

# WO 23-11 Downtown 2-Way Street Restoration Project

July 17, 2023

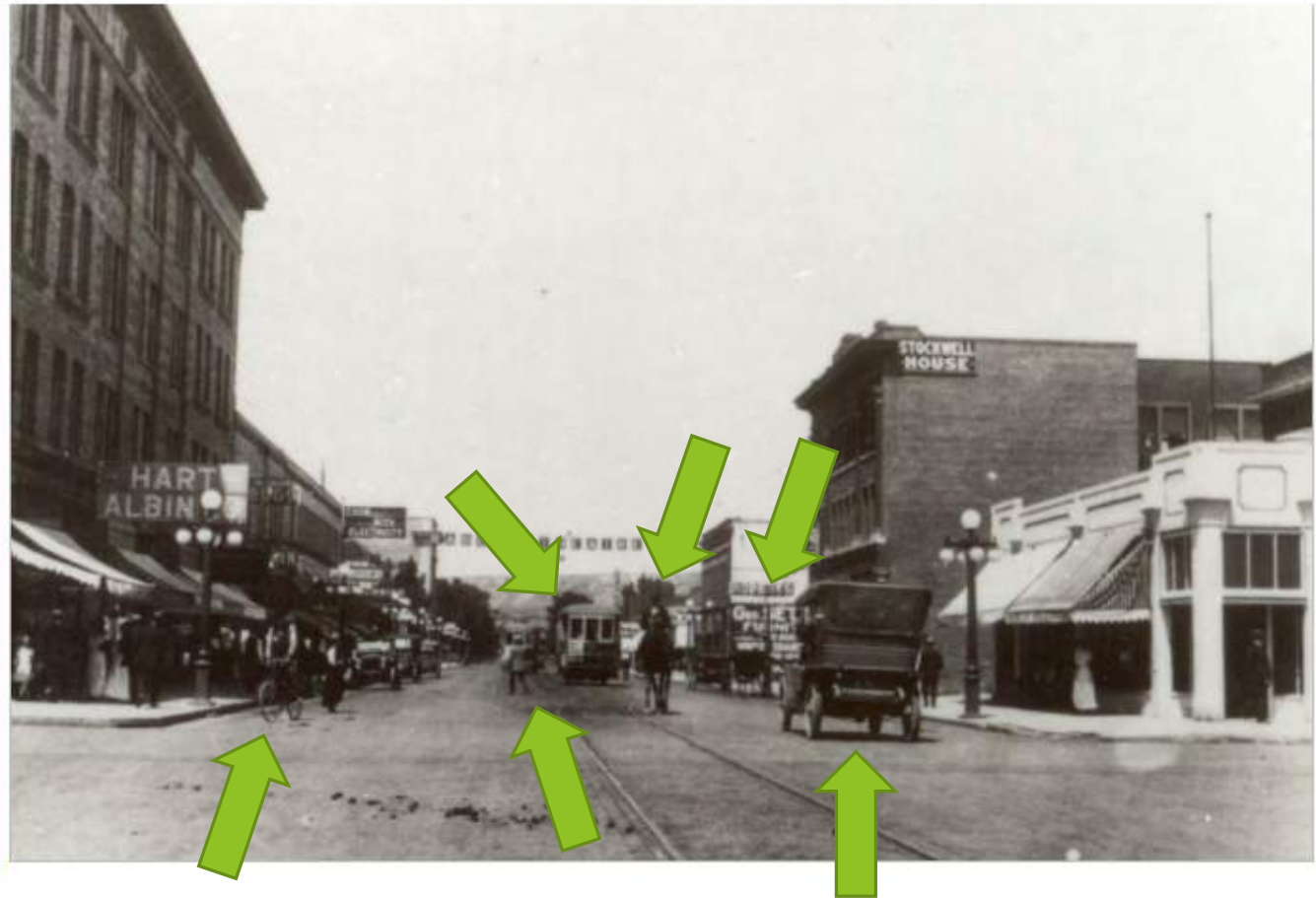
# General Project

- ▶ Consultant Team
  - ▶ DOWL
    - ▶ Kittelson & Associates (subconsultant)
- ▶ Full design including traffic study
  - ▶ Traffic study completed, currently at 30% design
- ▶ 2-way restoration planned for summer 2024
- ▶ Montana Avenue road diet - upcoming, separate construction timing with MDT

