



**We Make Lives Better  
Through Connections.**

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# Downtown Rail Reconstruction Project (DRRP) - **Phase I**

**Phase I - Five Intersections Improvement**

Construction Kick-Off Meeting

Date: Friday, April 19, 2024

Microsoft Teams Meeting



# Construction Kick-Off Agenda

## (Friday, April 19, 2024)

### PHASE I – FIVE (5) INTERSECTIONS IMPROVEMENT

#### PROJECT KICKOFF MEETING AGENDA

1. Safety Moment
2. Key Sentiment
3. Group Introduction
4. Meeting Goals & Etiquette
5. Meeting Cadence
6. Rail Reconstruction Project Need
7. Previous Downtown Projects
8. Phase 1 - Scope of Work
  - a. Nomenclature
    - i. Previous Downtown Projects
    - ii. Central Corridor & Downtown Rail Replacement Project (DRRP)
    - iii. DRRP Phase I – Five (5) Intersections Improvement
  - b. Typical Sections
  - c. Extent of Improvement
    - i. Implementation Approach & 16<sup>th</sup> Mall Project Impact
  - d. Construction Contractor
    - i. Summary of Responsibilities
    - ii. Anticipated Schedule
9. RTD and CCD Coordination
  - a. Discussions So Far
  - b. Guiding Principles
  - c. Bike Pedestrian Detour
10. RTD Service Changes
  - a. Light Rail Service
  - b. Possible Mall Shuttle Detour Alternative & Reinstating MetroRide
11. Communications and Outreach
  - i. RTD Downtown Rail Reconstruction Project Website
  - ii. Open Houses
  - iii. Impact Team Ambassadors
  - iv.
12. Next Steps



# Agenda Item: Safety Moment

- **Fall Protection**

- In the Construction field, **falls are the leading cause of death.** "In 2020, there were 351 fatal falls to a lower level out of 1,008 construction fatalities (BLS Data). **These deaths are preventable.**" (Source - <https://www.osha.gov/stop-falls#>)

- **FasTracks Construction Safety Guidelines**

- Section 16 – Fall Protection – Each employee who is exposed to a fall of 6 ft or more shall be protected 100% of the time. The sequence of protection shall be elimination, prevention, and control.

- Eliminate: Change procedure and preplan to eliminate exposure/hazard.
- Prevention: Use of guard rails and barriers to distance workers away from exposure.
- Control: Use of fall arrest systems.

- **OSHA Fall Protection Resource**

- <https://www.osha.gov/sites/default/files/publications/OSHA3146.pdf>

**OSHA FALL PROTECTION**  
Guidelines & Standards

Injuries & Death  
2009 **FALLS** = **+212,760** Workers Seriously Injured **605** Workers Killed

302 FATAL FALLS to Lower Level  
828 Total Fatalities in construction  
Fall Protection NUMBER ONE OSHA VIOLATION  
2011  
2012  
2013  
2014  
2015

2014 Out of 874 Total Construction Fatalities **337** were falls  
**FALLS** Leading Cause OF DEATH IN THE CONSTRUCTION INDUSTRY

OSHA Rules on Fall Protection

Employers must provide **SAFE, SECURE FALL PROTECTION** where workers are exposed to falls from the following heights:

- 4' in General Industry
- 5' in Shipbuilding
- 6' in Construction
- 8' in Longshore Operations

Vertical Lifelines or lanyards must have:

- 5k (A minimum breaking strength of 5,000 pounds)
- Each employee MUST be attached to a separate vertical lifeline - another point capable of supporting at least 5,000 lbs per employee attached

Other Key Numbers

**Guardrails & Handrails**

- Handrails must be 38"-42" Above the Surface
- Guardrails must include Top Rails & Posts
- Toe Boards must be 42" High

**Proper Scaffolding**

- Scaffolds must be at least **10 FEET** from electrical power lines at all times.
- Height should be no more than **4X** its minimum base dimension at that point, it should be restricted by gusset, ties, or braces to prevent tipping.

