SS4A – ACCESSIBLE INTERSECTIONS FOR ALL

23 INTERSECTIONS ALONG 5 CORRIDORS



City of Milwaukee

Michael Baker INTERNATIONAL



AGENDA

Section 1
INTRODUCTIONS

- City of Milwaukee
- Concord Group
- Michael Baker International
- Prism Technical

Section 2
PROJECT OVERVIEW

- Project Location
- Purpose & Need

Section 3
IMPROVEMENTS

- Accessible Pedestrian Signals (APS)
- Curb ramps
- Median refuge space
- Pinned islands/curb extensions
- Raised crosswalks
- Discussion

SECTION 1: INTRODUCTIONS

City of Milwaukee

- David Tapia (Major Projects Manager)

Concord Group

- Jim Joehnk (Concord Group, Owner's Representative)

Michael Baker International

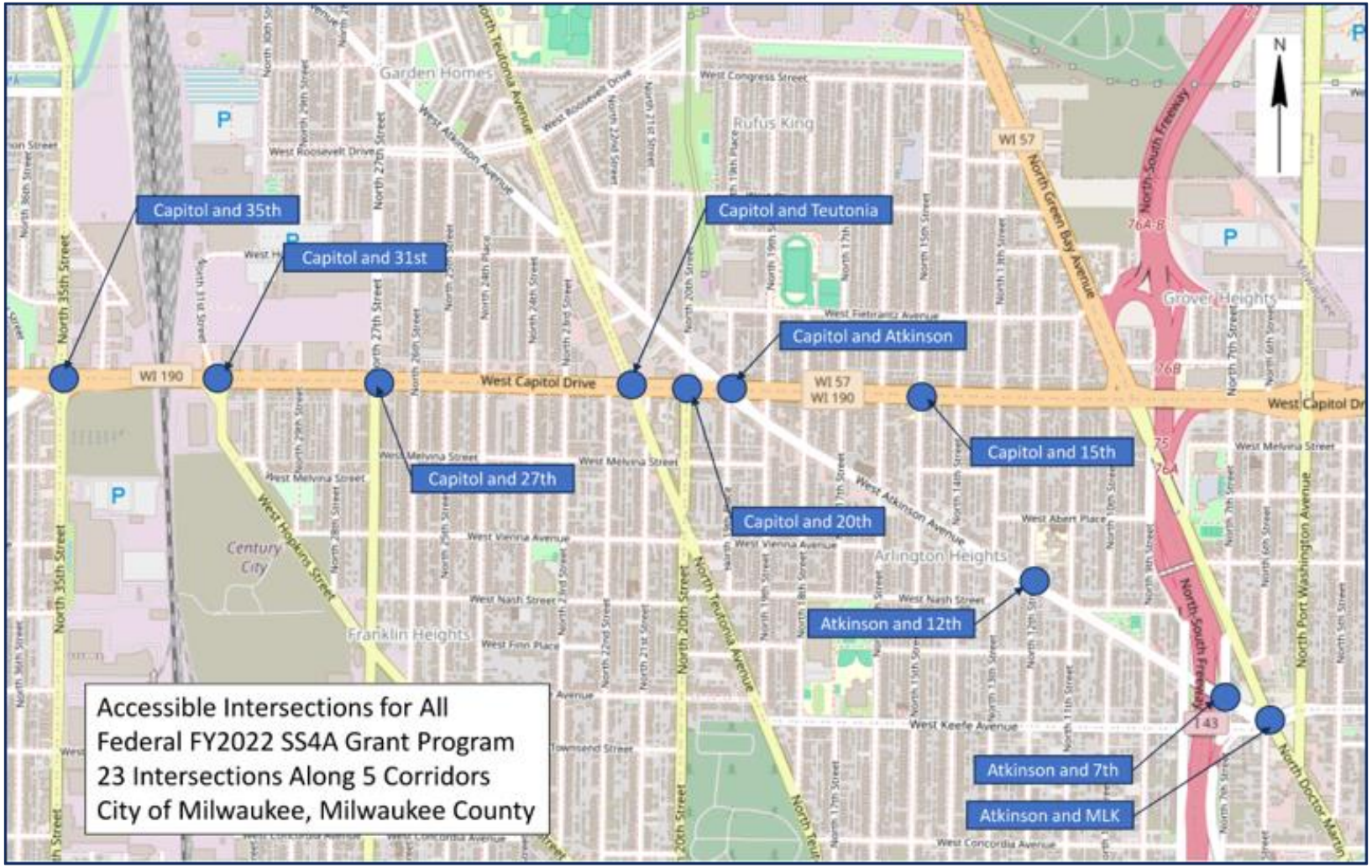
- Georgia Vergou-Ornek (Project Manager)
- Nolan Wagner (Design Lead)
- James Hannig (Senior Planner)

