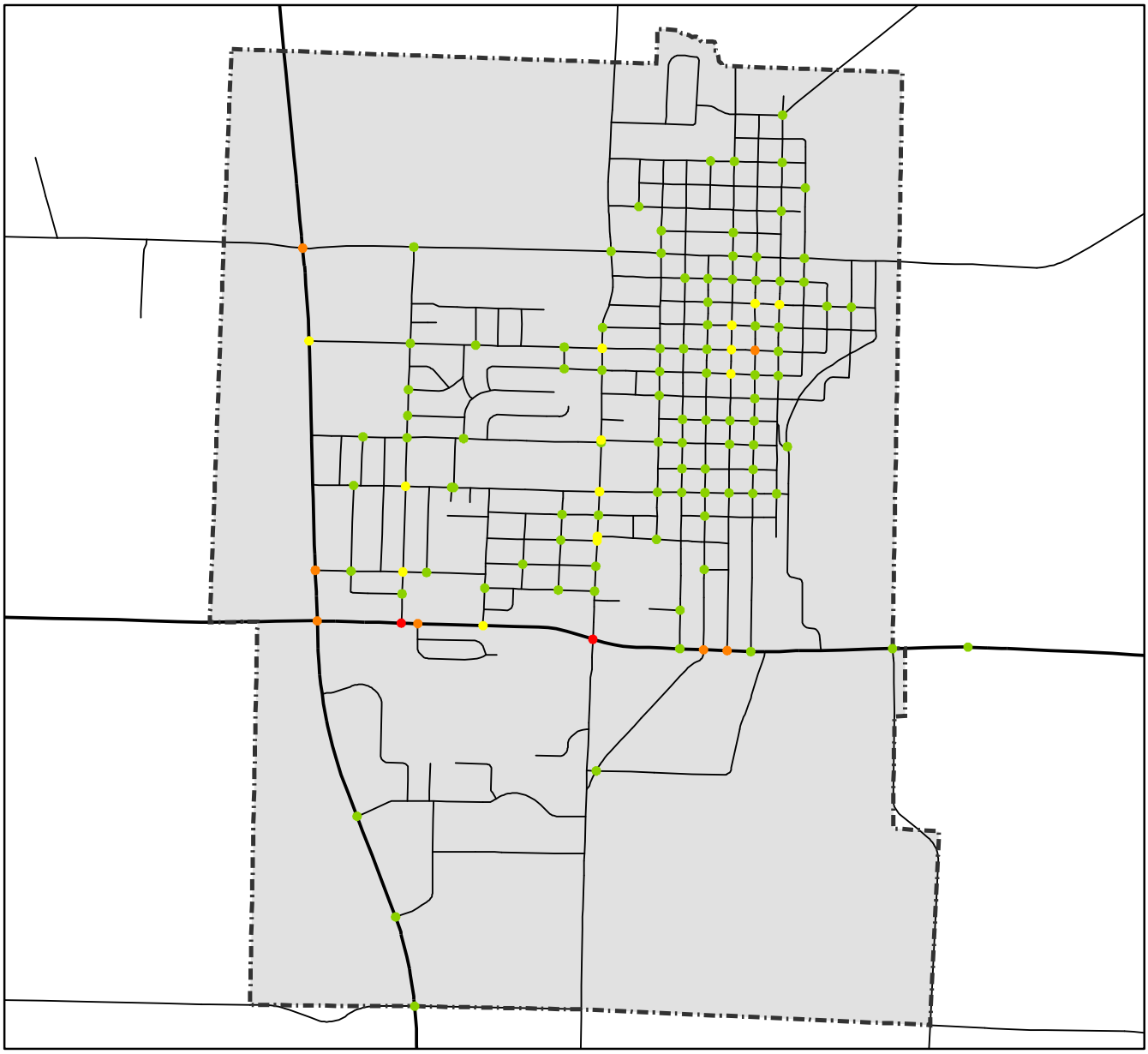
Automobile & Pedestrian Crash Data

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.