**Safety Net**

- May be used up to a distance of **25 FEET BELOW** the working surface.

**Fixed Ladders**

- Cages, Safety Devices, or Self-Retracting Lifelines must be used when climbing ladders or more than 24 above lower levels.
- Fall protection must be used when the employee's climb is **24 FEET OR GREATER**.

**SUPPORTED SCAFFOLDS:**

- 10' (Fall protection must be within a personal fall arrest system or a general system)
- 15' (Fall protection must be used on any scaffold 15' or more above a lower level)

**SUSPENDED SCAFFOLDS:**

- 18' (Fall protection must be within a personal fall arrest system or a general system)
- <14" (Fall protection must be used on any scaffold less than 14" high)

Time for Action

For All Your **FALL PROTECTION** Safety Needs

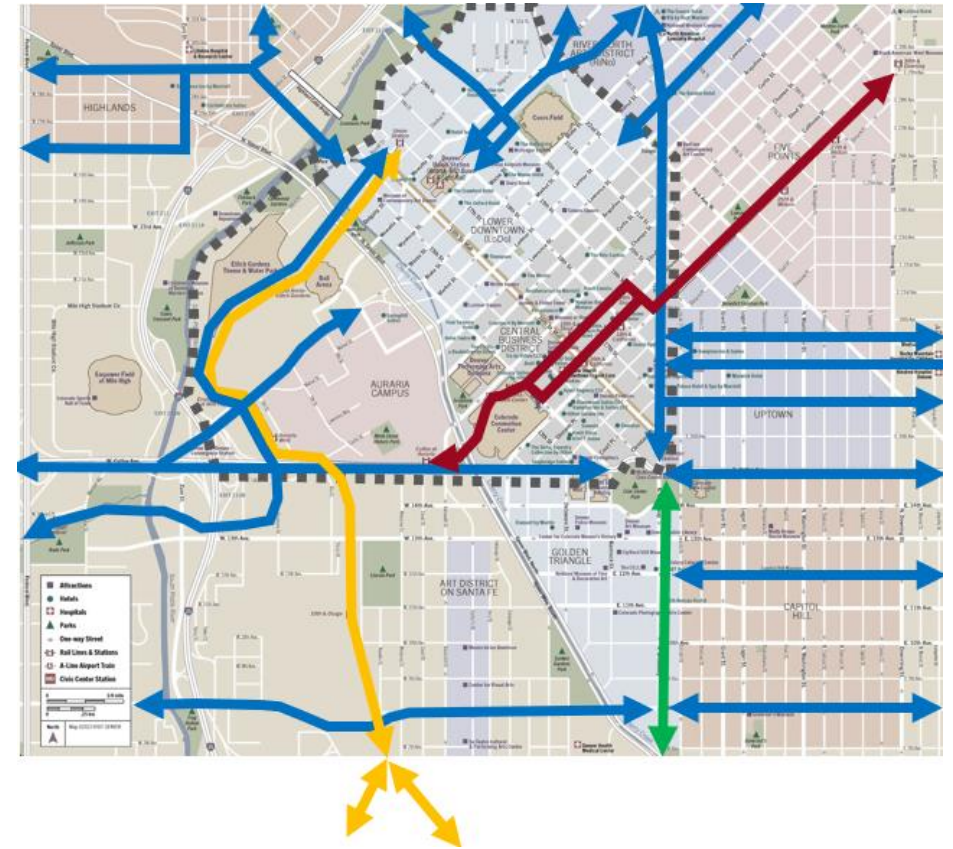
**888.326.9244**  
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# Agenda Item: Key Sentiment

Denver Downtown is thriving, ready to take the big leap, open for business, and preparing to come back roaring!!!!