Prism Technical

- Keesha Jones-Sutton (Public Involvement Strategist)

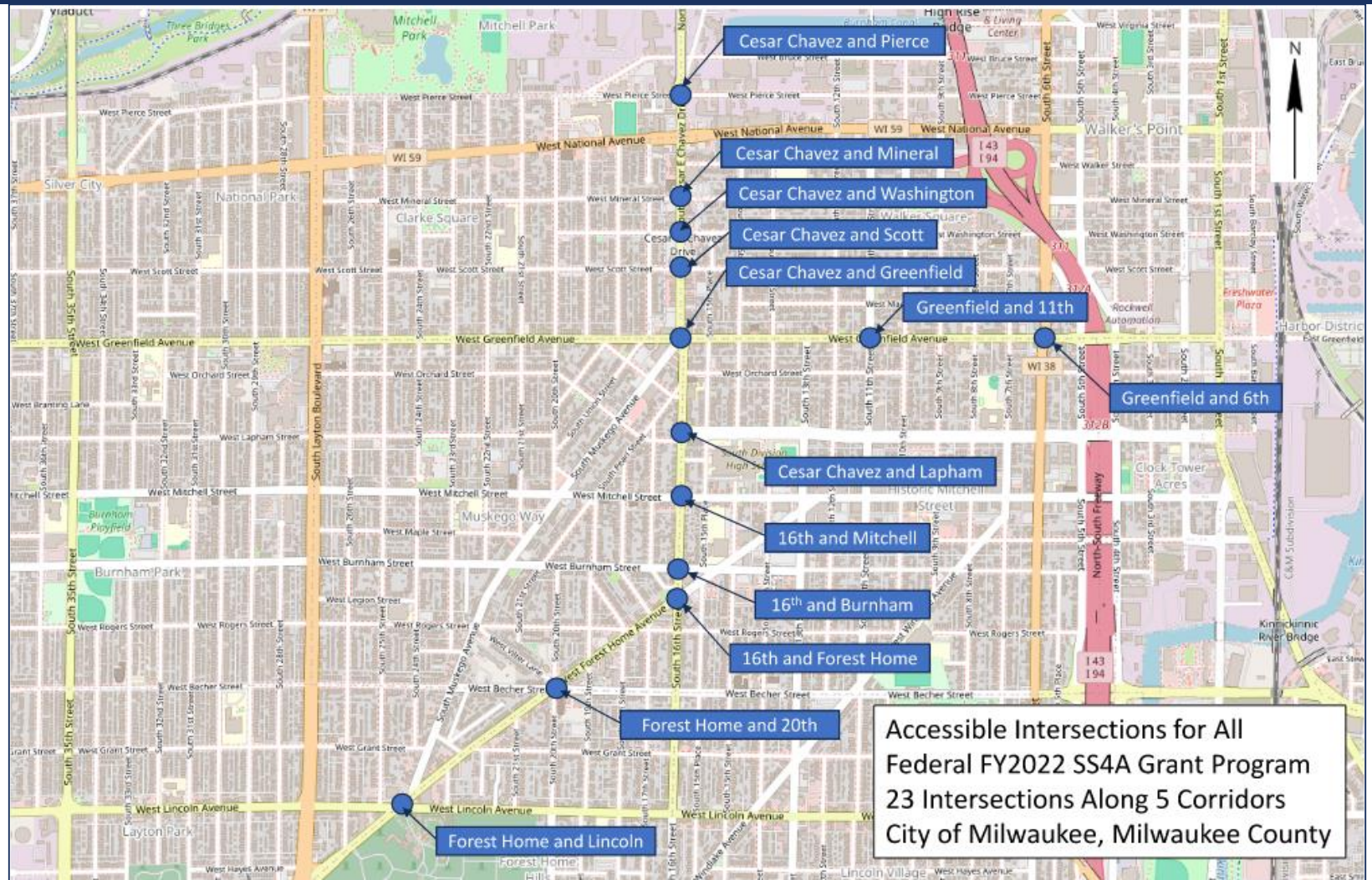
SECTION 2: PROJECT OVERVIEW

NORTH SEGMENT LOCATION MAP



SECTION 2: PROJECT OVERVIEW

SOUTH SEGMENT LOCATION MAP



