

6th Avenue East Overlay and Roadway Reconfiguration Public Meeting

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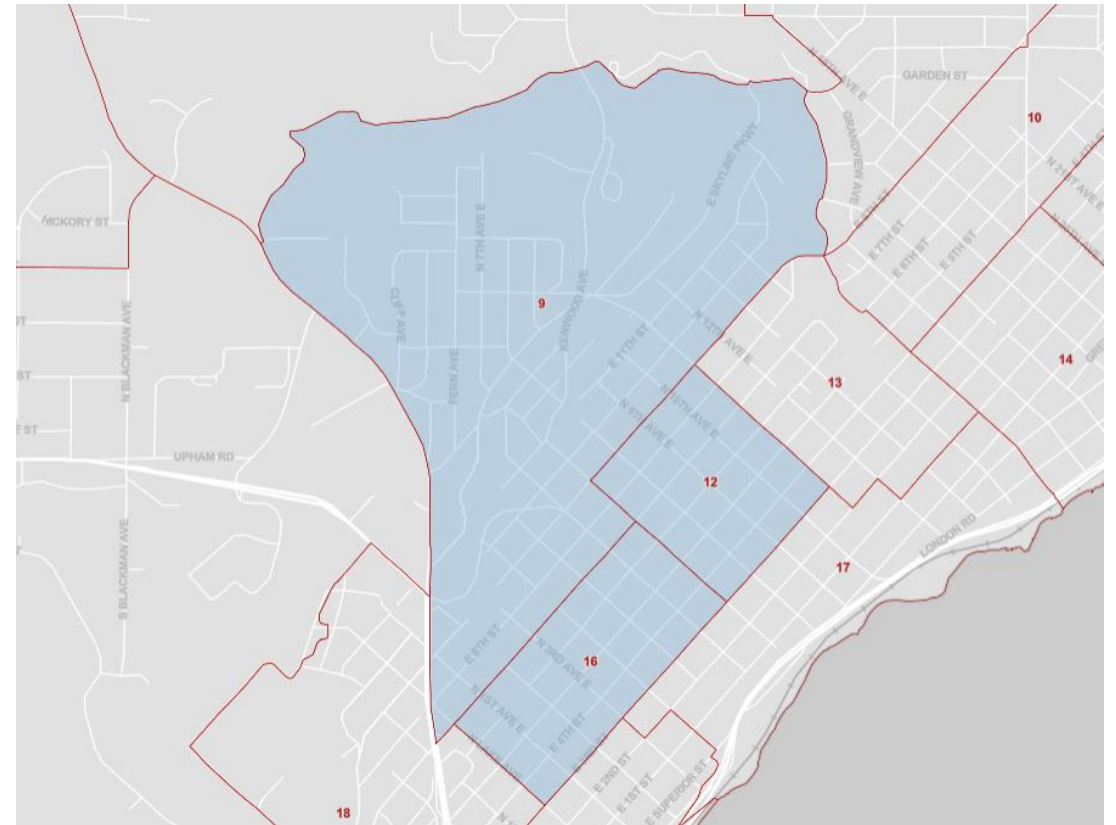
Project Overview

- Overlay of 6th Avenue East from East 2nd Street to Mesaba Avenue
- ADA improvements including curb ramps and compliant sidewalk slopes
- Spot curb and sidewalk replacements
- Reconfiguration of 6th Avenue East from a 4-lane to a 3-lane roadway



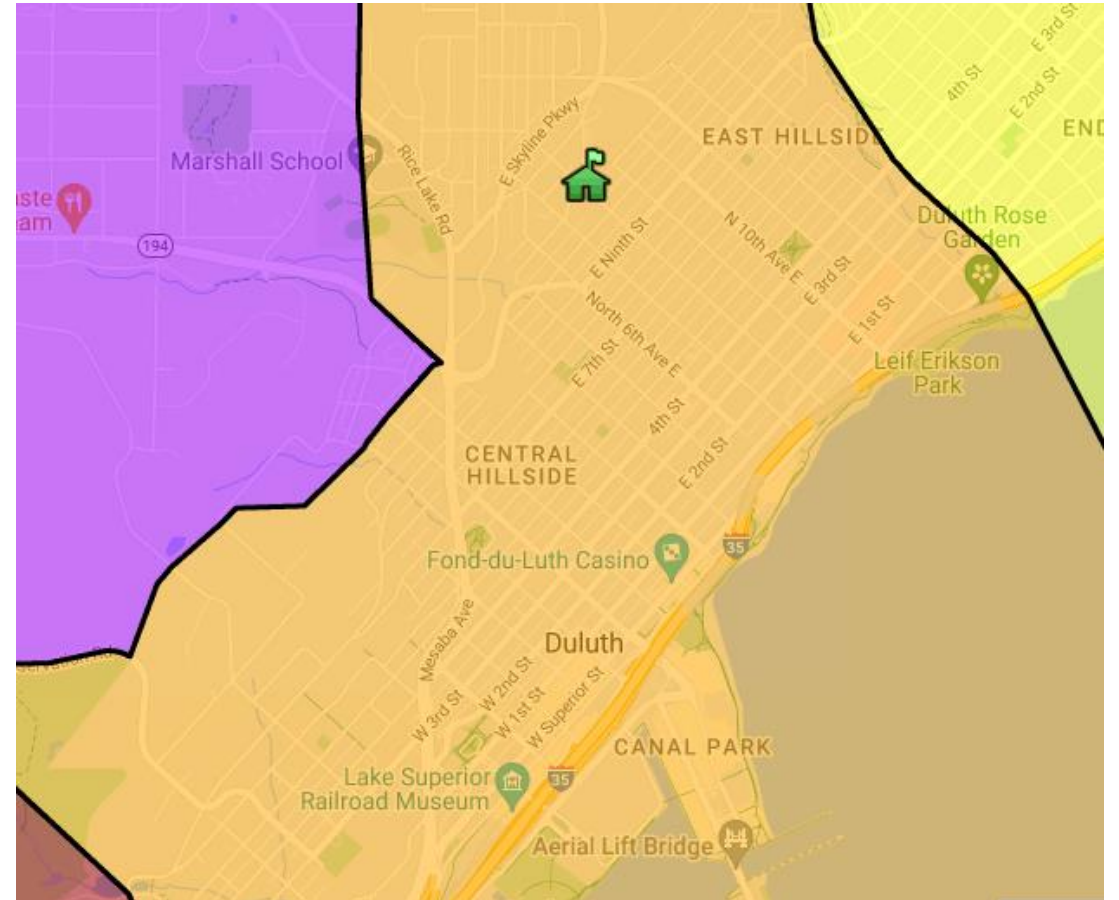
Neighborhood Demographics (Census Tracts 9, 12, 16)

