

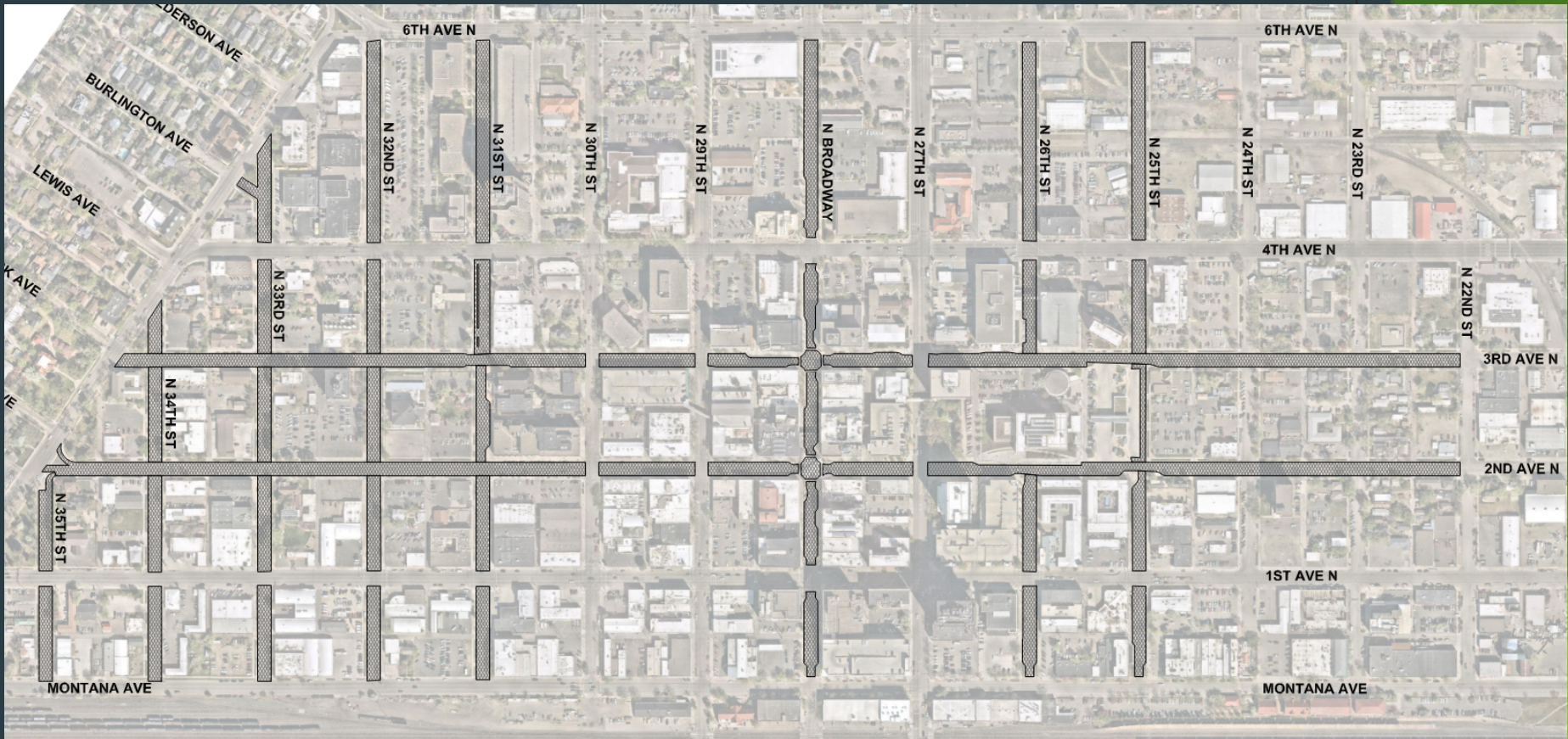
**Downtown Angle Parking**

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

November 4th, 2024

# WO 23-11 Project Map

Work on ADA ramps and signal improvements began fall of 2024





## Back-in Angle Parking Background

- ▶ Installed on North 29th St and North 30th Street in 2021
- ▶ Safety benefits
  - ▶ Trunk Access
  - ▶ Exit vehicle towards sidewalk
  - ▶ Better visibility when exiting space
- ▶ Consistency with anticipated Montana Ave road diet (future) and EBURD (existing)

