

# Open Mapping Tools for Everyone

## MWBD - May 20, 2021

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Data: <https://isueogtp.github.io/Workshops/QGIS/MWBD/MWBD-QGIS-Data.zip>  
This presentation: <https://isueogtp.github.io/Workshops/QGIS/MWBD/agenda.html>

# Today's Talk

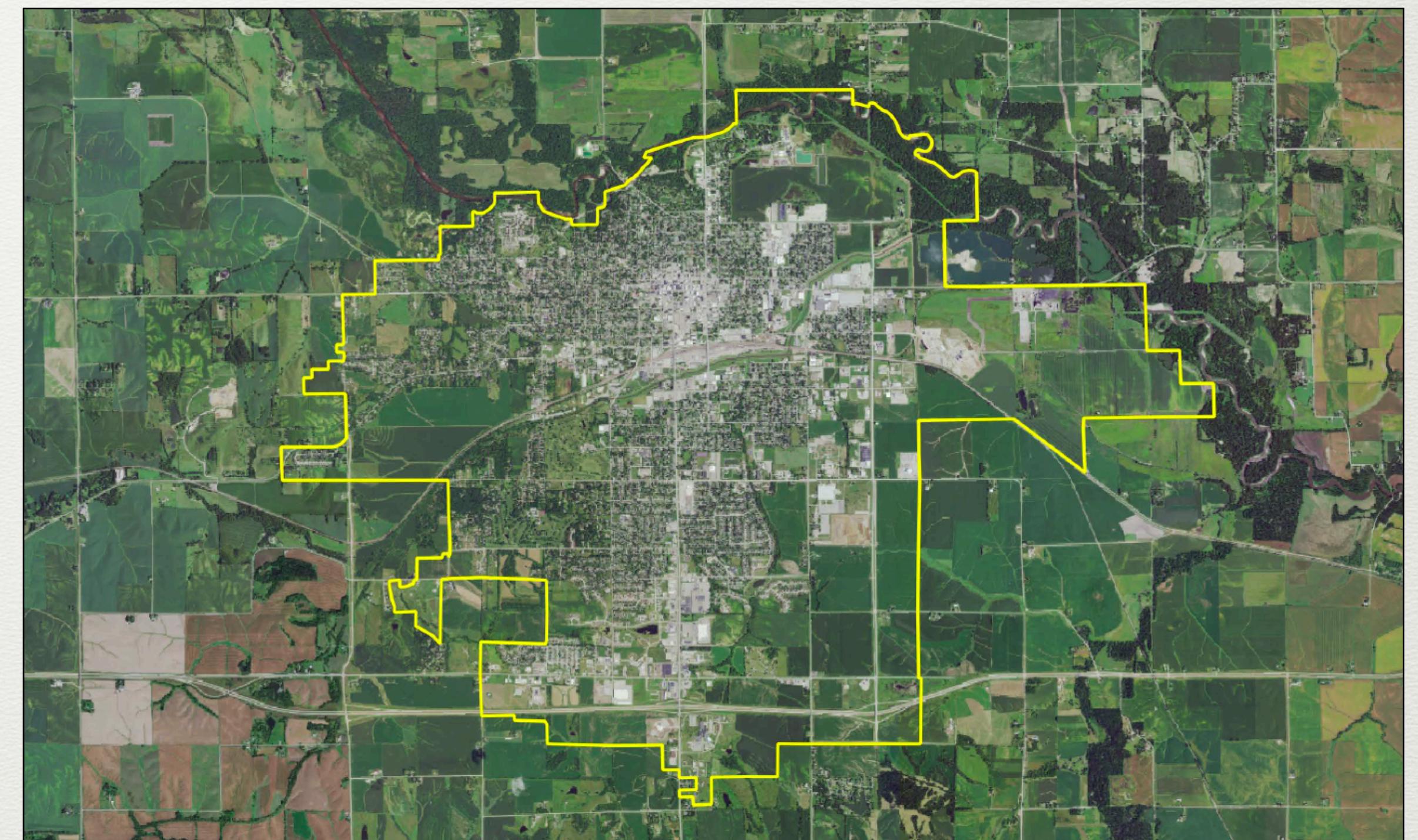
<https://isueogtp.github.io/Workshops/QGIS/MWBD/MWBD-QGIS-Data.zip>

Some background to my path to open mapping

Discuss some tools

Hands on with QGIS

Optional Workflow with Tableau



# How does a Landscape Architect become a Data Scientist?

## Community Volunteer Mapping

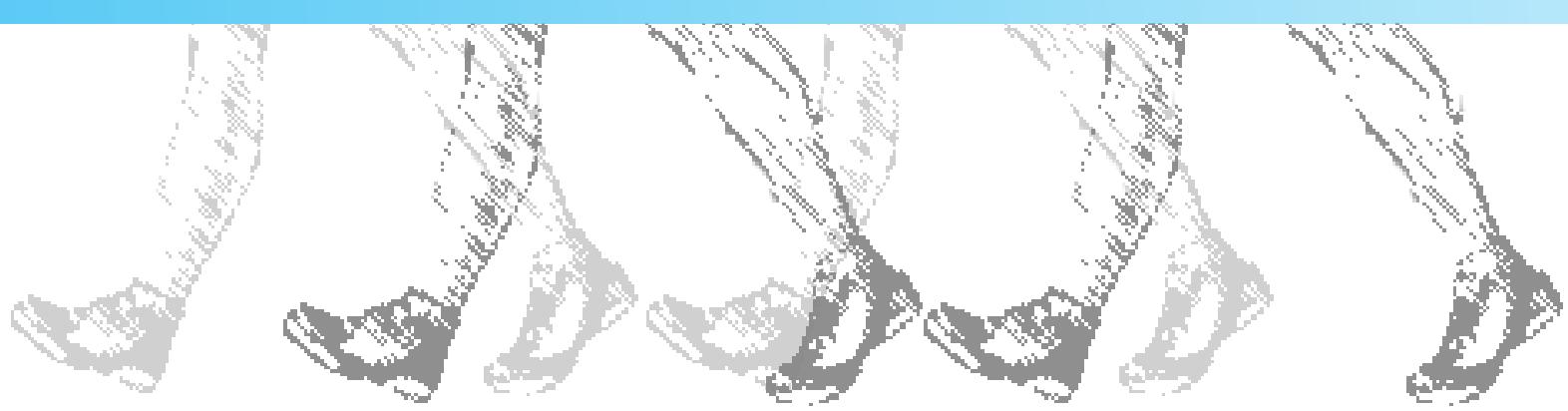
Public Participation GIS (PPGIS)

facilitated-Volunteered  
Geographic Information (fVGI)

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



# SRTS Geospatial Web & Paper Surveys



## Iowans Walking Assessment Logistics Kit

### Safe Routes to School Survey

#### Bloomfield, Iowa

May 2014

**Important: Please Read Before Proceeding!**

Thank you for caring for your child's safety and for your interest in Safe Routes to School (SRTS) programs. The purpose of this survey is to better understand how each child gets to and from school, including children living in the country and concerns you may have about the walkability and bikeability of the area around the school.

This survey has three parts and will take approximately 10 - 15 minutes to complete: If you are not interested in doing the complete survey, please fill out just the first page and return as this will allow us to better track school-wide participation rates.

**Confidentiality:** Survey responses, home addresses and individual routes will be kept strictly confidential. Only grouped responses will be used; individual responses will not be shared.

**PLEASE FILL OUT A NEW SURVEY FOR EACH CHILD IN YOUR FAMILY IN GRADES 3-5.**

**Responses need to be completed by May 16th to be counted in the overall survey results.**

**Importante: Por favor, lea antes de continuar!**

Gracias por cuidar de la seguridad de su hijo y por su interés en Rutas Seguras a programas (SRTS) School. El propósito de esta encuesta es conocer mejor cómo cada niño llegue a la escuela, incluidos los que viven en el país y las preocupaciones que usted pueda tener acerca de la posibilidad de caminar y Bikeability de la zona alrededor de la escuela.

Esta encuesta consta de tres partes y tendrá una duración aproximada de 10 - 15 minutos para completar: Si usted no está interesado en hacer el estudio completo, por favor llene sólo la primera página y volver, ya que esto nos permitirá mejorar los índices de participación en toda la escuela de pista.

**Confidencialidad:** respuestas a la encuesta, direcciones y rutas individuales se mantendrá estrictamente confidencial. Se utilizarán las respuestas Sólo agrupados; no se compartirán las respuestas individuales.