- 23% are below poverty level
- 13% have a disability
- 13% walk, bike, or use public transportation to commute
- 80% drove alone or carpooled
- 11% of households don't have a vehicle
 - 1/3 of Central Hillside households don't have a vehicle
- 19% of households have children under 18 years old



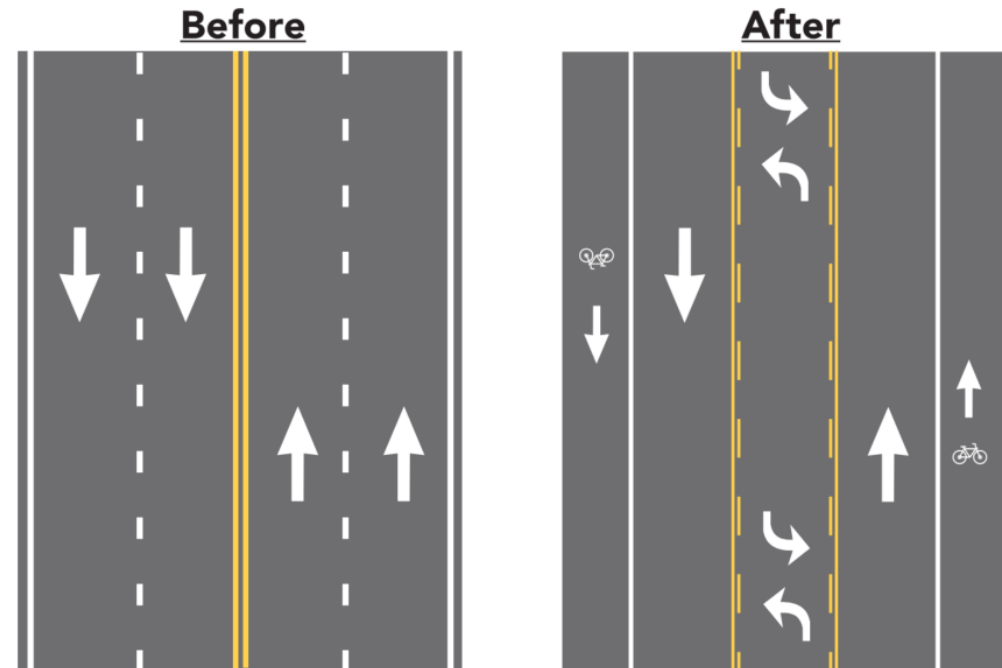
Current Challenges Posed by Roadway

- ISD709 discourages walking to Myers-Wilkins Elementary School across 6th Avenue East
 - 1/5 of a mile from the school, busing is generally only provided for students living more than 7/10 of a mile from their school in ISD709
 - 90% of students need to be bussed
- 20% of pedestrian deaths in Duluth in the last decade were on 6th Avenue East
- HRA owned Harbor Highlands development at west end of project connectivity



What is a “Roadway Reconfiguration”

- A roadway reconfiguration repositions pavement markings to better meet the needs of all road users.
- A typical design would remove one through lane in each direction and convert it to a “Two-Way Left Turn Lane” (TWLTL). The extra road space left over can be utilized for pedestrian, bicycle, and transit facilities
- A 2-lane road with left turn lanes, commonly called a “3-lane” road can effectively carry traffic volumes to 18,300 vehicles per day (Highway Capacity Manual). Federal Highway Administration (FHWA) notes that 3-lane roads can work with up to 25,000 vehicles per day.



Two travel lanes are removed to reallocate space for a TWLTL and bicycle lanes.

