

To: Mayor and City Council  
From: Damion Pregitzer, Traffic Engineer  
Date: January 31, 2023  
Subject: Workshop Update - Bicycle & Pedestrian Master Plan (Walk-Bike-Roll)

In Fall 2022, City Council requested at least three progress meetings with staff and Toole Design (the consultant team) to stay current on the development of the Bicycle and Pedestrian Master Plan. On January 31, 2023, staff will provide the second of those meetings in a workshop format. The purpose is to discuss the following:

- 1) Review the public input the team has received to date (no input will be taken at this meeting),
- 2) Provide a summary of existing network conditions, and
- 3) Discuss wayfinding concepts.

Toole Design has created a presentation with this information, which is attached to this memo. The presentation contains significant data, analysis, and other valuable information collected thus far during the project. During the workshop, Toole Design will review these data and analytical tools and how they will benefit the plan.

At the end of the workshop, staff will detail the schedule for the project moving forward. This will include the information to be released as we move ahead and how the team plans to further engage the public to develop a comprehensive plan for the future of walking and biking in Ames.



CITY OF  
Ames™



# Bicycle and Pedestrian Plan

CITY COUNCIL UPDATE  
JANUARY 31, 2023

# Agenda



**Public Input to Date**

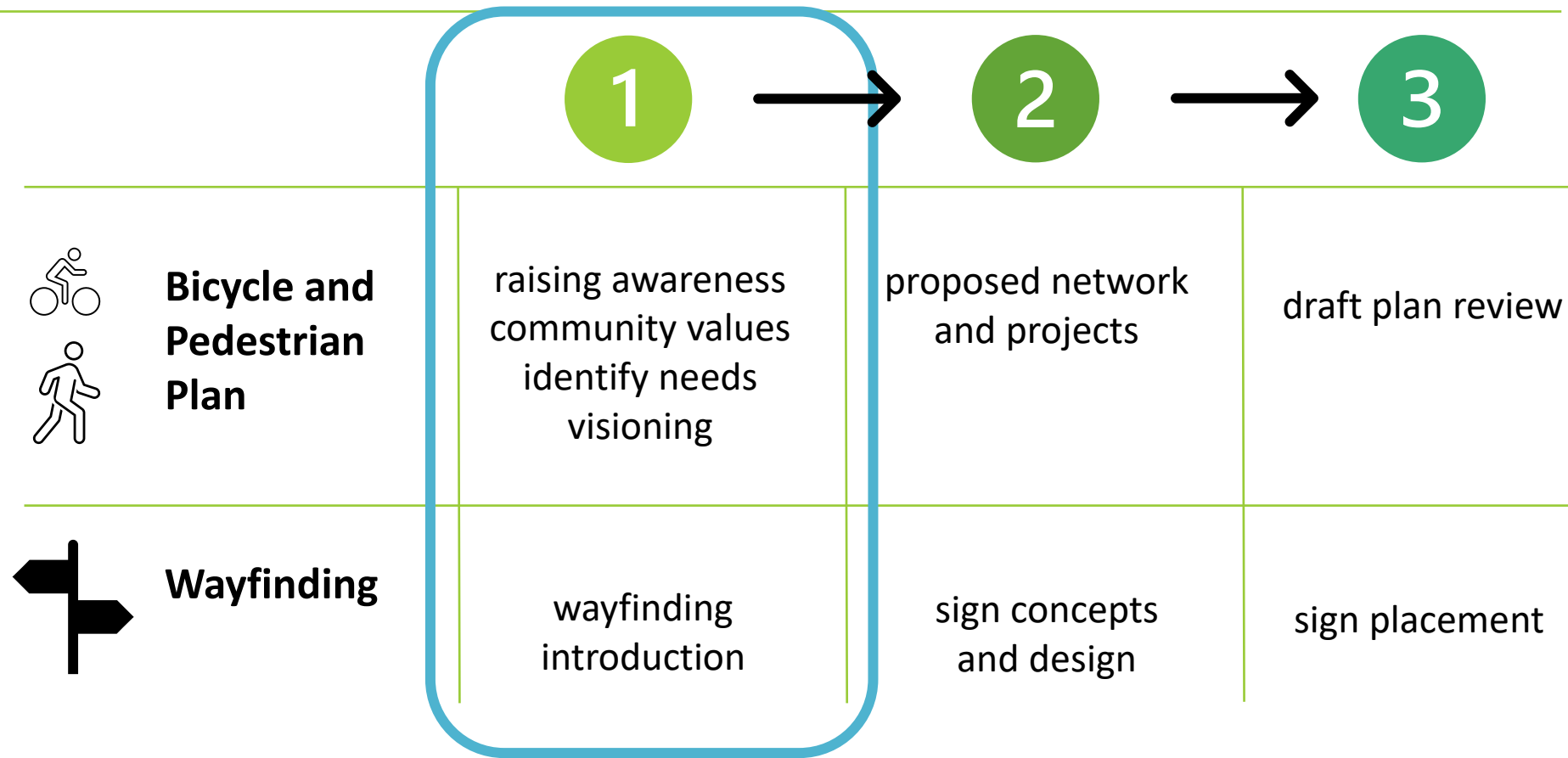


**Existing Conditions**

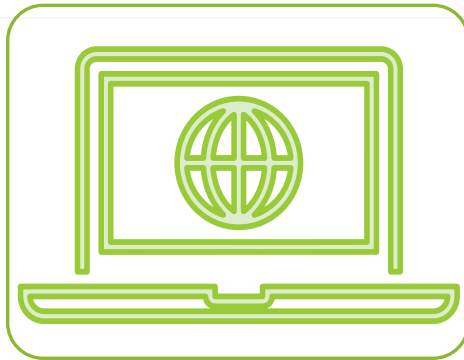


**Wayfinding Concepts**

# Public Input – Three Phases



# Phase 1 Virtual & Online Engagement



## Project Website

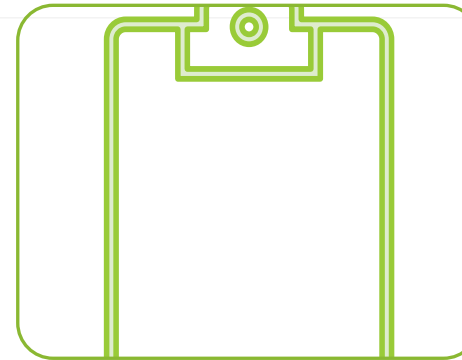
[www.cityofames.org/  
walkbikeroll](http://www.cityofames.org/walkbikeroll)

Included:  
 Project timeline  
 Project background  
 Participation opportunities  
 (poll and survey)  
 Communication resources  
 (project newsletter, social  
 media)



## Kick-off Email

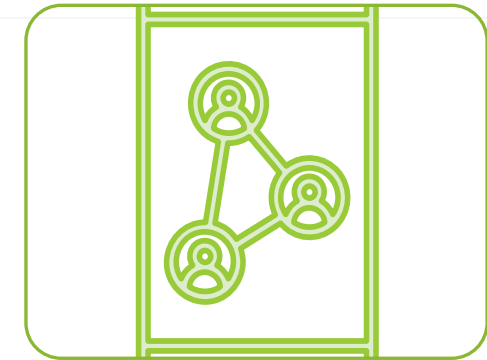
Included information on:  
 Project timeline  
 Project survey  
 Social media  
 website



## Poll & Survey

Poll: Asked respondents to  
 complete the sentence:  
 "Walking, biking, and rolling  
 in Ames should be..."

Survey: Asked about  
 transportation habits,  
 destinations for walking and  
 biking, prioritizing walking  
 and biking infrastructure.



## Social Media

Posts included:  
 Introduction to the project  
 Link to survey

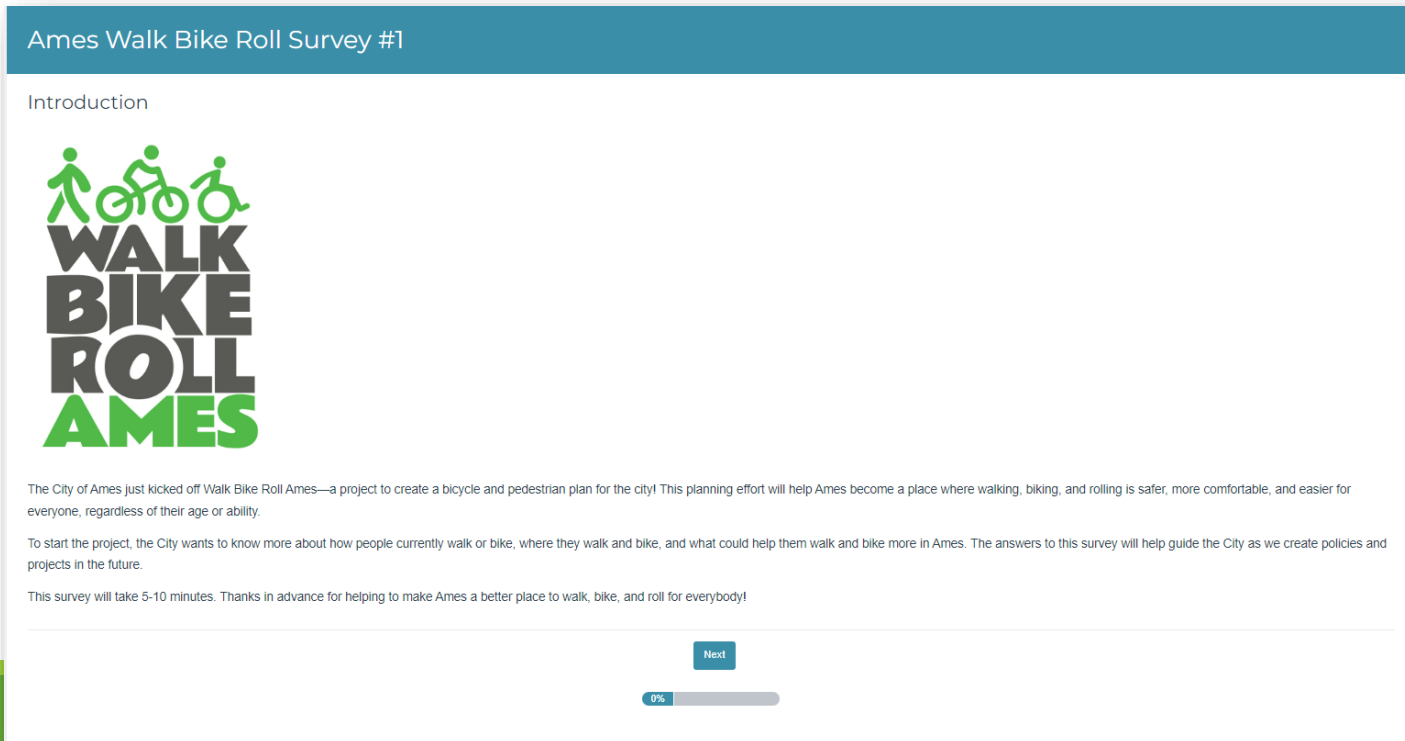


# Online Poll: Walking, biking, and rolling in Ames should be...




# Online survey summary

- Open from November 1<sup>st</sup> to December 2<sup>nd</sup>, 2023
- Received 393 completed responses
- Advertised through the City website, social media, and e-blasts
- Results on following slides



Ames Walk Bike Roll Survey #1

Introduction



The City of Ames just kicked off Walk Bike Roll Ames—a project to create a bicycle and pedestrian plan for the city! This planning effort will help Ames become a place where walking, biking, and rolling is safer, more comfortable, and easier for everyone, regardless of their age or ability.

To start the project, the City wants to know more about how people currently walk or bike, where they walk and bike, and what could help them walk and bike more in Ames. The answers to this survey will help guide the City as we create policies and projects in the future.

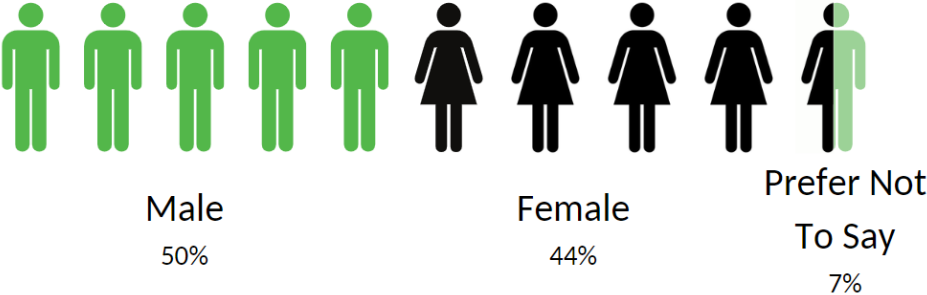
This survey will take 5-10 minutes. Thanks in advance for helping to make Ames a better place to walk, bike, and roll for everybody!