**FAVOR DE LLENAR UNA NUEVA ENCUESTA PARA CADA NIÑO EN SU FAMILIA EN GRADOS 4-6.**

**Las respuestas deben ser completado el 16 de mayo para ser contados en los resultados generales de la encuesta.**




IOWA STATE UNIVERSITY  
Extension and Outreach

**I-WALK School Transportation Survey: Parent Survey**

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

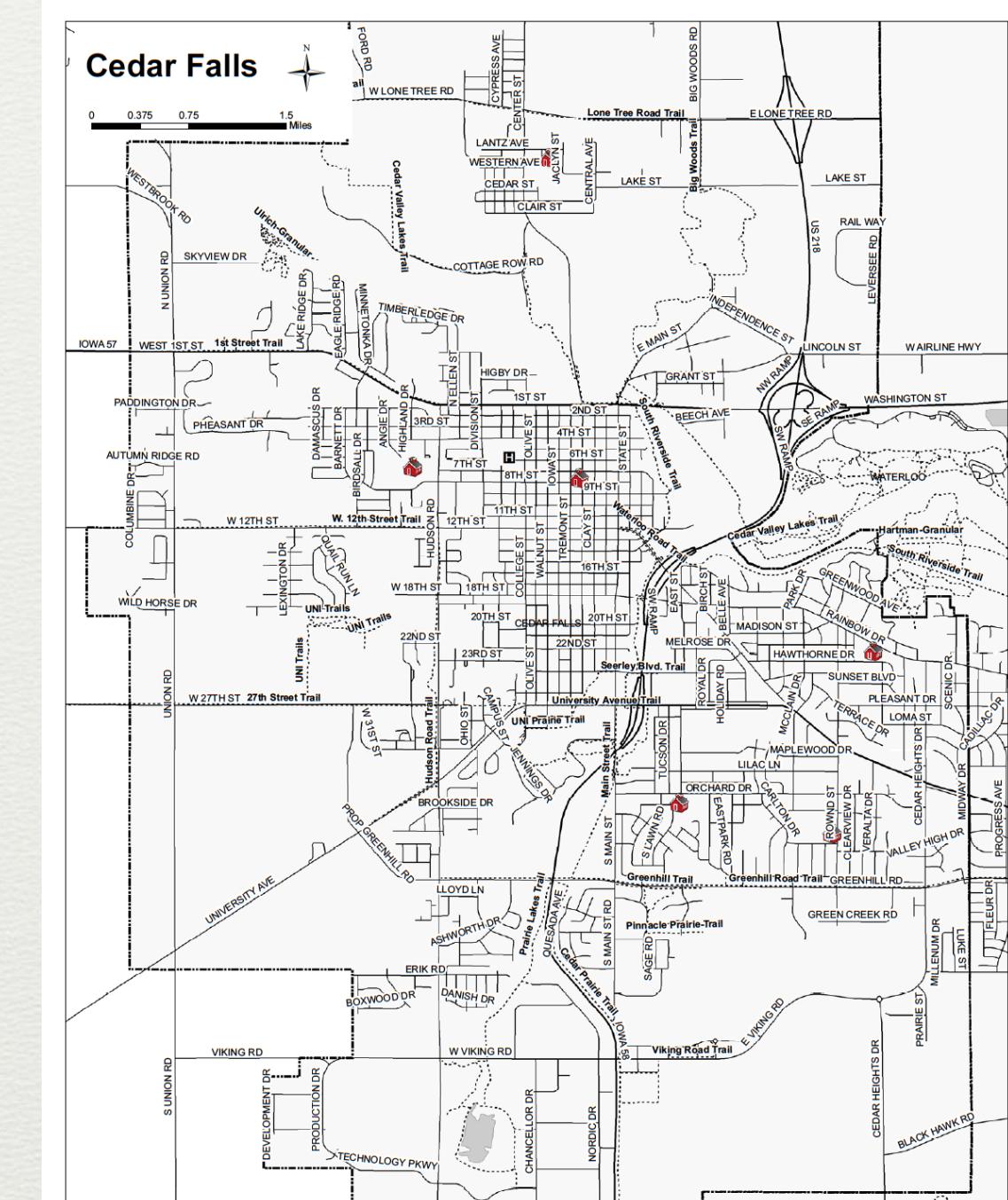
Yes  
 No

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

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

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

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



**I-WALK Transportation Survey:  
CAMINO Encuesta de Transporte:**

Vehicular traffic / Tránsito vehicular

- Draw on the map a line representing the walking or biking route that you use most often.
- Using the legend numbers and letters below, place the corresponding number or letter on the map to identify the location of the challenge. Please try and be exact as possible. Add as many points as you wish.

Dibuja en el mapa una linea que representa caminar o andar en bicicleta la ruta que se utiliza con más frecuencia.

El uso de los números y las letras de la leyenda a continuación, colocar el numero correspondiente o carta en el mapa para identificar la ubicación de la impaginación. Por favor tratar de ser más exacto posible. Añadir tantos puntos como desee.

**Sidewalks & Trails**

- Damaged / Con daños
- Blocked / Bloqueados
- No sidewalk / No hay acera
- Curb cuts needed / Se necesitan rebajes en los cordones
- Scary animals (dogs etc.) / Animales que causan temor (como perros)
- Railroad crossing / Cruce de tren
- Landscape maintenance / Mantenimiento del paisaje

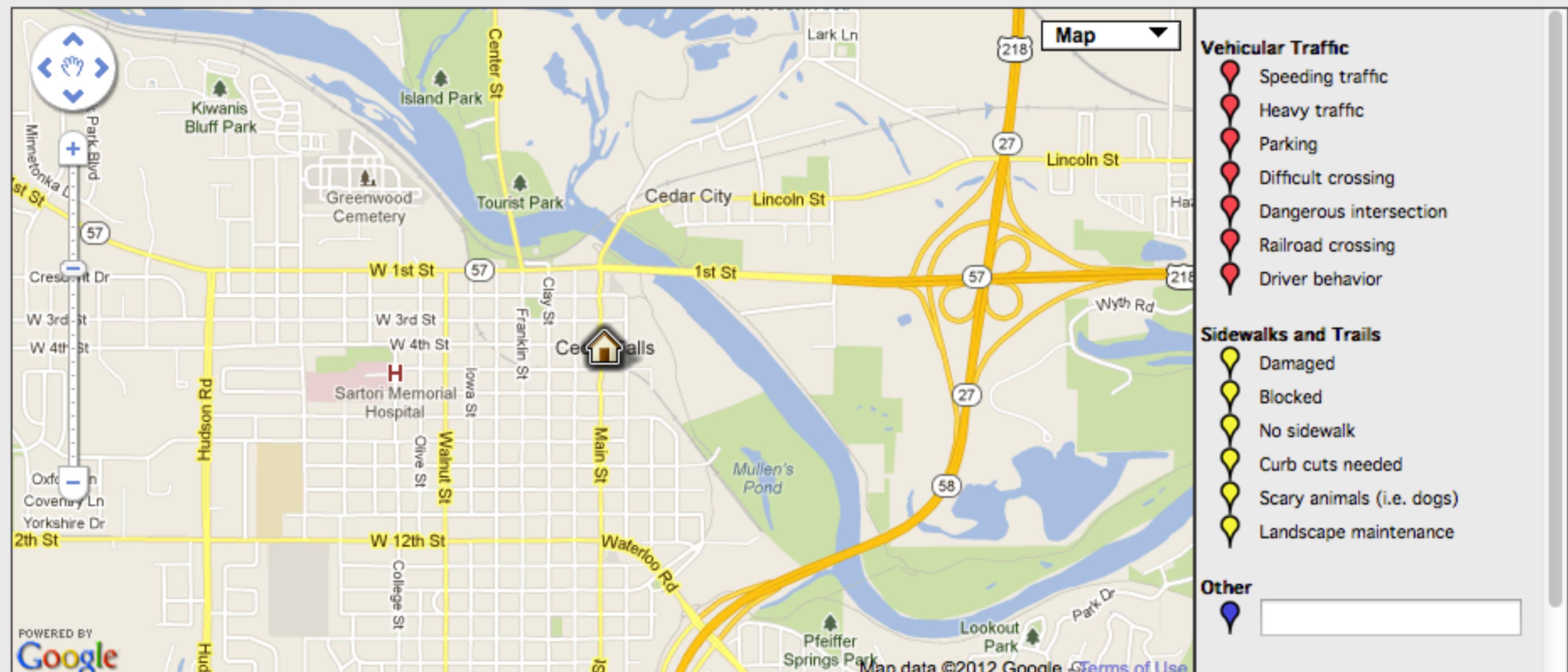
## I-WALK Community Survey

### Locate safe route challenges

Zoom to the desired location and then click on the type of item you would like to locate from the list on the right. Then click on the map at the location this challenge exists. A comment box will be displayedAdd as many points as you wish.

Next, click on the map at the location you wish to place the feature and fill in the provided comment box. Press save.