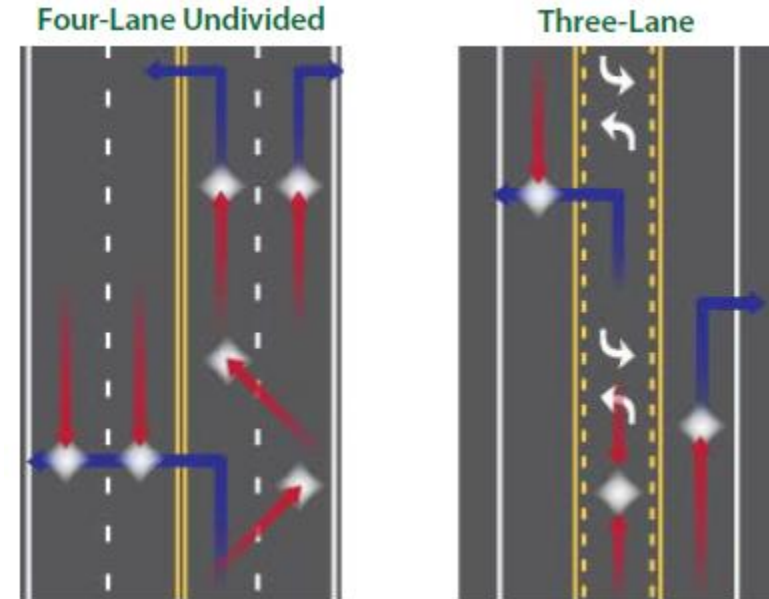
Other 3-Lane Roadways in Duluth

- 21st Ave E from London Road to Woodland Avenue – 14661 AADT
- London Road from 21st Avenue E to 14th Avenue E – 7720 AADT
- Grand Avenue from 40th Avenue W to 46th Avenue W – 13503 AADT
- W Superior Street from Carlton Street to 22nd Avenue W – 5500 AADT (Currently approximately 16000 AADT due to detours)



Roadway Safety Benefits

- A reduction in the number of through lanes can calm traffic, reduce weaving, reduce the number of lanes for pedestrians to cross, and reduce left-turn conflicts.
- A two-way left-turn lane (TWLTL) may reduce head-on crashes by dividing opposing traffic and reduce rear-end crashes by providing left-turning vehicles their own lane.
- Studies indicate a 19 to 47 percent reduction in overall crashes when a Roadway Reconfiguration is installed on a previously four-lane undivided facility as well as a decrease in crashes involving drivers under 35 years of age and over 65 years of age.
- On three-lane roads with TWLTLs the vehicle speed differential is limited by the speed of the lead vehicle in the through lane, and through vehicles are separated from left-turning vehicles.



Duluth 10-Year Crash Trends

- 21st Ave E – 219 crashes (14661 AADT)
- London Road – 54 crashes (7720 AADT)
- Grand Avenue – 164 crashes (13503 AADT)
- 6th Avenue E (2nd Street to 9th Street) – 236 crashes (12800 AADT)

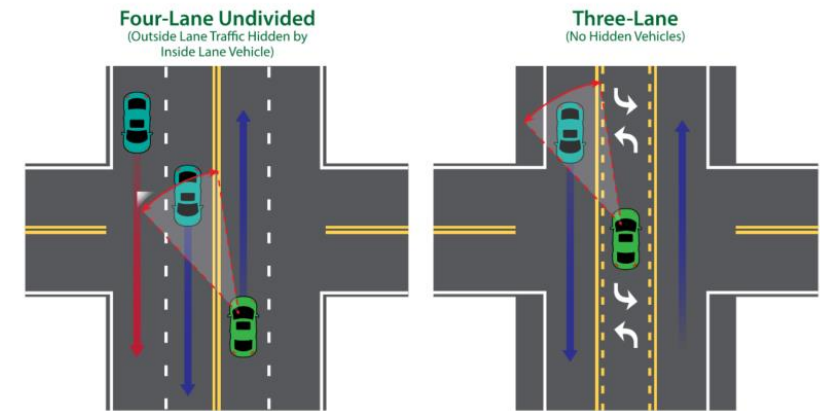
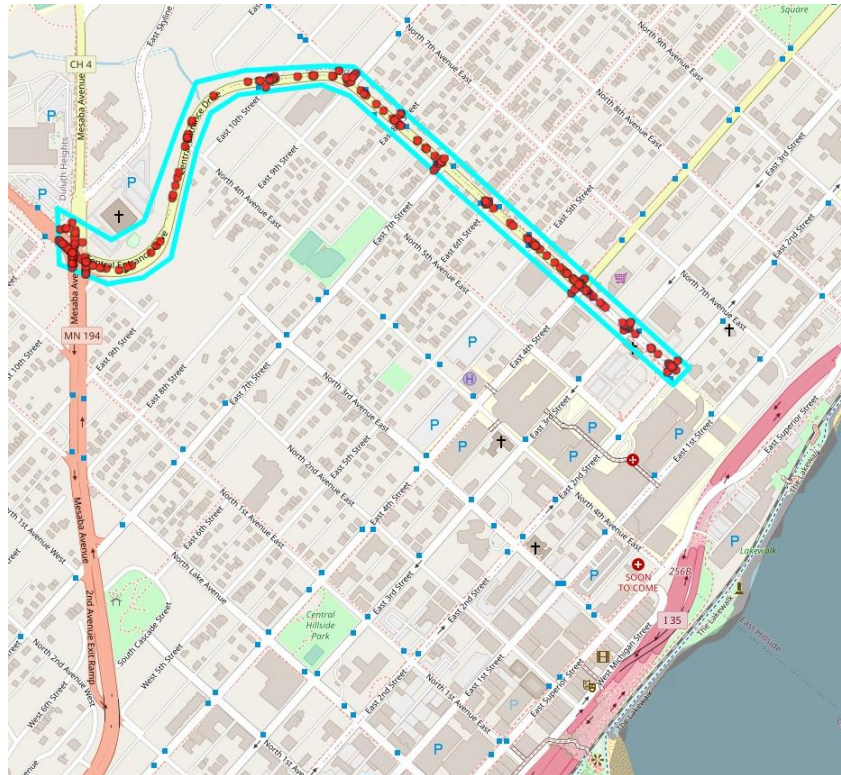