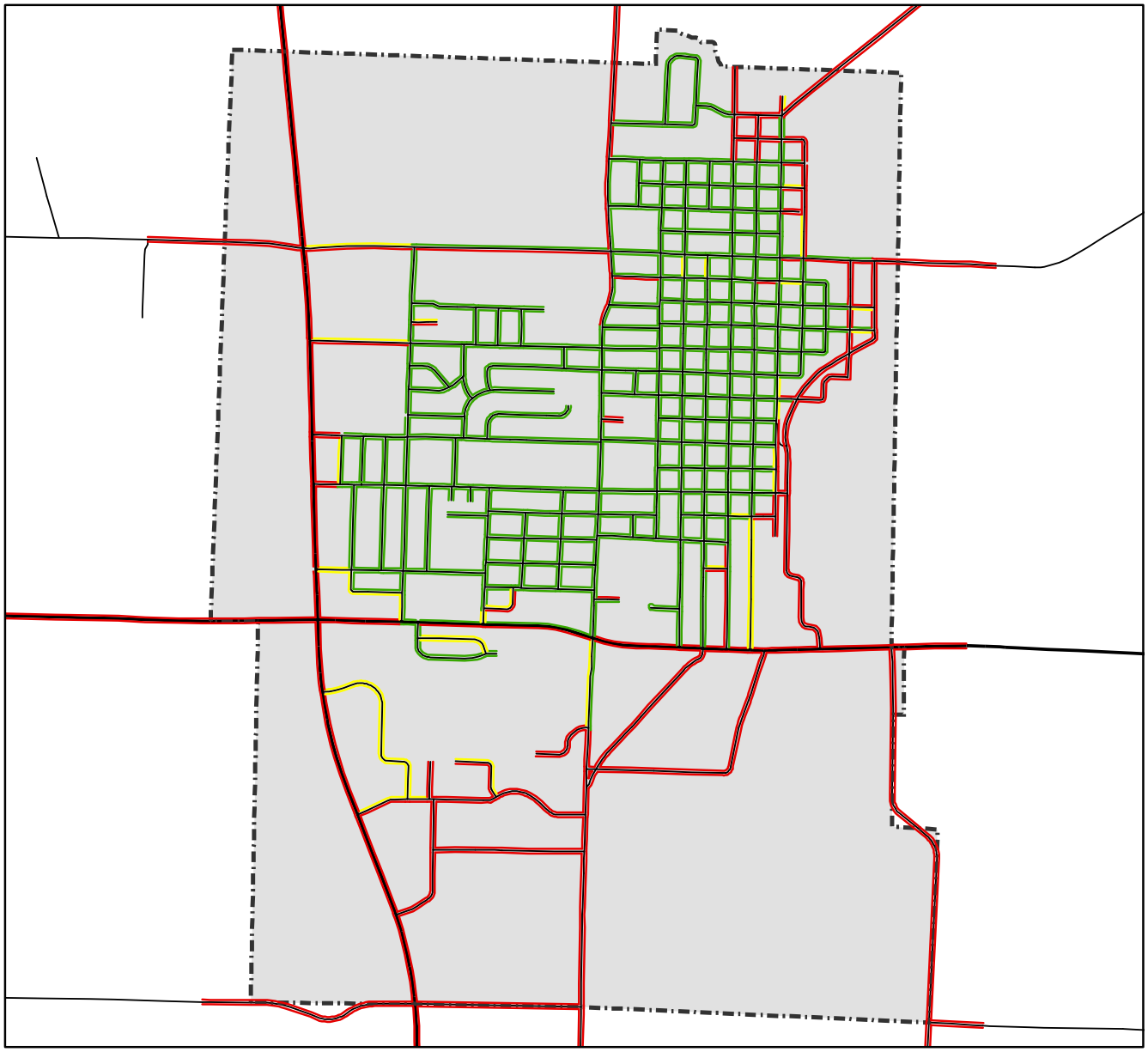
Intersection Crash Summary

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.