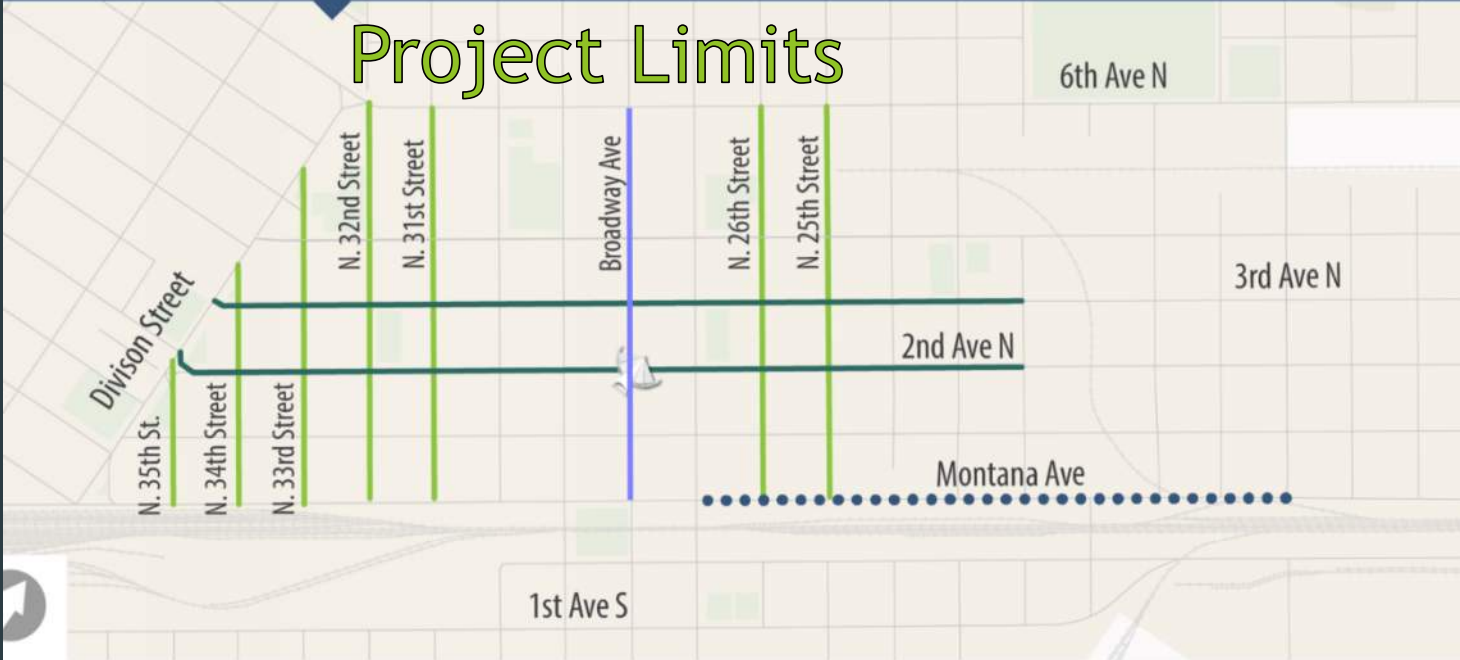


# Multi-modal Transportation on Broadway Avenue, 1914

Courtesy Western Heritage Center



# Project Limits



## LEGEND

- City of Billings
- Parks/OpenSpace

## ALTERNATIVES

### One-Way to Two-Way Street Restoration

- North/South Bound
- East/West Bound
- Included in Pavement Preservation

### Road Diet

- Montana Ave



## 2-Way Restoration Project Goals

- ▶ Improve livability & stimulate economic growth
- ▶ Promote safety
  - ▶ Traffic calming
- ▶ Better access to downtown
- ▶ Increase walkability
  - ▶ Slower speeds=more comfortable walking environment
- ▶ Increase multimodal connectivity
  - ▶ Bike facilities that are comfortable for many users
- ▶ Ultimate goal: Support the vitality of downtown

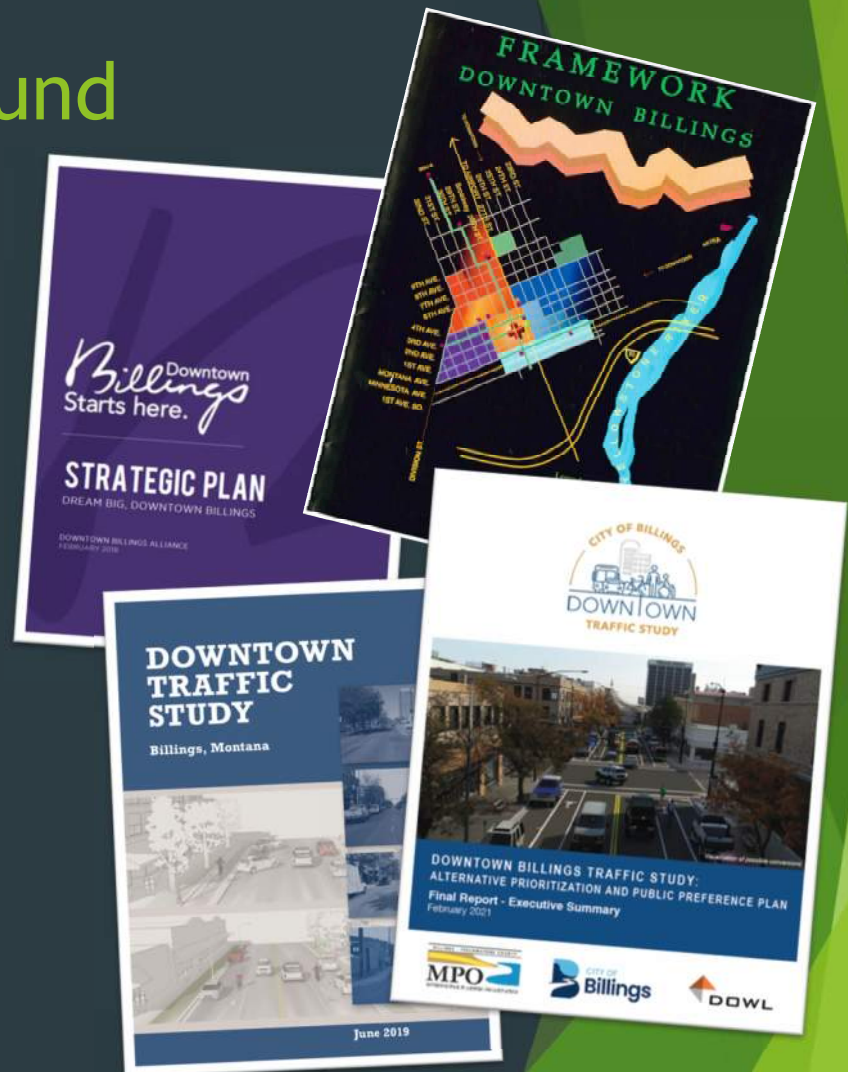
## CPTED Principles

- ▶ Traffic Calming - Opportunity for eyes on public spaces
  - ▶ Two-way traffic
  - ▶ Strategic turn lane locations
  - ▶ Narrow lane widths (10-11 feet)
  - ▶ Bike infrastructure
- ▶ “Activating” spaces via pedestrian and bicycle connectivity
  - ▶ More comfortable for multi-modal, more multi-modal users
  - ▶ More users, more eyes on spaces



## 2-Way Restoration Background

- ▶ “Restoration” project: downtown streets were once 2-way
  - ▶ Converted in 1975 as part of Federal Highway Administration (FHWA) Project
  - ▶ One-way streets promote traffic through a space, two-way traffic promote traffic to a space
- ▶ Prior studies: 1997 Downtown Framework Plan, 2018 DBA Strategic Plan
- ▶ Downtown Traffic Study: initiated by DBA & City of Billings, completed 2019
- ▶ Alternative Prioritization & Public Preference Plan: surveyed public on interest in 2-way streets, completed 2021
- ▶ Restoration of N 29th St & N 30th St initiated February of 2020, completed 2021





## Balancing Act

- ▶ Parking
- ▶ Bike Improvements
- ▶ Traffic Calming
- ▶ Traffic Congestion
- ▶ Maintenance
- ▶ Cost
  