Next

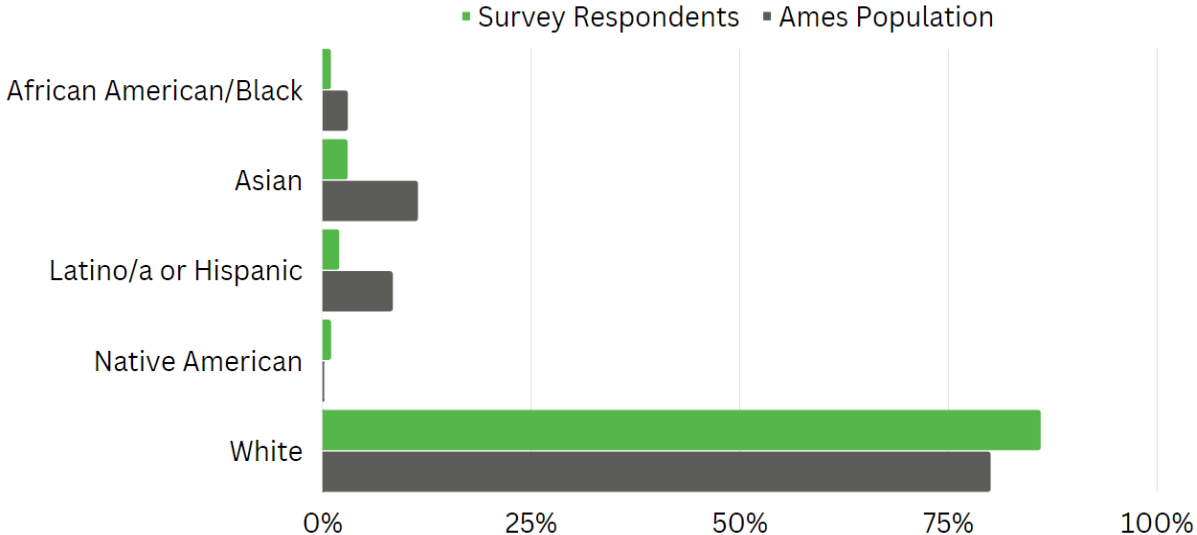
0%

# Survey respondent demographics

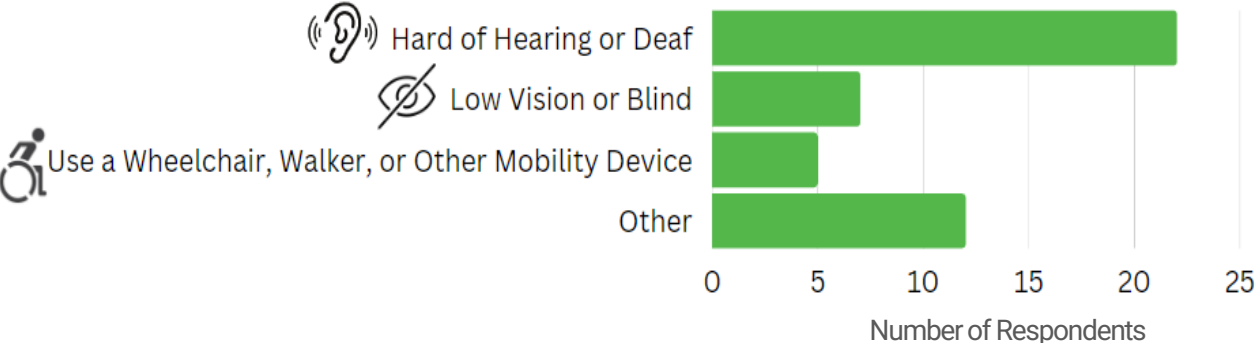
## Gender



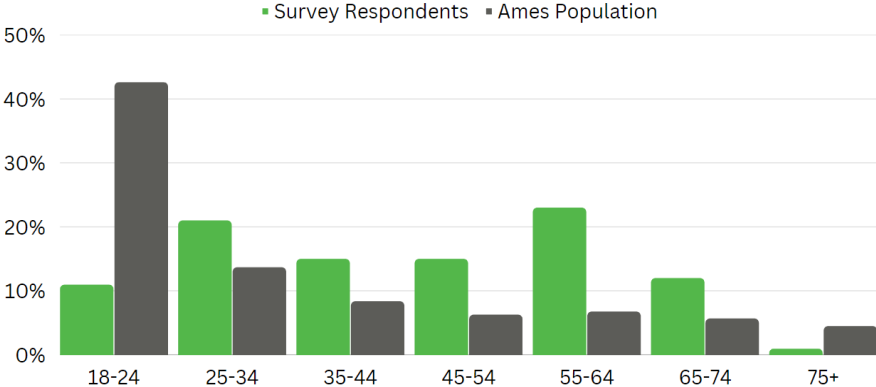
## Race & Ethnicity



## Ability



## Age

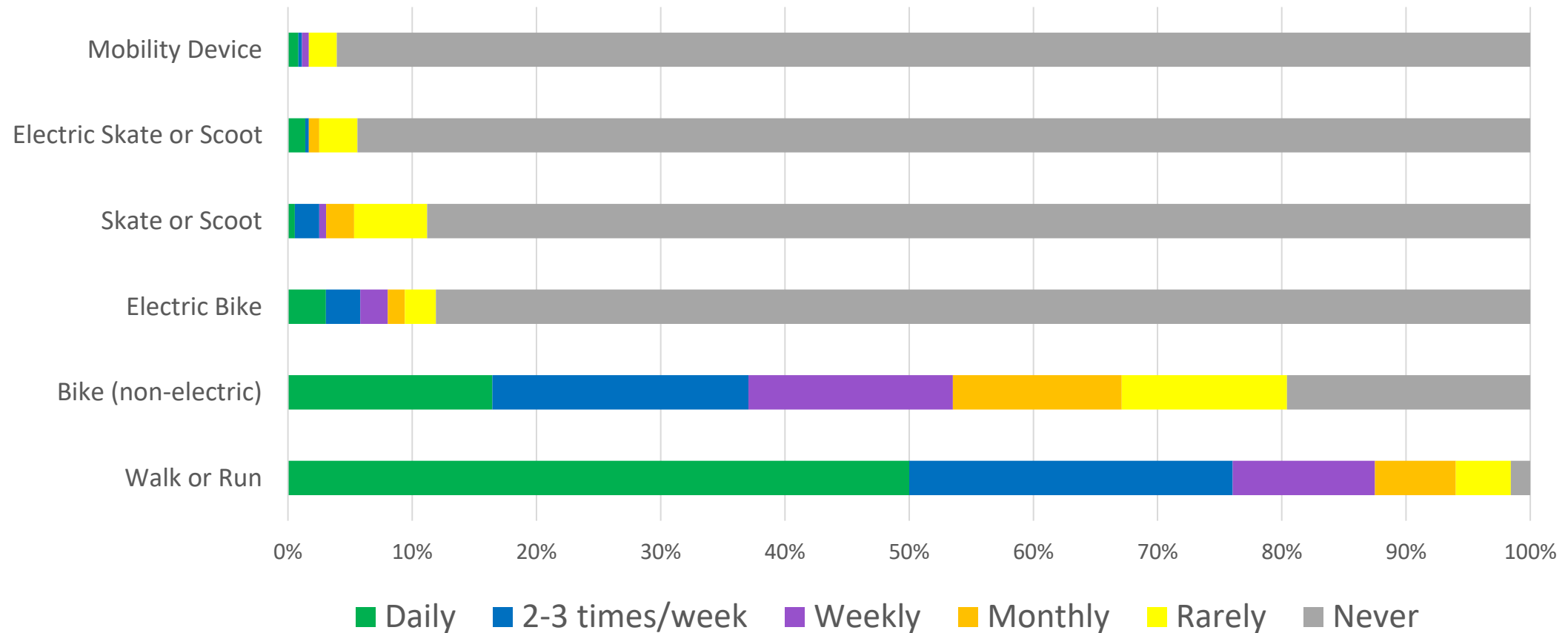


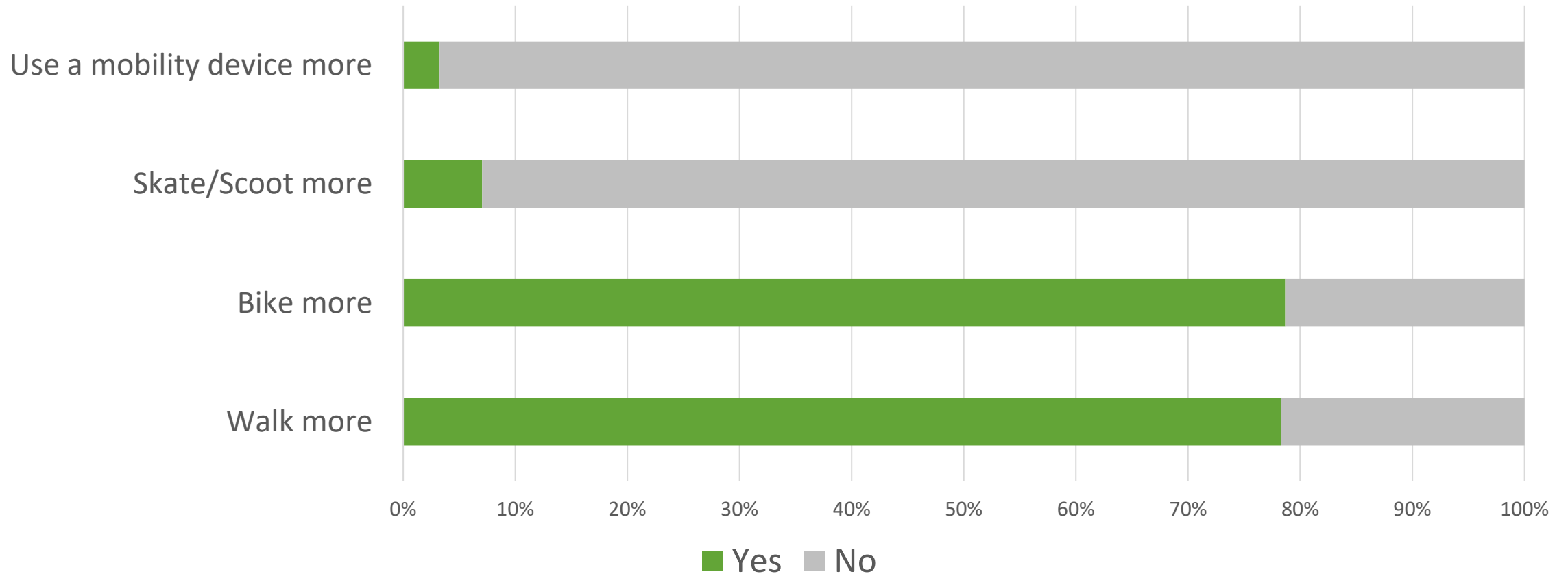


# Survey respondent's relationship with Ames



# How often respondents use each mode





# What survey respondents would like to do more

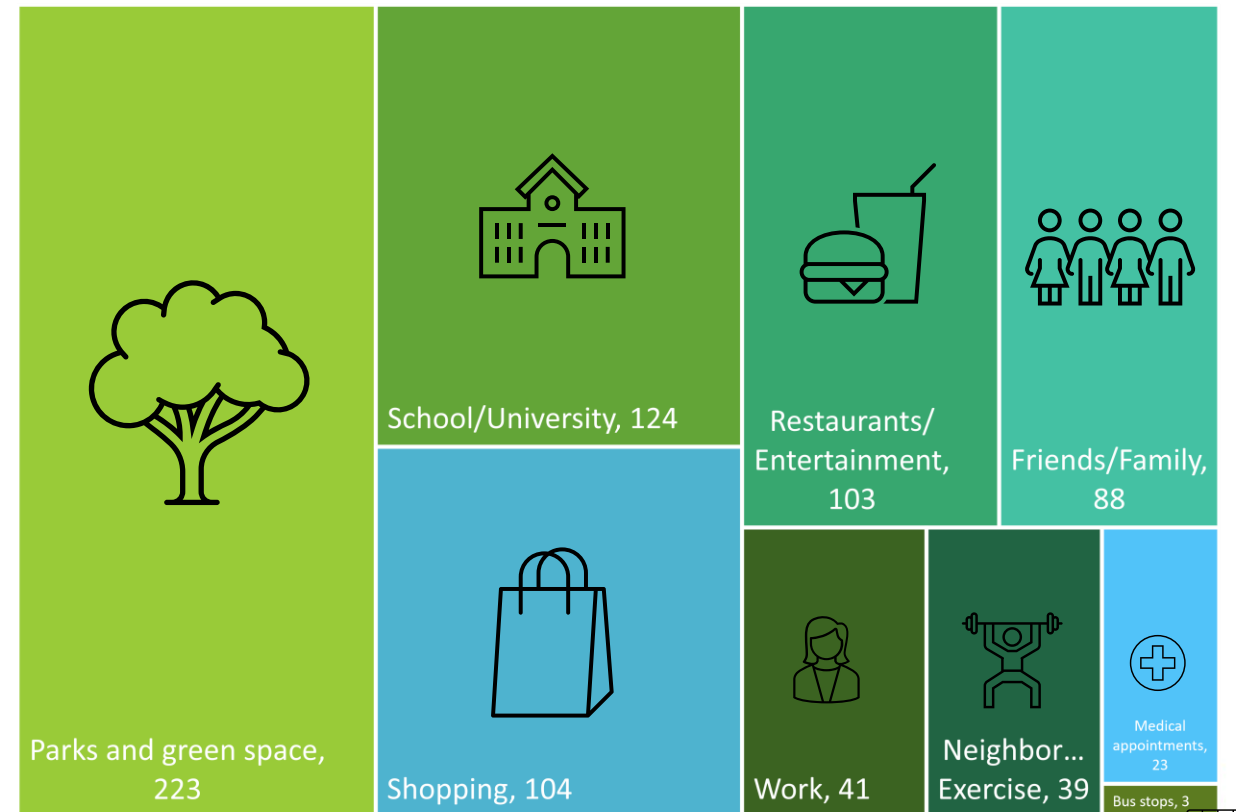
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# Where survey respondents are going

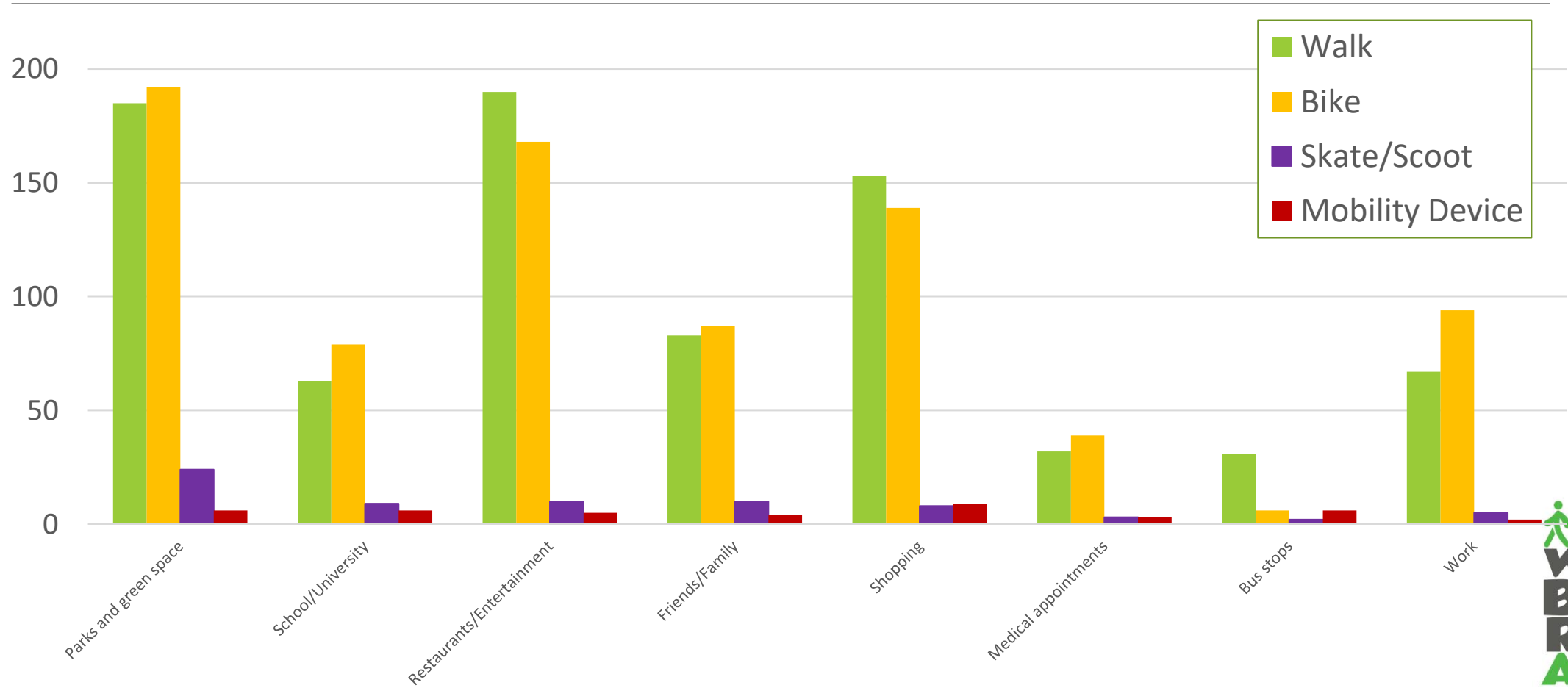
## Top Walking Destinations

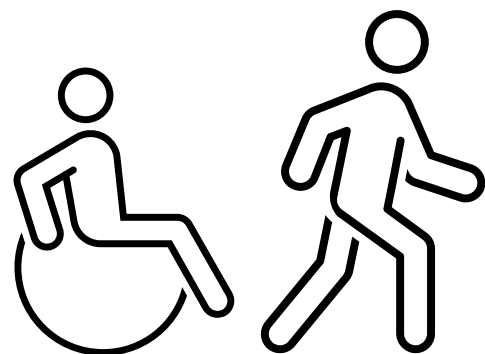
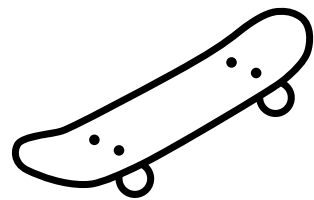