- **Downtown Denver**
  - A bit of inconvenience, but it's open for business as usual!
- **Post Covid World**
  - Demonstrated Resiliency – Financial hardships, Physical Limitations, Emotional Isolations, Conflict of Social roles
  - Remote Working and Travel Patterns
- **Planning and Construction Projects – Sustainability, Mobility, and Safety**
  - East Colfax Bus Rapid Transit Project
  - 16<sup>th</sup> St Mall Reconstruction Project
  - Downtown Rail Reconstruction Project



- ↔ No changes to access downtown
- ↔ Improvements to access downtown
- ↔ Modified access downtown
- ↔ Summer access closures
- ..... Downtown Area

# Agenda Item: Group Introduction

- Regional Transportation District (RTD)
- City and County of Denver (CCD)/Department of Transportation and Infrastructure (DOTI)
- Colorado Convention Center (CCC)
- Downtown Denver Partnership (DDP)
- Five Points Business District
- Visit Denver
- Auraria Higher Education Center (AHEC)
- Community College of Denver (CCD)
- Metropolitan State University of Denver
- University of Colorado Denver



# Agenda Item: Group Introduction

- Stakeholder consistency over multiple RTD Rail Improvement Projects
- Established Primary Point of Contact (PPOC)
- Exhibit – Project Stakeholder List
- Living Document as Participation increases
- RTD Phase I Project - Primary Point of Contact

## **Aprajit “Jeet” Desai**

Manager, Engineering Construction

**Phase I – Project Manager**

Phone – 303-299-2413

E-Mail – [aprajit.desai@rtd-Denver.com](mailto:aprajit.desai@rtd-Denver.com)



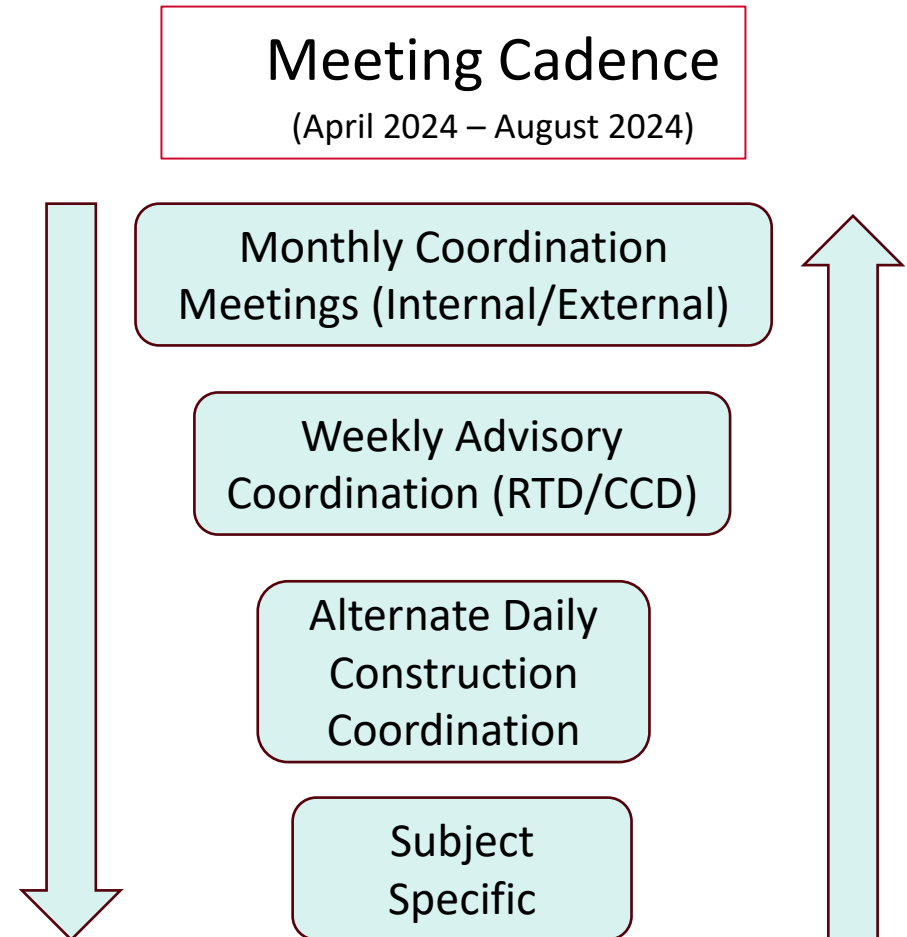
# Agenda Item: Meeting Goals and Etiquette