- ▶ Goal is to find a balance to these sometimes-competing interests



## Current Downtown Maintenance Needs

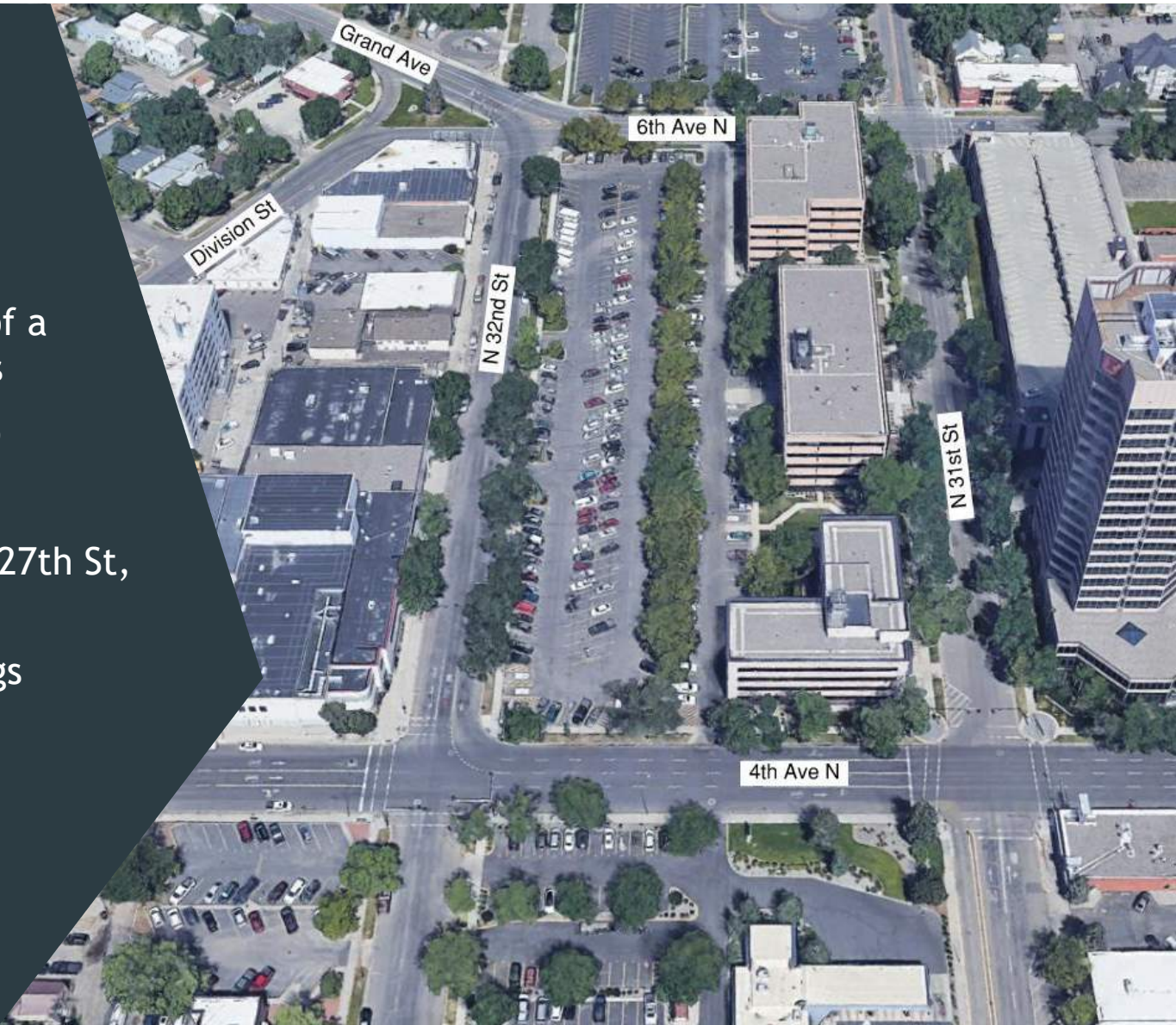
- ▶ Pavement Preservation
  - ▶ Restriping
- ▶ Signal Upgrades
  - ▶ Division & 3rd
  - ▶ Grand / 6th Ave N / N 32nd / Division Intersection
- ▶ Infrastructure Upgrades
  - ▶ Older Inlets
  - ▶ Some ADA
- ▶ Chip seal initially planned for 2021, postponed to capitalize on ongoing 2-way efforts

# Traffic Summary

- ▶ Analyzed intersections expected to operate at acceptable levels for urban settings
- ▶ Analyzed Two-Way Condition for 2023 & 2045
  - ▶ Intersection traffic control
  - ▶ Lane configurations
  - ▶ Bicycle infrastructure
- ▶ Critical Intersections
  - ▶ Division
  - ▶ 27th Street
  - ▶ Grand / 6th Ave N / N 32nd / Division

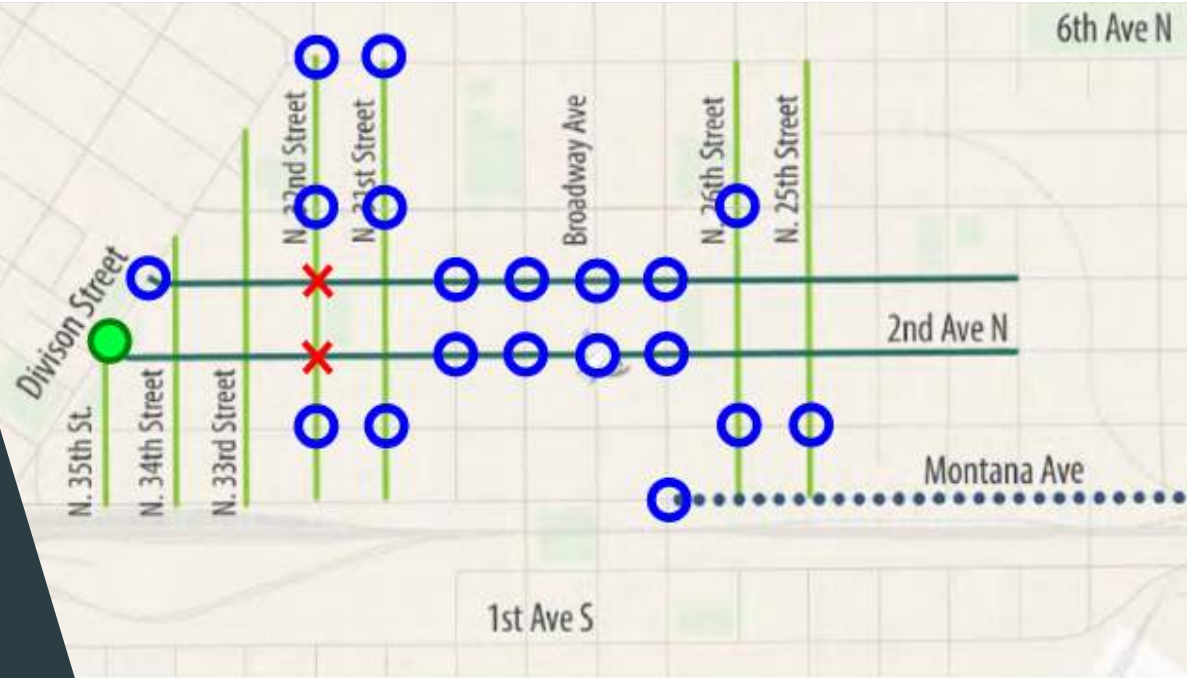
# Project Recommendations

- ▶ Recommendations a result of a traffic study & project goals
- ▶ Scope of Work: Curb to curb
- ▶ Intersection Modifications
- ▶ Strategic new turn lanes: N 27th St, N 32nd St & 4th Ave N
- ▶ Signing & pavement markings
- ▶ Bike infrastructure



## Intersection Modifications

- ▶ New traffic signal at 2nd Ave N & Division St - high traffic
- ▶ Removal of two signals: N 32nd St & 2nd Ave N / 3rd Ave
  - ▶ Convert to stop controlled
- ▶ All other intersections: maintain stop control or modify signal