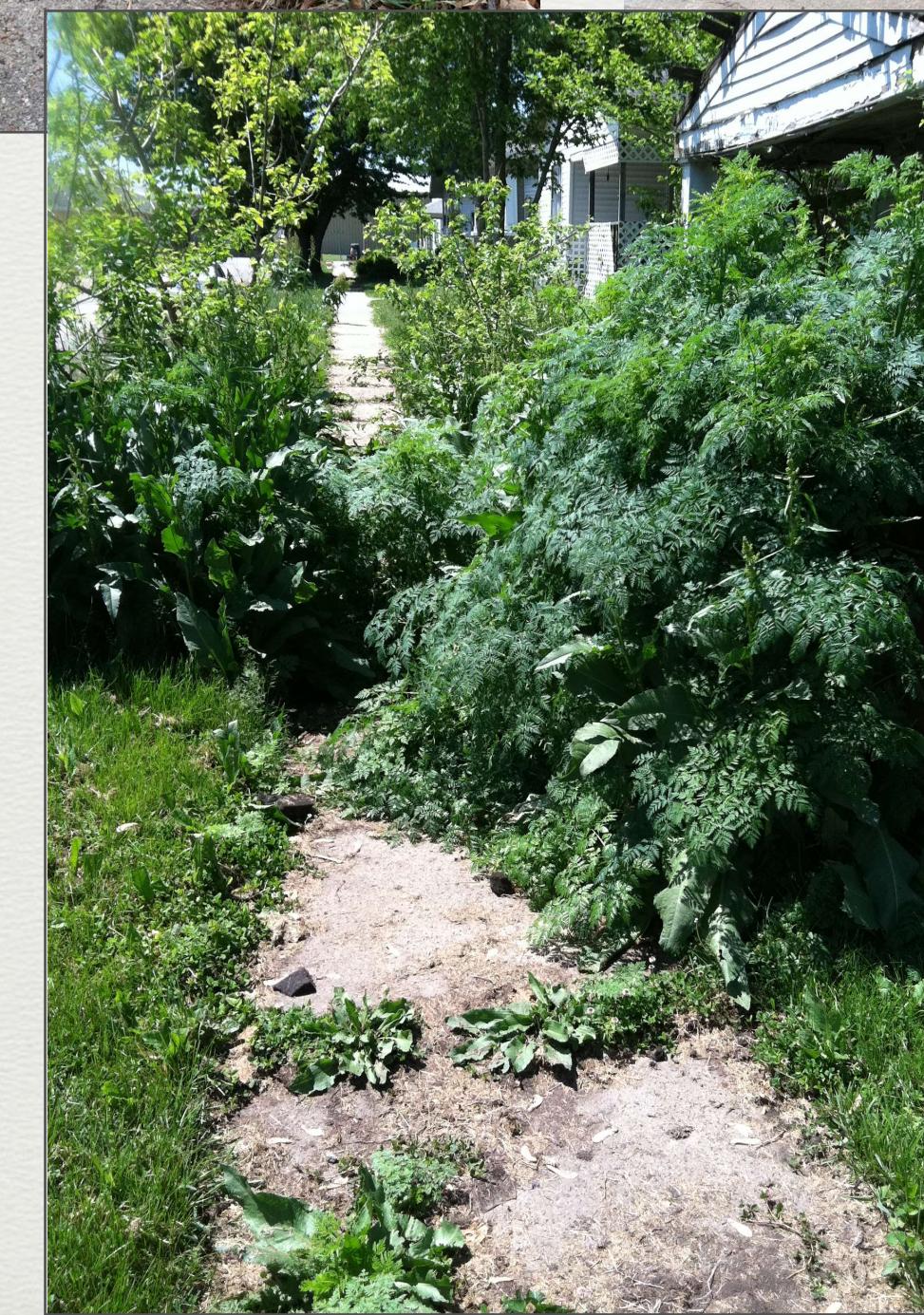
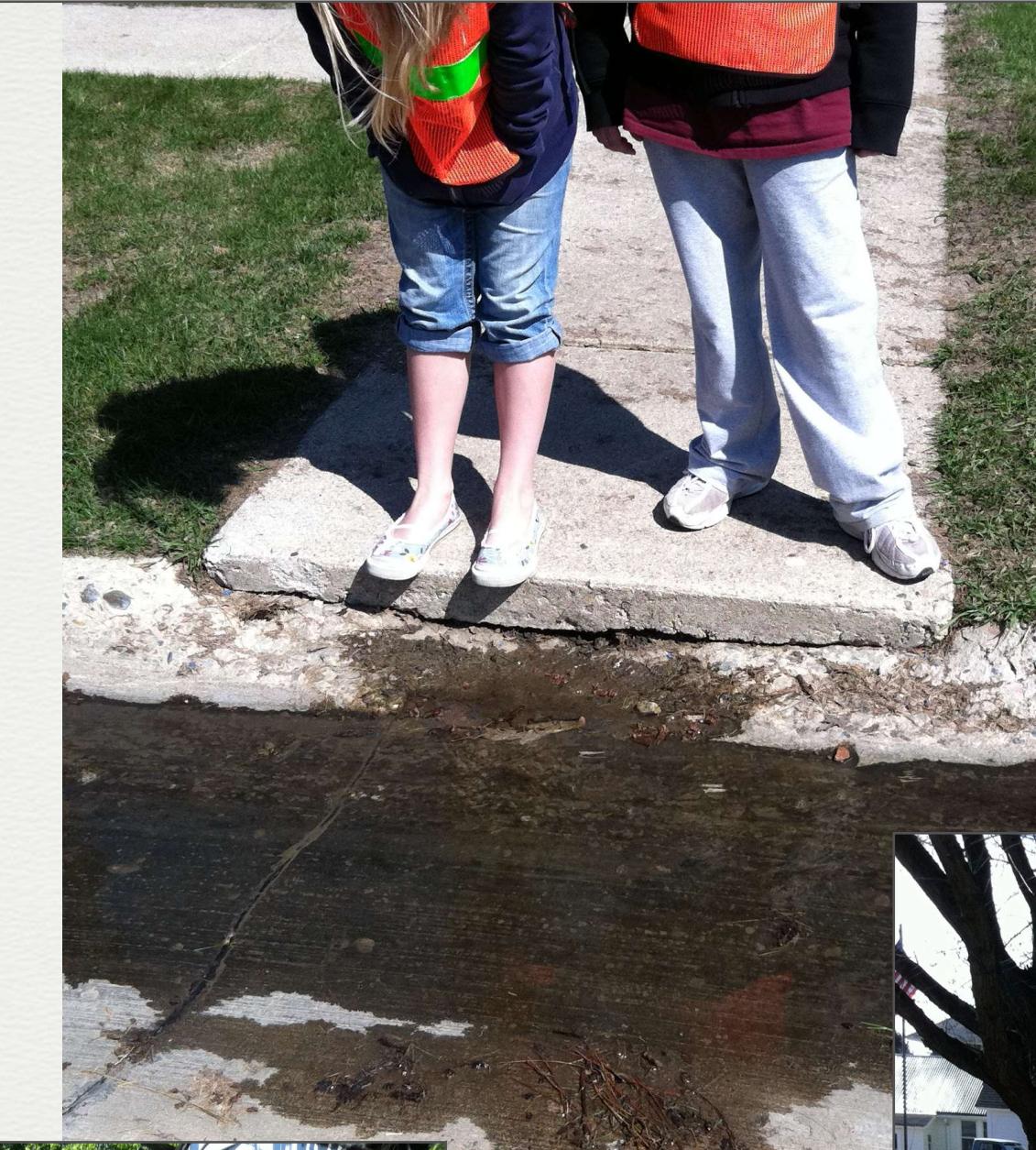
Add as many points as you wish. When done placing all points, click on the continue button below the map.



©2010-12 - Iowa Department of Public Health, Iowans Fit for Life.

I-WALK Map Survey Tool Developed by Communities and Economic Development at Iowa State University Extension and Outreach

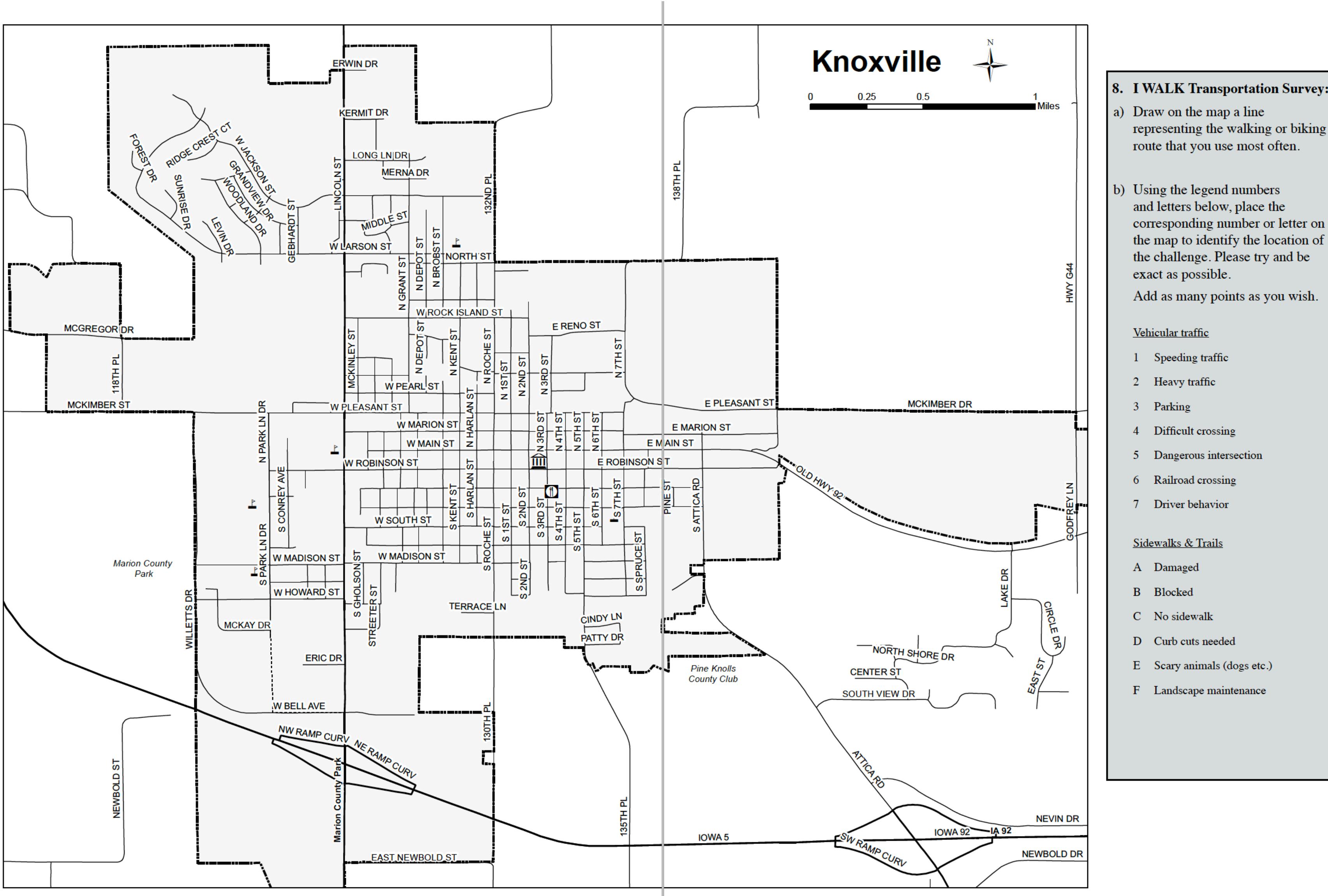
Environment not  
conducive for older  
citizen mobility or  
physical activity