## Top Biking Destinations



# How survey participants would like to get to various destinations (if they could)

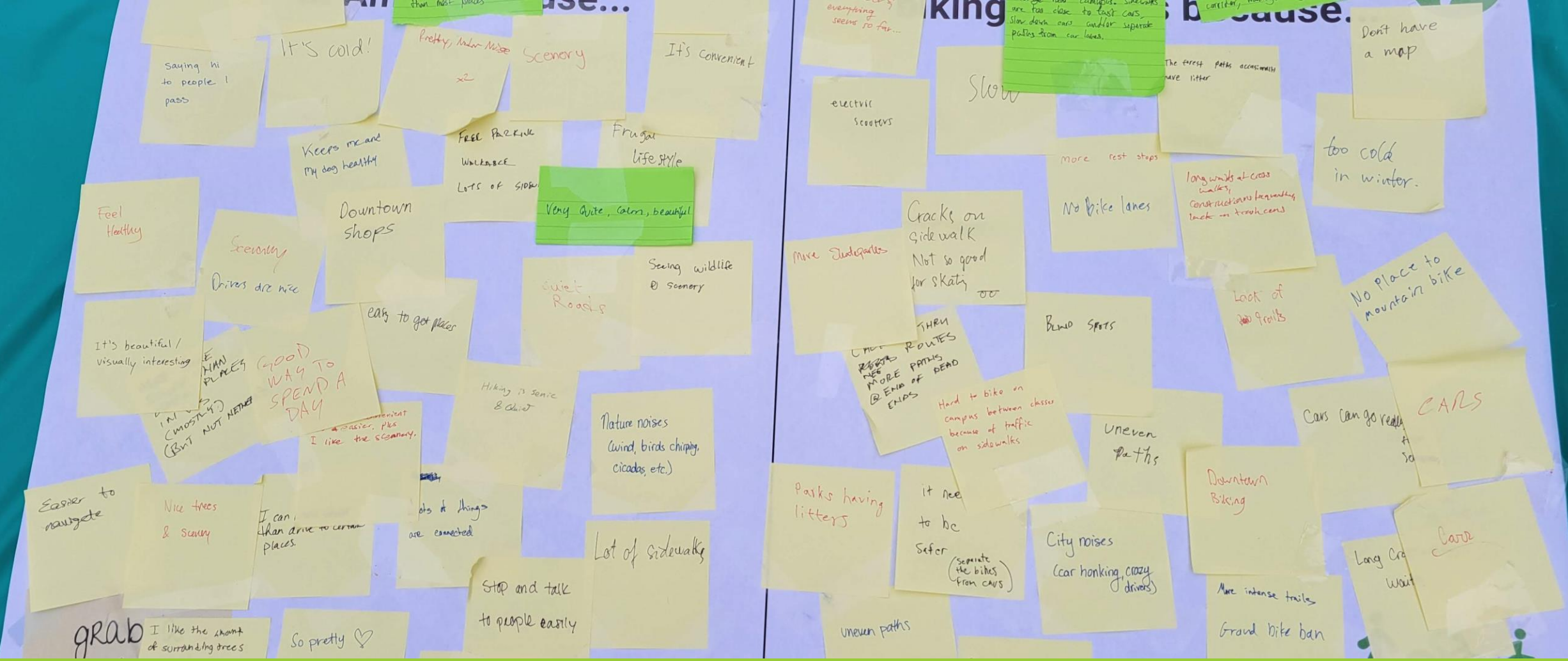




## What respondents think are the most important thing to improve/expand in Ames

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1. More places to bike (167 respondents)
2. Safer places to cross the street (155 respondents)
3. More places to walk/use a mobility device (51 respondents)
4. More places to skate or scoot (4 respondents)



# Phase 1 In-Person Engagement

Saying hi to people I pass

It's cold!

Pretty, Natur Noise Scenery

It's convenient

Keeps me and my dog healthy

FREE PARKING  
WALKABLE  
LOTS OF SPA...

Fragrant life style

Very quiet, calm, beautiful

Feel Healthy

Downtown shops

Scenery

Drivers drive nice

quiet Roads

Seeing wildlife @ Scenery

It's beautiful / visually interesting

GOOD WAY TO SPEND A DAY

easy to get places

Hiking is scenic & quiet

Nature noises (wind, birds chirping, cicadas, etc.)

Easier to navigate

Nice trees & scenery

I can... than drive to certain places.

lots of things are connected

Lot of sidewalks

stop and talk to people easily

grab

I like the amount of surrounding trees

So pretty ♡

electric scooters

Slow

more rest stops

No bike lanes

long waits at crosswalks, construction heavily back on trench cuts

too cold in winter.

No place to mount bike

Cracks on sidewalk Not so good for skating

more skateparks

Bird spots

Lack of trails

THRU ROUTES  
ROADS  
NEED MORE PATHS @ END OF ROAD

Hard to bike on campus between classes because of traffic on sidewalks

Uneven paths

Cars can go really fast

CARS

Parks having litter

it needs to be safer

(separate the bikes from cars)

City noises (car honking, crazy drivers)

Downtown Biking

Long Car Wait

Car

uneven paths

More intense trails  
Grand bike ban

Slow down cars and/or separate paths from car lanes.

The forest paths occasionally have litter

Don't have a map

# Event Summary

- Staffed a booth at Iowa State's Sustainability Fair on October 25<sup>th</sup>, 2023
- ~40 people stopped by the table
- ~90% of participants were students, remaining were ISU faculty or community members
- Asked students about the following:
  - What walking and biking in Ames should be like
  - What they like and don't like about walking and biking in Ames





# ISU Event Feedback

## I like walking and biking in Ames because...



Exercise

Convenient

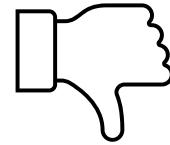
Inexpensive

Paths

Scenery, parks and nature

Plenty of sidewalks

## I don't like walking and biking in Ames because...



Cold/weather

Uneven paths and sidewalks

Cars (speed, crossings, safety)

No bikeshare/rental

Lack of paths and bike lanes

Theft/bike parking

## Walking and biking in Ames should be...



Enjoyable

Convenient

Comfortable

Green, beautiful, and scenic

Safe



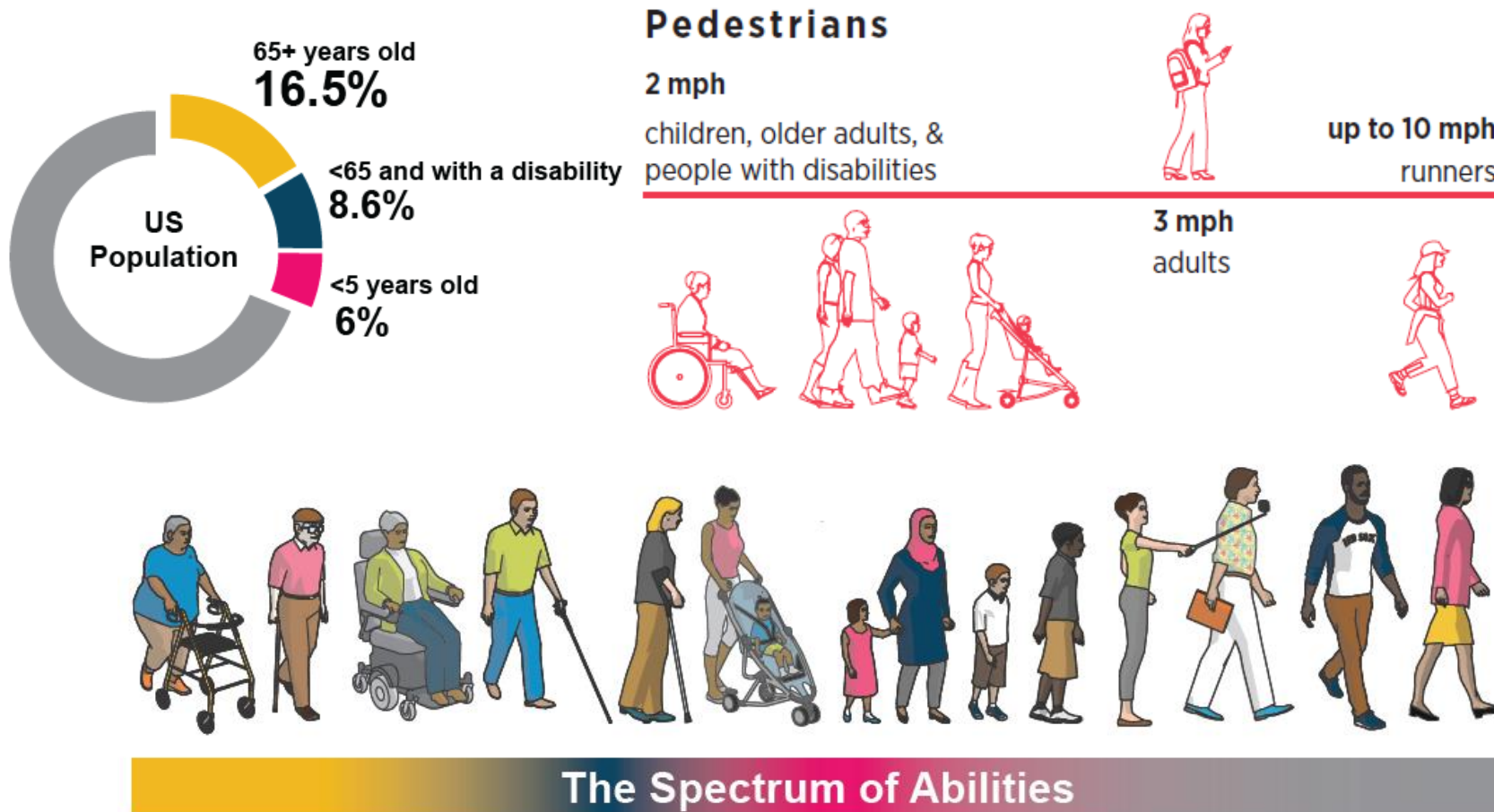
# Community Advisory Committee (CAC)

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- December: Vision and Goals Survey
- ~February to April: Three virtual meetings over a 6- to 8-week period:
  - Finalize Vision and Goals
  - Existing conditions overview
  - Facility types / toolkit
  - Network recommendations
  - Wayfinding
  - Prioritization



# Vision & Goals: Who Walks in Ames?



- Choice or lack thereof
- Physical ability, vision, hearing
- Age
- Cultural conventions
- Gender identity
- Solo vs with children
- Need to carry items
- Etc.



# Vision & Goals: Who Bikes in Ames?

## Interested but Concerned

**51%-56%** of the total population

Often not comfortable with bike lanes, may bike on sidewalks even if bike lanes are provided; prefer off-street or separated bicycle facilities or quiet or traffic-calmed residential roads. May not bike at all if bicycle facilities do not meet needs for perceived comfort.

## Somewhat Confident

**5-9%** of the total population

Generally prefer more separated facilities, but are comfortable riding in bicycle lanes or on paved shoulders if need be.

## Highly Confident

**4-7%** of the total population

Comfortable riding with traffic; will use roads without bike lanes.



**LOW STRESS  
TOLERANCE**

**HIGH STRESS  
TOLERANCE**

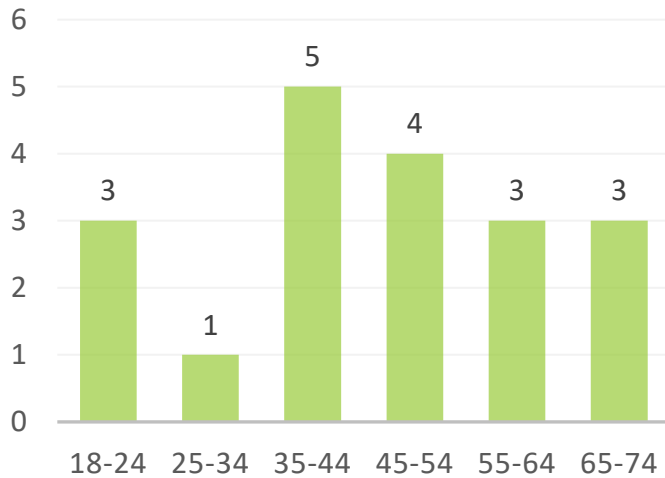
- Age
- Gender identity
- Race, ethnicity, skin tone
- Physical ability (disabilities and level of fitness)
- Biking to work versus a long recreational ride
- Temporary student versus long-term resident
- Pulling a trailer or riding a cargo bike
- Biking alone or with kids
- Time of day (lighting, rush hour, etc.)

# Vision and Goals Survey Overview – who took the survey?

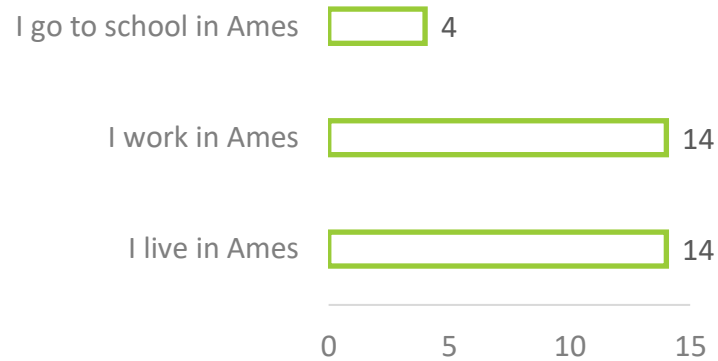
## What committee are you on?



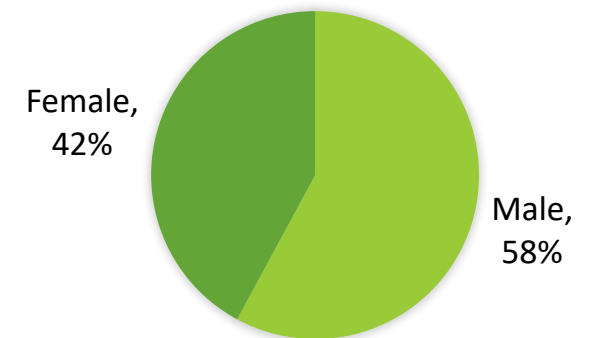
## What is your age?