- Fact Based Conversation
- Transparency and Collaboration
- Intended objective - High-level project progress and overview
- Questions requiring Subject Matter Expertise
- Group Muting and Raising Hands
- Cameras, Faces, and Names
- Agree to Disagree Respectfully
- Meeting Attendance from Teams
- Questions during the presentation



# Agenda Item: Meeting Cadence

- **Monthly Internal/External Coordination Meetings**
  - Project Construction Kickoff Meeting – April 19, 2024
  - May, June, July and August
  - Internal & External Stakeholders
- **Weekly Advisory Project Coordination Meetings**
  - From April to August
  - CCD and RTD
- **Alternate Daily Construction Project Team Meetings**
  - RTD Construction Team and Contractor Team
- **Subject Specific Meetings as Necessary**
  - As Often as Needed
  - Internal & External Audiences





# Questions??

# Agenda Item: Rail Reconstruction Project Need

(State of Good Repair)

- Ensuring assets are in a **state of good repair** is one of the agency's highest priorities
  - Guarantees previous investments in the system remain intact
  - Supports operationally safe, accessible, and dependable services
  - Preserves investment in a reliable transit infrastructure
- Required by regulatory oversight entities
- Extends the design/as-built life of assets
- **All transit agencies undertake projects to maintain assets**

# Agenda Item: Previous Downtown Projects



**2012 – 2013**  
3 replacement projects

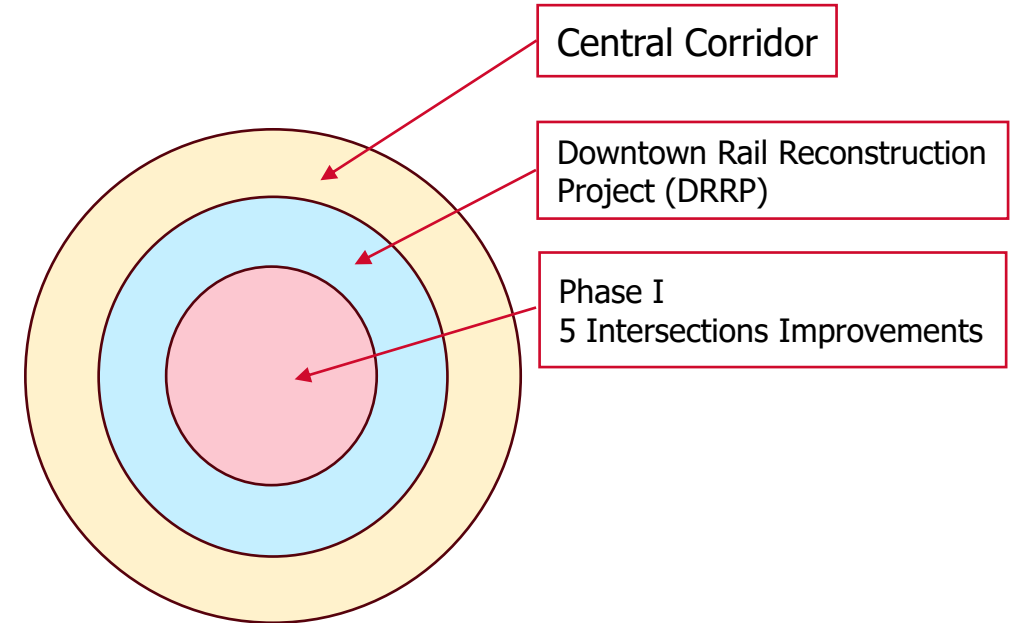
**2016 – 2023**  
14 replacement projects