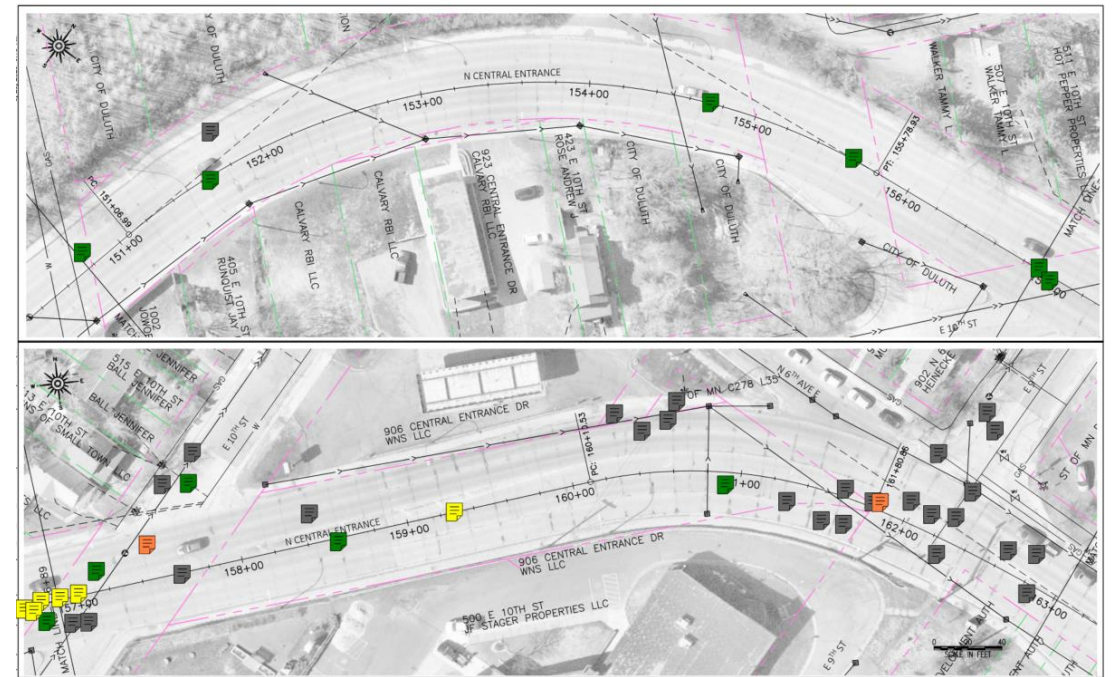
Figure 6. Major-Street Left-Turn Sight Distance for Four-Lane Undivided Roadway and Three-Lane Cross Section (Adapted from Welch, 1999)