## What is your relation to Ames?



## What gender do you identify with?



# Draft Vision Statement Reactions

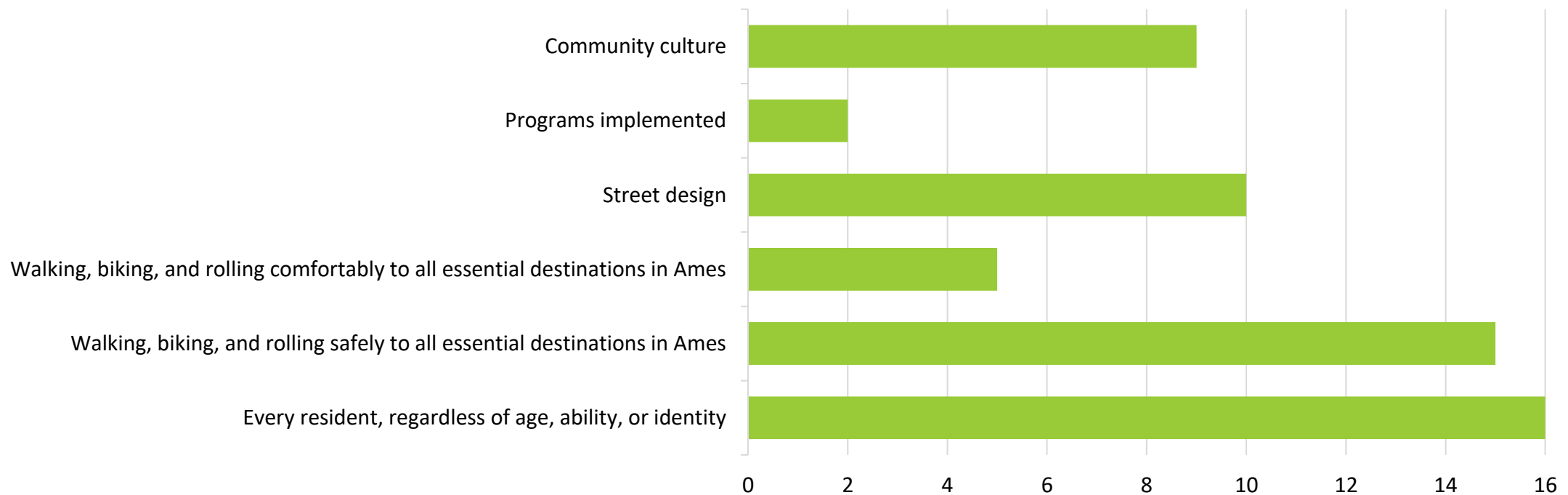
**Draft Vision:** *Walking, biking, and rolling is important to the Ames community, and we envision the day when every person—regardless of age, ability, or identity—can walk, bike, and roll safely and comfortably to all their essential destinations in Ames. Streets will be designed, programs will be implemented, and the community will foster a culture to support walking, biking, and rolling for all.*

Respondents liked	Respondents didn't like
It describes how the community will be changed if the plan is successful.	Can be more inclusive. Economic Status, Race/Color.
It is an inclusive statement both for users and city activities.	Don't like the phrase of "we envision a day"
I like the inclusive statement.	Including all ages and all ability levels makes this meaningless. Right away we have to carve out exceptions
I like that it encompasses "every person" and that design and programs will focus on a culture of supporting this vision for all.	<p>Too wordy - unessential words should be removed. Location and weather should be added to age, ability, and identity. Why only a street focus? Add trail, park, and sidewalk design to streets.</p> <p>The second sentence feels more like an objective.</p> <p>I don't think it explains why biking is important to Ames.</p> <p>Needs specificity about Ames that differentiates it from other municipalities.</p> <p>Housing proximity to desirable locations is important too.</p> <p>I think the statement is a tad too long.</p> <p>Not realistic/doable.</p>

# Important Parts of Vision

**Draft Vision:** *Walking, biking, and rolling is important to the Ames community, and we envision the day when every person—regardless of age, ability, or identity—can walk, bike, and roll safely and comfortably to all their essential destinations in Ames. Streets will be designed, programs will be implemented, and the community will foster a culture to support walking, biking, and rolling for all.*

What three parts of the vision statement do you think are the most important?



# Revised Vision Statement

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- **Draft:** *Walking, biking, and rolling is important to the Ames community, and we envision the day when every person—regardless of age, ability, or identity—can walk, bike, and roll safely and comfortably to all their essential destinations in Ames. Streets will be designed, programs will be implemented, and the community will foster a culture to support walking, biking, and rolling for all.*
- **Revised:** *Ames is a place where walking, biking, and rolling is safe, comfortable, enjoyable, convenient, and available to everyone—regardless of age, ability, identity, race, or economic status.*

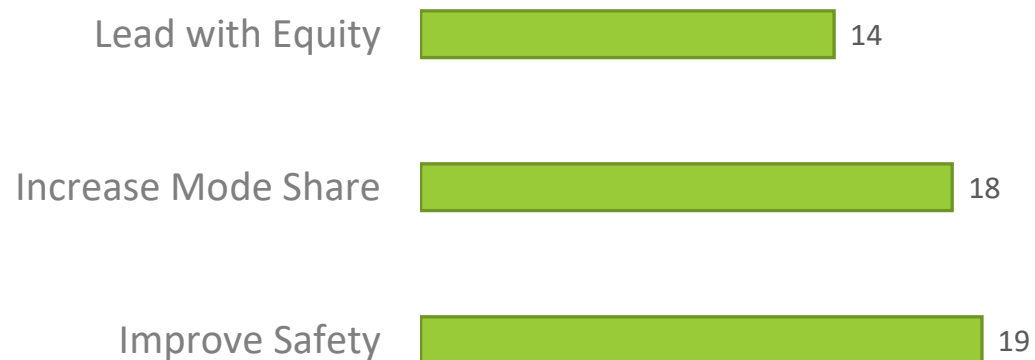




# Goal setting

- 1) Leading with equity
- 2) Increasing mode share (e.g., increasing the percentage of trips in Ames completed by walking, biking, or rolling)
- 3) Improving safety

Do you think these categories of goals should be included in Walk Bike Roll Ames?

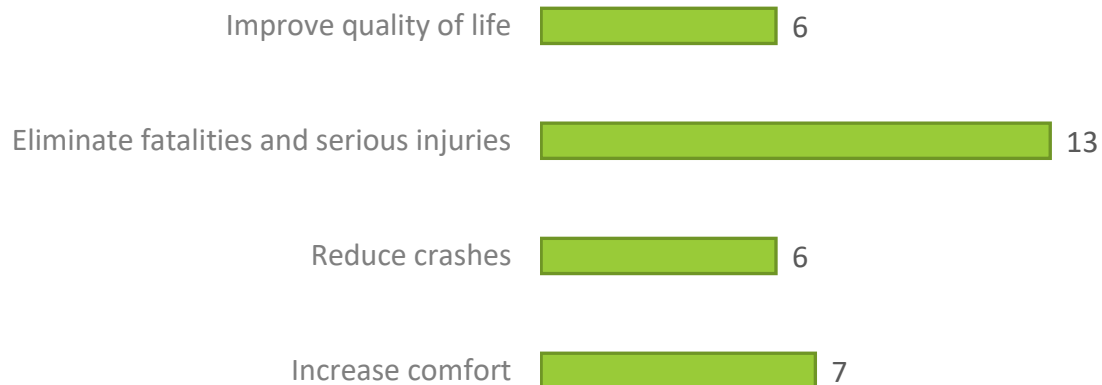


## Other goal categories suggested by respondents:

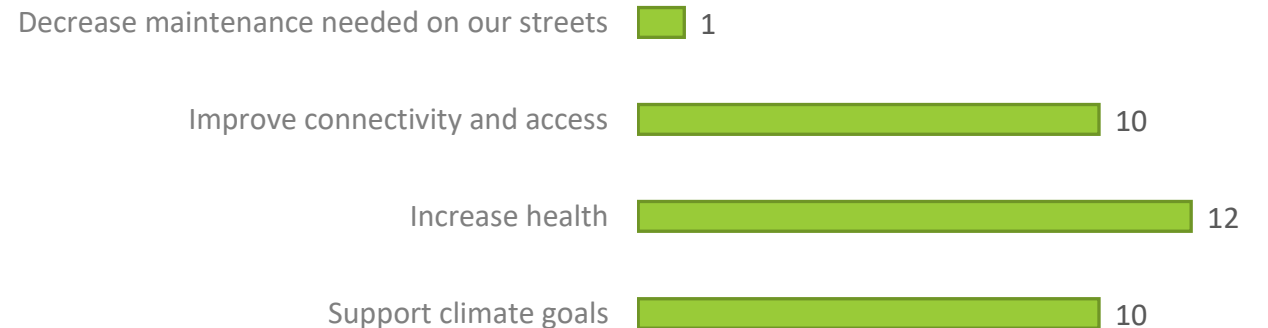
	Use accessibility rather than equity
	Cleaner environment
	Better public health
	Improve commuting
	Increase connectivity
	Reduce available per-capita parking spaces

# Reasons for improving safety and mode shift

Which **two** of the following do you think are the most important reasons for improving safety in Ames?



Which **two** of the following do you think are the most important reasons for wanting to switch vehicles trips to walking, biking, and rolling trips in Ames?



# Importance of Equity

**We asked:** In your own words, why do you think it's important to focus on equity for Walk Bike Roll Ames?

## **We heard:**

- We are a diverse community and growing.
- Equity is a large part of broader community-based conversations and helps bring everyone along
- A major role of government is social, economic, and environmental equity, justice, and inclusion to fill gaps in society and overlap for deeper and wider impact.
- The City's transportation system should serve all who contribute to its funding, which is all residents regardless of their circumstances.
- It strengthens and improves the whole community.
- Access to a vehicle can be challenging to several populations.
- It is important because these groups have been historically underserved.
- By addressing the needs of the underserved first, it has the joint effect of leveling up those who are disadvantaged, while in many cases making things easier and better for other user groups as well.
- Underserved populations are often the most affected by this issue and have transportation challenges

# Revised Goals

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- **Safe and Comfortable** – Plan, design, and operate streets, sidewalks, bikeways, crossings, and paths to prioritize safety with the ultimate goal of eliminating fatalities.
- **Connected and Easy** – Create connections throughout Ames and to surrounding areas that are easy and intuitive to use, encouraging and enabling more people to walk, bike, and roll.
- **Healthy and Sustainable** – Get more people walking, biking, rolling, and using future zero-carbon forms of personal mobility to improve health and to provide easy alternatives to driving.
- **Equitable and Accessible**– Invest equitably and design infrastructure that is easy to use regardless of one’s age or physical ability. Augment infrastructure with programs that encourage and empower everyone to choose active transportation.



# Agenda



**Public Input to Date**



**Existing Conditions**



**Wayfinding Concepts**

# Existing Conditions Elements

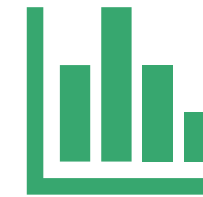
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Plan and Policy  
Review



Network  
Evaluation



State of Active  
Transportation  
Report



# Plans & Policies



DECEMBER 11, 2021



## Forward 2045 Metropolitan Transportation Plan

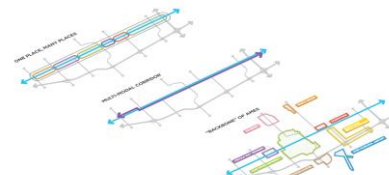
Ames Area Metropolitan  
Planning Organization



OCTOBER 27, 2020



## COMPLETE STREETS PLAN



## CITY OF AMES LINCOLN CORRIDOR PLAN

JANUARY 2018

## LINCOLN WAY MULTIMODAL CROSSING DATA COLLECTION AND ANALYSIS

PHASE 2 – RECOMMENDATIONS SUMMARY



PREPARED FOR:



FEBRUARY 2018



## Key Themes

- Multimodal vision
- Safety and comfort of all users
- Expanding transportation choice
- Identifying priorities for investment
- Design with best practices
  - *(sidewalk and bikeway design guidance already adopted)*
- Crossing/intersection safety
- Connectivity (across community and with ISU)



# Code Review – Chapter 4: Bikeways

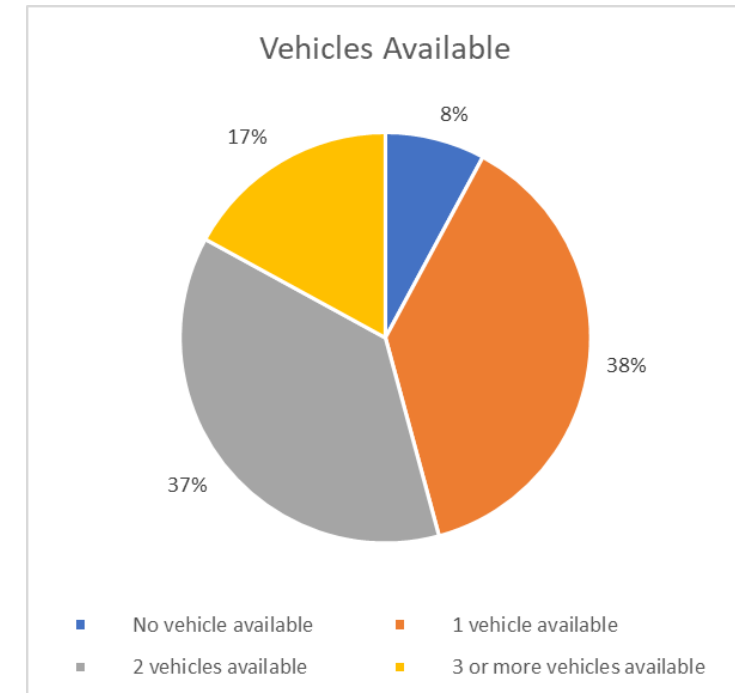
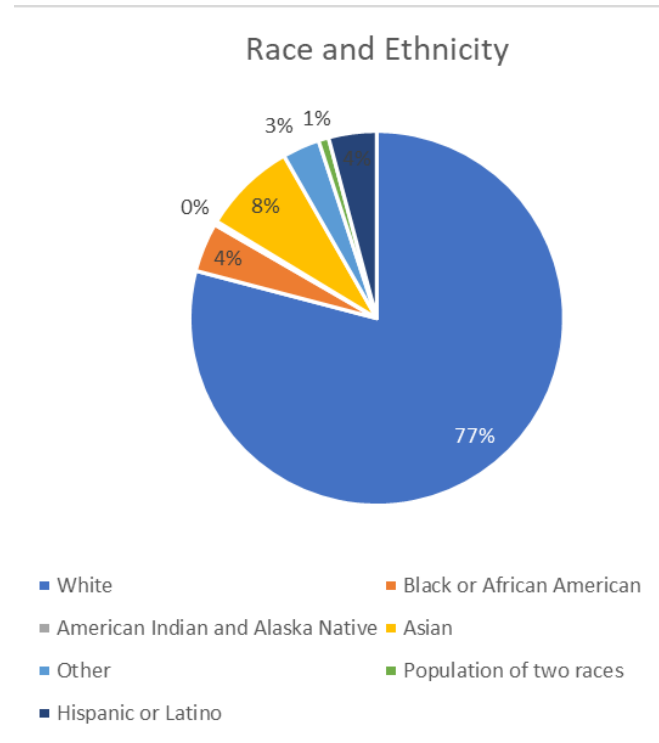
Current Language	Potential Issue or Concern
<p>Sec. 4.8. RIDING ON ROADWAYS, SIDEWALKS, BICYCLE PATHS.</p> <p>1. Ride as near to the right-hand side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction</p> <p>2. Shall not ride more than two (2) abreast except on paths or parts of roadways set aside for the exclusive use of bicycles. Single file when traffic is heavy.</p> <p>3. Persons riding bicycles, tricycles or unicycles upon a bicycle path not affixed to a roadway shall yield the right-of-way to all vehicular traffic traveling on the public roadways which intersect with the bicycle path.</p>	<p>1) “as near to the right as practicable” can be hazardous</p> <p>3) yield to all vehicular traffic may be in conflict with state law</p>
<p>Sec. 4.9. SPEED, OPERATION TO BE REASONABLE AND PRUDENT.</p> <p>No person shall operate a bicycle, tricycle or unicycle at a speed greater than, or in a manner other than is reasonable and prudent under the conditions then existing.</p>	
<p>Sec. 4.12. CARRYING ARTICLES.</p> <p>No person operating a bicycle, tricycle or unicycle shall carry any package, bundle, or article which prevents the rider from keeping at least one hand upon the handlebars.</p>	
<p>Sec. 4.13. RIDING ON SIDEWALKS.</p> <p>It is unlawful for any person to operate a bicycle, tricycle, or unicycle upon any sidewalk on the following streets: Main Street from Duff Avenue to Clark Avenue. Lincoln Way on the south side thereof from Stanton Avenue to Hayward Avenue. Hayward Avenue on the east side thereof from Lincoln Way to Hunt Street. Welch Avenue from Lincoln Way to Knapp Street.</p>	<p>May need to be updated e.g., if sidepaths are provided</p>
<p>Sec. 4.15. BICYCLES PROHIBITED ON GRAND AVENUE.</p> <p>The riding of bicycles, tricycles or unicycles on the roadway of Grand Avenue in the City of Ames, Iowa, is prohibited.</p>	<p>Needs to be revisited, especially with new extension of Grand Ave.</p>
<p>Sec. 4.18. PENALTIES FOR OFFENSES PERTAINING TO BICYCLES.</p> <p>1. A violation of any provision of Chapter 4, Bicycles, shall be a municipal infraction punishable by a penalty of \$50.00 for a person’s first violation thereof, and a penalty of \$100.00 for each repeat violation.</p> <p>2. Alternatively, a violation of Chapter 4 can be charged by a peace officer of the City as a simple misdemeanor.</p>	<p>This carries potential equity concerns, especially since vulnerable populations may be more likely to need to carry items and ride on sidewalks along busy streets.</p>