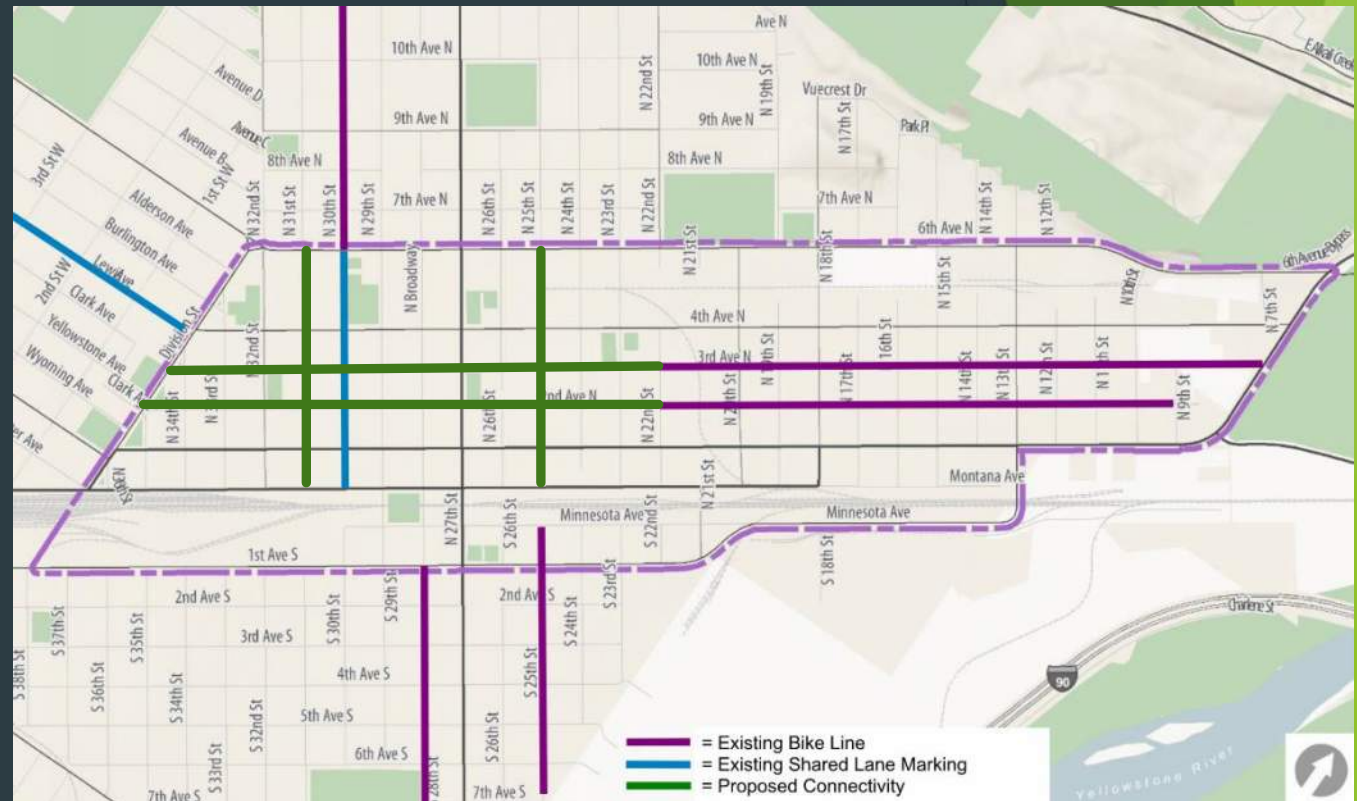


### LEGEND

- |  |                  |  |                   |
|--|------------------|--|-------------------|
|  | City of Billings | <b>One-Way to Two-Way Street Restoration</b> |                   |
|  | Parks/OpenSpace  |  | North/South Bound |
|  | Modified Signal  |  | East/West Bound   |
|  | New Signal       |  |                   |
|  | Signal Removal   |  |                   |

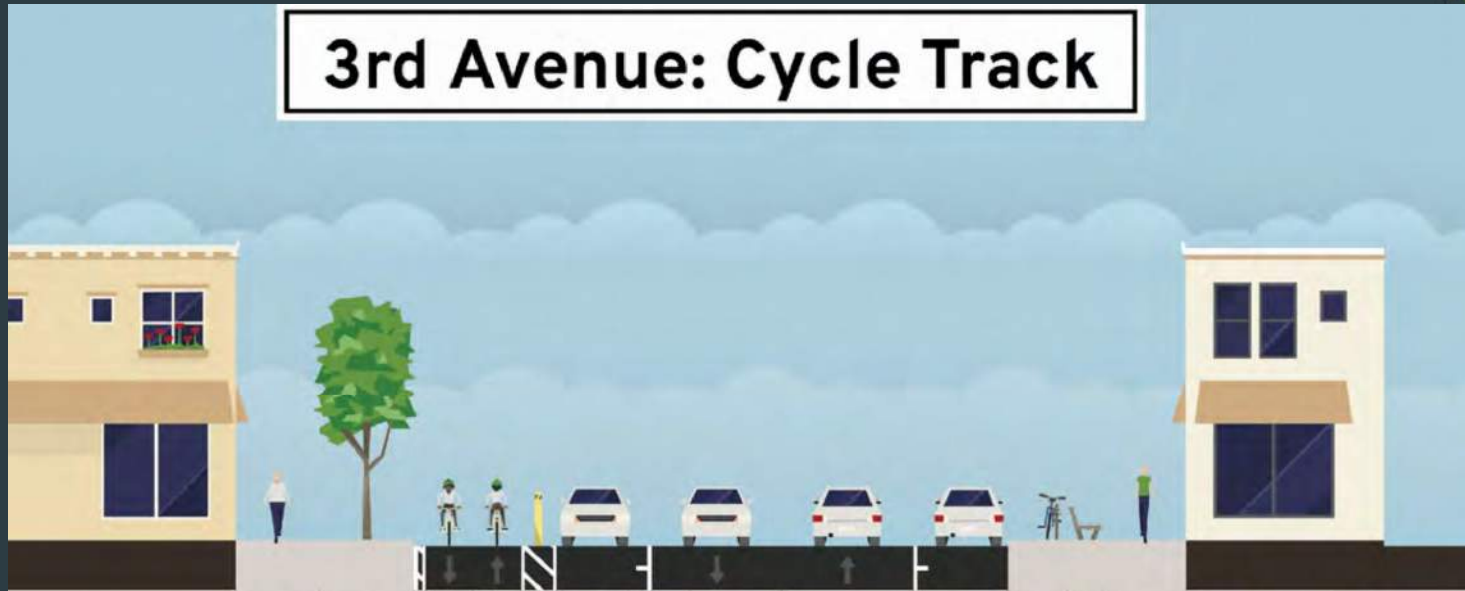
# Existing & Proposed Bike Connectivity

- ▶ Currently: limited bike infrastructure downtown
  - ▶ Bike Lanes
  - ▶ Shared lane markings
- ▶ Proposed Connectivity
  - ▶ 2nd & 3rd Ave N
  - ▶ N 25th St
  - ▶ N 31st St



## 3rd Ave N - Division to N 22nd

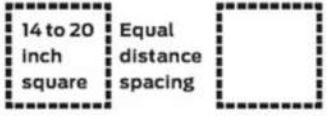
### 3rd Avenue: Cycle Track



10 | 3 | 8 | 10.5 Lanes | 8

- ▶ Travel Lanes -10 -10.5-feet
- ▶ Parking - parallel parking on both sides of roadway - parking loss
- ▶ Safety - traffic calming
- ▶ Bicycle Infrastructure: two-direction cycle track
  - ▶ 8-10-feet wide
  - ▶ Striped buffer - delineator could be added
  - ▶ Recommended based on desire for a protected bike facility downtown