10-Year Crash Analysis

Crash Locations

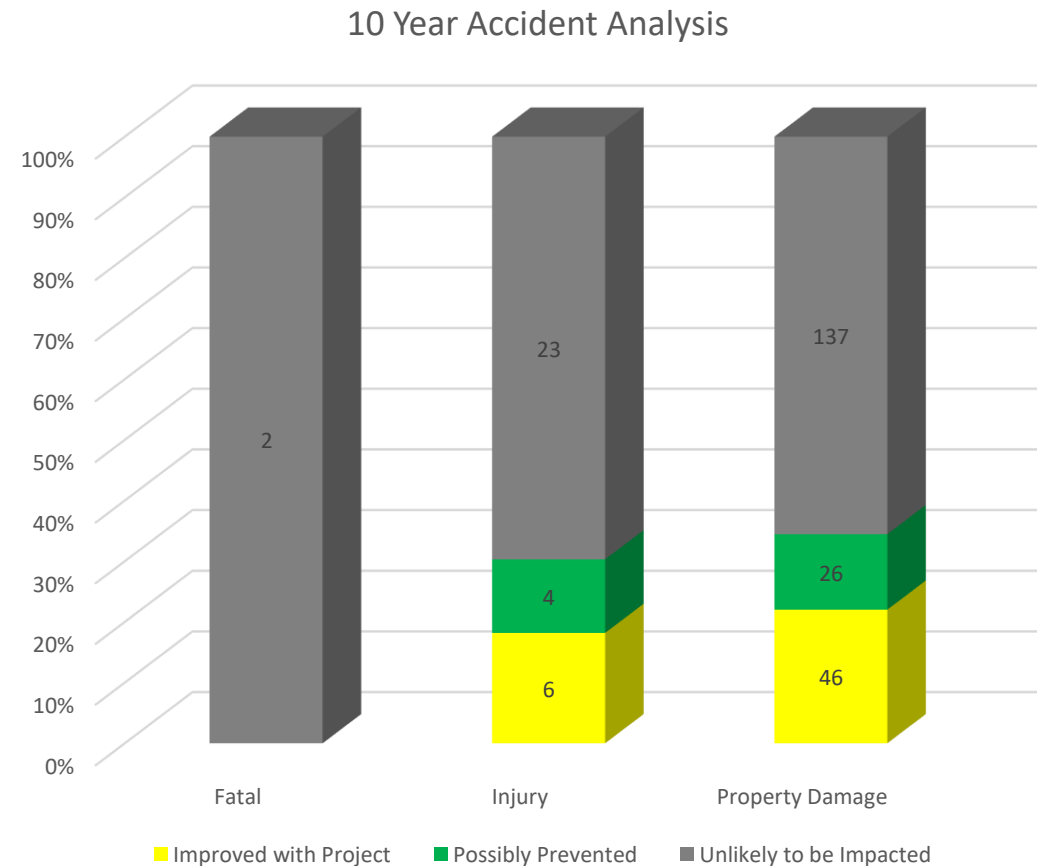


Crash Mapping and Classification



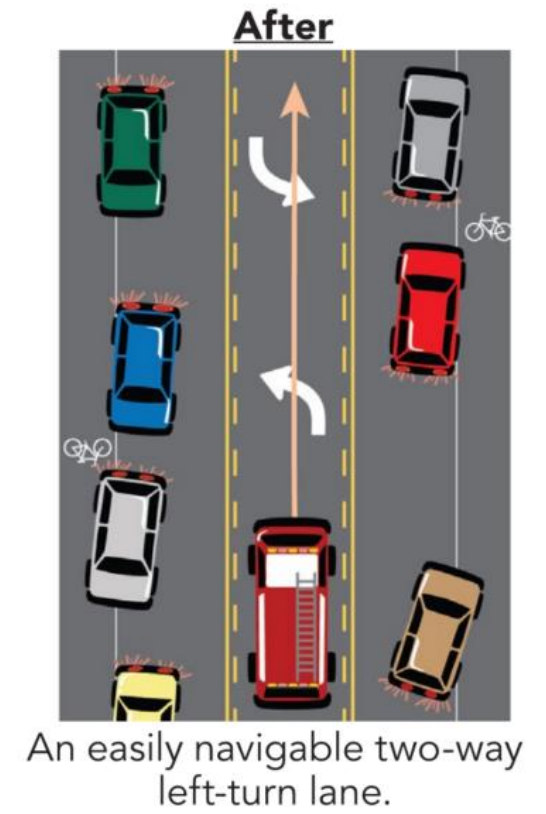
10-Year Crash Analysis

- 244 crashes occurred within the project corridor over a 10 year period.
- 48% involved drivers under 35 and 10% involved drivers over 65 (39% and 10% for Grand Avenue's crashes respectively)
- Approximately 20% would likely have been prevented and an additional 10% would possibly have been prevented.
- Typical crashes that could be prevented were rear ends at intersections while vehicles were turning, head-on collisions when vehicles crossed the centerline, and sideswipes due to vehicles stopping or navigating at 2nd Street
- Significant majority of the remaining crashes were caused by failing to yield at an intersection



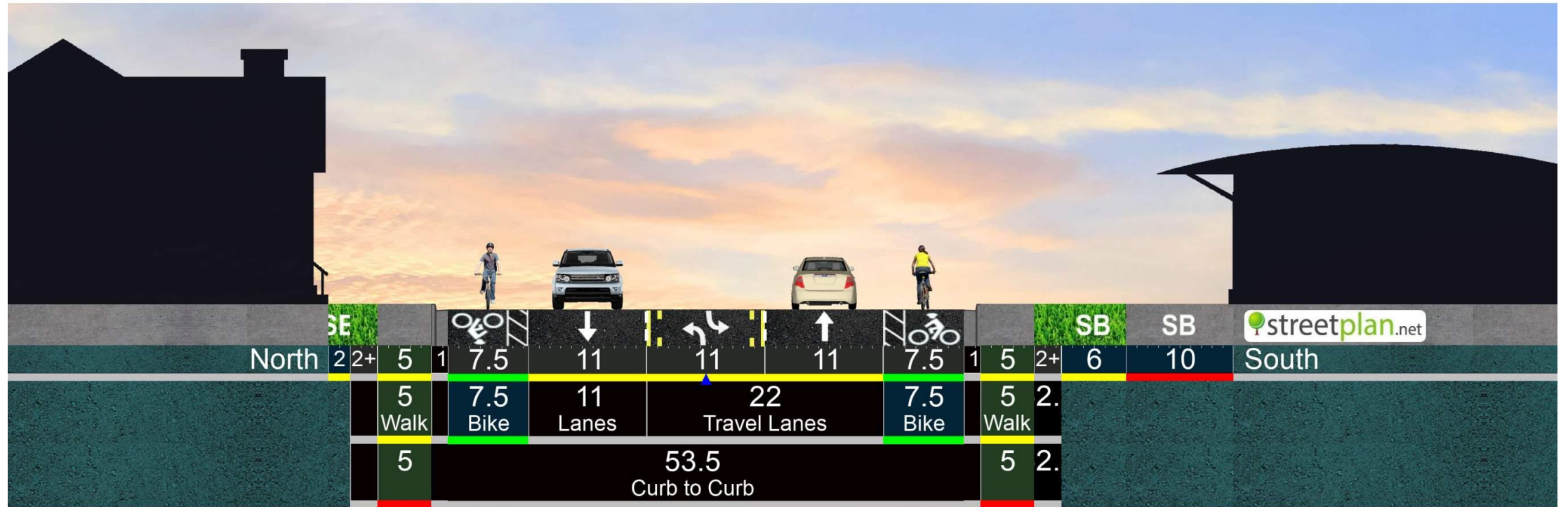
Impacts to Emergency Response

- Multi-lane undivided roads can be problematic for police and EMS responders.
- Emergency responders may struggle to pass through traffic as they thread a path somewhere along the center of the roadway.
- Roadway reconfigurations can significantly improve response times by allowing emergency vehicles to bypass traffic by using the TWLTL.
- Drivers can use the extra shoulder width to pull over, allowing emergency vehicles to use the TWLTL.