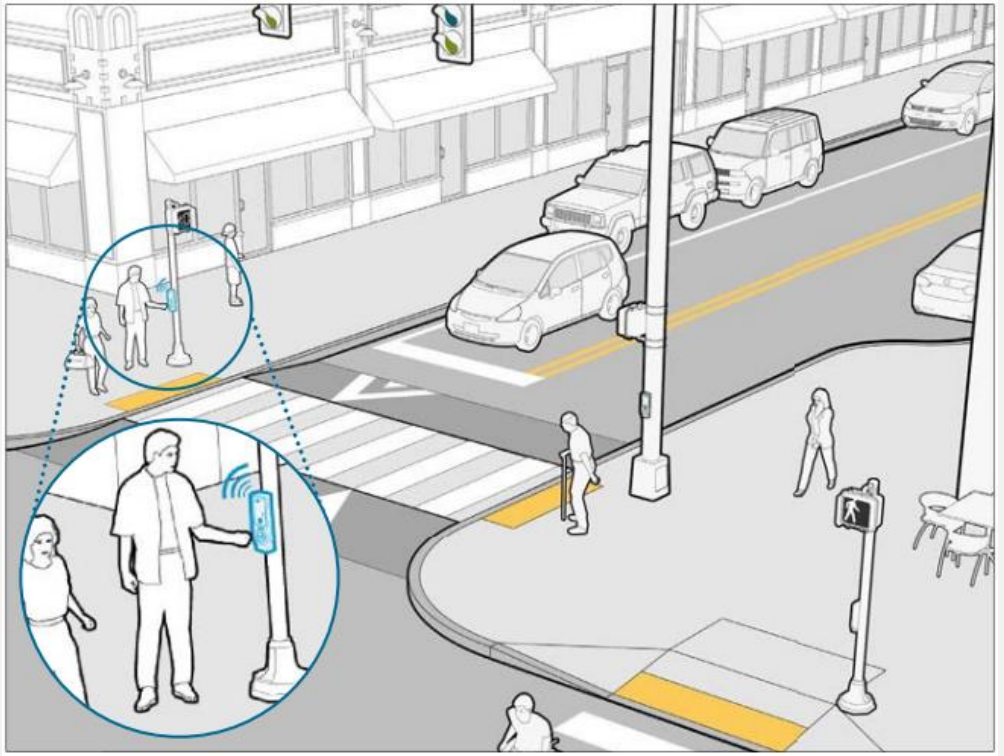
SECTION 2: PROJECT OVERVIEW
PURPOSE

Improve Intersection Safety for all users

- Prioritize pedestrians and cyclists

Improve Accessibility

- Accessible to everyone
- Include individuals with disabilities