# Consistency as a Safety Strategy



Adopting a uniform parking approach, whether it's all back-in or all front-in, creates consistency for all users



When parking behavior is consistent, pedestrians, cyclists, and drivers can anticipate each other's movements more effectively



Predictability is essential for safe navigation



## Back-in Angle Parking with Bicycles

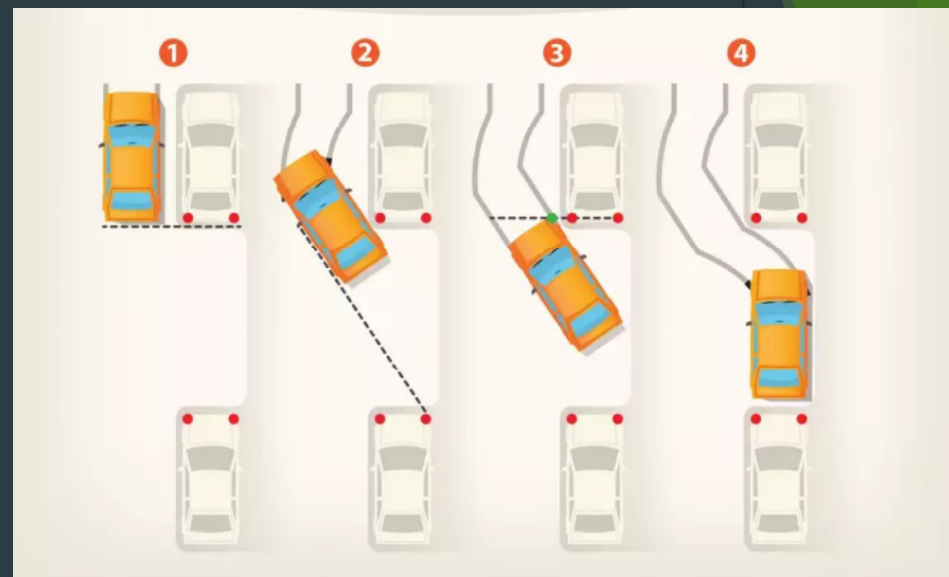
- ▶ Better visibility when exiting parking space
- ▶ Drivers have a clearer view of pedestrians, cyclists, and other vehicles in the roadway when exiting
- ▶ Minimizes the chance of a cyclist being surprised by a car backing out of a parking space directly in their path
- ▶ **Recommended parking configuration when mixing angle parking with bicycles**