# Destinations of Interest

<p><b>5. What type of community locations do you currently walk/bike to and what is the address?</b> Check all that apply and indicate the name and general location.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">TYPE</th> <th style="width: 30%;">NAME</th> <th style="width: 60%;">STREET ADDRESS</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Sample</td> <td><u>Whole Food Mart</u></td> <td><u>4th and Main Street</u></td> </tr> <tr> <td><input type="checkbox"/> Library</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Retail Location or Mall</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Grocery Store</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Congregate Meal Site</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Community Center</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Convenience Store</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Place of Worship/Church</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Post Office</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Park</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Bank</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Recreation Center</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Work</td> <td>_____</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Other (please list ONLY 1)</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>	TYPE	NAME	STREET ADDRESS	<input checked="" type="checkbox"/> Sample	<u>Whole Food Mart</u>	<u>4th and Main Street</u>	<input type="checkbox"/> Library	_____	_____	<input type="checkbox"/> Retail Location or Mall	_____	_____	<input type="checkbox"/> Grocery Store	_____	_____	<input type="checkbox"/> Congregate Meal Site	_____	_____	<input type="checkbox"/> Community Center	_____	_____	<input type="checkbox"/> Convenience Store	_____	_____	<input type="checkbox"/> Place of Worship/Church	_____	_____	<input type="checkbox"/> Post Office	_____	_____	<input type="checkbox"/> Park	_____	_____	<input type="checkbox"/> Bank	_____	_____	<input type="checkbox"/> Recreation Center	_____	_____	<input type="checkbox"/> Work	_____	_____	<input type="checkbox"/> Other (please list ONLY 1)	_____	_____	<p><b>9. On days you walk/bike, how far do you go? Circle only one.</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>a. Less than <math>\frac{1}{2}</math> mile</td> <td>d. 3 to 5 miles</td> </tr> <tr> <td>b. 1/2 mile to 1 mile</td> <td>e. More than 5 miles</td> </tr> <tr> <td>c. 1 to 2 miles</td> <td>f. Don't know</td> </tr> </table> <p><b>10. In a typical week during each season, how many DAYS PER WEEK do you walk or bike?</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Fall</th> <th style="text-align: center;">Winter</th> <th style="text-align: center;">Spring</th> <th style="text-align: center;">Summer</th> </tr> </thead> <tbody> <tr> <td>Walk</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Bicycle</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p><b>11. Please rate the conditions on your most used walking/biking route. Check only one box in each row.</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Good</th> <th style="text-align: center;">Fair</th> <th style="text-align: center;">Poor</th> <th style="text-align: center;">Nonexistent</th> </tr> </thead> <tbody> <tr> <td>Condition of sidewalks</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Street crossings/accessibility</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Traffic &amp; driver behavior</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Public trail access</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Public trail condition/ease of use</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Safety</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Visually appealing to walk/bike</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p><b>12. 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Check all that apply.</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> Time</td> <td><input type="checkbox"/> Sidewalks or pathways (none or inadequate)</td> </tr> <tr> <td><input type="checkbox"/> Inconvenient (easier to drive to location)</td> <td><input type="checkbox"/> Safety of intersections and crossings</td> </tr> <tr> <td><input type="checkbox"/> Distance</td> <td><input type="checkbox"/> Violence or crime</td> </tr> <tr> <td><input type="checkbox"/> Speed of traffic along route</td> <td><input type="checkbox"/> Weather or climate</td> </tr> <tr> <td><input type="checkbox"/> Amount of traffic along route</td> <td><input type="checkbox"/> Safe place for bike storage/parking</td> </tr> <tr> <td><input type="checkbox"/> Train/railroad tracks</td> <td><input type="checkbox"/> Other _____</td> </tr> </table>	a. Less than $\frac{1}{2}$ mile	d. 3 to 5 miles	b. 1/2 mile to 1 mile	e. More than 5 miles	c. 1 to 2 miles	f. 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# Map route and barriers



# Demographic and Neighborhood Profile

**14. In your opinion, how much does your community encourage walking and/or biking? Circle only one.**

- |                       |                        |
|-----------------------|------------------------|
| a. Strongly encourage | d. Discourage          |
| b. Encourage          | e. Strongly discourage |
| c. Neither            |                        |

**15. With whom do you walk most of the time? Circle all that apply.**

- |                   |                                   |
|-------------------|-----------------------------------|
| a. Alone          | f. Children                       |
| b. Friends        | g. Pets                           |
| c. Neighbors      | h. Other family members/relatives |
| d. Club or class  | i. Other (specify) _____          |
| e. Spouse/partner | j. Prefer not to answer           |

**16. Indicate which of the following best applies to you and your neighborhood. Check one box in each row.**

Agree      Neutral      Disagree

- |                                                                   |       |       |       |
|-------------------------------------------------------------------|-------|-------|-------|
| There are sidewalks along most of the streets in my neighborhood. | _____ | _____ | _____ |
| The sidewalks in my neighborhood are well maintained.             | _____ | _____ | _____ |
| There are bicycle or walking trails in or near my neighborhood.   | _____ | _____ | _____ |
| My neighborhood is easy to walk. (i.e. few hills.)                | _____ | _____ | _____ |
| There are many attractive natural sites in my neighborhood.       | _____ | _____ | _____ |
| There is a safe amount of traffic in my neighborhood.             | _____ | _____ | _____ |
| Most drivers drive at safe speeds in my neighborhood.             | _____ | _____ | _____ |
| My neighborhood streets are well lit at night.                    | _____ | _____ | _____ |
| I am not worried about crime in my neighborhood during the day.   | _____ | _____ | _____ |
| I am not worried about crime in my neighborhood during the night. | _____ | _____ | _____ |
| The air quality in my neighborhood is good.                       | _____ | _____ | _____ |
| The dogs in my neighborhood are properly confined or restrained.  | _____ | _____ | _____ |
| I see a lot of people walking and biking in my neighborhood.      | _____ | _____ | _____ |

**17. Please provide any other comments you have related to walking or biking in your community?**

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**18. What is your gender? Circle one.**

- |         |           |
|---------|-----------|
| a. Male | b. Female |
|---------|-----------|

**19. What is your age-range? Circle only one.**

- |                                 |                |                      |
|---------------------------------|----------------|----------------------|
| a. Younger than 50 years of age | d. 61-65 years | g. 76-80 years       |
| b. 50-55 years                  | e. 66-70 years | h. 81-85 years       |
| c. 56-60 years                  | f. 71-75 years | i. 86 years or older |

**20. How many individuals reside in your home? \_\_\_\_\_ How many are under age 18? \_\_\_\_\_**

**21. Within what range is your total annual household income? Circle only one.**

- |                         |                           |
|-------------------------|---------------------------|
| a. Less than \$10,000   | f. \$50,000 to \$74,999   |
| b. \$10,000 to \$14,999 | g. \$75,000 to \$99,999   |
| c. \$15,000 to \$24,999 | h. \$100,000 to \$149,999 |
| d. \$25,000 to \$34,999 | i. \$150,000 or more      |
| e. \$35,000 to \$49,999 |                           |

**22. What is the highest grade or year of school you completed? Circle only one.**

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| a. Eighth grade or less           | e. Some college                     |
| b. Some high school               | f. College graduate                 |
| c. High school or GED certificate | g. Post grad or professional degree |
| d. Some technical school          | h. Prefer not to answer             |

**23. Are you currently: Circle only one.**

- |                                     |                                |
|-------------------------------------|--------------------------------|
| a. Employed for wages - full-time   | f. Homemaker                   |
| b. Employed for wages - part-time   | g. Student                     |
| c. Self-employed                    | h. Retired                     |
| d. Out of work for less than 1 year | i. Disabled and unable to work |
| e. Out of work for more than 1 year |                                |