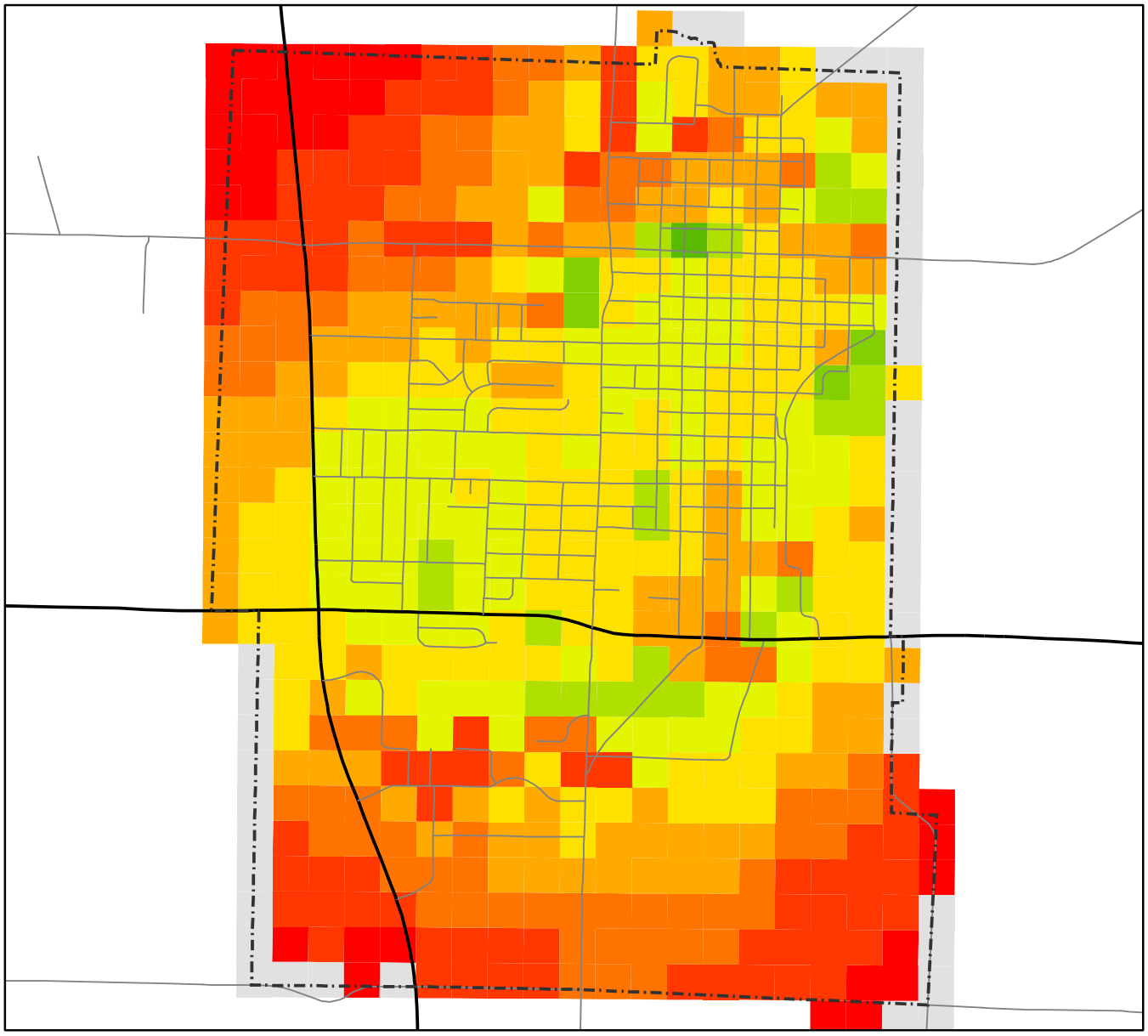
Sidewalk Network

Using aerial photography and the data collected by the volunteers, the map below identifies the streets that have sidewalks on one side or both sides of the street or a partial sidewalk.