# Back-in Angle Parking & Parallel Parking

Back-in Angle Parking Steps



Parallel Parking Steps



- ▶ Motions are very similar
- ▶ Learning curve for most drivers

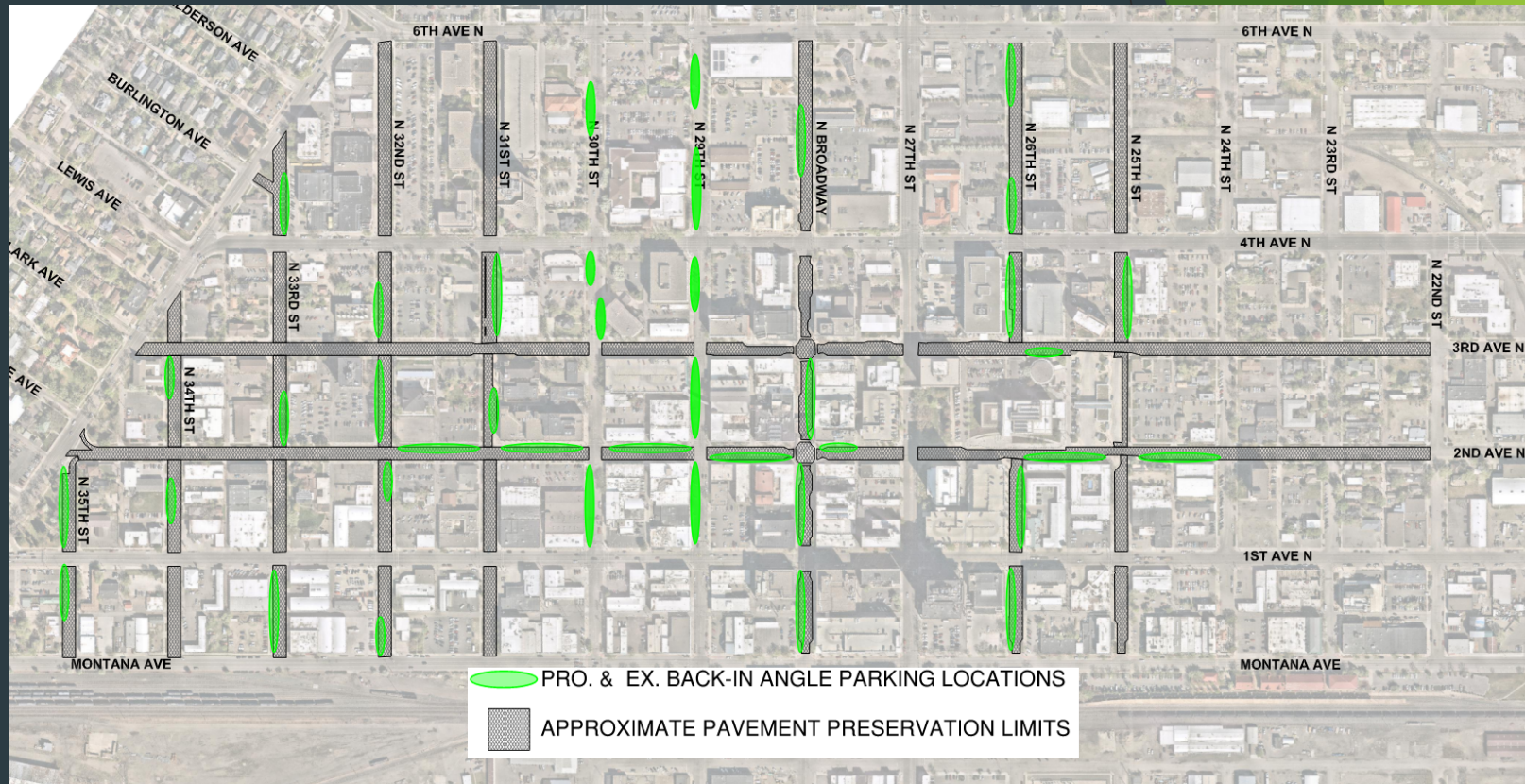
# Back-in Angle Parking Feedback

- ▶ North 29th St and North 30th St
  - ▶ Compliance is high
  - ▶ Utilization is high
  - ▶ Feedback from downtown business customers is mostly negative
- ▶ Existing back-in angle parking in Billings
  - ▶ EBURD
  - ▶ McKinley Elementary School
  - ▶ Do not hear complaints
- ▶ Parking Meter Issues
  - ▶ Meters proposed to be set back minimum 3-ft with next project
  - ▶ Meters placed in line with parking stripe