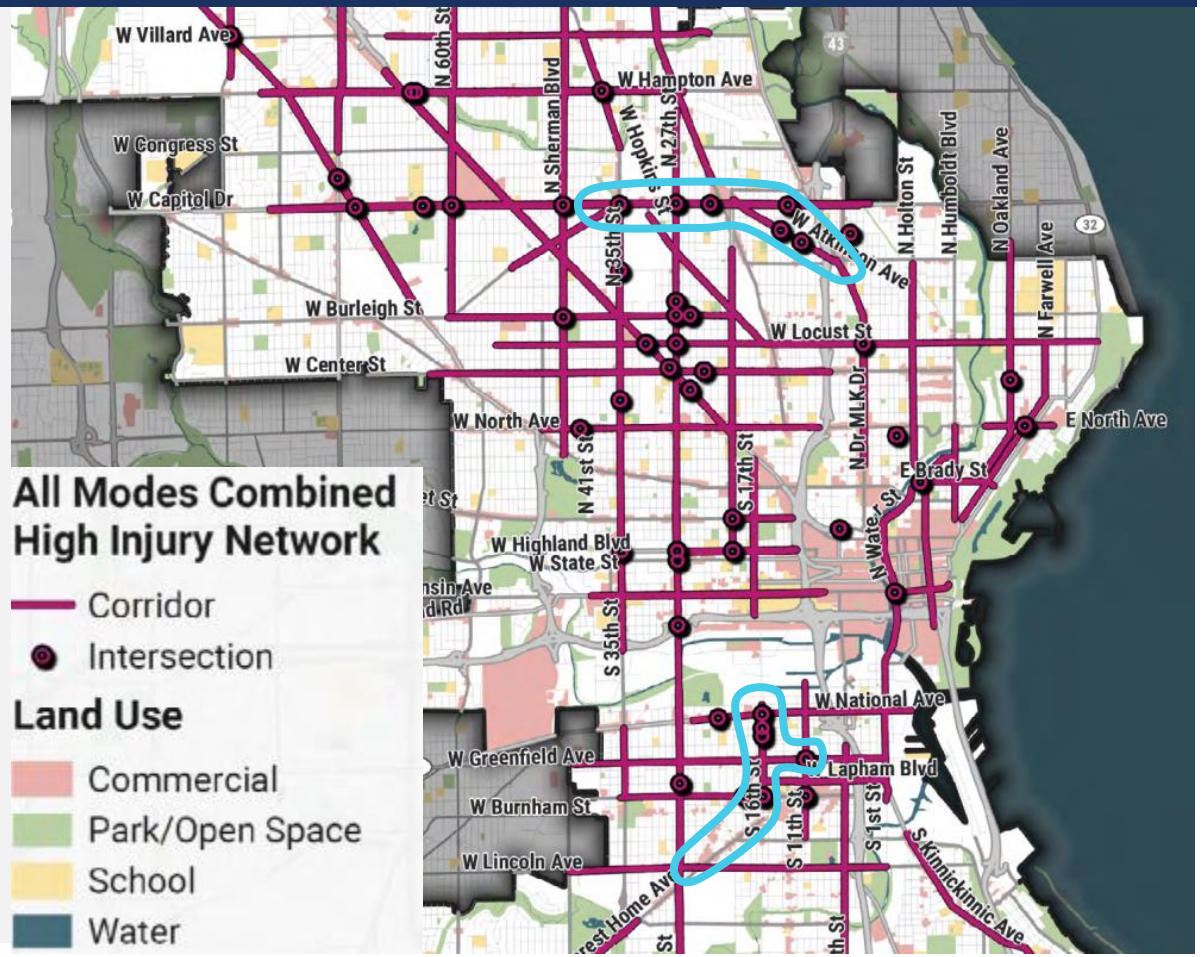


Source: City of Milwaukee Pedestrian Plan

SECTION 2: PROJECT OVERVIEW

NEED-SAFETY ANALYSIS

The majority of the intersections in this project are part of the City's High Injury Network (HIN).