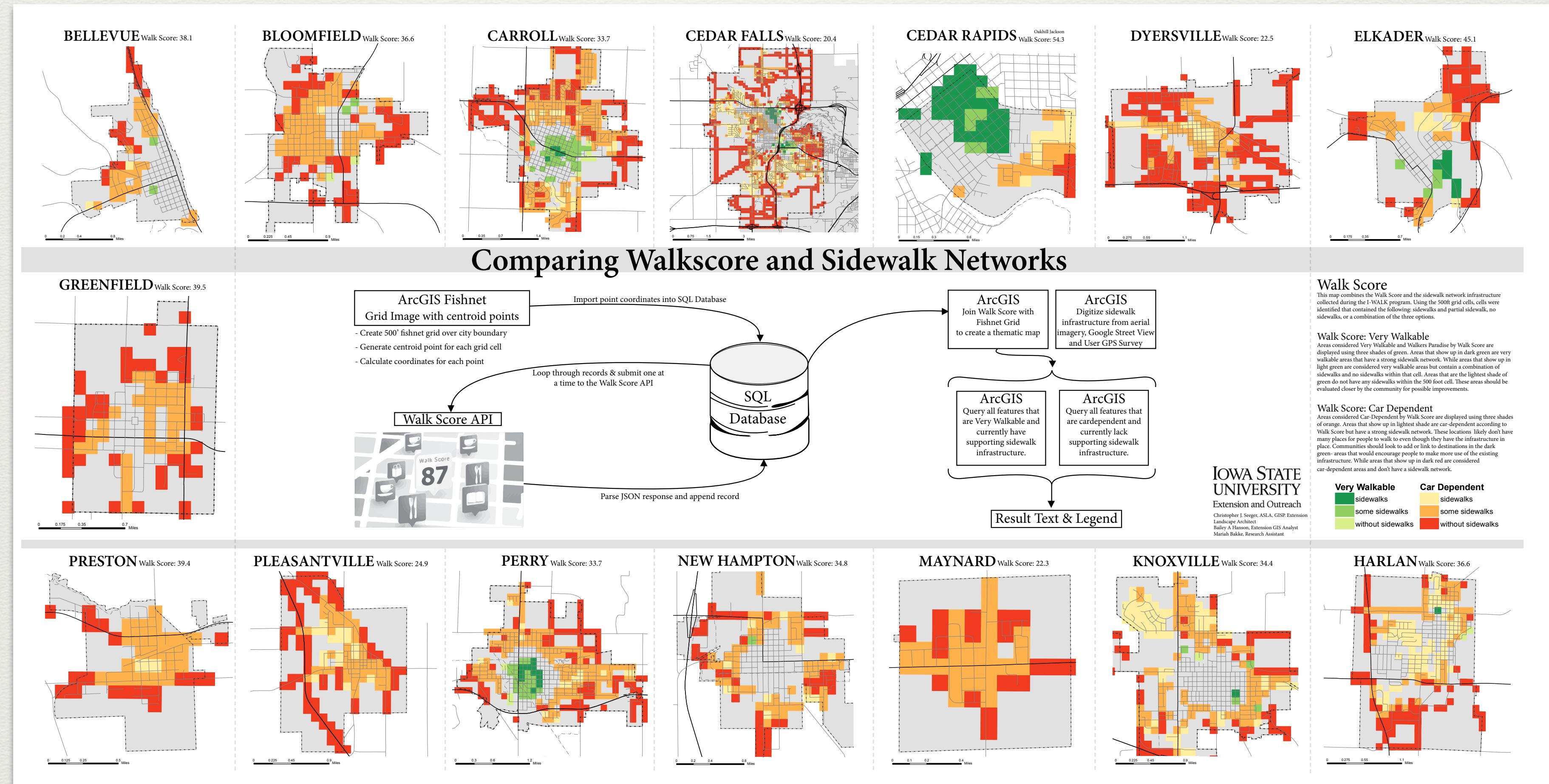
**24. What is your current housing situation? Circle only one.**

- |                                |                                             |
|--------------------------------|---------------------------------------------|
| a. Subsidized housing          | e. Retirement community (select type below) |
| b. Own private home            | i. Independent living                       |
| c. Rent non-subsidized housing | ii. Assisted living                         |
| d. Live with family            |                                             |

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

- |                             |                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------|
| a. Yes ---->Please contact: | Dawn Allspach-Kline, Director of the Senior Nutrition Program<br>641-842-6070 email, dallspach-kline@co.marion.ia.us |
| b. No                       |                                                                                                                      |

# Comparing Walk Score and Sidewalk Networks from I-WALK



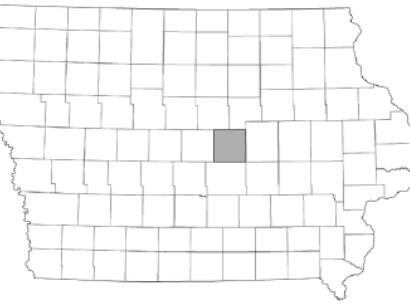
# Extension Indicators Program:

## Data for Decision Makers

### Data for Decision Makers

## City Profile Marshalltown, Iowa

report created: 12/28/2017



#### Population Profile

The 2016 population estimate for Marshalltown is 27,328. Between 2010 and 2016 the population decreased by -0.8%. The City of Marshalltown is in Marshall County. Marshall County saw a -0.8% population decrease between 2010 and 2016. Marshalltown's population is predominantly White. Between 2000 and 2010 there was a slight decrease in the percent of White population.

#### Total Population

	2000 <sup>1</sup>	2010 <sup>1</sup>	2016 <sup>2</sup>
Marshalltown	26,023	27,552	27,328
Male	12,870	13,730	Not Available*
Female	13,139	13,822	Not Available*
Marshall County	39,311	40,648	40,312
State of Iowa	2,926,324	3,046,355	3,134,693

\* population estimates by sex not provided at the city level

#### Percentage of Population by Race/Hispanic Origin<sup>1</sup>

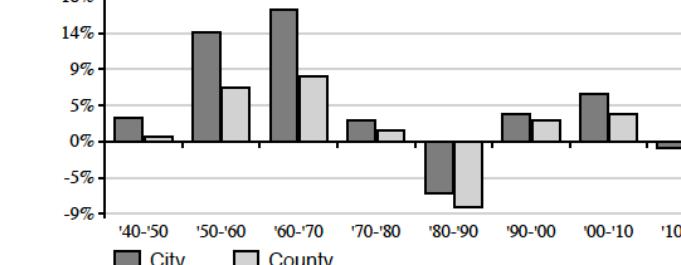
Race Groups	City 2000	County 2010	City 2000	County 2010
One Race Only	98.2%	97.4%	98.6%	98%
White	86.8%	84.8%	90.4%	88.7%
White Alone, Not Hispanic	83.6%	70.3%	88.1%	78.2%
Black or African American	1.3%	2.2%	0.9%	1.7%
Asian	1%	1.7%	0.8%	1.3%
American Indian or Alaska Native	0.4%	0.6%	0.3%	0.5%
Hawaiian or Pacific Islander	0.1%	0.2%	0.1%	0.1%
Other	8.6%	7.9%	6%	5.6%
Two or more races	1.8%	2.6%	1.4%	2%
Hispanic origin*	12.6%	24.1%	9%	17.3%

\* Hispanics can be of any race.

#### Neighboring Cities - Percent Population Change

	'90 <sup>1</sup> -'00 <sup>1</sup>	'00 <sup>1</sup> -'10 <sup>1</sup>	'10 <sup>1</sup> -'16 <sup>2</sup>
Albion	1.20%	-14.70%	-7.13%
Ferguson	-24.10%	0.00%	0.00%
Haverhill	18.06%	1.76%	0.00%
Laurel	-1.85%	-10.15%	0.00%
Le Grand	3.40%	6.23%	-0.32%
Marshalltown	3.36%	5.88%	-0.81%
Marshall County	2.70%	3.40%	-0.83%
State of Iowa	5.39%	4.10%	2.90%

#### City and County Percent Population Change



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### Demographic Profile

#### Marshalltown, Iowa

The City of Marshalltown, compared to Marshall County, had a higher percentage of young people (17 or younger) and a higher percentage of older people (65 and older) in 2010. Population pyramids<sup>6</sup> visually graph the age-sex composition of the population for Marshalltown and Marshall County. Each bar represents the percent of the total population for each age-sex group.

#### Households and Families by Type<sup>1</sup>

	City 2000	City 2010	County 2000	County 2010
Total Households	10,175	10,335	15,338	15,538
Family Households	64.8%	64.1%	68.2%	67.3%
With Children	30%	29.8%	31.1%	29.2%
Married-couple	50.5%	47.1%	55.4%	52.1%
With Children	20.5%	18.8%	22.6%	19.7%
Female Householder <sup>a</sup>	10.8%	11.9%	9.3%	10.3%
With Children	7.3%	8%	6.3%	6.7%
Male Householder <sup>b</sup>	3.5%	5.2%	3.5%	4.9%
With Children	2.2%	2.9%	2.2%	2.8%
Nonfamily Households	35.2%	35.9%	31.8%	32.7%
Householder Living Alone	29.7%	29.8%	26.9%	27.1%
Householder Not Living Alone	5.5%	6.1%	4.9%	5.6%
Households With Under 18 <sup>c</sup>	32.3%	33%	33.3%	32.3%
Households With 65+ <sup>d</sup>	27.3%	27.9%	26.5%	27.7%
Average Household Size	2.44	2.55	2.48	2.53