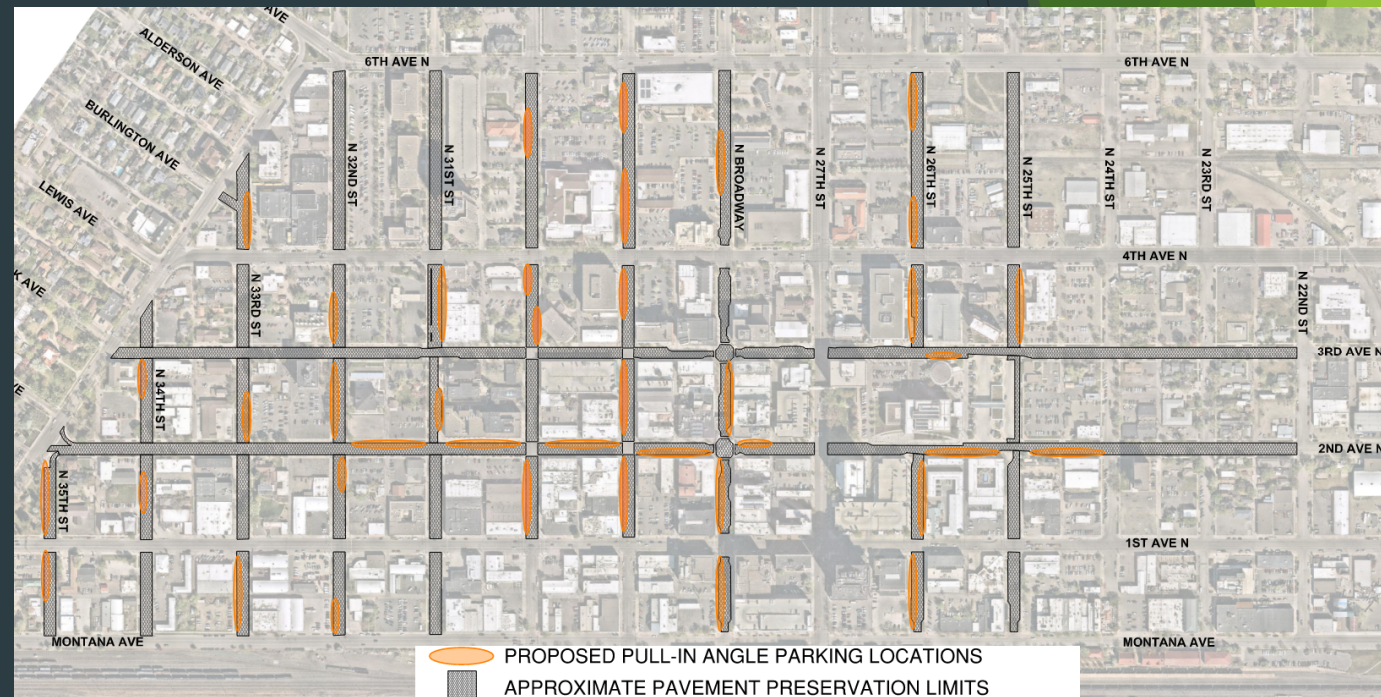
# Alternate 1: All Back-in Angle Parking - Preferred

- ▶ Where angle parking is installed, install back-in angle parking
- ▶ North 29th Street and North 30th Street remain as is
- ▶ No impacts to design or construction costs (designed and bid this way)