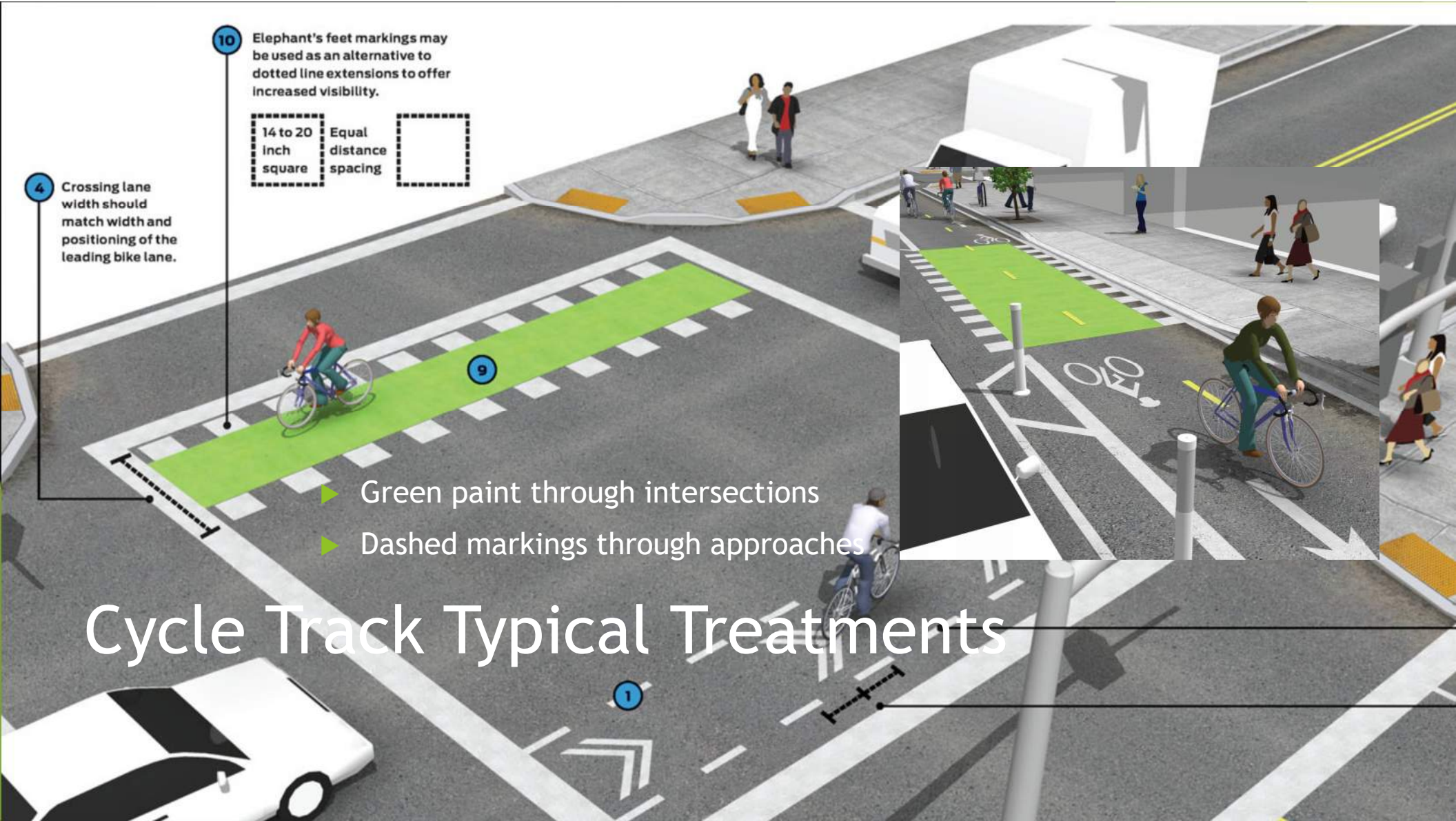
10 Elephant's feet markings may be used as an alternative to dotted line extensions to offer increased visibility.



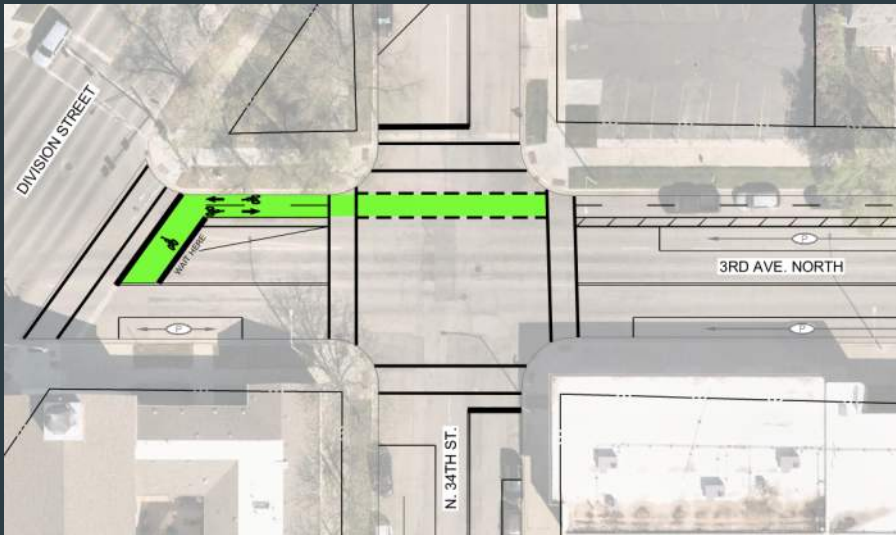
4 Crossing lane width should match width and positioning of the leading bike lane.