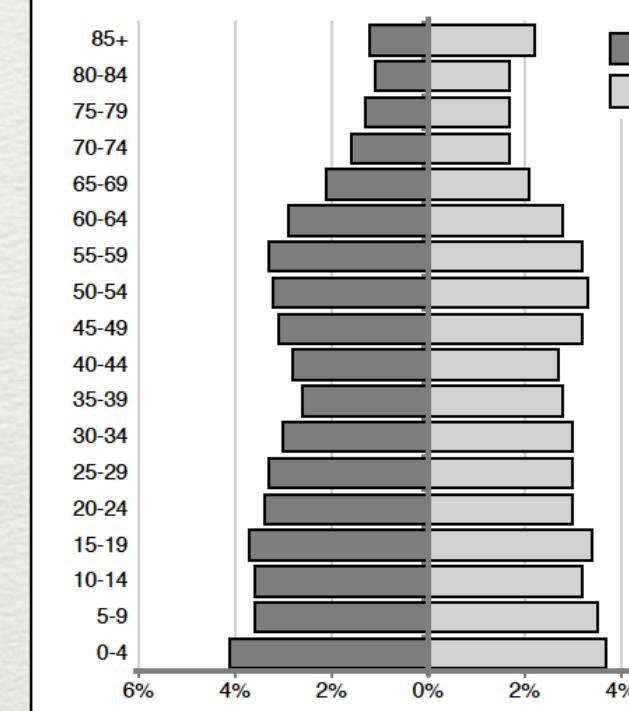
#### Percentage of Population by Age<sup>1</sup>

Age Groups	City 2000	City 2010	County 2000	County 2010
17 or younger	24.5%	26.1%	25.3%	25.3%
0 - 4	6.7%	7.8%	13.5%	14.0%
5 - 9	6.6%	7.2%	7.0%	6.9%
10 - 14	6.9%	6.8%	7.2%	6.9%
15 - 17	4.3%	4.3%	4.8%	4.4%
18 - 24	8.9%	9.3%	8.1%	8.3%
25 - 44	26.0%	23.0%	26.3%	22.7%
45 - 64	23.0%	24.9%	23.9%	27.2%
65 or older	17.6%	16.7%	16.4%	16.4%
65 - 84	14.8%	13.3%	14.1%	13.5%
85 or older	2.8%	3.4%	2.3%	2.9%
Median Age (years) <sup>4</sup>	38.4	37.3	38.6	39.6
Age Dependency <sup>5</sup>	72.8	74.8	71.5	71.6
Old-Age	30.4	29.2	28.1	28.2
Child	42.4	45.6	43.4	43.5

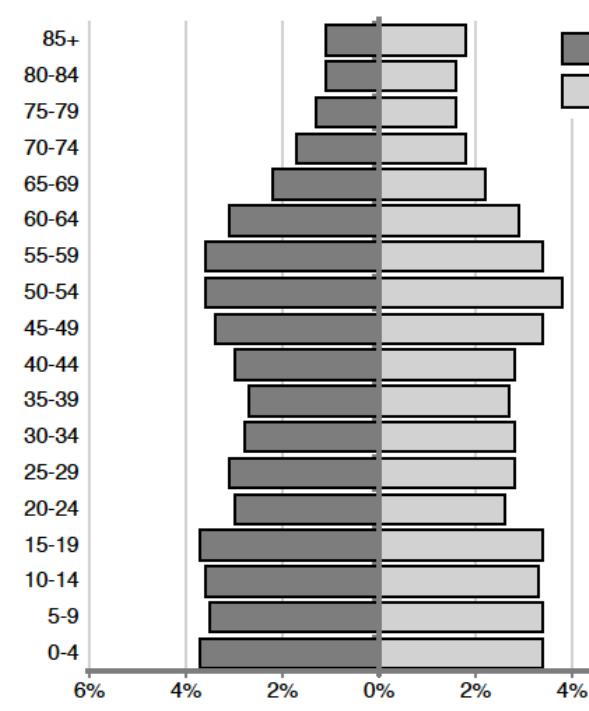
<sup>a</sup>No husband present; <sup>b</sup>No wife present; <sup>c</sup>Households with individuals under 18 years; <sup>d</sup>Households with individuals 65 years and over

<sup>5</sup>Age Dependency Ratio

#### Marshalltown, Iowa Population Pyramid, 2010<sup>1,6</sup>



#### Marshall County Population Pyramid, 2010<sup>1,6</sup>



# https://indicators.extension.iastate.edu/#DDMs

## Socioeconomic Profile

The median<sup>4</sup> household income in Marshalltown is less than the median household income of Marshall County. The median value of owner-occupied housing units is lower in Marshalltown than for Marshall County. There's a higher percentage of vacant housing units in Marshalltown than there is for Marshall County. Many housing units in Marshalltown were built prior to 1939. There is the same percentage of individuals 25 and older with a Bachelor's degree or higher in Marshalltown compared to Marshall County.

### Median Household and Per Capita Income, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Total Households	10,051	+/- 255	15,293	+/- 268
Less than \$34,999	32.2%	+/- 2.6%	28.8%	+/- 2.2%
\$35,000 To \$49,999	16.0%	+/- 2.5%	15.1%	+/- 1.8%
\$50,000 To \$99,999	38.2%	+/- 2.2%	39.6%	+/- 1.9%
\$100,000 Or More	13.5%	+/- 1.9%	16.5%	+/- 1.6%
Median Household Income <sup>4</sup>	\$50,934	+/- \$1,530	\$54,193	+/- \$2,022
Median Family Income <sup>4</sup>	\$57,947	+/- \$3,635	\$63,425	+/- \$1,549
Per Capita Income	\$23,059	+/- \$1,105	\$25,197	+/- \$812

### Educational Attainment, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Population 25 and older	17,865	+/- 235	27,001	+/- 111
High School Graduate or Higher	79.7%	+/- 1.6%	84.7%	+/- 1.1%
Bachelor's Degree or Higher	19.5%	+/- 2.1%	19.5%	+/- 1.4%

\*MOE = the margin of error for American Community Survey estimates<sup>3</sup> which is a numerical value that when added to or subtracted from the point estimate value gives the range of a 90% confidence interval around the estimate.

\*\*MOE is high, use county estimate.

In Marshalltown there is a higher percentage of workers in production, transportation, and material moving occupations than any other occupation category. The production, transportation, and material moving occupation category makes up 28.5% of occupations of the civilian employed population in the city.

### Occupation of the Civilian Employed Population, 2012-2016<sup>3</sup>

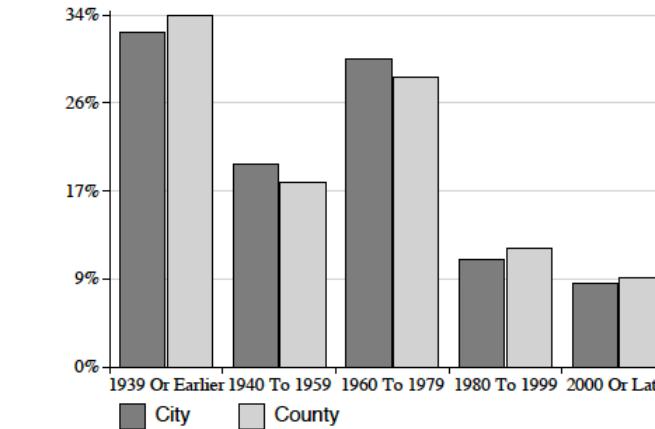
	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Civilian employed population 16 years and over	12,528	+/- 413	19,423	+/- 431
Management, business, science, and arts	23.1%	+/- 2.3%	26.1%	+/- 1.7%
Service	19.3%	+/- 2.4%	17.6%	+/- 1.7%
Sales and office	19.4%	+/- 2.3%	19.7%	+/- 1.6%
Natural resources, construction, and maintenance	9.7%	+/- 1.7%	10.5%	+/- 1.2%
Production, transportation, and material moving	28.5%	+/- 2.8%	26.2%	+/- 2.1%

## Marshalltown, Iowa

### Housing Characteristics, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Total Units	11,009	+/- 187	16,729	+/- 105
Vacant	8.7%	+/- 2.1%	8.6%	+/- 1.4%
Occupied	91.3%	+/- 2.1%	91.4%	+/- 1.4%
Occupied <sup>a</sup>	10,051	+/- 255	15,293	+/- 268
Owner	66.3%	+/- 2.6%	71.9%	+/- 1.8%
Renter	33.7%	+/- 2.6%	28.1%	+/- 1.8%
Rent <sup>b,4</sup>	\$633	+/- \$28	\$642	+/- \$30
Value <sup>c,4</sup>	\$98,800	+/- \$5,489	\$104,600	+/- \$3,392

### Percent Housing by Year Built, 2012-2016<sup>3</sup>



## Socioeconomic Profile

Marshalltown has a lower proportion of the population age 16 or older in the labor force than Marshall County. A portion of those who are not in the labor force are people who are retired. Earnings data are provided for the population 16 and over who have earnings. Median<sup>4</sup> earnings in Marshalltown tend to be lower than the median earnings for Marshall County. Families with children tend to have a higher rate of poverty than families without children.

### Median Employment Earnings, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Population 16+ <sup>a</sup>	13,998	+/- 412	21,542	+/- 445
Median Earnings	\$27,243	+/- \$2,256	\$30,035	+/- \$1,648
Female	\$22,803	+/- \$1,751	\$23,857	+/- \$1,358
Female, full time <sup>b</sup>	\$32,078	+/- \$2,594	\$32,448	+/- \$2,697
Male	\$31,886	+/- \$1,446	\$34,888	+/- \$2,177
Male, full time <sup>b</sup>	\$40,250	+/- \$2,057	\$42,711	+/- \$2,301

<sup>a</sup>with earnings, <sup>b</sup>year round, \*\*MOE is high, use county estimate.