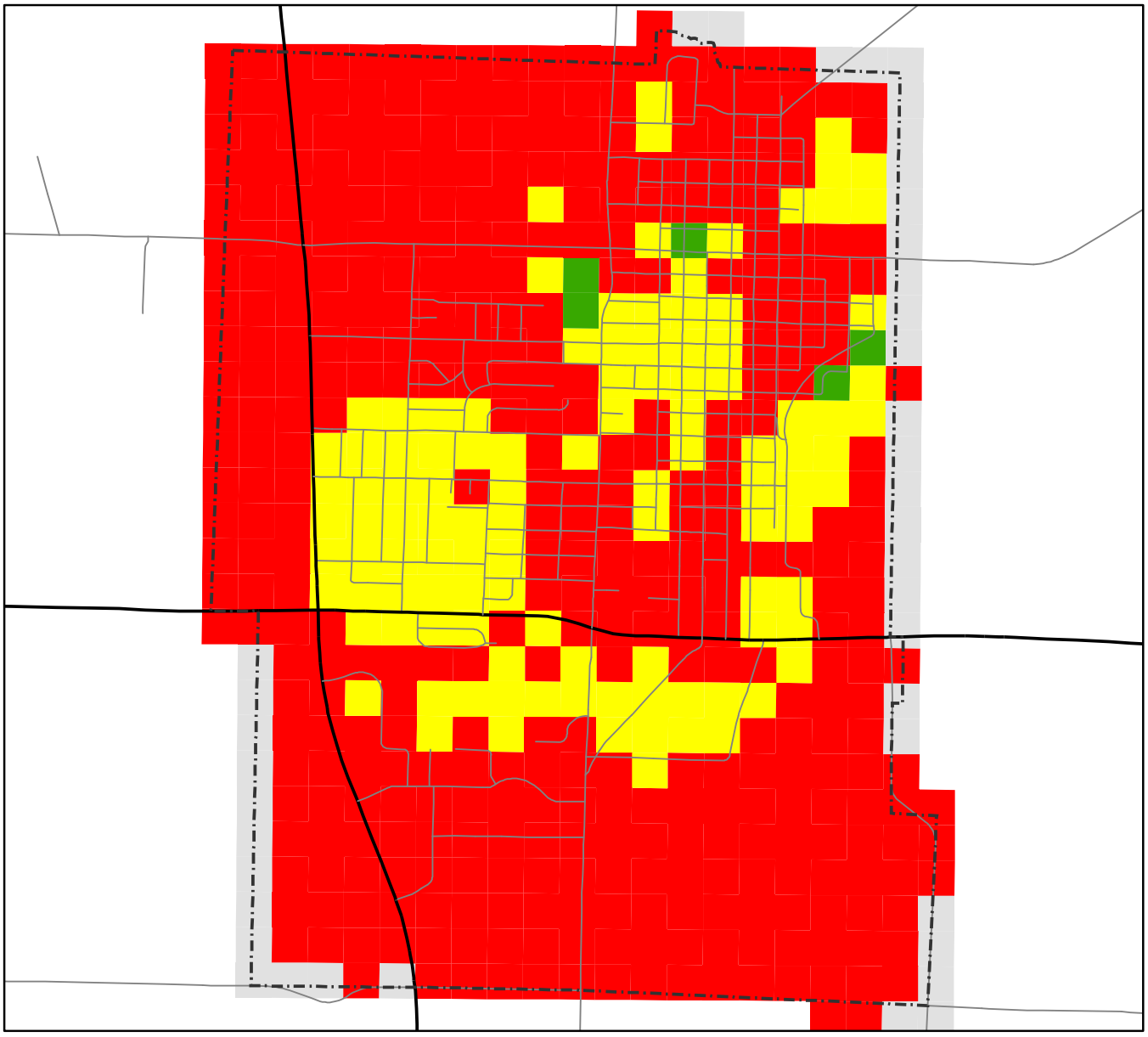
Walk Score

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.