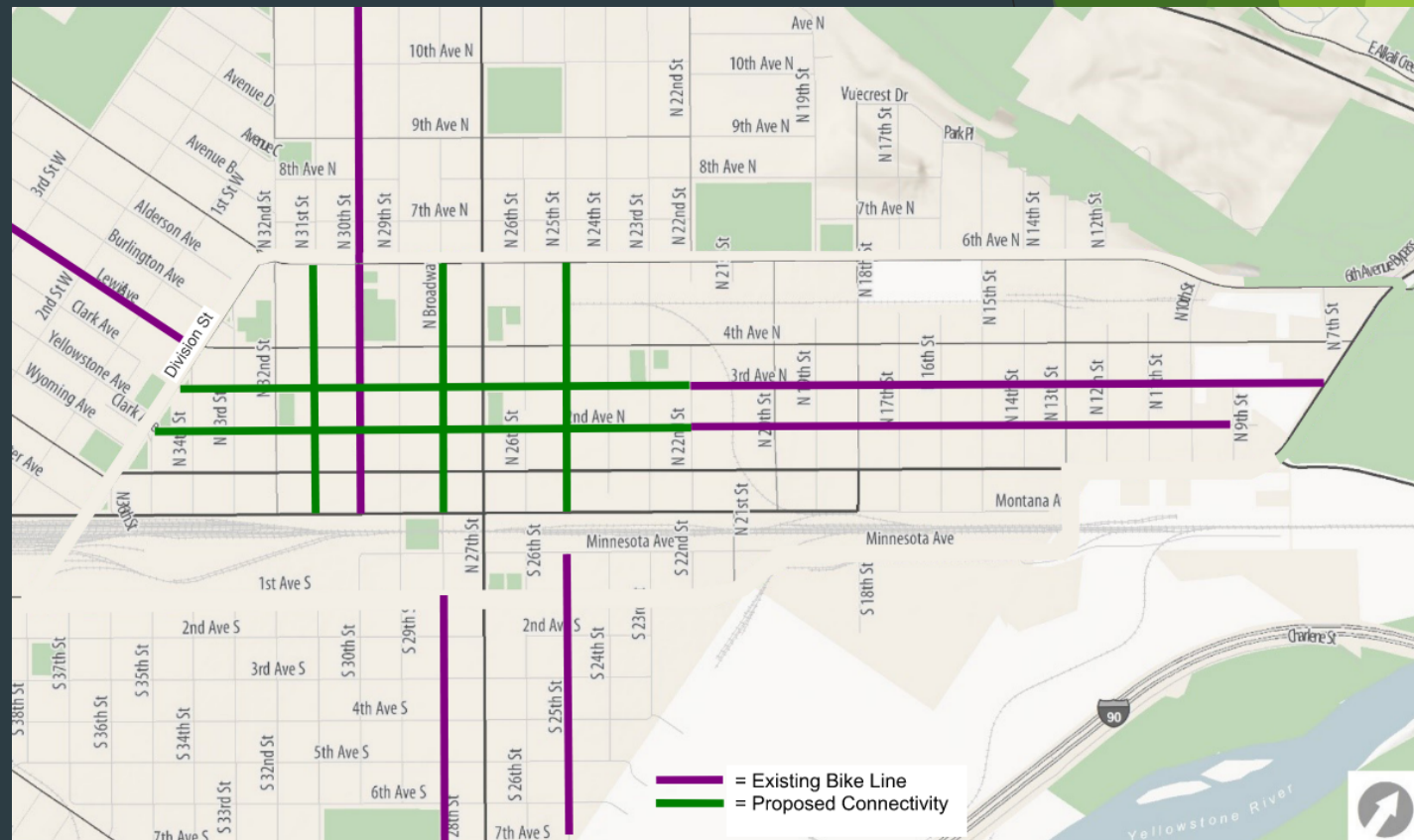
# Alternate 2: All Pull-in Angle Parking

- ▶ Where angle parking is installed, install pull-in angle parking
- ▶ Consistent parking layout will create a predictable environment for all users, enhancing safety
- ▶ Public Works does not recommend mixing pull-in parking with shared lane markings or bike lanes
  - ▶ Remove bike lane and shared lane markings on 2nd Ave N from Division to N 25th St
  - ▶ Remove shared lane markings on N Broadway and N 30th St
- ▶ Cost implications: \$378,000
  - ▶ \$50,000 in engineering fee (already budgeted in Construction Administration Amendment)
  - ▶ \$52,000 in savings due to reduction in signs
  - ▶ \$380,000 in construction costs for new scrub seal and striping on North 29th Street and North 30th Street