### Disability Status and Health Insurance Coverage of the Civilian Noninstitutionalized Population, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Population <sup>a</sup>	26,893	+/- 219	39,882	+/- 216
With a disability <sup>b</sup>	12.8%	+/- 1.4%	12.6%	+/- 1.1%
With Health Insurance	90.0%	+/- 1.7%	92.3%	+/- 1.1%
With Private <sup>c</sup> Coverage	65.6%	+/- 2.8%	71.4%	+/- 2.1%
With Public <sup>d</sup> Coverage	40.9%	+/- 2.6%	37.4%	+/- 1.9%
No Health Insurance	10.0%	+/- 1.7%	7.7%	+/- 1.1%

<sup>a</sup>Civilian Noninstitutionalized Population, <sup>b</sup>limitations of activities or inability for full participation, <sup>c</sup>provided by employer, union, bought by individual, and some military plans, <sup>d</sup>includes Medicare, Medicaid, VA Health Care, children's CHIP, and some state plans, \*\*MOE is high, use county estimate.

### Employment Status, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Population 16+	21,260	+/- 248	31,753	+/- 136
in labor force	63.4%	+/- 1.8%	65.0%	+/- 1.2%
not in labor force	36.6%	+/- 1.8%	35.0%	+/- 1.2%
Civilian labor force	13,485	+/- 403	20,635	+/- 423
Unemployed	7.1%	+/- 1.4%	5.9%	+/- 1.0%

\*\*MOE is high, use county estimate.

### Individuals and Families Below Poverty Level, 2012-2016<sup>3</sup>

	City Estimate	MOE* Estimate	County Estimate	MOE* Estimate
Total Population <sup>a</sup>	26,747	+/- 224	39,709	+/- 221
Below poverty	13.5%	+/- 2.7%	10.7%	+/- 1.9%
17 and under	19.6%	+/- 5.7%	15.4%	+/- 4.1%
18 - 64	12.9%	+/- 2.5%	10.3%	+/- 1.8%
65+	5.5%	+/- 1.9%	5.2%	+/- 1.5%
All Families	8.6%	+/- 2.3%	6.7%	+/- 1.6%
with children	15.6%	+/- 4.6%	12.3%	+/- 3.3%
Married Couple	3.7%	+/- 1.7%	2.7%	+/- 1.1%
with children	***%	+/- ***%	5.1%	+/- 2.5%
Female HH <sup>b</sup>	30.3%	+/- 10.1%	26.5%	+/- 7.6%
with children	37.4%	+/- 12.2%	33.2%	+/- 9.7%

<sup>a</sup>for whom poverty status is determined, <sup>b</sup>female householder, no husband present, \*\*MOE is high, use county estimate.

### This series was prepared by:

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For more information on these and other topics, please call the Extension and Outreach specialists listed on the cover page or visit the ISU Extension and Outreach Indicators Portal at [indicators.extension.iastate.edu](http://indicators.extension.iastate.edu).

<sup>1</sup>U.S. Census Bureau; Decennial Census 1990, 2000, 2010 Summary File 1  
<sup>2</sup>U.S. Census Bureau; Population Estimates Program 2016  
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# Accessing GIS Data - Public Repositories

<https://ortho.gis.iastate.edu/>

The screenshot shows the homepage of the Iowa Geographic Map Server. At the top, there's a navigation bar with links for Home, Map Layers, Map Viewers, Map Search, REST Services, and WMS Directory. Below the navigation is a large title "Iowa Geographic Map Server". Underneath the title are two map viewers: one showing a satellite view of Iowa and another showing a detailed map of the state's county boundaries. A sidebar on the left provides options for base map downloads, zoom levels, and map overlays. At the bottom, a paragraph explains the site's purpose and attribution information.

Iowa State University Geographic Information Systems Support & Research Facility

Home Map Layers Map Viewers Map Search REST Services WMS Directory

## Iowa Geographic Map Server

This site provides free access to Iowa geographic map data through online map viewers and web map services. The site was developed by the Iowa State University Geographic Information Systems Support and Research Facility in cooperation with the Iowa Department of Natural Resources, the USDA Natural Resources Conservation Service, and the Massachusetts Institute of Technology. This site was first launched in March 1999. Please provide attribution to the Iowa State University Geographic Information Systems Support and Research Facility and data providers when using map images from this site in publications or presentations.

<https://geodata.iowa.gov/>

The screenshot shows the homepage of the Iowa Geospatial Data website. At the top, there's a blue header with the "Iowa Geospatial Data" logo and navigation links for Home, Data Collections and Projects, About, and Guidelines and Standards. Below the header is a section titled "Browse Data by Category" featuring a grid of 16 icons representing different thematic categories: Biota, Boundaries, Climatology and Weather, Society and Culture, Agriculture, Health, Elevation, Environment, Imagery, Economy and Finance, Geoscientific, Location, Transportation, and Water. Each icon has a corresponding label below it.

Iowa Geospatial Data

Home Data Collections and Projects About Guidelines and Standards

## Browse Data by Category

Data is organized into thematic categories click on one of the categories below to find data. If you can't find the category you are looking for try the search box at the top of the page.

Biota  
Boundaries  
Climatology and Weather  
Society and Culture  
Agriculture  
Health  
Elevation  
Environment  
Imagery  
Economy and Finance  
Geoscientific  
Location  
Transportation  
Water

# Many sources of imagery

**Beacon™ Story County, IA / City of Ames**

Layers Map Search Ames Comp Story Comp Results Comp Results

Layer List Legend

Quick Links: Property Search View Map

Layers:

- Parcel Mapping
  - Parcel Numbers
  - Parcels**
  - Lots
  - Right of Way
- Zoning
- FEMA Flood Data
- Public Land Survey
- Soil Survey
- Labels and Dimensions - 400 scale
- Labels and Dimensions - 100 scale
- Labels and Dimensions - 50 scale
- Corporate Limits
- Subdivisions
- Road Centerlines
- Railroad
- Streams/Lakes
- Aerial Photography (2017)
- Ames Aerial Photography (2015)
- Aerial Photography (2013)
- Ames Aerial Photography (2012)
- Aerial Photography (2008)