# Demographics

Income in the past 12 months	
Less than \$10,000	12.6%
\$10,000 to \$14,999	5.3%
\$15,000 to \$24,999	8.4%
\$25,000 to \$34,999	7.6%
\$35,000 to \$49,999	13.4%
\$50,000 to \$74,999	21.9%
\$75,000 to \$99,999	7.2%
\$100,000 to \$149,999	14.1%
\$150,000 to \$199,999	4.2%
\$200,000 or more	5.2%
<b>Median income (dollars)</b>	<b>\$ 52,005.00</b>



- 2.8% of people bike to work, 8.7% walk, 9.1% use transit
- CyRide served 35,000-40,000 passengers daily pre-pandemic
- ISU enrollment (2022): 29,969 students (>25,000 are undergraduates)



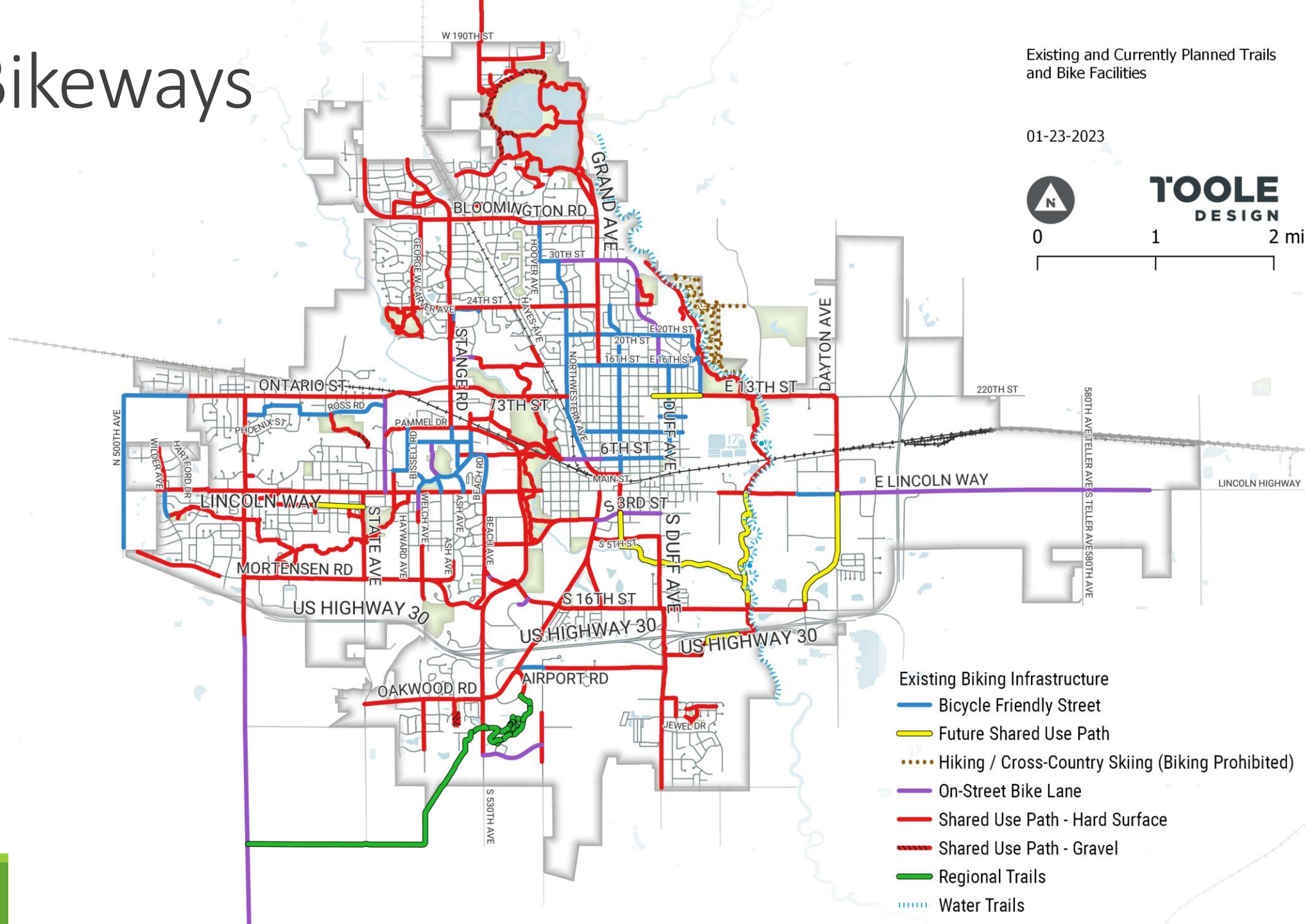
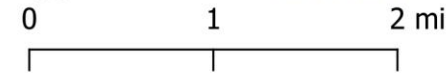
# Existing Bikeways

Existing and Currently Planned Trails and Bike Facilities

01-23-2023

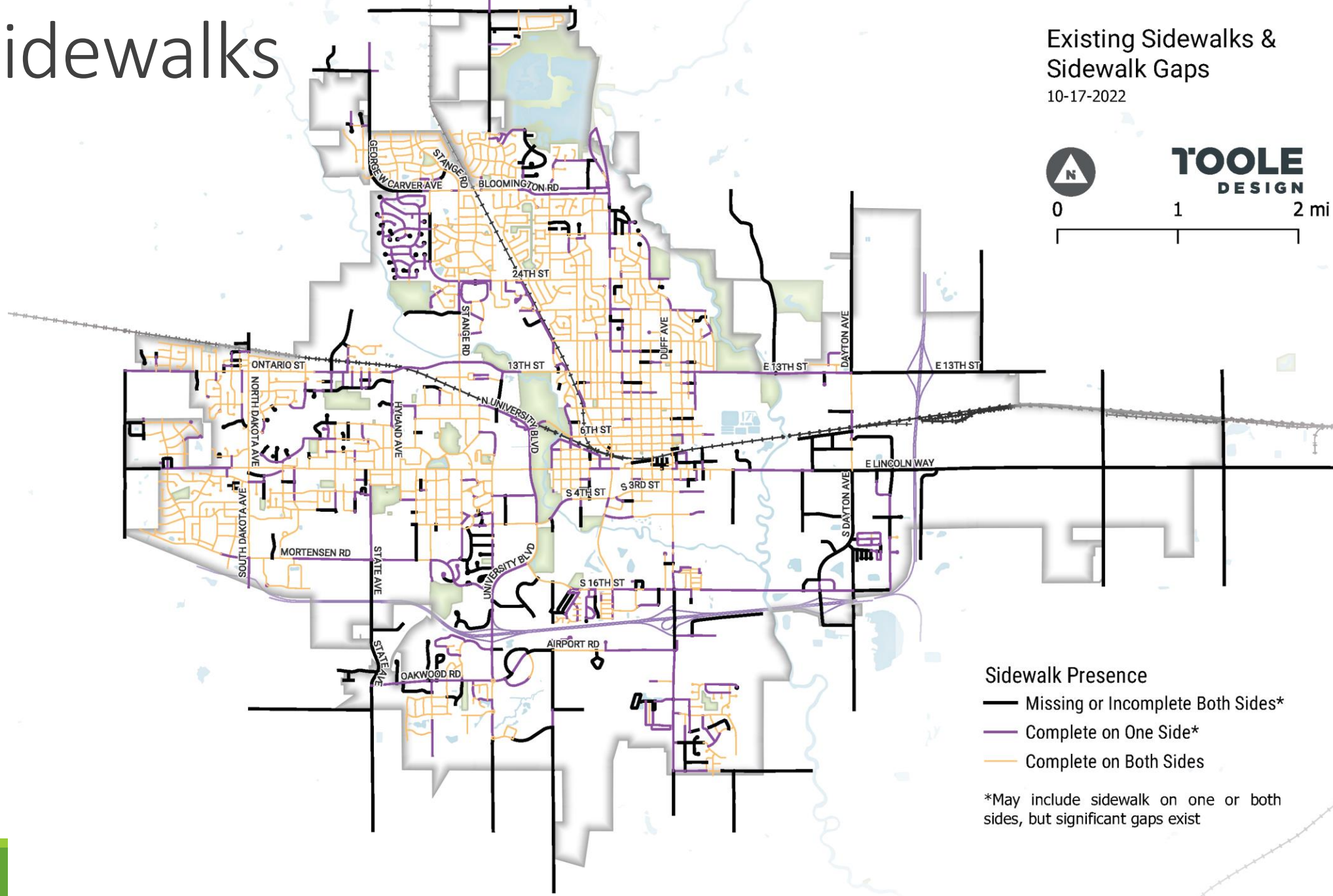
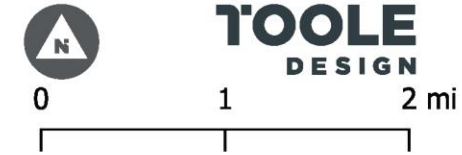


**TOOLE**  
DESIGN



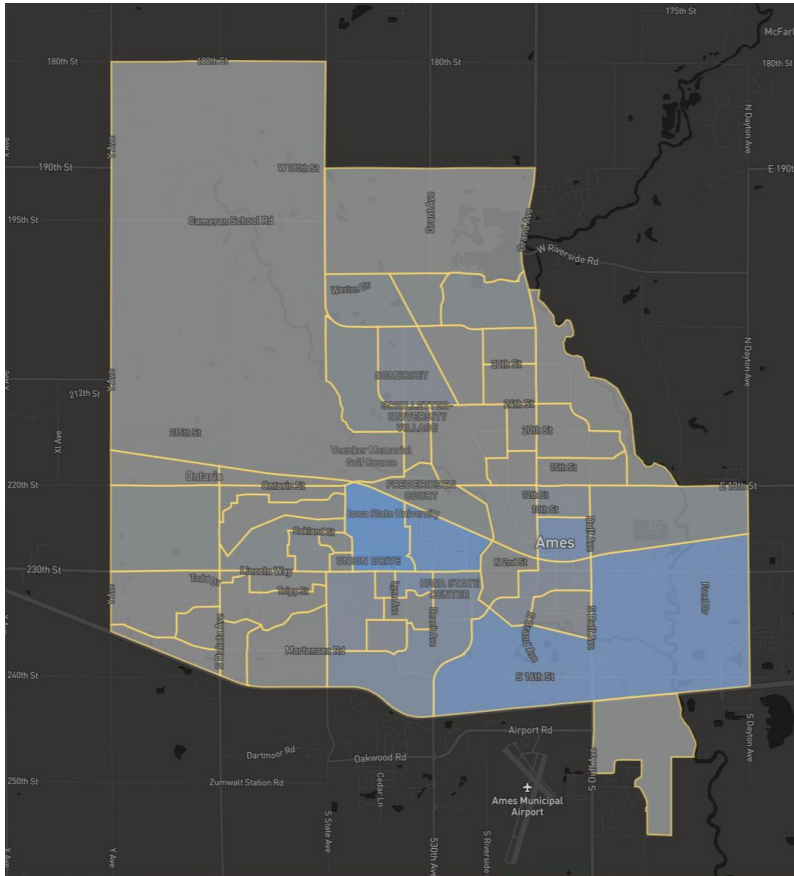
# Existing Sidewalks & Gaps

Existing Sidewalks &  
Sidewalk Gaps  
10-17-2022

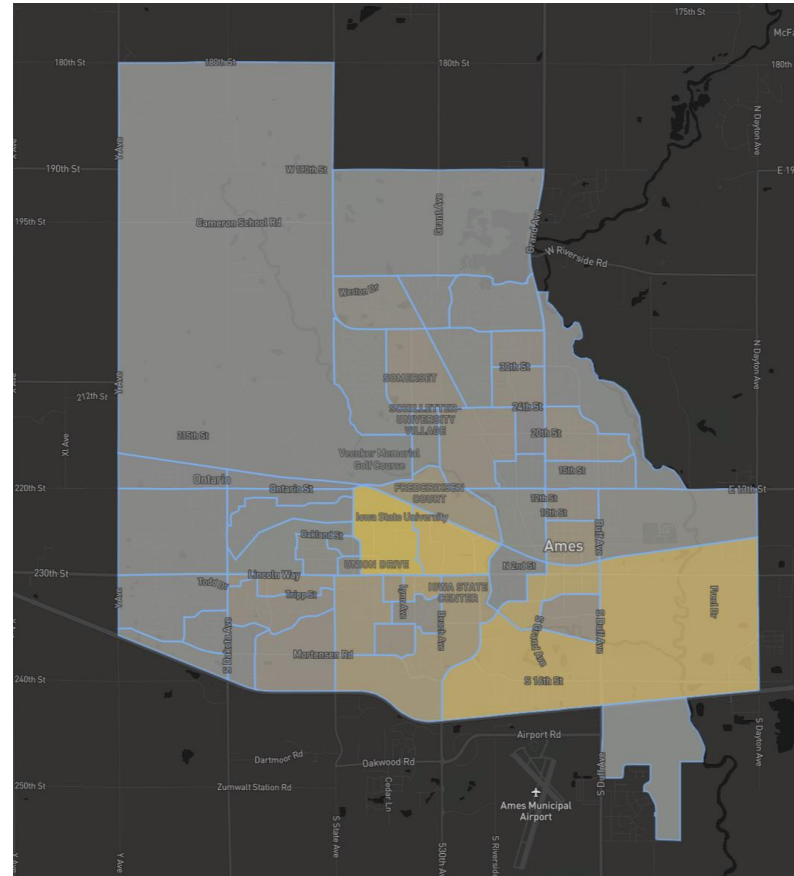


# Activity: StreetLight

BIKING TRIP ORIGINS



BIKING TRIP DESTINATIONS

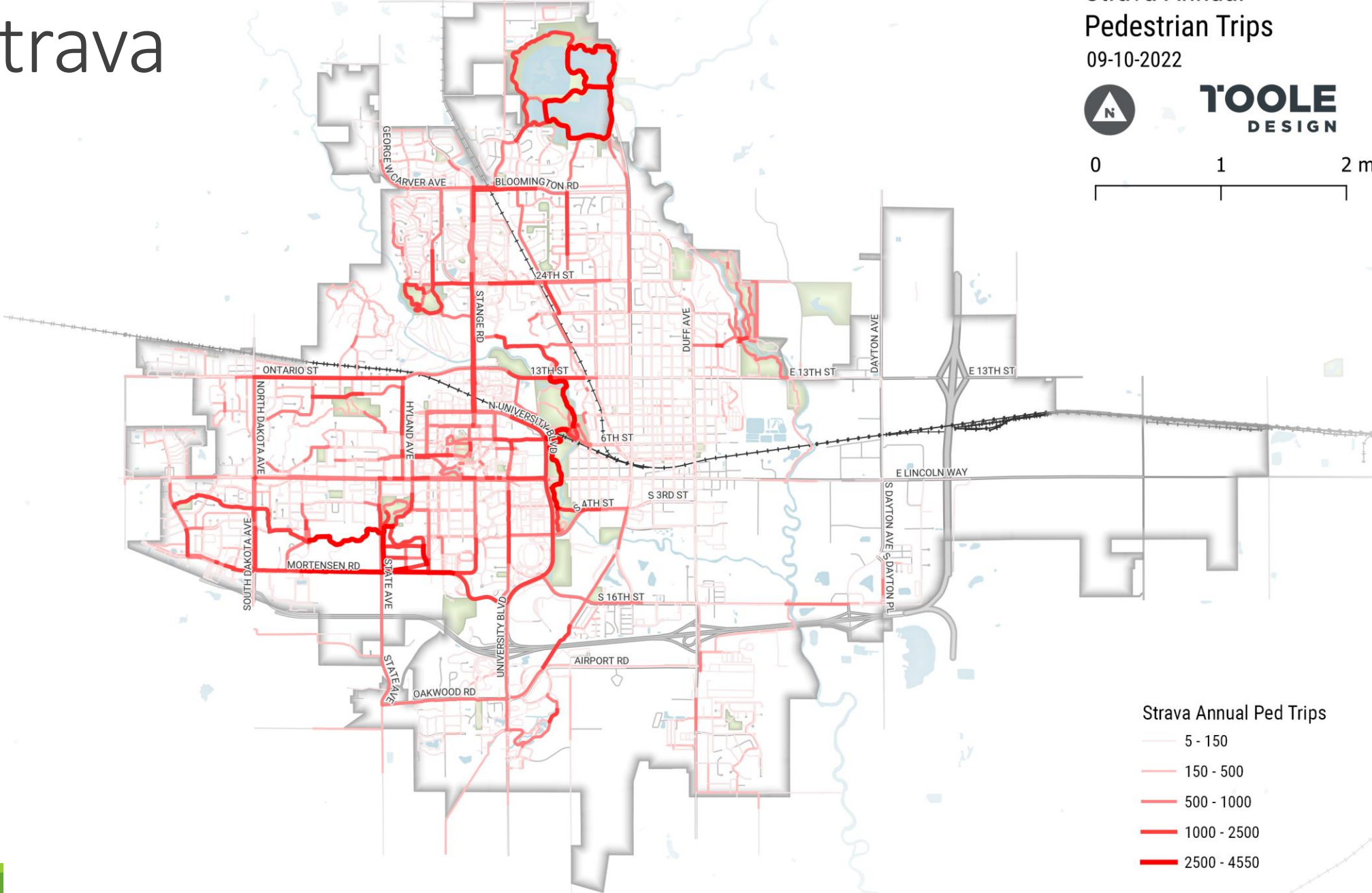
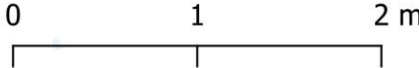