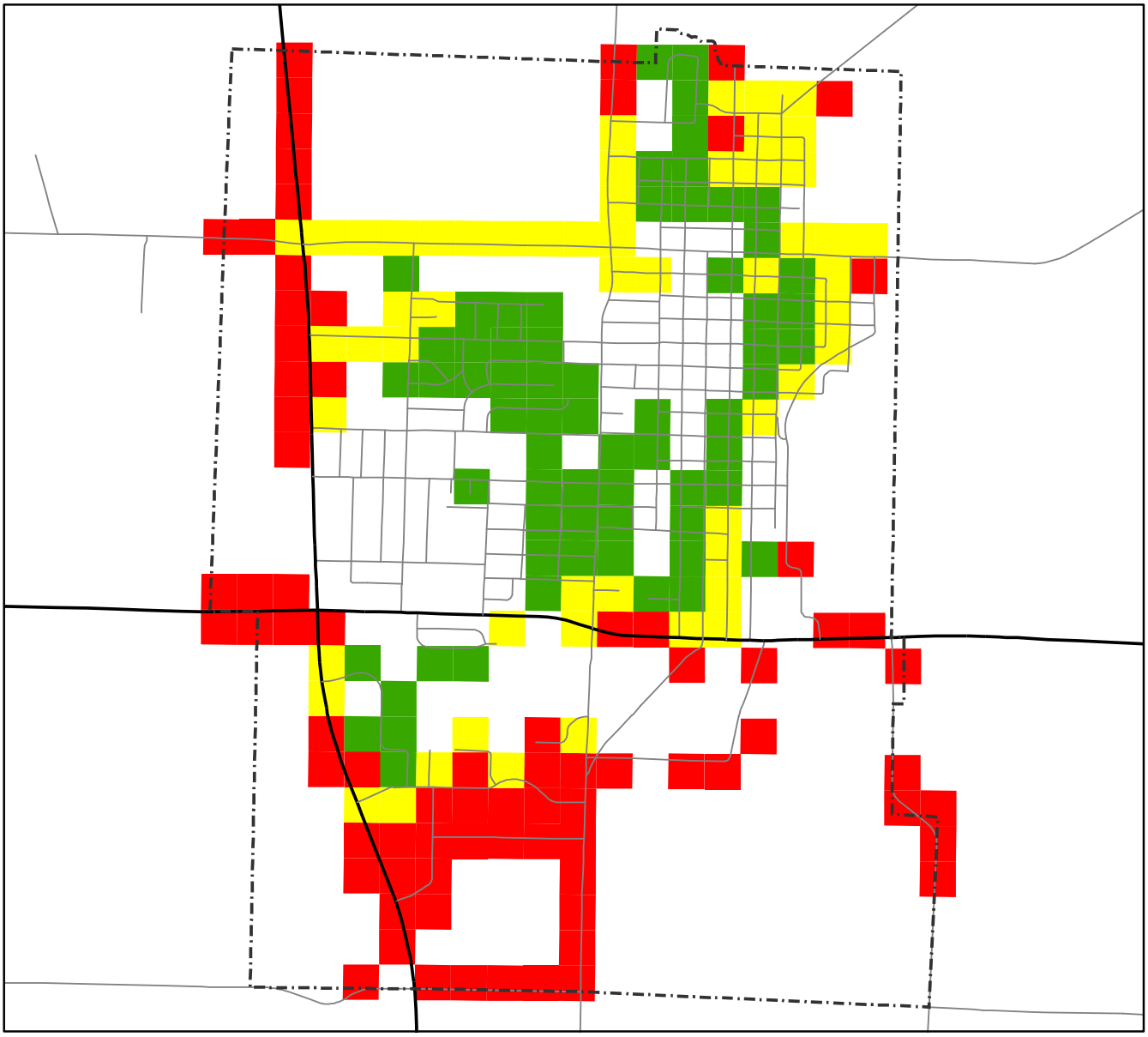
Walk Score

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).