- ▶ Green paint through intersections
- ▶ Dashed markings through approaches

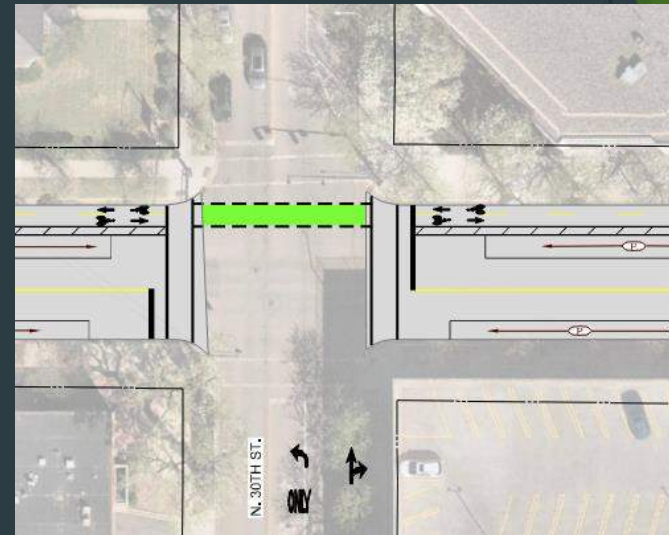
# Cycle Track Typical Treatments



# 3rd Ave N - Two-Way Cycle Track - Typical



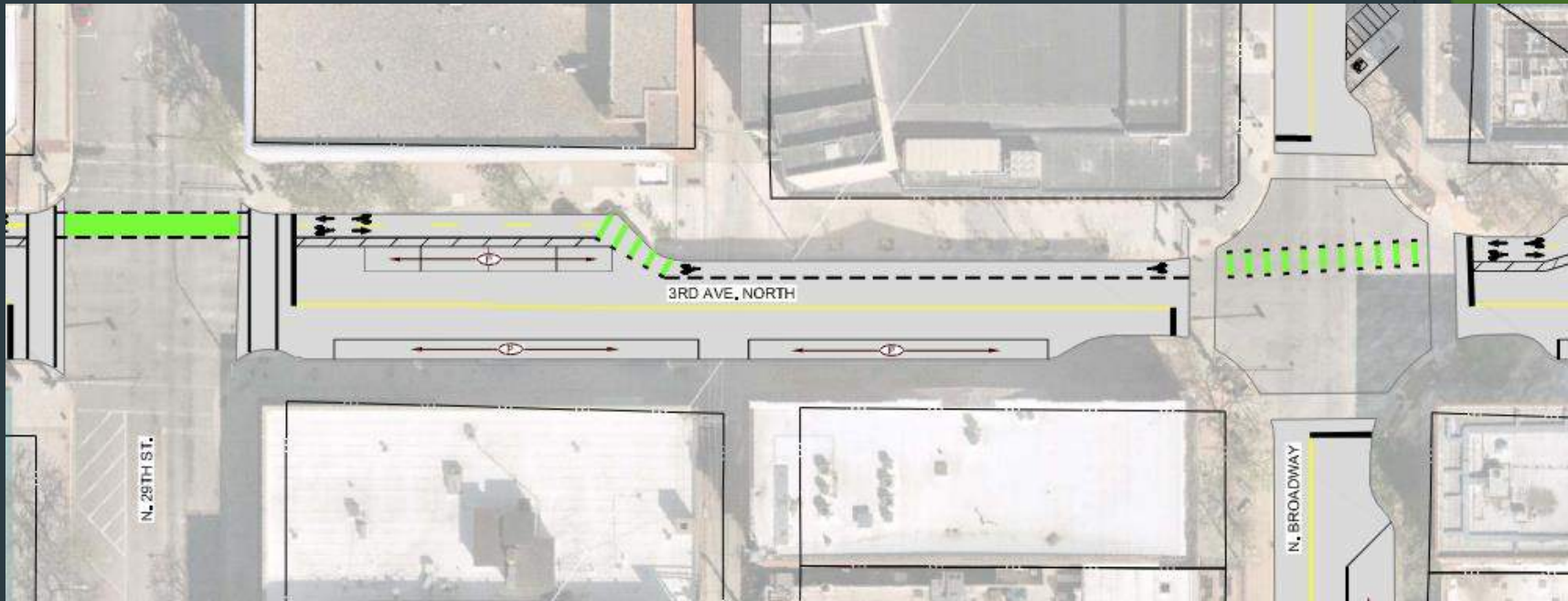
Start of Cycle Track with Bike Box- Division Street



Green paint through intersection

- ▶ Intersection treatment - still working through details
- ▶ 3-ft striped buffer for door protection
- ▶ Parallel parking on both sides of roadway

# 3rd Ave N - Two-Way Cycle Track - Narrow Section



At Alberta Bair - working within curb-to-curb limits

## 2nd Ave N - Division to N 22nd St

- ▶ Buffered bike lanes / shared lane markings
- ▶ Effort to preserve parking through the Downtown Core
- ▶ Safety - traffic calming, 1.5-ft buffer on bike lanes

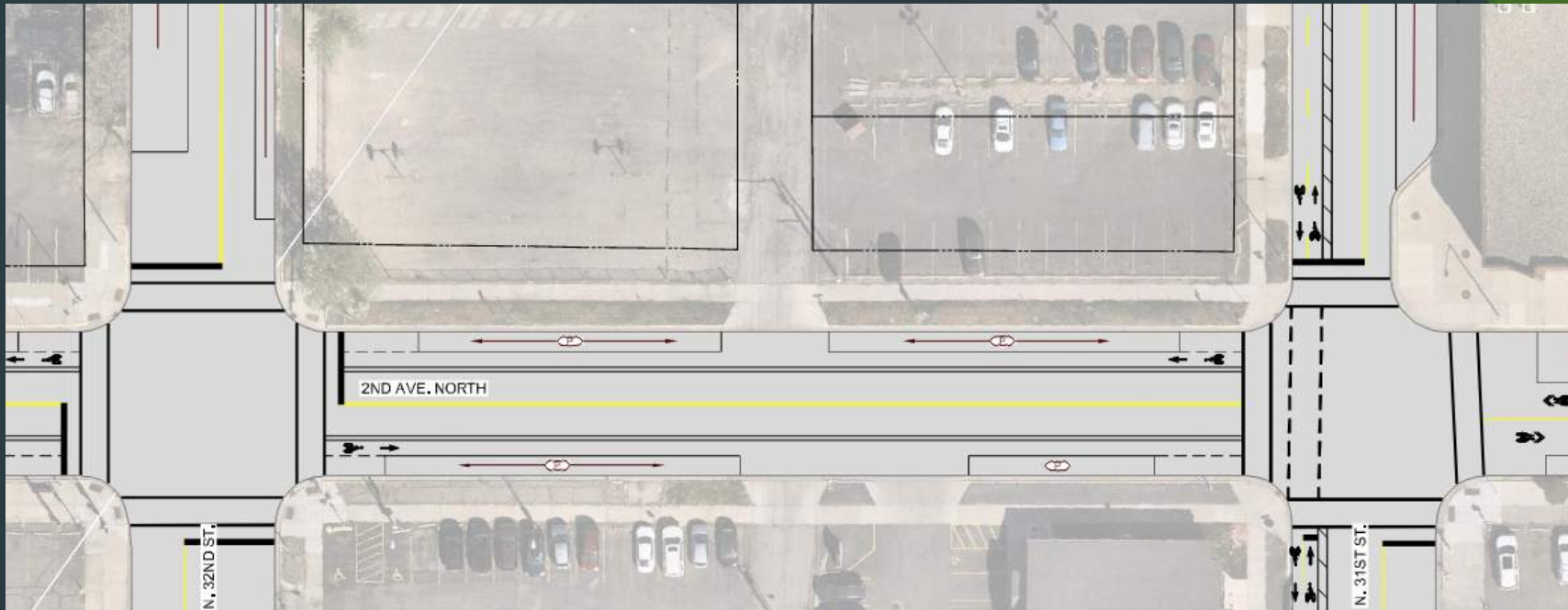


8 | 6.5 | 10.5 Lanes | 6.5 | 8  
 Buffered Bike Lane - Division to  
 N 31st St; N 25th St to N 22nd St