Proposed Typical Sections

6th Avenue E Mesaba Ave to 2nd Street **Typical Striping** Right-of-Way: 66' of 66'



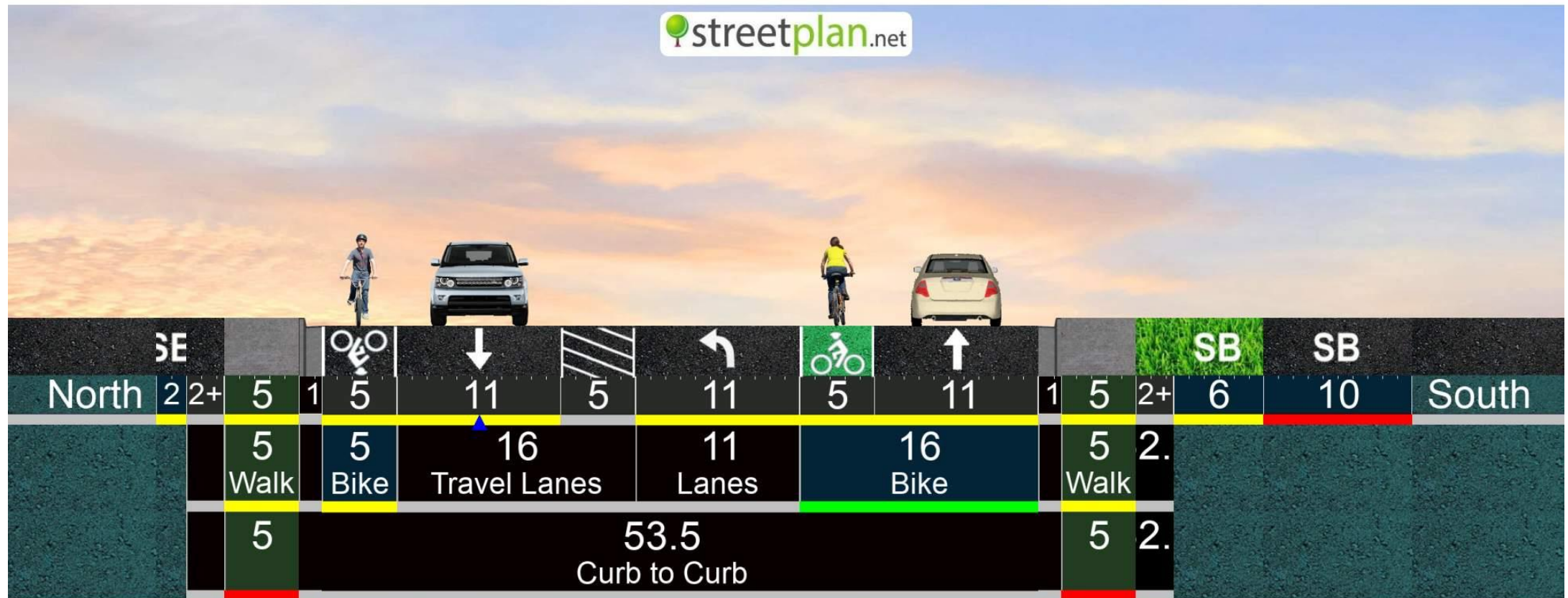
Proposed Typical Sections

6th Avenue E

Mesaba Ave to 2nd Street

Transition Above 3rd Street

Right-of-Way: 66' of 66'