# Activity: Strava

Strava Annual  
Pedestrian Trips  
09-10-2022



**TOOLE**  
DESIGN



- Strava Annual Ped Trips
- 5 - 150
  - 150 - 500
  - 500 - 1000
  - 1000 - 2500
  - 2500 - 4550

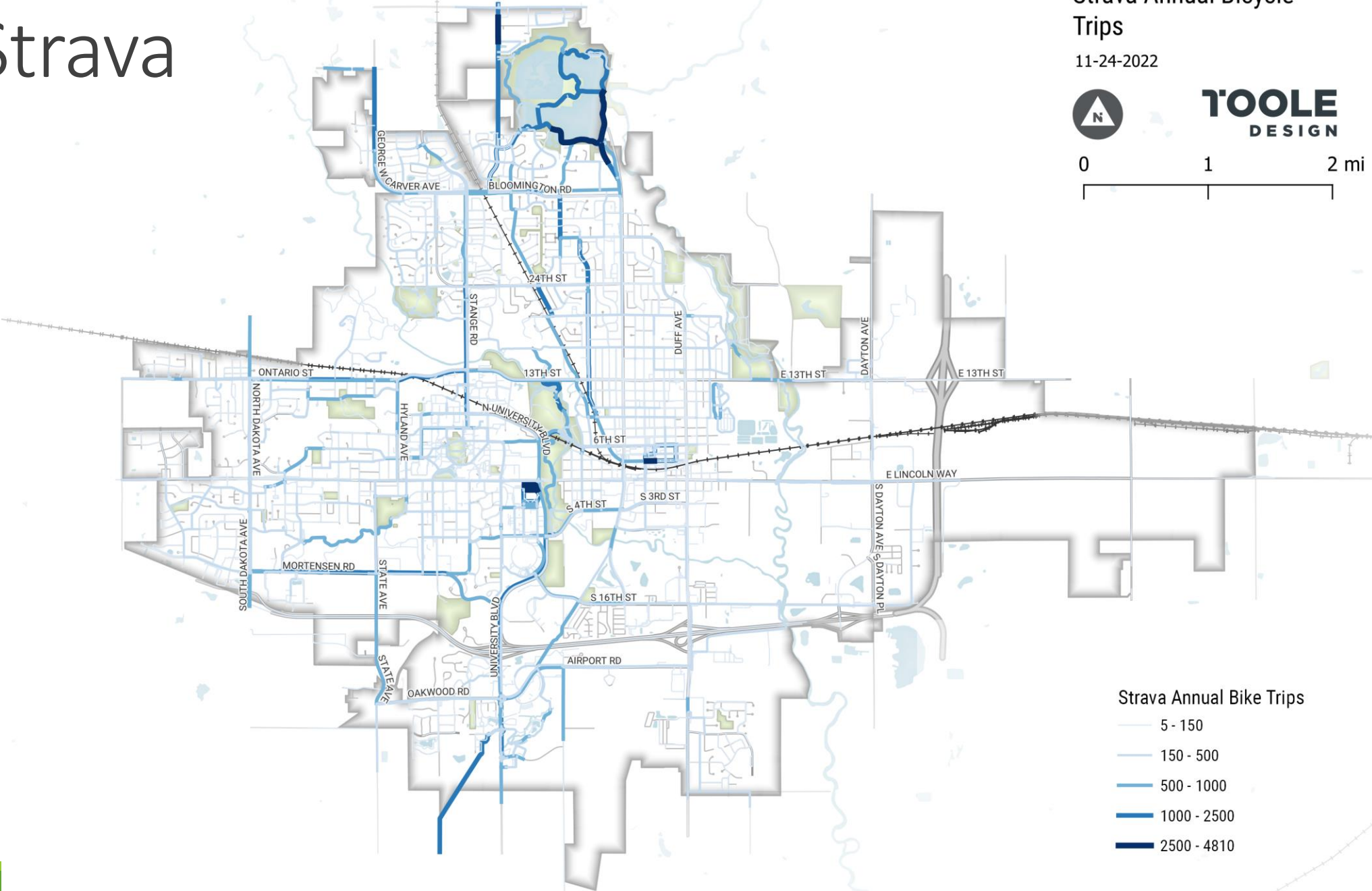
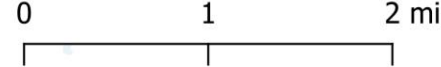
# Activity: Strava

Strava Annual Bicycle Trips

11-24-2022



**TOOLE**  
DESIGN



Strava Annual Bike Trips

- 5 - 150
- 150 - 500
- 500 - 1000
- 1000 - 2500
- 2500 - 4810

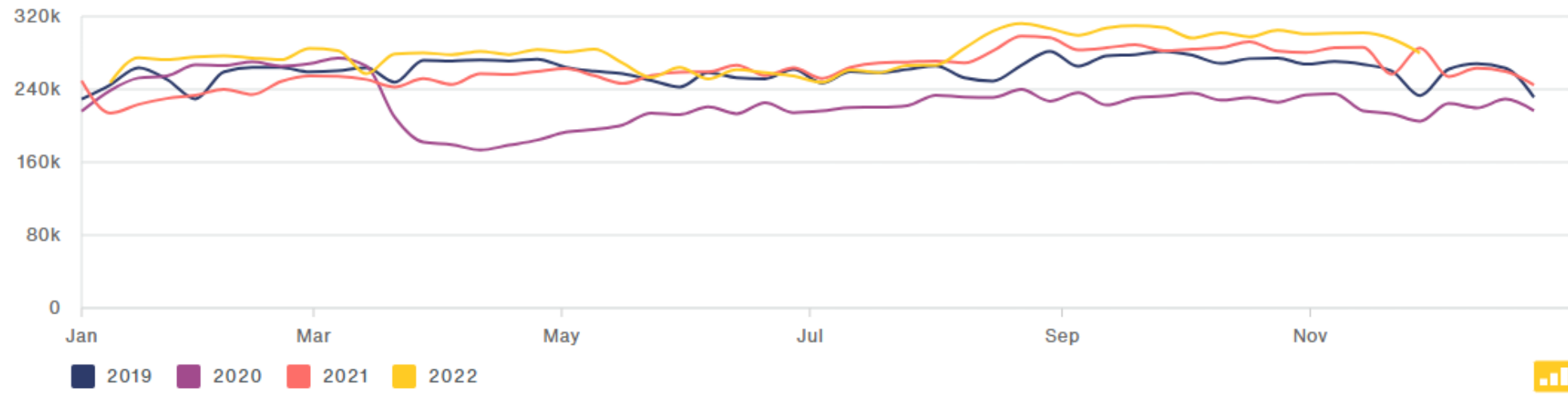
# Trips Taken in Ames (weekday)

Ames, IA

## Total Trips

Trips in this geography, typical weekday

2019 to 2022

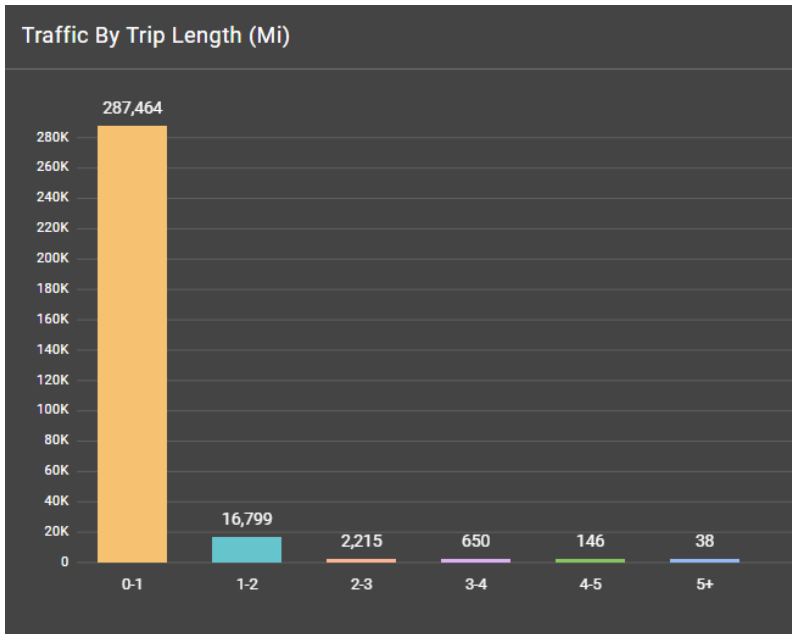


Source: **Replica** (activity-based travel model)

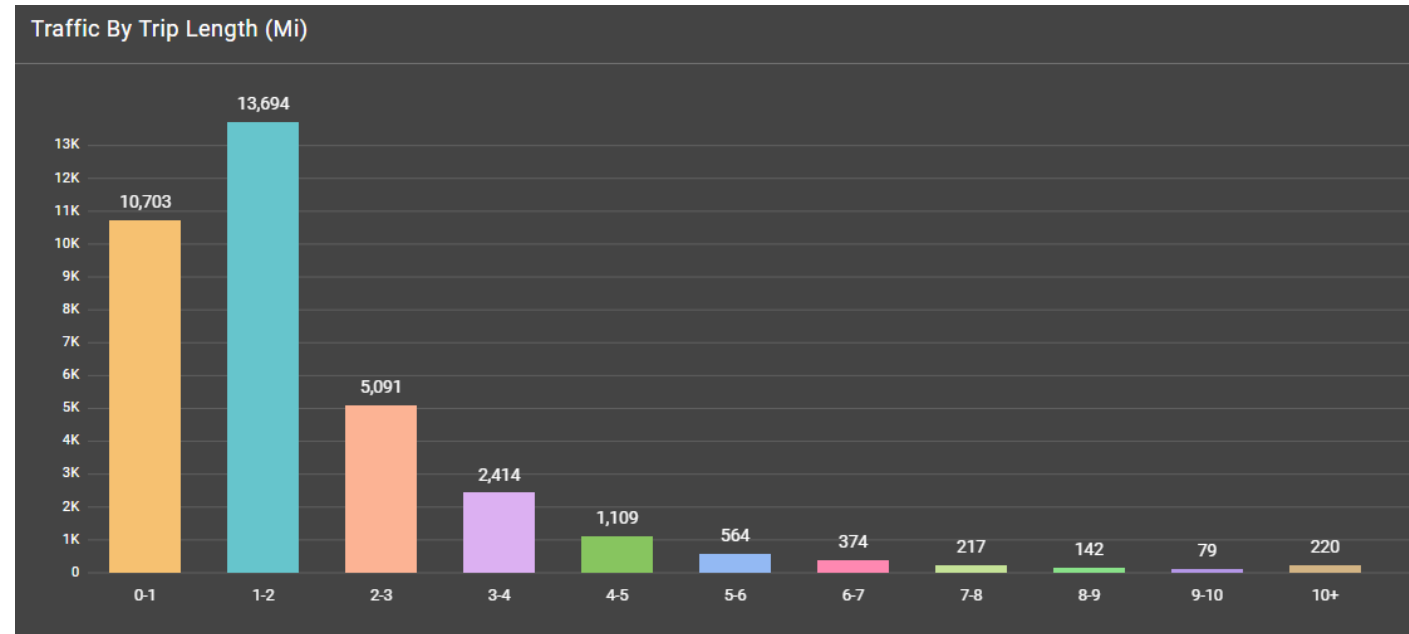


# Walking and Biking Trips by Length

## WALKING



## BIKING



Source: **StreetLight**



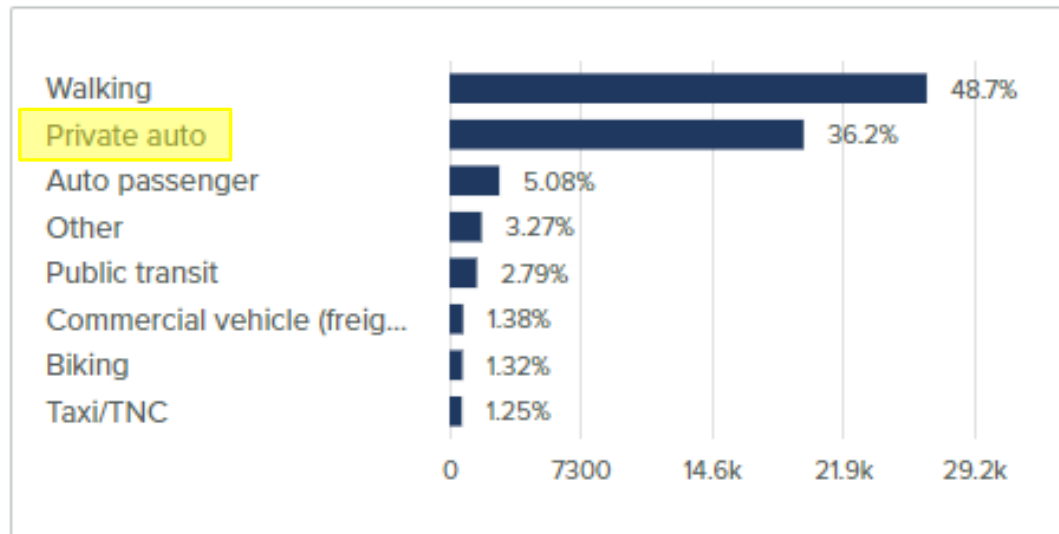


# Trip Potential (All trips)

- Typical Thursday in Fall 2021: **228,000** total trips by Ames residents (all modes)
- Nearly **21%** of those trips were under a mile.