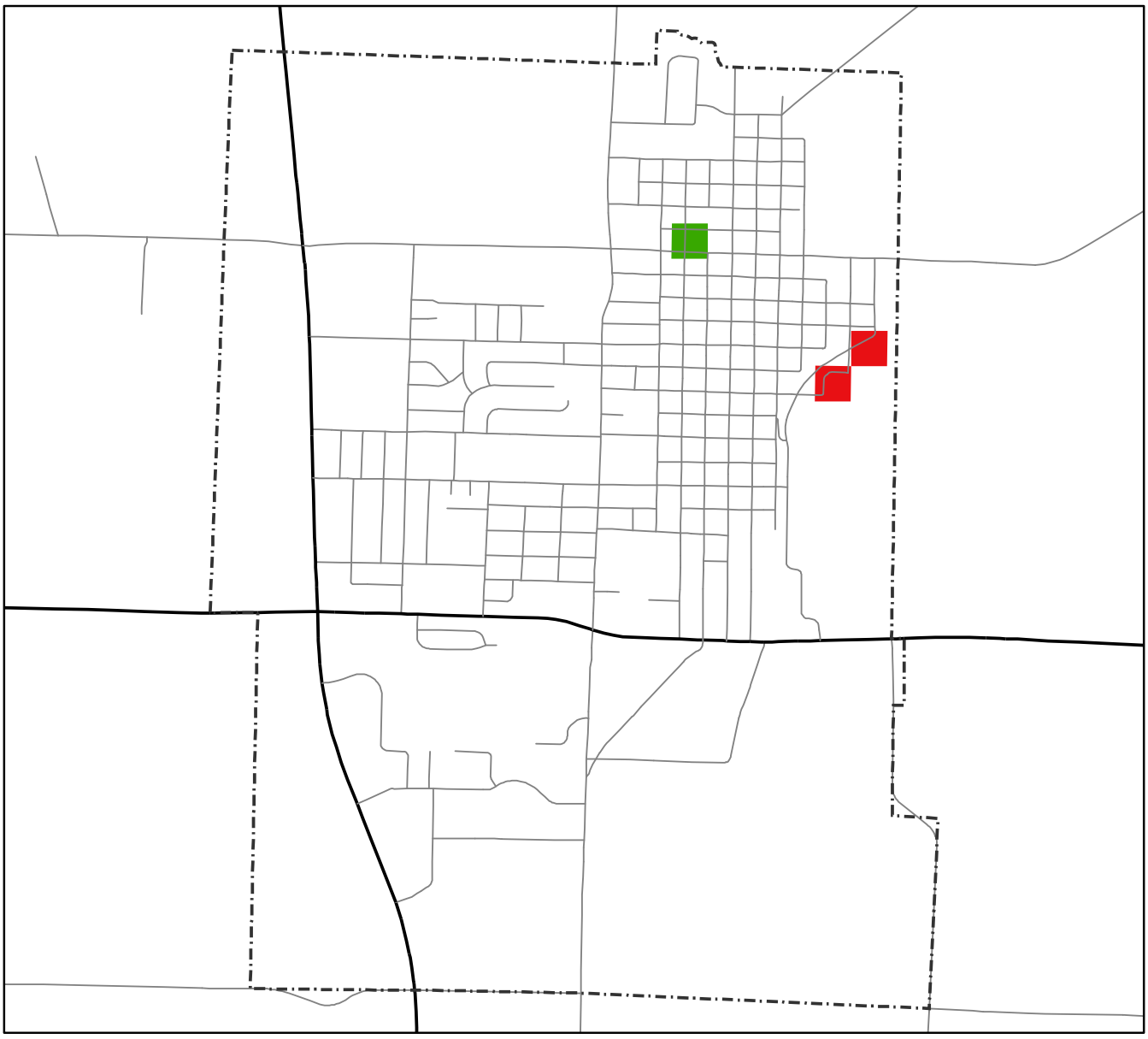
Walk Score

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.



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.



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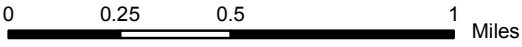
March 2015



Very Walkable Walk Score

- with sidewalks
- without sidewalks
- with and without sidewalks

Community Recommendations

Implement cross walks at all major intersections such along Chatburn Ave. and 12 Street (Linden. Road).

Respondents indicated that there is not enough time to cross Chatburn Ave. as a pedestrian. It is important to implement painted crosswalks and signage to improve pedestrian safety.

Implement sidewalk networks that connect major destinations to provide easier access and encourage people to walk or bike to their destinations.

Integrate wayfinding into community infrastructure to indicate the location of parks, recreational hot spots, and major destinations in the community.

-Make sure signage is installed in appropriate destinations.

-Use local codes and colors for pedestrians to be able to understand signage.

Implement signage at various entrances of Pioneer park that include a map of the sidewalk networks.

Plant street trees and other urban vegetation along Chatburn Ave to create a more appealing pedestrian experience. When done properly, street trees and vegetation can help to capture and treat storm water runoff, reduce air pollution, create shaded pedestrian ways.

Identify and paint crosswalks with zebra striping at the critical intersections to improve pedestrian safety.

Community Recommendations

Install pedestrian right-of-way on Market Street, Court Street and Durant Street to improve pedestrian safety and access to businesses. It is important that the pedestrian right-of-way is continuously enforced.

When fixing sidewalks, ensure that they are at least four feet wide and that they have curb-cuts at all intersections. Curb cuts improve accessibility in the sidewalk network.

Wider sidewalks allow for multiple pedestrians at one time, preventing pedestrians form using streets.

Keep walkways and bikeways separate from the street (buffer with grass, trees or even a bike lane).

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

Trim or remove any vegetation barriers that hinder pedestrian passage on sidewalks.

Repair or replace any cracked or overgrown sidewalks to make them usable.

Ensure sidewalks are the appropriate width for the site conditions.

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

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