Proposed Typical Sections

6th Avenue E

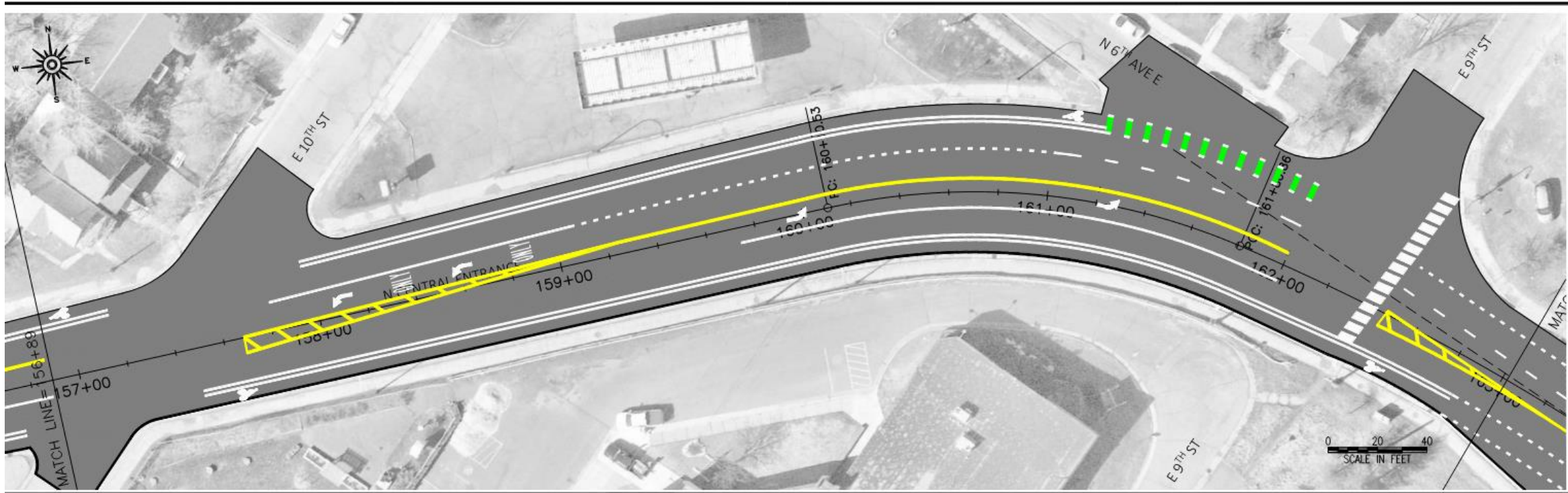
Mesaba Ave to 2nd Street

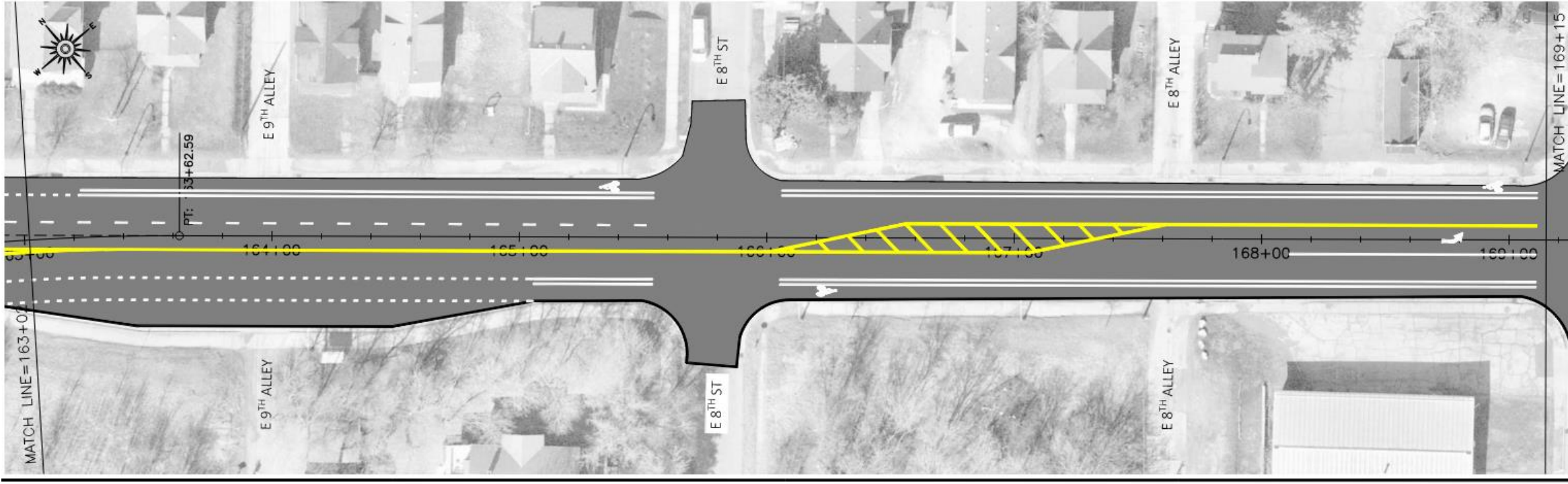
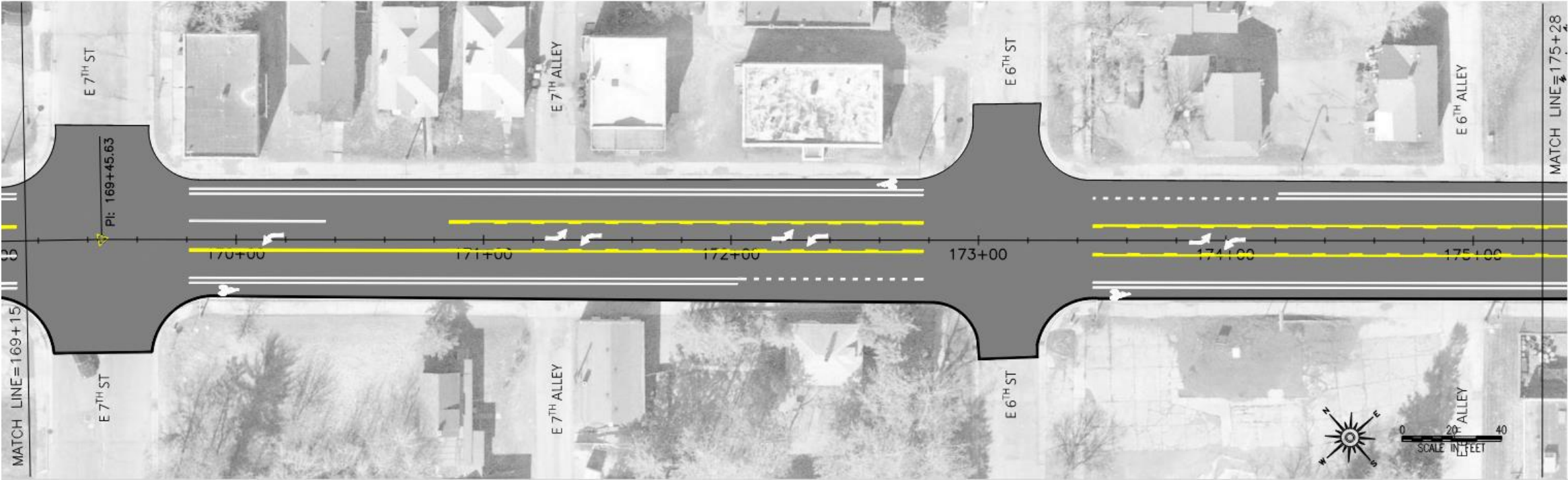
2nd Street to 3rd Street