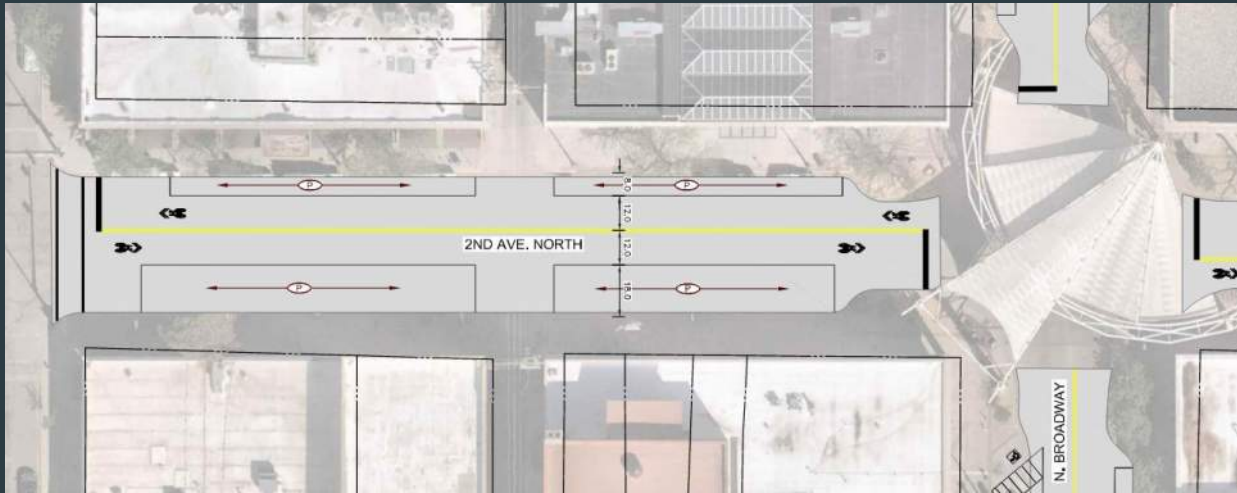
9 | 11 Lanes | 19  
 Sharrows: N 31st St to N 25th St

## 2nd Ave N - Buffered Bike Lane Division to N 31st, N 25th to N 22nd

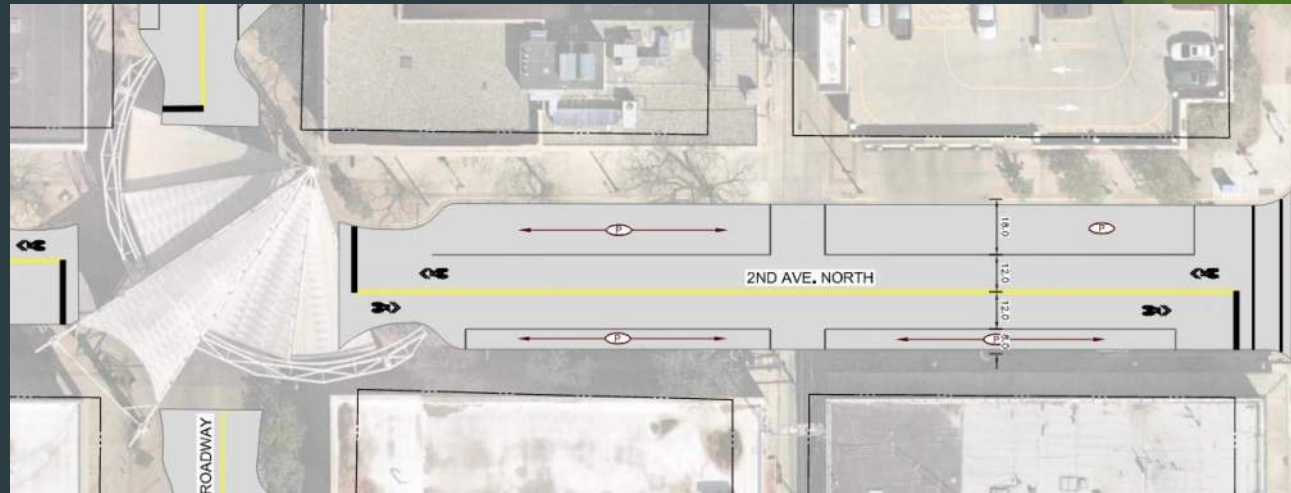


- ▶ 1.5-foot striped buffer from travel lane
- ▶ Parallel parking on both sides of roadway

# 2nd Ave N - Sharrows - N 31<sup>st</sup> to N 25<sup>th</sup>



- Maintains Angle Parking



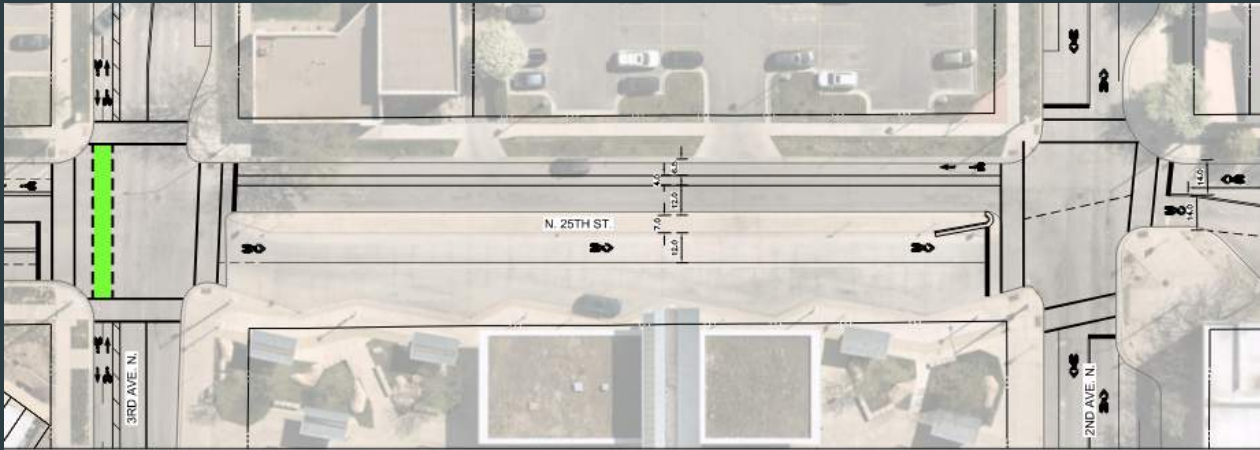
## N 31st St - Montana Ave to 6th Ave N



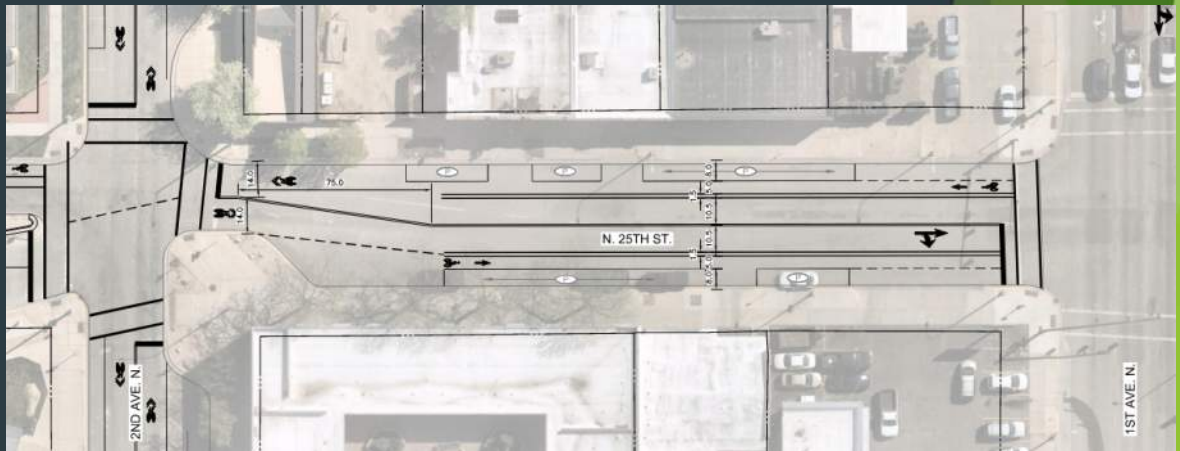
Example 2-Way Cycle Track

- ▶ Two-Way cycle track
- ▶ Provides a north-south protected facility
- ▶ Some parking loss - change in angle parking to parallel parking