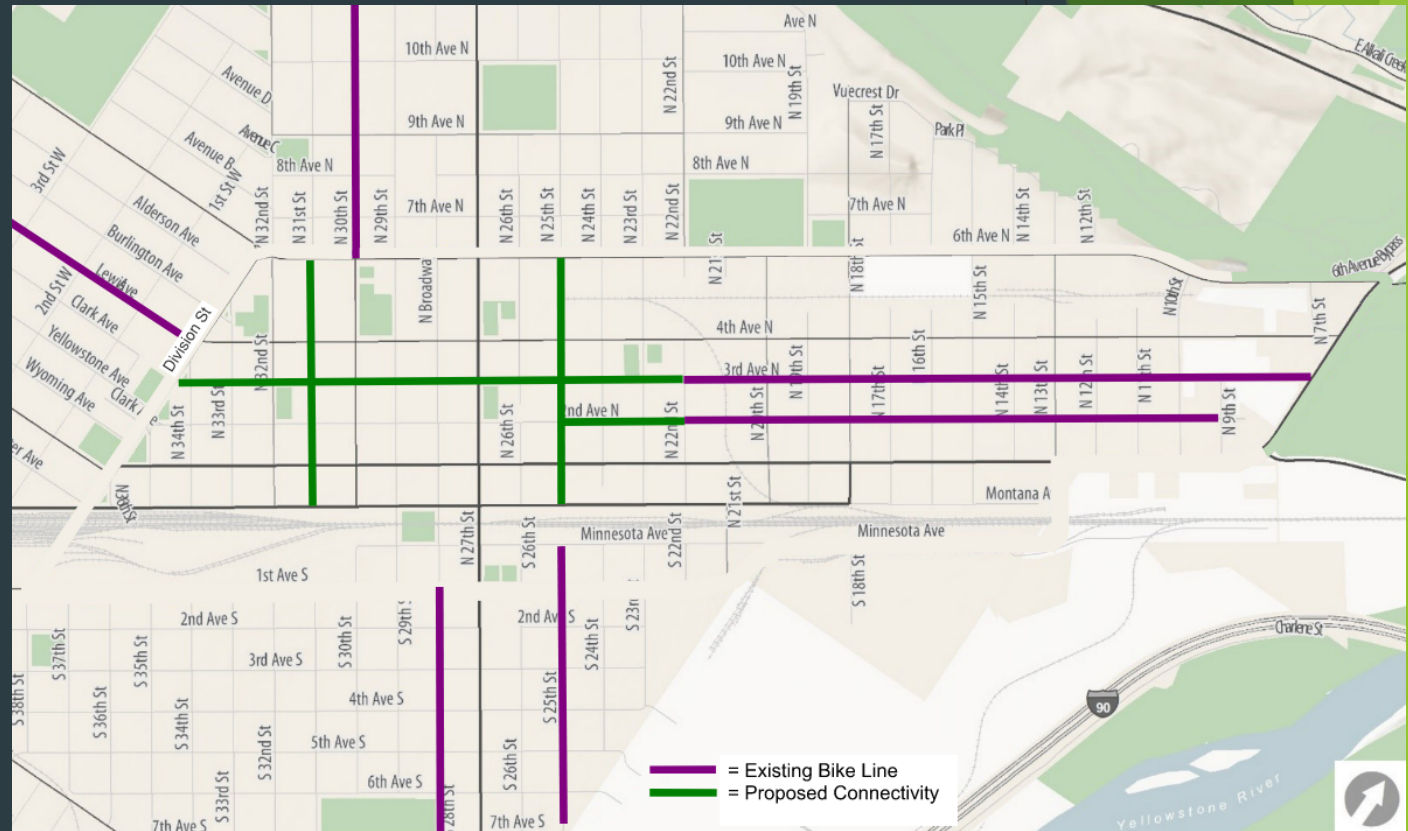
# Bike Connectivity - As Designed

- ▶ Currently: limited bike infrastructure downtown
- ▶ Proposed Connectivity
  - ▶ 2nd Ave N
  - ▶ 3rd Ave N
  - ▶ N 25th St
  - ▶ North Broadway
  - ▶ N 30th St (existing)
  - ▶ N 31st St