Restore Layer Defaults

Howard Ave

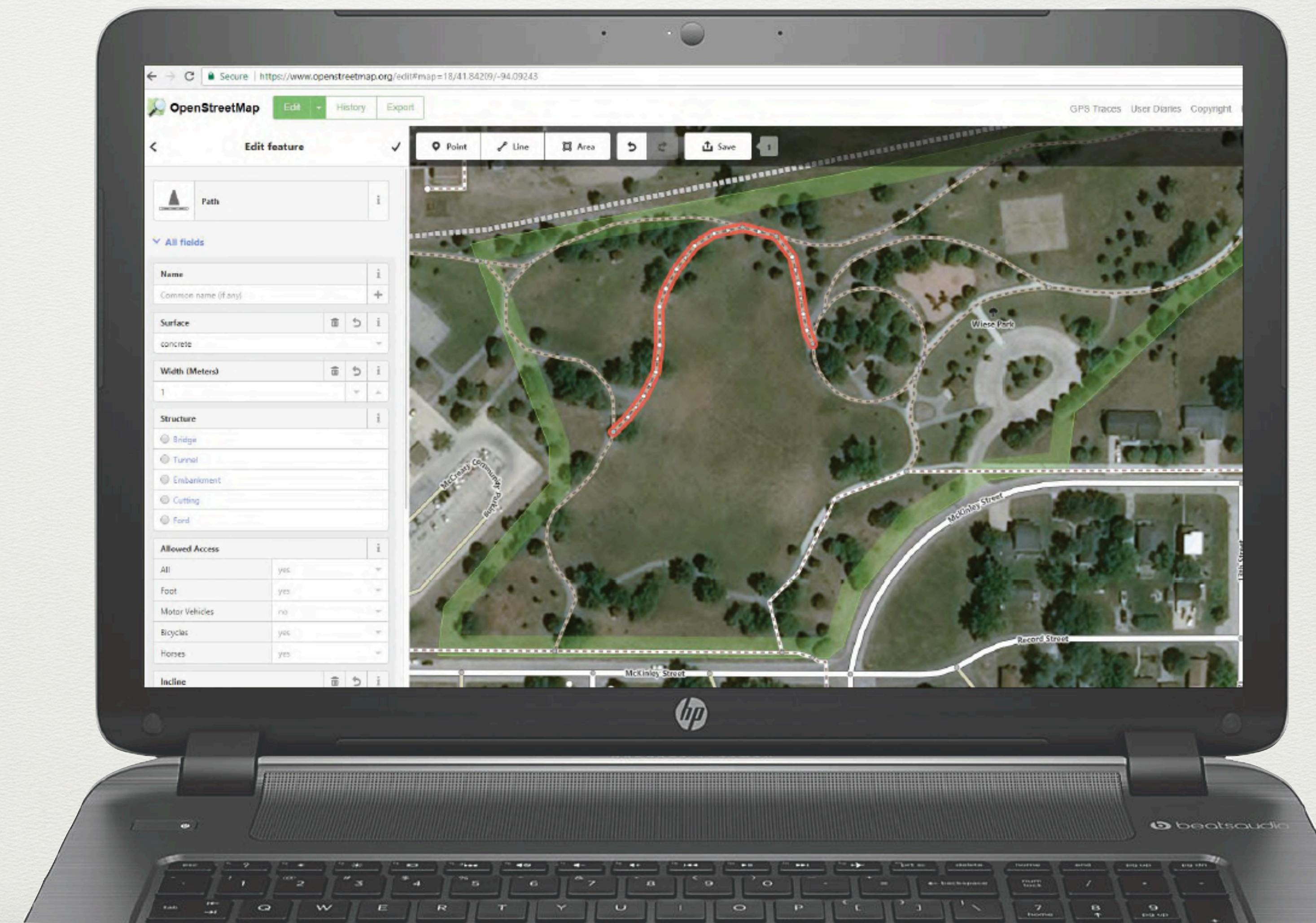
Story St

50 ft ▲

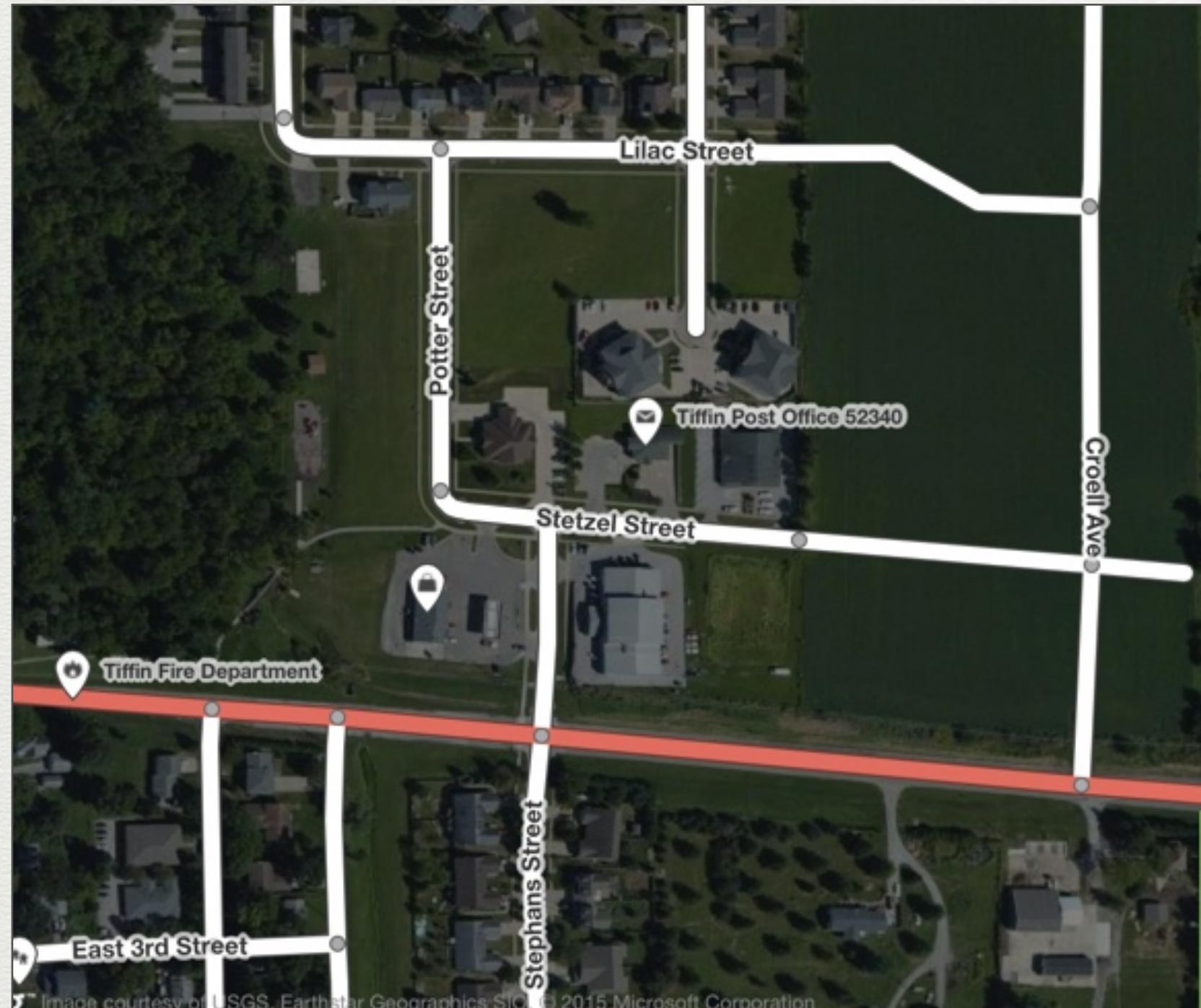
POWERED BY esri  
4878116.21, 3471657.92



# OpenStreetMap Crowd-sourced data collection



# OpenStreetMap



<https://www.extension.iastate.edu/communities/gis/quicktasksheets>

**IOWA STATE UNIVERSITY Extension and Outreach** 

### Editing OpenStreetMap: iD Editor

Welcome to the Essential ArcGIS Task Sheet Series. This series supplements the Iowa State University Geospatial Technology Training Program short course series. The task sheets are designed to provide quick, easy instructions for performing mapping tasks.

OpenStreetMap (OSM) is a project that creates and distributes free geographic data for the world. Editing OpenStreetMap is the process of making changes to the map data - such as adding roads, grocery stores, or changing feature names. Several editors can be used to edit features in the OpenStreetMap database. This task sheet will focus on using the iD editor, it is an easy to use, in-browser editor and is a default editor for OpenStreetMap data.

#### 1. Introduction

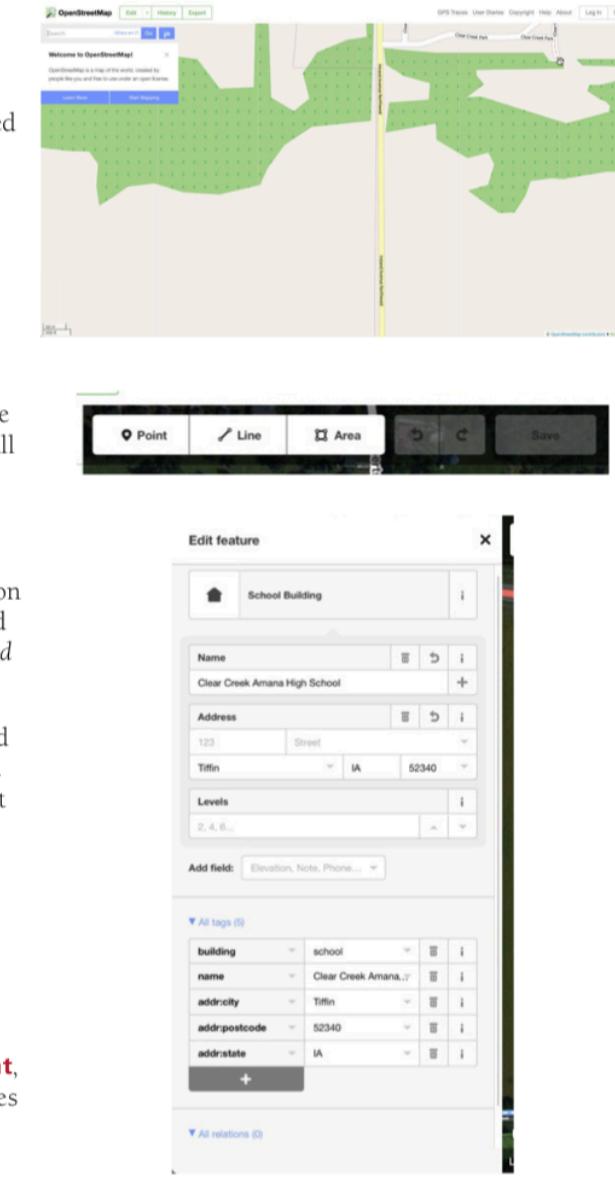
- Before you can start editing OpenStreetMap you will need to create an account. Navigate to <https://www.openstreetmap.org> and click **Sign Up**. You will be asked to provide your email address, display name and a password.
- After you've created an account, **Log In** with your new account information.

#### 2. OSM Editing Process for iD Editor

- Click on the down arrow next to the **Edit** button on the OSM web page. Three different type of OSM editors will be displayed, select **Edit with iD (in-browser editor)**. You will now have the option to add a **Point**, **Line**, or **Area** element to the map.
- After adding an element, add the descriptive information about the feature. For example, feature type, name, and address. Note: descriptive information fields will vary based on feature type and element type.
- Next, add tags to each feature. Tags consist of a key and a value. Each tag describes a specific feature of the data element. Both the key and the value are free format text fields, but there are conventions of how tags should be used. Note: tagging is a very important part of OSM data. Please review information on tagging at [http://wiki.openstreetmap.org/wiki/Map\\_Features](http://wiki.openstreetmap.org/wiki/Map_Features).

#### 3. Editing Example

- Zoom to an area you are familiar with and use the **Point**, **Line** or **Area** tool to begin mapping well known features or adding information to existing features. For this demonstration I mapped features in Tiffin, Iowa. Note: features become uneditable at further zoom levels.



# <http://geojson.io/>

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3   "features": [
4     {
5       "type": "Feature",
6       "properties": {},
7       "geometry": {
8         "type": "Point",
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10            -94.207763671875,
11            42.48019996901214
12          ]
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14      },
15      {
16        "type": "Feature",
17        "properties": {},
18        "geometry": {
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20          "coordinates": [
21            -93.61450195312499,
22            41.64828831259533
23          ]
24        }
25      },
26      {
27        "type": "Feature",
28        "properties": {},
29        "geometry": {
30          "type": "Point",
31          "coordinates": [
32            -92.35107421874999,
33            42.52879629320373
34          ]
35        }
36      }
37    ]
}
```

# QGIS Demo