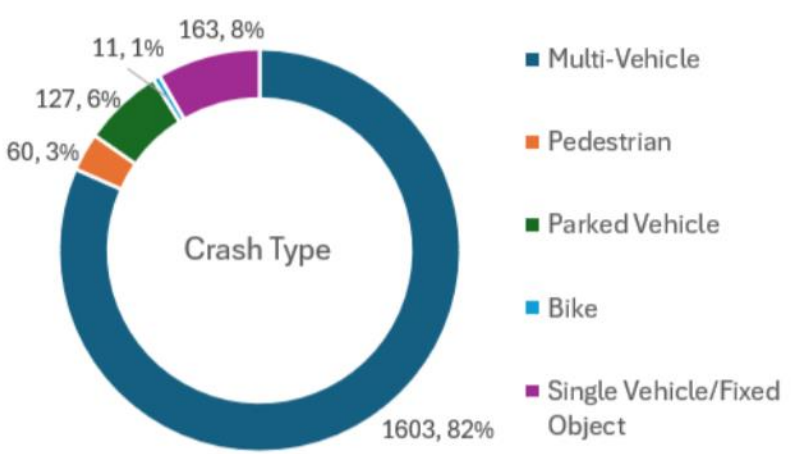


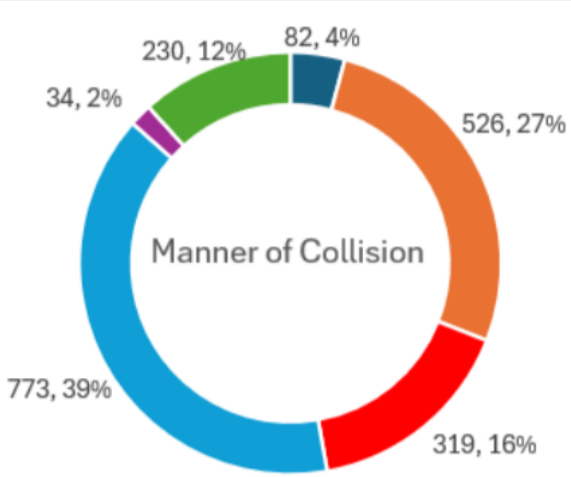
SECTION 2: PROJECT OVERVIEW

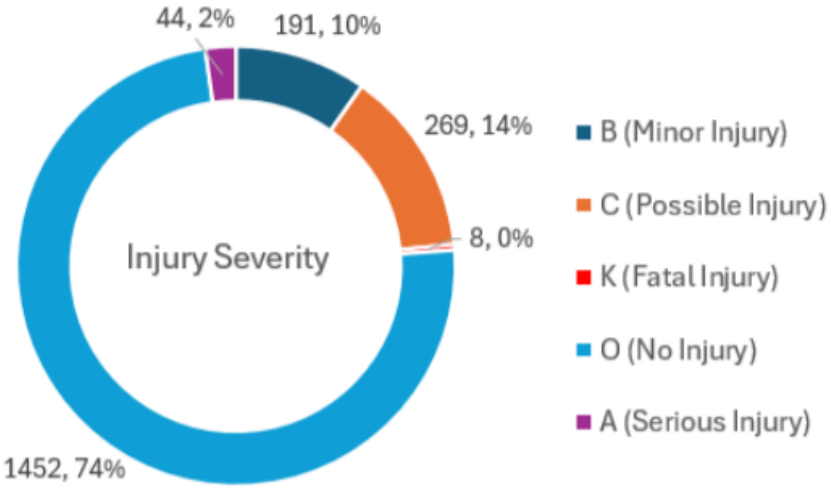
NEED – SAFETY ANALYSIS

A safety analysis in this corridor identified the following trends:

- Bicycle/Pedestrian Crashes
- Angle Crashes
- Failure to Yield
- Excessive Speed
- Fixed Object Collisions
- Driveway Crashes