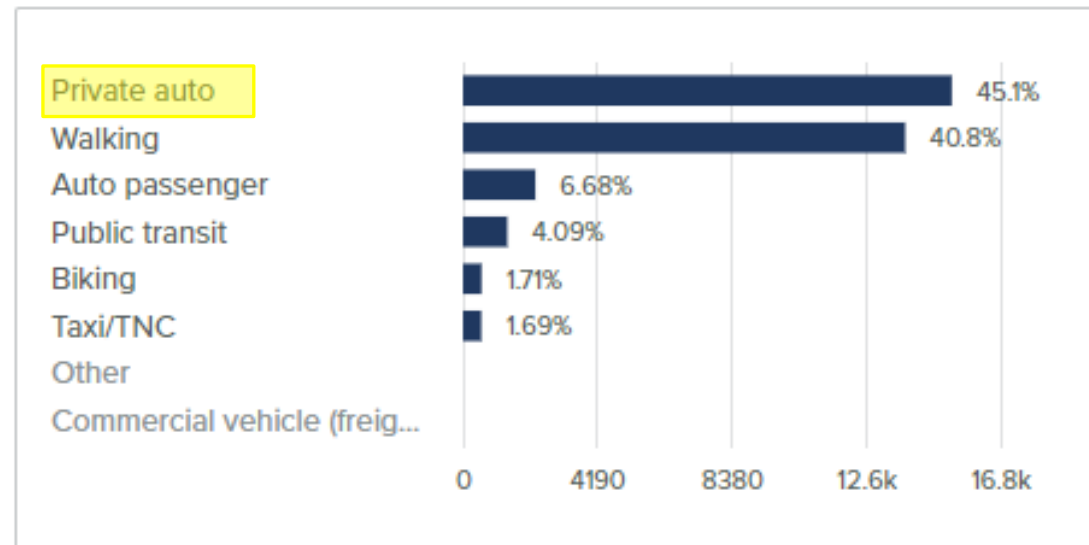
## Trips under 1 mile

Primary Mode



## Trips between 0.25 and 1 mile

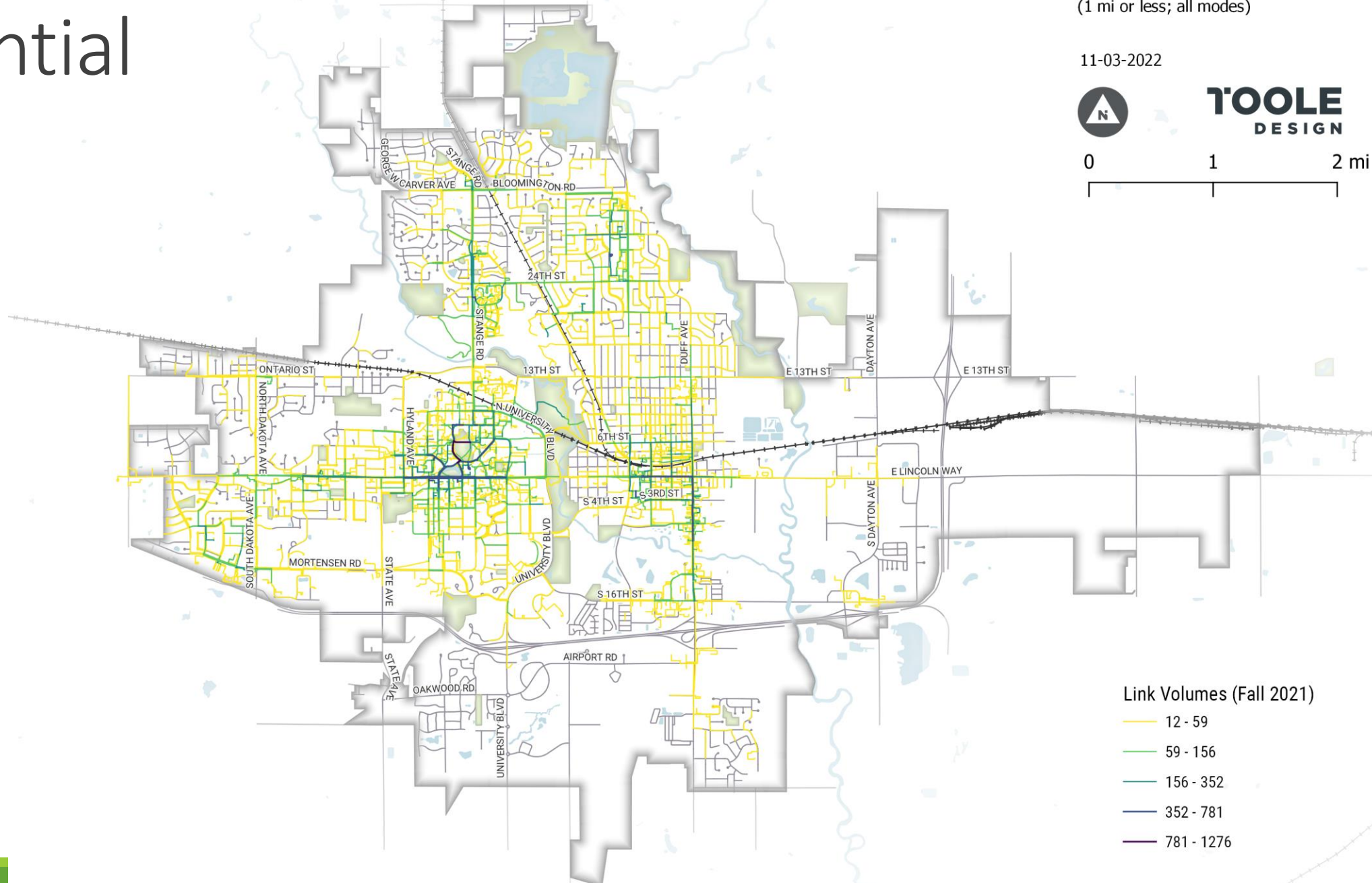
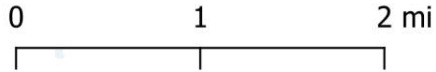
Primary Mode



# Trip Potential

Replica Short Trip Volumes  
(1 mi or less; all modes)

11-03-2022

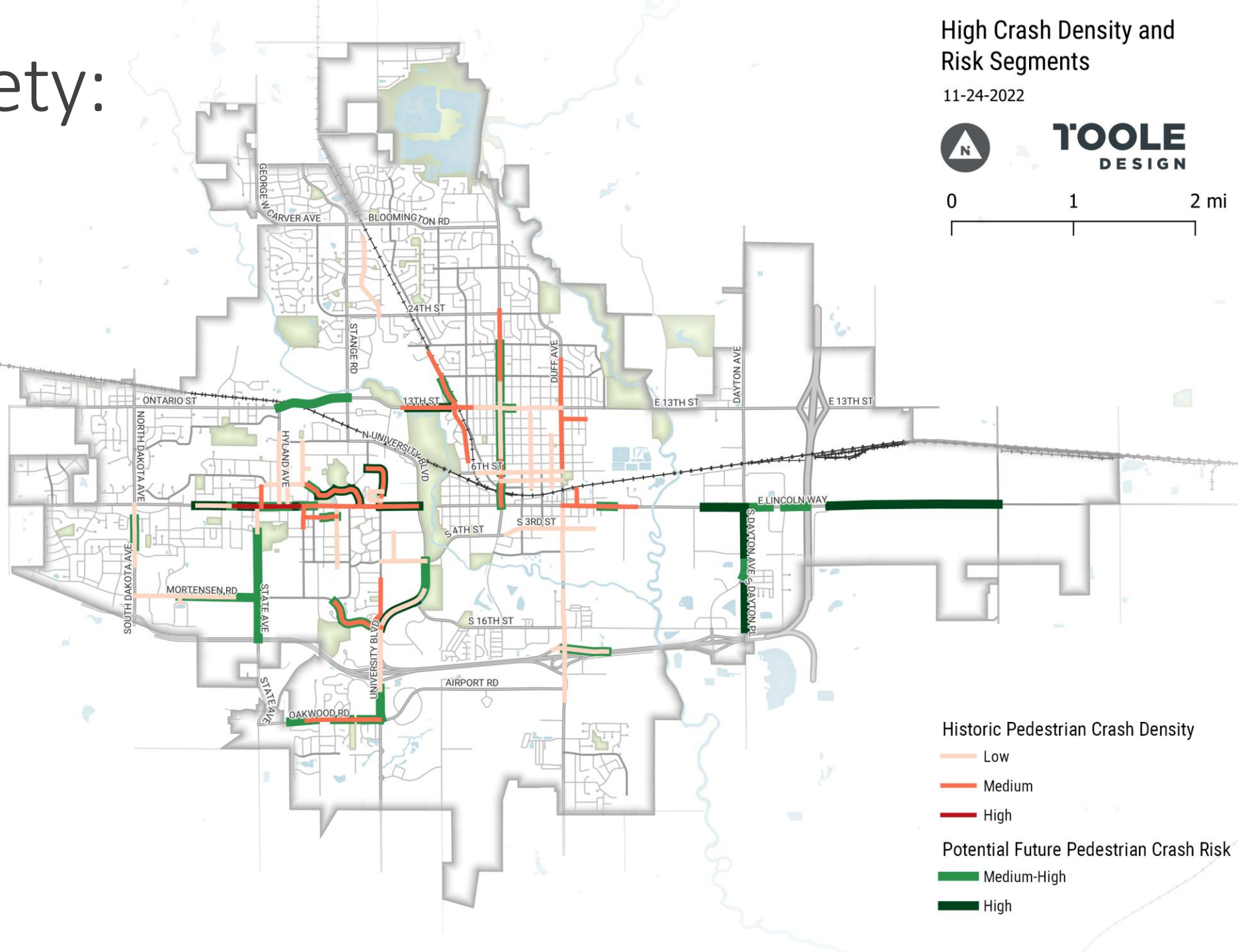


### Link Volumes (Fall 2021)

- 12 - 59
- 59 - 156
- 156 - 352
- 352 - 781
- 781 - 1276

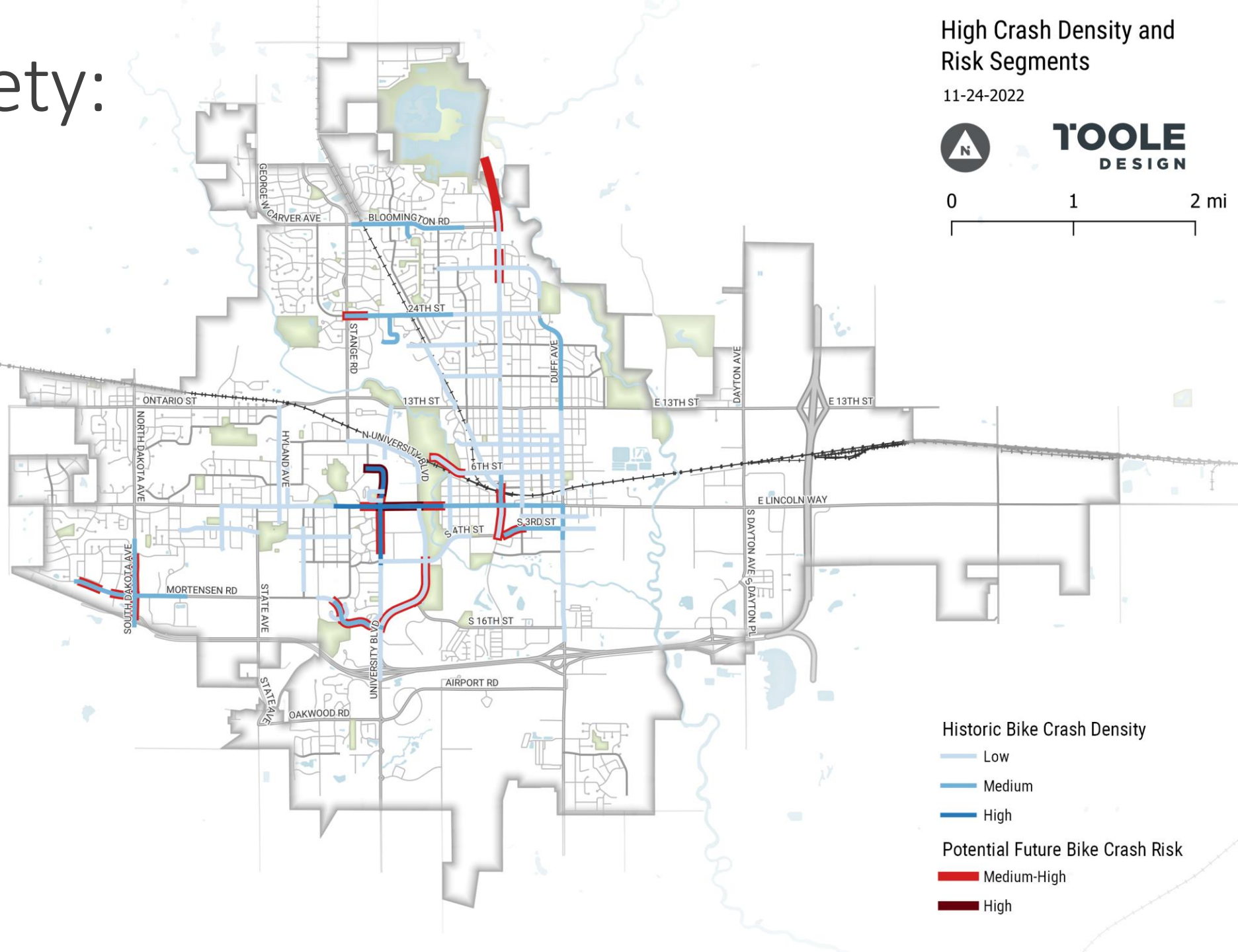
# Systemic Safety: Pedestrian

- **Historic (actual crashes):**
  - Density of crashes along the street network
  - Influenced by amount of walking/biking activity
- **Potential Future:**
  - Predictive model based on roadway characteristics
  - NOT influenced by activity levels



# Systemic Safety: Bicyclist

- **Historic (actual crashes):**
  - Density of crashes along the street network
  - Influenced by amount of walking/biking activity
- **Potential Future:**
  - Predictive model based on roadway characteristics
  - NOT influenced by activity levels