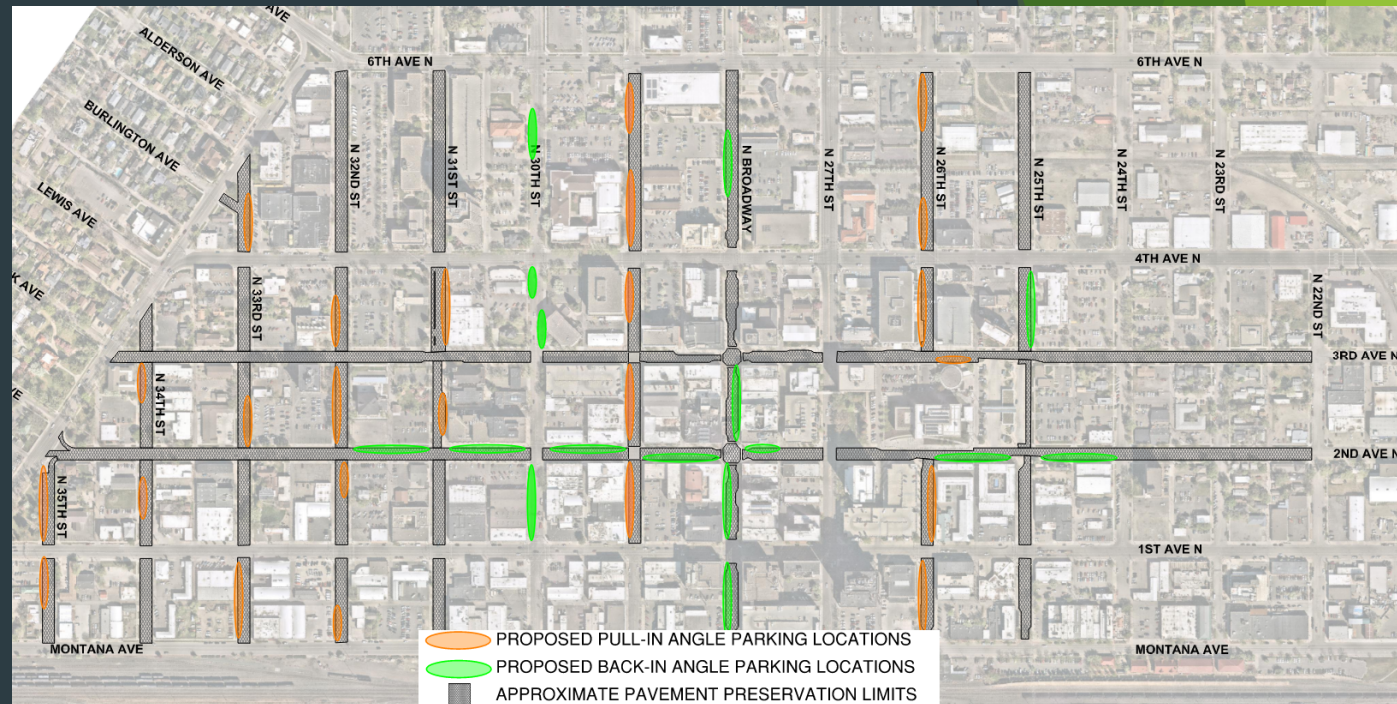
# Bike Connectivity - Revised for Pull-in Angle Parking

- ▶ Bicycle Connectivity
  - ▶ ~~2nd Ave N~~
  - ▶ 3rd Ave N (cycle track)
  - ▶ N 25th St
  - ▶ N Broadway
  - ▶ ~~N Broadway~~
  - ▶ ~~N 30th St (existing)~~
  - ▶ N 31st St (cycle track)
- ▶ Pull-in angle parking provided throughout downtown