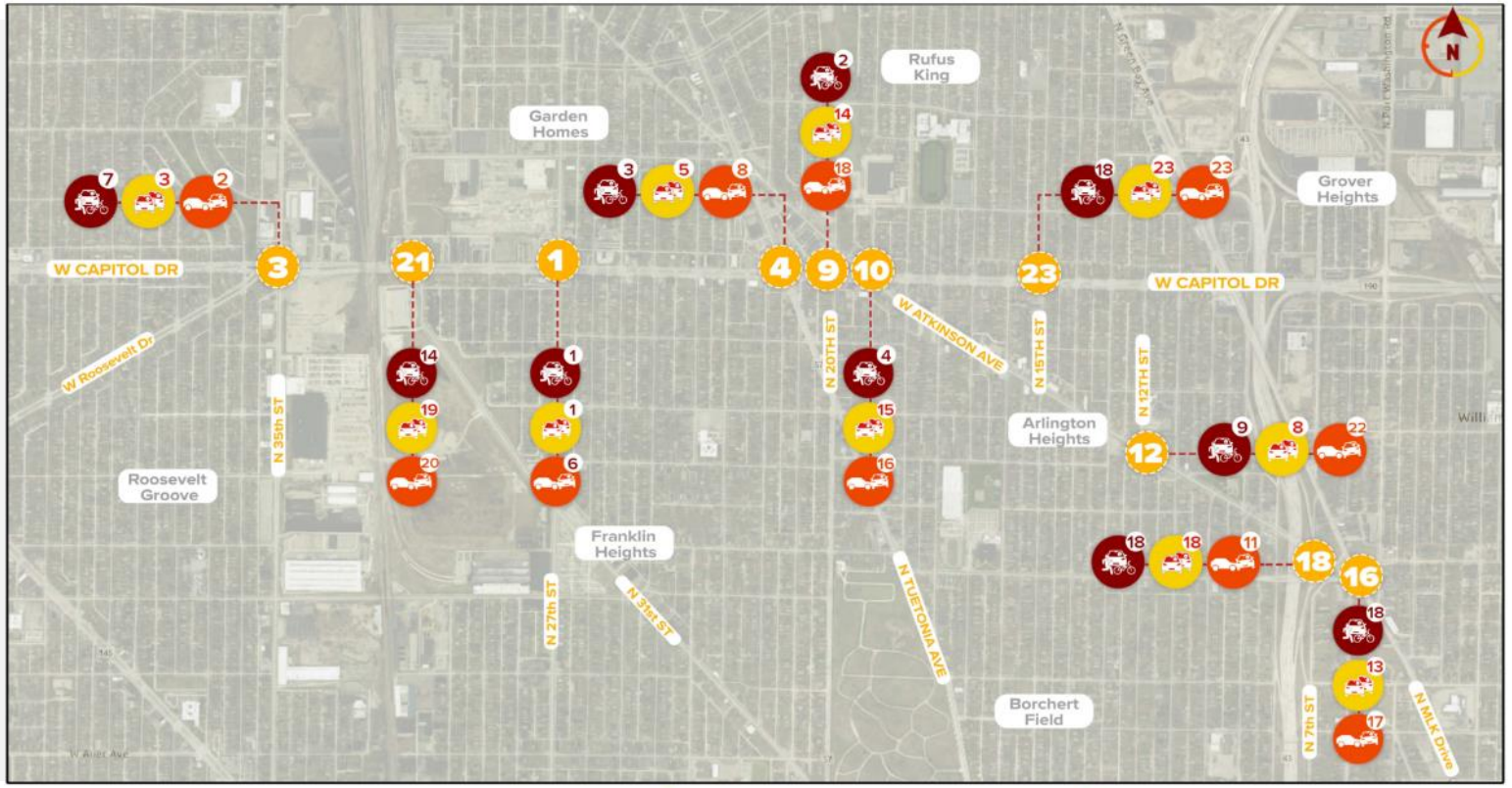


SECTION 2: PROJECT OVERVIEW

NEED – SAFETY ANALYSIS

Intersection Safety Ratings
North Segment

Lower ranking indicates worse safety.



LEGENDS -

1 Intersection Safety Ratings

Based on a weight system (1.0 for ICR, 1.5 KAB, and 2.0 Ped/Bike)

- Ranking for Number of Bike and Ped Crashes
- Ranking for KAB Intersection Crash Rate
- Ranking for Intersection Crash Rate

1 W Capitol Dr & N 27th St
3 W Capitol Dr & N 35th St
4 W Capitol Dr & N Teutonia Ave
9 W Capitol Dr & N 20th St
21 W Capitol Dr & N 31st St
10 W Capitol Dr & W Atkinson Ave
12 W Atkinson Ave & N 12th St
18 W Atkinson Ave & N 7th St
16 W Atkinson Ave & N MLK Dr
23 W Capitol Dr & N 15th St

Note: The lower number corresponds to a more dangerous intersection and the south side intersections included in this project are shown on a separate exhibit.

SECTION 2: PROJECT OVERVIEW

NEED – SAFETY ANALYSIS

Intersection Safety Ratings

South Segment

Lower ranking indicates worse safety.