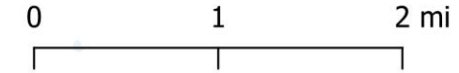


## High Crash Density and Risk Segments

11-24-2022

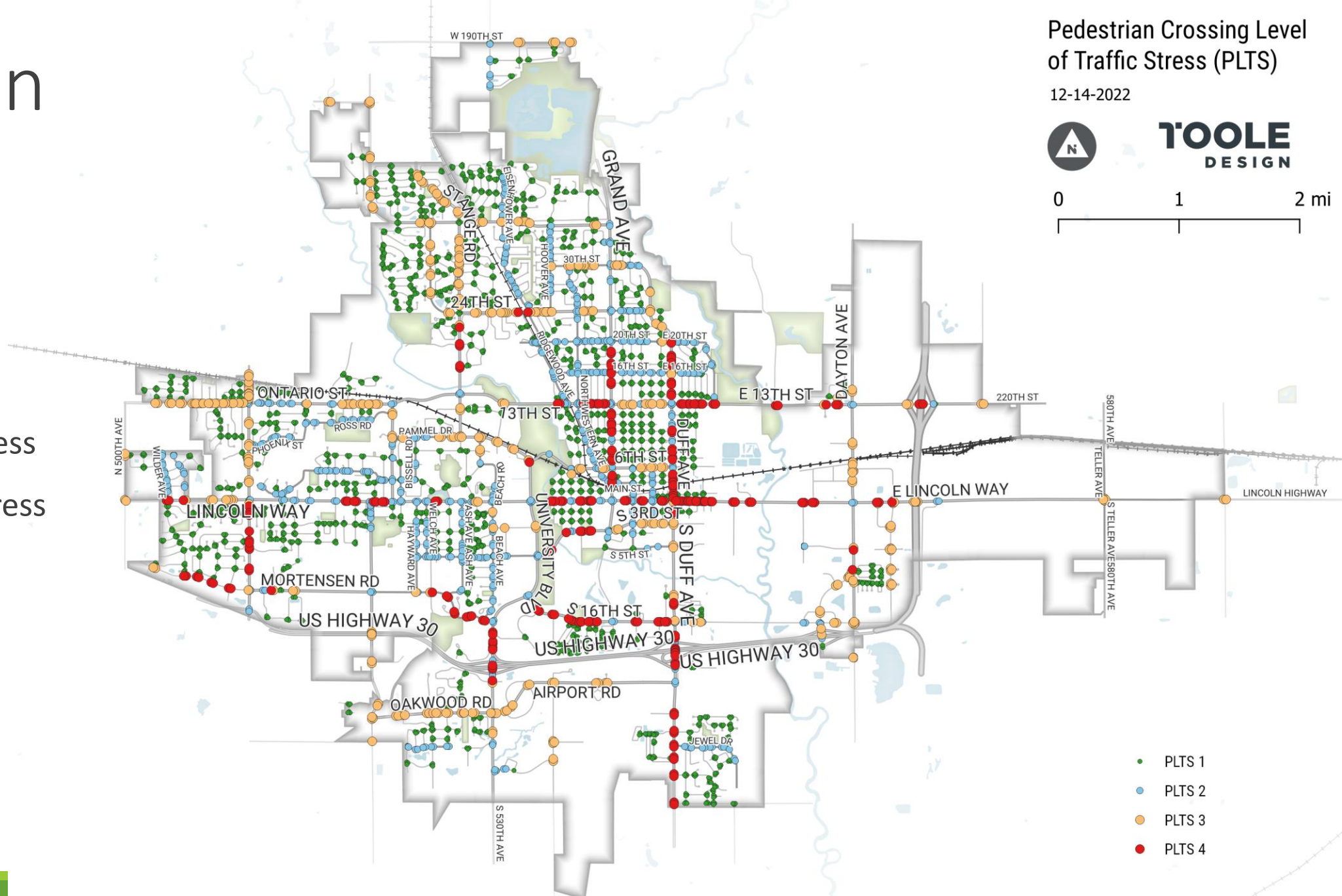


**TOOLE**  
DESIGN



# Pedestrian Crossing Stress

- PLTS 1/2: lower stress
- PLTS 3/4: higher stress

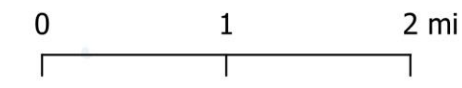


Pedestrian Crossing Level of Traffic Stress (PLTS)

12-14-2022



**TOOLE**  
DESIGN



- PLTS 1
- PLTS 2
- PLTS 3
- PLTS 4

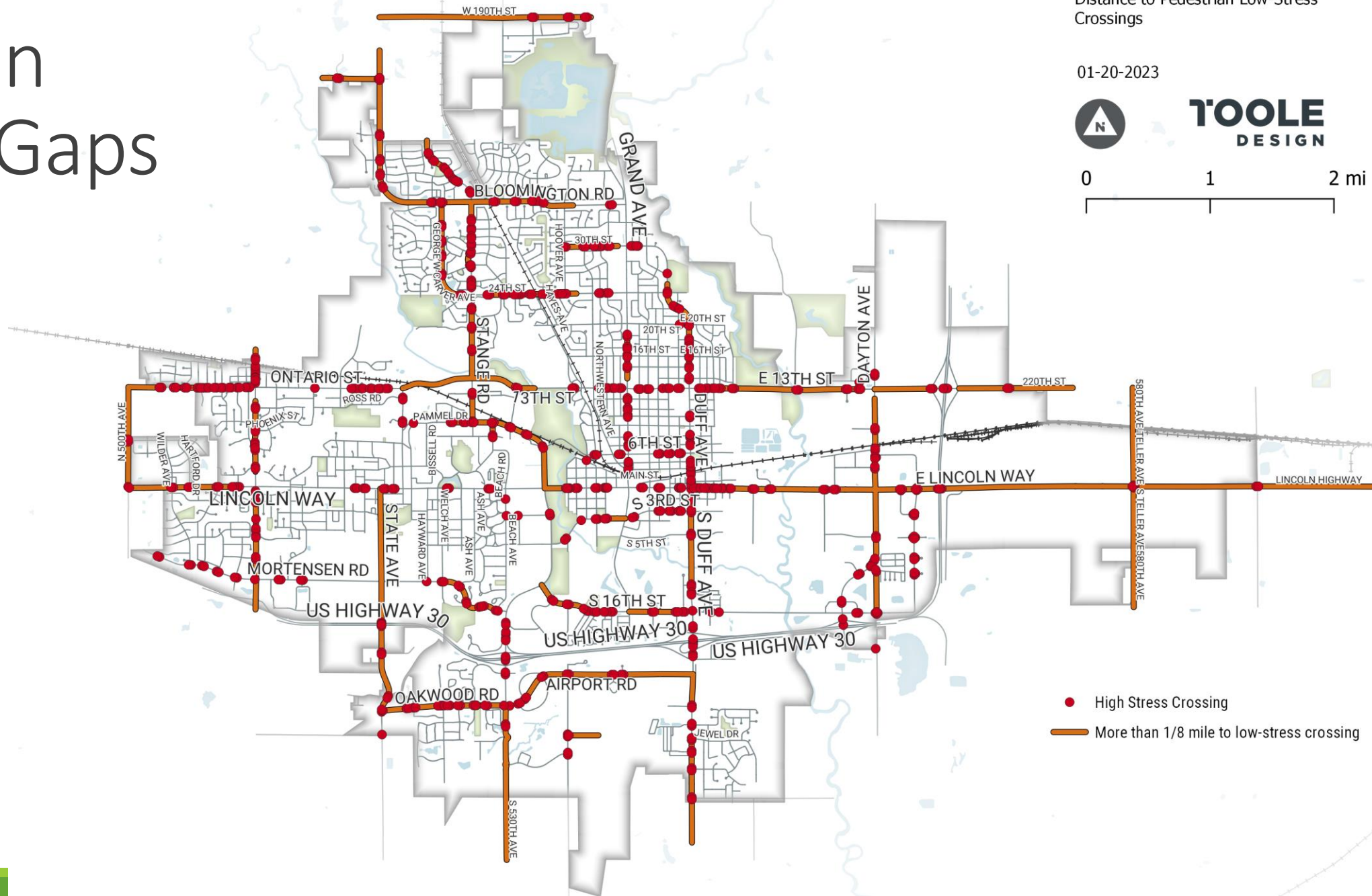
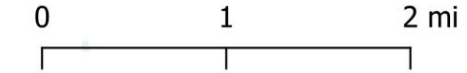
# Pedestrian Crossing Gaps

Distance to Pedestrian Low-Stress Crossings

01-20-2023



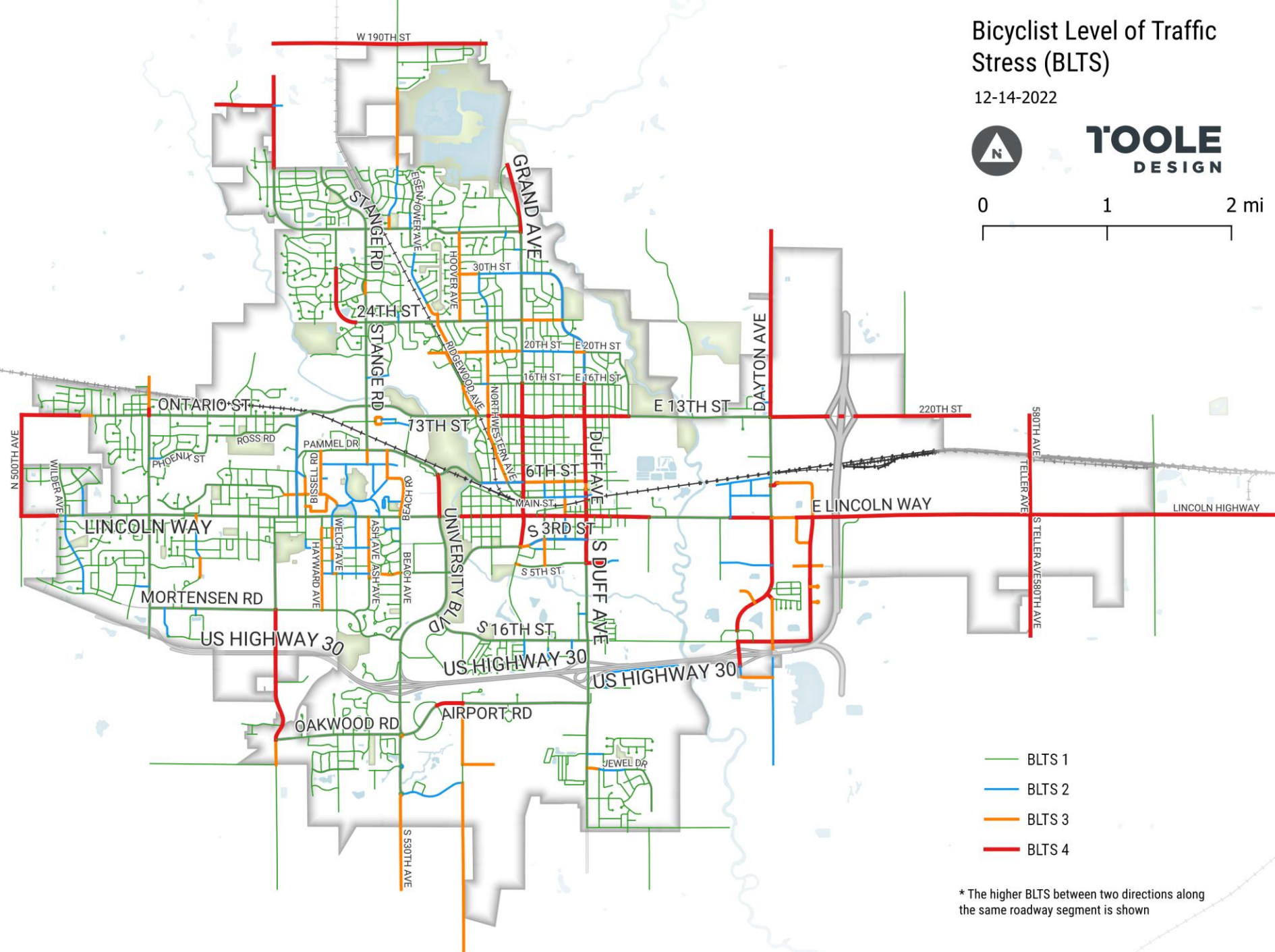
**TOOLE**  
DESIGN



- High Stress Crossing
- More than 1/8 mile to low-stress crossing

# Bike Traffic Stress

- BLTS 1/2: lower stress
- BLTS 3/4: higher stress

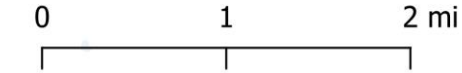


Bicyclist Level of Traffic Stress (BLTS)

12-14-2022



**TOOLE**  
DESIGN



- BLTS 1
- BLTS 2
- BLTS 3
- BLTS 4

\* The higher BLTS between two directions along the same roadway segment is shown

# Agenda



**Public Input to Date**



**Existing Conditions**



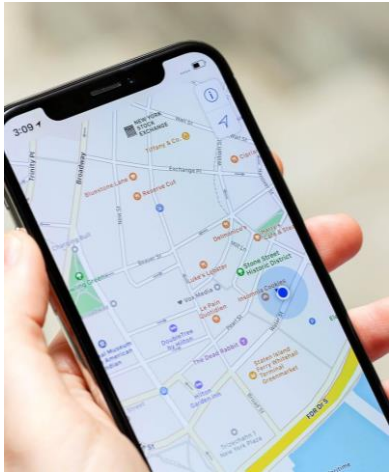
**Wayfinding Concepts**



# Wayfinding Usually Involves 5 Steps:

## Planning

How do I get there?



## Orientation

This looks like the way



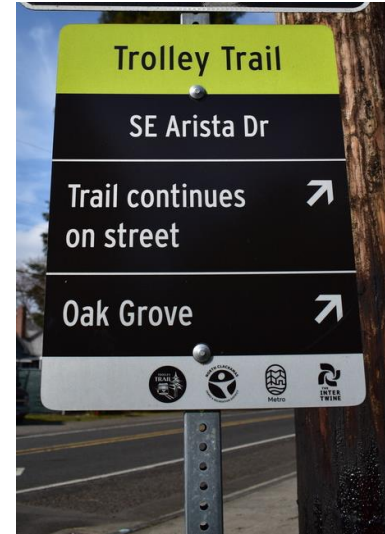
## Decision Making

Do I turn here?



## Confirmation

Am I still on the right route?



## Destination Recognition

I'm here!



# Focus for This Project

## Orientation

This looks like the way



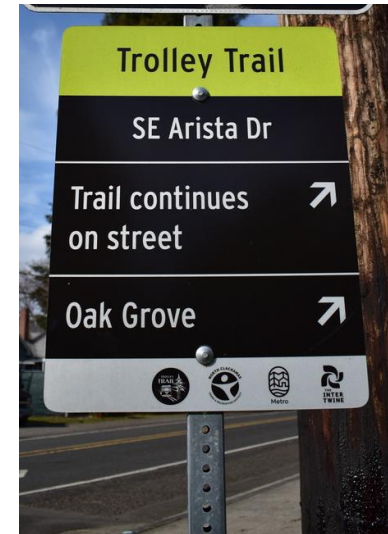
## Decision Making

Do I turn here?



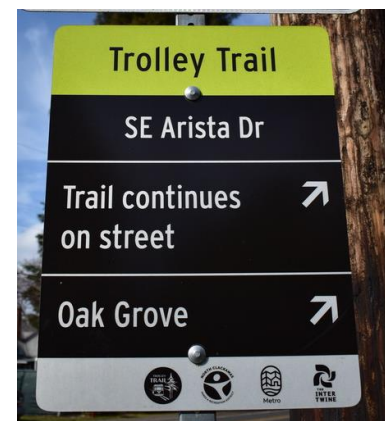
## Confirmation

Am I still on the right route?



# Wayfinding Best Practices

- Keep it Simple
- Be Consistent
- Design for the Inexperienced User
- Be Inclusive
- Make Connections



# Discovery: Existing Branding, Signs, & Needs

## Leadership Ames 2016 Report

- Merry Rankin, Kelsey Bolte Carper, David Haila, Brian Schwartze

## Recommendations:

- Make it easier to find trail maps online
- Increase branding and naming of Ames Trails
- Add trails to Google Maps and Iowa by Trail Mobile App
- Add wayfinding signs with maps along trails



Sign Example from survey



Sign Example from survey

# Discovery: Existing Branding, Signs, & Needs

## Ames Brand: Smart, Innovative, Colorful



## ISU brand



## Prairie, Limestone, Timeless



# DRAFT

## CONCEPT 1: Prairie and Limestone Palette



Trailhead Map

Directional  
Path Signs

Street Name/  
Path Name

Directional  
On-Street Bike Wayfinding Signs



# DRAFT

## CONCEPT 2: Greens and Grays and Ames "fold"



DRAFT

CONCEPT 3:  
Color-by-route

IN DEVELOPMENT



Trailhead Map

Directional

Street Name/  
Path Name

Directional

Path Signs

On-Street Bike Wayfinding Signs





## Winter 2023

Bike and Pedestrian Network  
Development

Wayfinding Route Identification

## Fall 2022

Existing Conditions

Wayfinding Sign Design

## Summer 2022

Vision and Goal Setting

Wayfinding Branding

## Summer / Fall 2023

Draft and Final Plan

Wayfinding Sign Plans

## Spring 2023

Implementation  
Strategy

Wayfinding  
Design  
Finalization