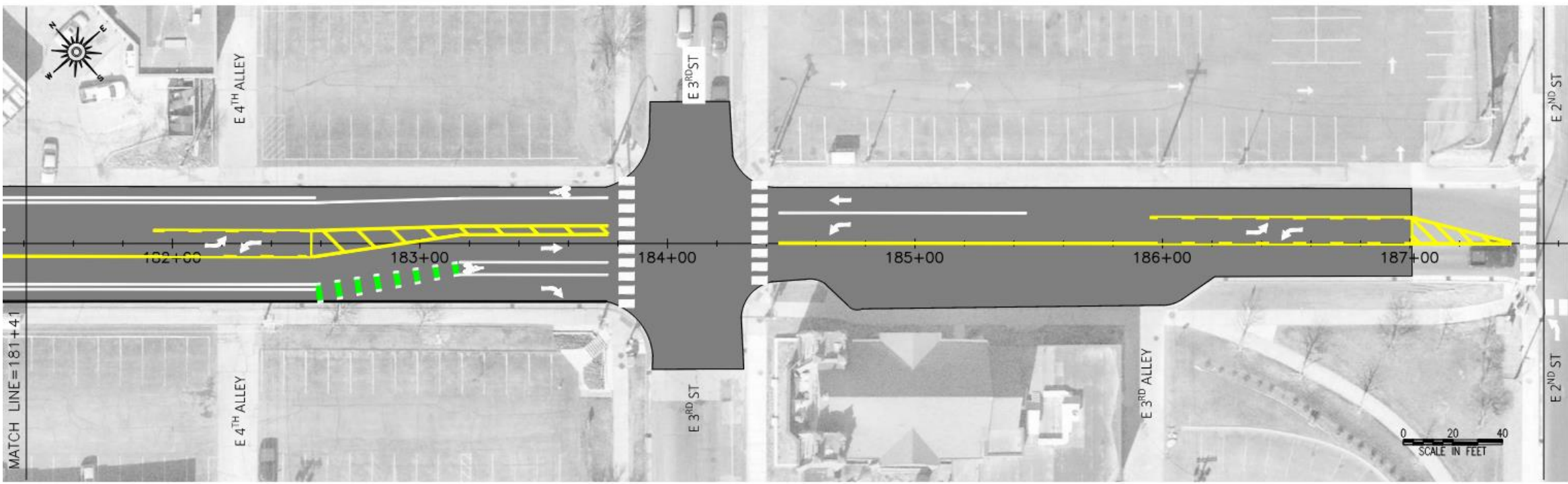
Right-of-Way: 66' of 66'

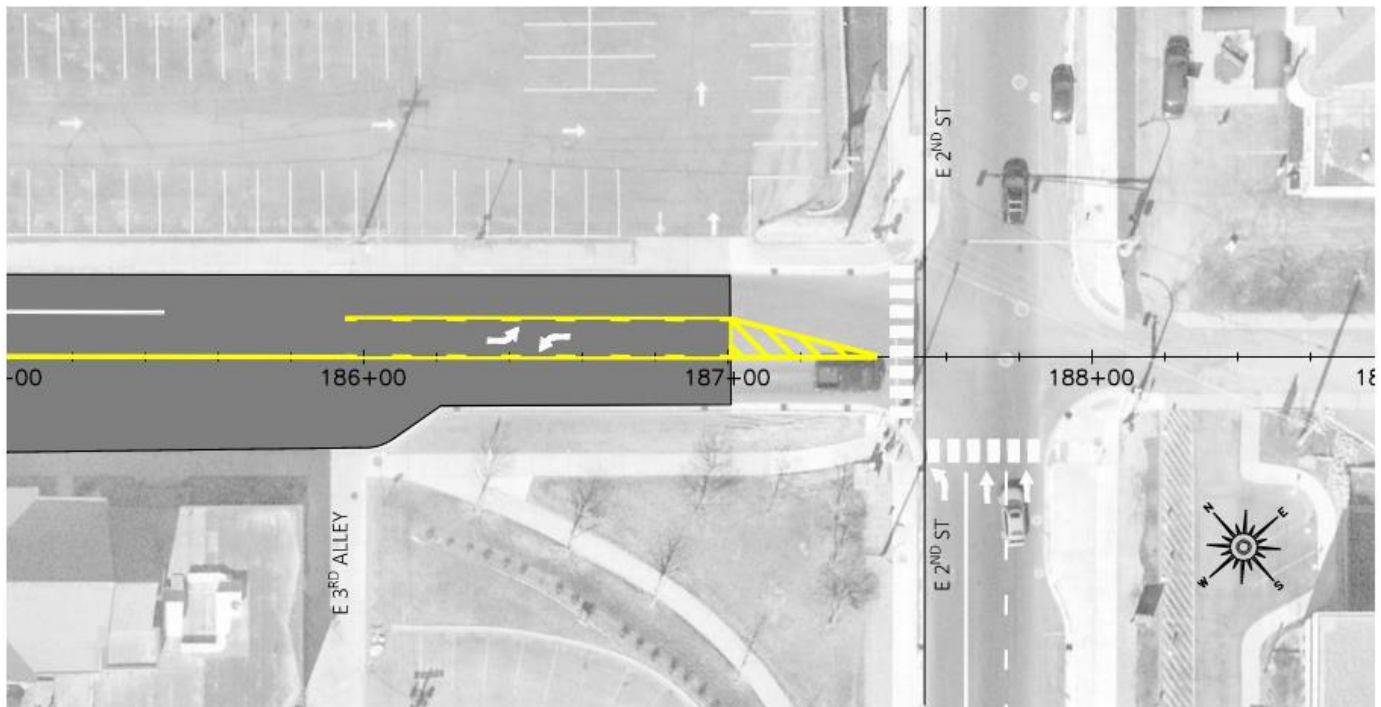












Project Schedule

Fall 2023 – Spring 2024	2024	2025-29	2030+
Resurfacing Project Design	Resurface 6th Avenue East from 2 nd Street to Mesaba Avenue	Collect Public Input on Reconfiguration and Future Reconstruction Designs, Develop Reconstruction Plans	Earliest Possible Reconstruction

Questions and Feedback

- Thank you for attending and for your interest in the project