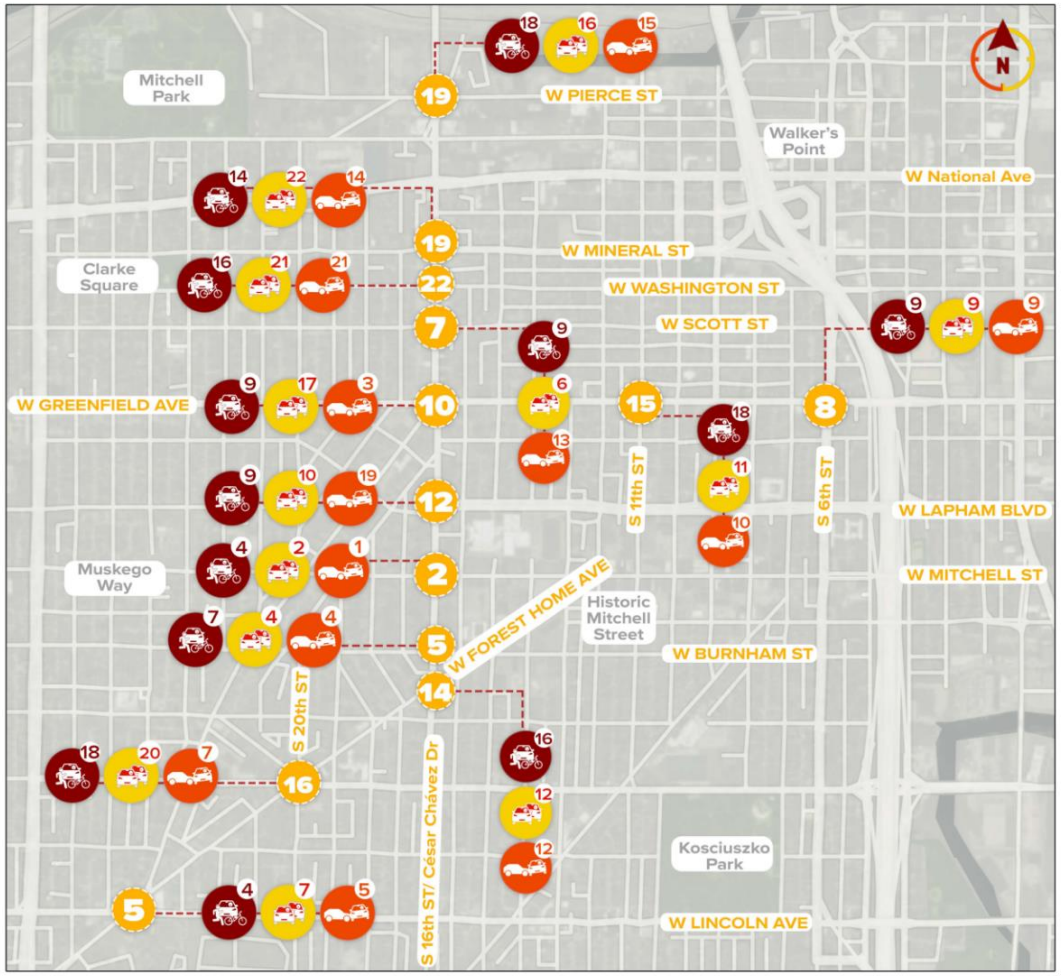
LEGENDS -

Intersection Safety Ratings

Based on a weight system (1.0 for ICR, 1.5 KAB, and 2.0 Ped/Bike)

- Ranking for Number of Bike and Ped Crashes
- Ranking for KAB Intersection Crash Rate
- Ranking for Intersection Crash Rate

2	S 16th St & W Mitchell St
5	S 16th St & Burnham St
5	W Forest home & W Lincoln Ave
7	S 16th St & W Scott St
8	W Greenfield Ave & S 6th St
10	S 16th St & W Greenfield Ave
12	S 16th Street & W Lapham Blvd
14	S 16th Street & W Forest Home
15	W Greenfield Ave & S 11th St
16	W Forest Home & S 20th St
19	S 16th St & W Pierce St
19	S 16th St & W Mineral St
22	S 16th St & W Washington St



Note: The lower number corresponds to a more dangerous intersection and the north side intersections included in this project are shown on a separate exhibit.

SECTION 3: PROPOSED IMPROVEMENTS

BASE SCOPE

- Installation of Accessible Pedestrian Signals (APS) at all 23 intersections.
- Replacement of curb ramps that do not meet the Americans with Disabilities Act (ADA) requirements.
- Improved pavement markings and signing.
- Installation of pinned concrete islands at some intersections.
- Installation of median refuge space.

SECTION 3: PROPOSED IMPROVEMENTS

ADDITIONAL SCOPE DEPENDING UPON FUNDING

- Installation of raised concrete crosswalks in selected locations.
- Installation of curb extensions.
- Closure of legs on complex intersections with more than 5 legs.

SECTION 3: PROPOSED IMPROVEMENTS
ACCESSIBLE PEDESTRIAN SIGNALS (APS)

What is an APS?

- APS signals provide auditory, visual, and vibrotactile cues, making it safer for visually impaired pedestrians to cross streets.
- More accurate judgments of the onset of the WALK interval.

APS Features

- Pushbutton locator tones
- Tactile arrows with vibration
- Audible walk indicators/rapid tick
- Volume of the audio adjusts to ambient noise



Tactile Arrow

Image of APS

Section 3: PROPOSED IMPROVEMENTS

ACCESSIBLE PEDESTRIAN SIGNAL (APS) AT AN INTERSECTION





SECTION 3: PROPOSED IMPROVEMENTS
CURB EXTENSIONS

Concrete Curb Extensions

Also known as bump-outs, are traffic calming measures that extend the sidewalk into the street often using part of a parking lane.