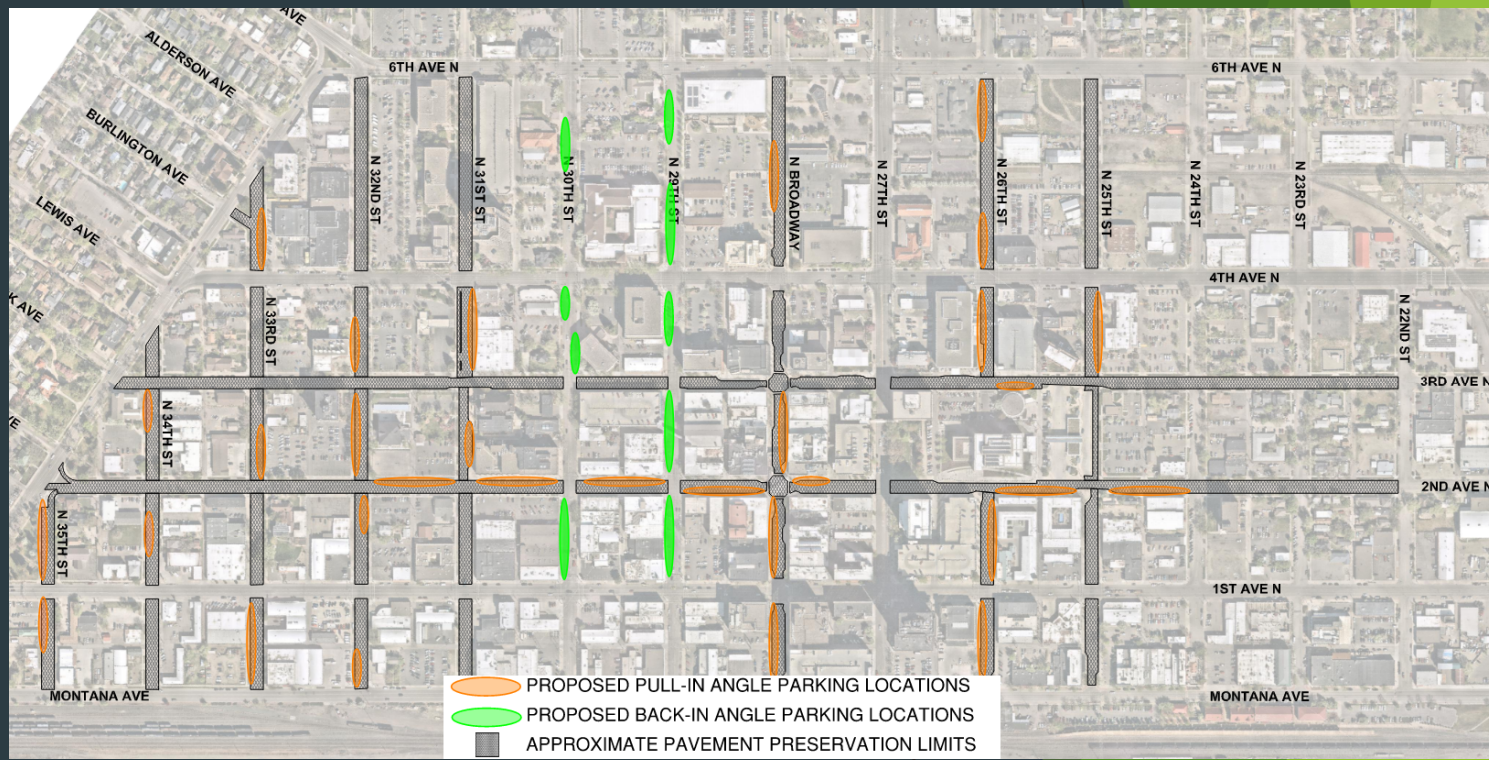
# Alternate 3 : Back-in Angle Parking on Streets with Shared Bicycle Lanes

- ▶ Where shared lane markings are installed, install back-in angle parking
- ▶ Safety for all modes optimized
- ▶ Shared lane markings currently designed on the majority of streets within downtown core
  - ▶ Most of downtown core would have back-in angle parking, except N 29th St
- ▶ Cost implications: \$188,000
  - ▶ \$26,000 in design fee
  - ▶ \$28,000 savings in signs
  - ▶ \$190,000 in North 29th St modifications



# Alternate 4: Pull-in Angle Parking on Streets within Proposed Project

- ▶ N 29th St and N 30th St remain as-is (back-in angle)
- ▶ Consistency is not provided, safety for all modes is not provided
- ▶ Bicycle facilities impacted: 2nd Ave N (Division St to N 25th St), N Broadway
- ▶ Cost implications: savings of \$26,000
  - ▶ \$26,000 in engineering fee (already budgeted within Construction Administration amendment)
  - ▶ \$52,000 savings in reduction in signs



# Alternate Summary

Alternate	Description	Safety - Consistency (Safe Navigation)	Safety for Bicycles on Designated Facilities	Bicycle Facility Connectivity per Plan	Addresses Downtown Business Concerns	Cost (1=least amount of additional cost)
1	All Back-In	X	X	X		2
2	All Pull-In	X	X		X	4
3	Back-in on bicycle facilities, Pull-in everywhere else		X	X		3
4	Back-in on N 29th St and N 30th St, Pull-in at all other locations		X			1



Questions?