# Street Section - N 25th St



- ▶ 10-11-foot travel lanes
- ▶ All-way stop control (2nd Ave N & N 25th St)
- ▶ Sharrows & buffered bike lanes
- ▶ Coordinated with MET



## Typical North-South Street Section

### Back-In Angled Parking with Parallel Parking



9 | 11 Ft Lanes | 19

- ▶ Local Streets, except for N 32nd St (4th Ave N to 6th Ave N)
- ▶ 11-ft travel lanes, parallel and angle parking

# Angle Parking

- ▶ Back-in angle on N 29th St and N 30th
- ▶ MDT requirement on Montana Avenue
  - ▶ Added on 29<sup>th</sup>/30<sup>th</sup> in anticipation of Montana Ave change
- ▶ Existing back-in angle in Billings
  - ▶ EBURD
  - ▶ McKinley Elementary School
- ▶ Recommending back-in angle parking for consistency & safety
  - ▶ Better line of sight for driver exiting parking spaces
  - ▶ Safer position to access vehicle storage to load & unload
  - ▶ Best position for exiting parked vehicle, allowing direct movement to sidewalk, not towards moving traffic

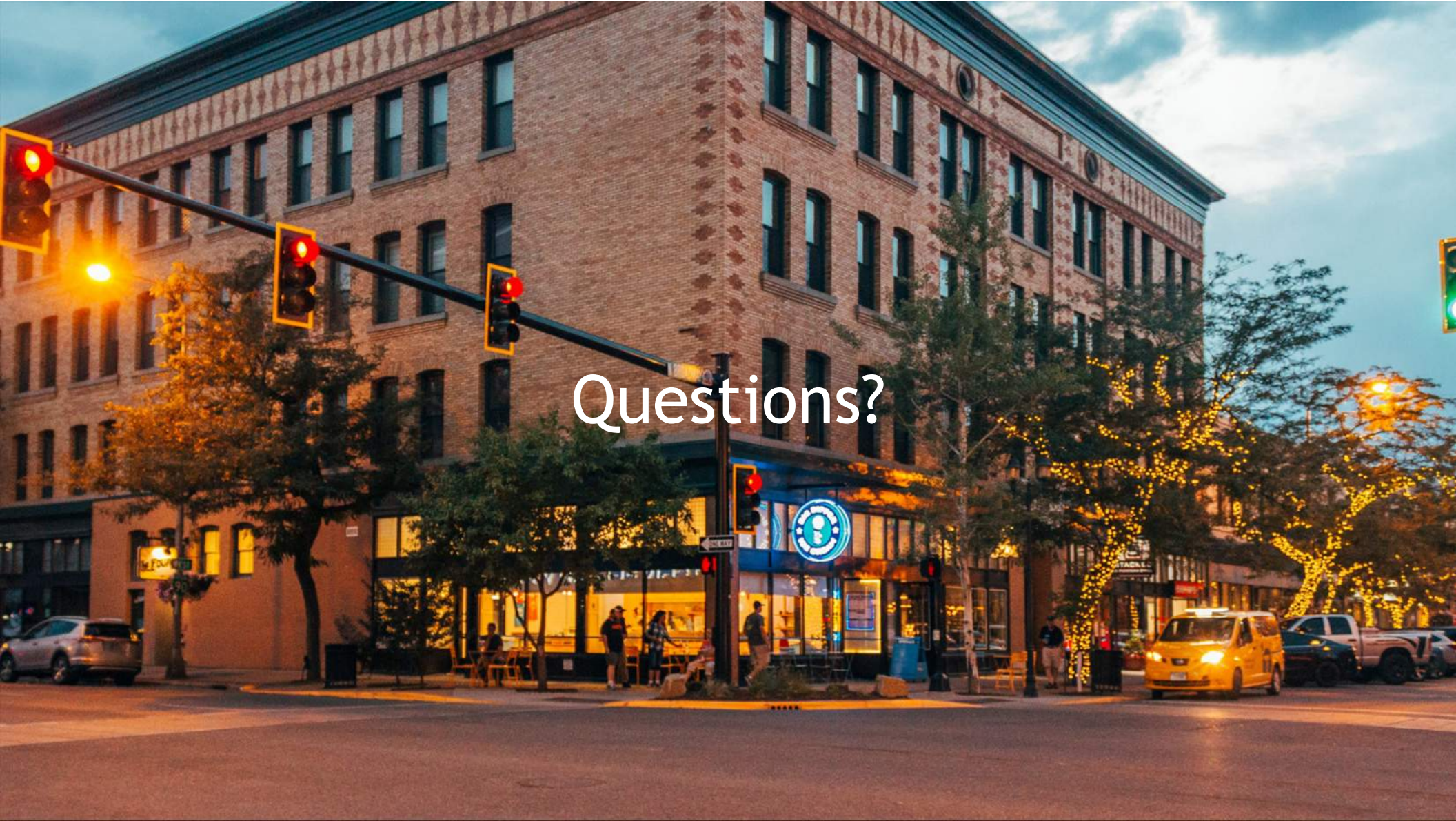


# Project Outreach

- ▶ General Public Outreach
  - ▶ Alternative Prioritization & Public Preference Plan, 2021
  - ▶ Informal surveys conducted by DBA
  - ▶ Open House planned for August 1st, 2023
- ▶ City Department coordination
  - ▶ MET
  - ▶ Parking Division
  - ▶ Planning Division
  - ▶ Street-Traffic Division
- ▶ Downtown Targeted Outreach
  - ▶ DBA Board Members
  - ▶ Business & Property Owner Open House
  - ▶ Project letter - sent to all property owners in project area - over 800 properties
- ▶ Bike Coordination
  - ▶ TrailNet
  - ▶ Bicycle & Pedestrian Advisory Committee (BPAC)

# Future Council Actions

- ▶ Purchase of signal equipment ahead of bidding - Fall 2023
- ▶ Bid Award for Construction
  - ▶ Bid Fall/Winter 2023 (FY24 funds)
  - ▶ Construction planned for summer 2024
    - ▶ Dependent on availability of signal equipment
  - ▶ Montana Ave road diet constructed with MDT road resurfacing - future



Questions?