Benefits

- They reduce the crossing distance for pedestrians
- They improve the visibility of pedestrians
- They slow down vehicles
- The prevent right turning vehicles from turning right from the parking lane

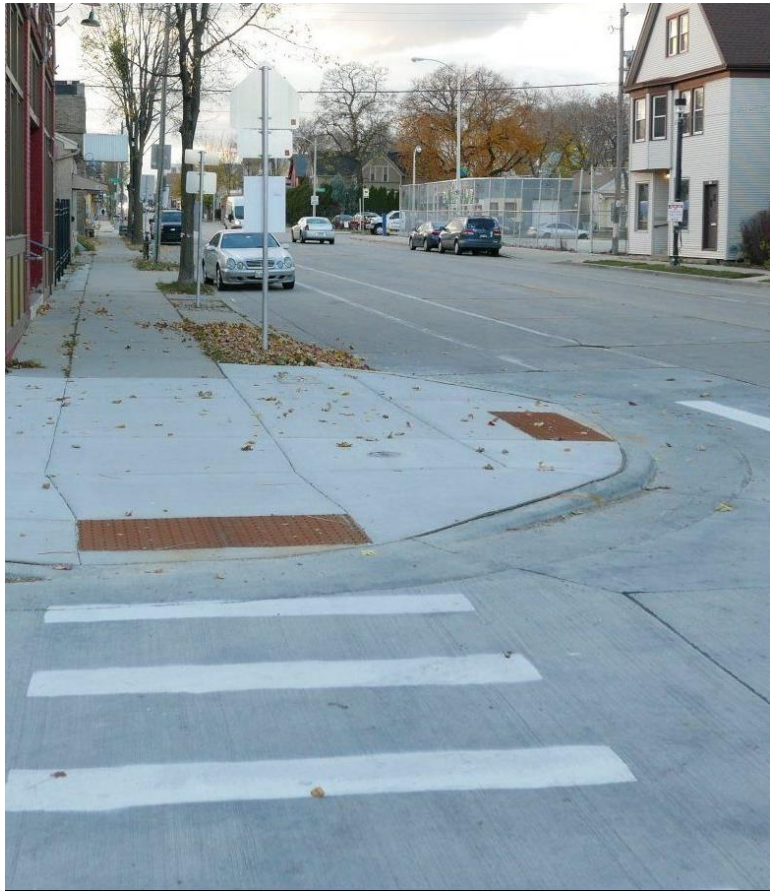


Image of Curb Extension

SECTION 3: PROPOSED IMPROVEMENTS
CONCRETE PINNED ISLANDS

Concrete Pinned Islands
Similar with curb extensions but they do not connect to the sidewalk and leave a gap between the curb and the island. They end prior to a crosswalk and do not extend around the intersection corners.

Benefits
- They reduce the crossing distance for pedestrians
- They slow down vehicles
- They improve the visibility of pedestrians
- The prevent right turning vehicles from turning right from the parking lane.



Image of Concrete Pinned Islands

SECTION 3: PROPOSED IMPROVEMENTS
RAISED CROSSWALKS

Raised Crosswalks

Also known as a speed table with a crosswalk, is a traffic calming measure and pedestrian crossing that is raised to the level of the sidewalk. They are typically installed at intersections or mid-block locations to enhance pedestrian safety.

Benefits

- They make pedestrians more visible
- They reduce speeds
- They increase driver awareness due to the physical change in the roadway surface



Image of Raised Crosswalk

SECTION 3: PROPOSED IMPROVEMENTS

MEDIAN REFUGE

Median Refuge

A median is an area between opposing lanes. Medians in urban areas are typically raised with the use of curb. A median refuge is indented to help protect pedestrians that are crossing the road.

Benefits

- It shortens the crossing distance
- It allows pedestrians to cross one direction at a time
- Allows refuge space for slower users



Image of Median Refuge

SECTION 3: PROJECT OVERVIEW
DISCUSSION

Do you have any questions?

Do you have any experiences at intersections along the corridors we just described?

THANK YOU

David Tapia
dtapia@milwaukee.gov

Georgia Vergou-Ornek
Georgia.VergouOrnek@mbakerintl.com