- **\$19M spent on 17 isolated projects between 2012 and 2023**
  - Replaced targeted segments of curved rail, switches, crossings, signals, and other infrastructure
  - Work paused due to the opening of new rail lines (e.g., W Line in 2013 and A Line in 2016)

# Agenda Item: Phase 1 - Scope of Work

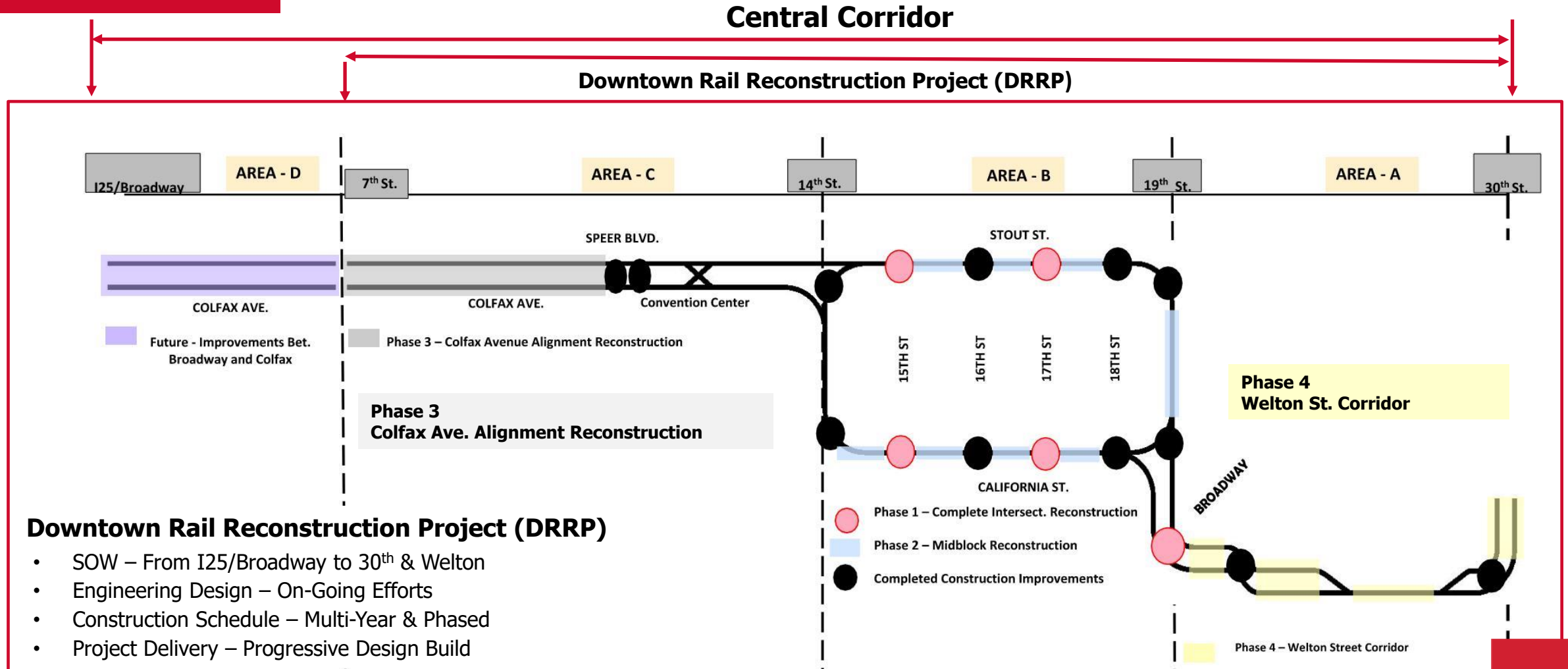
## (Nomenclature)

- **Central Corridor (CC)**
  - The oldest RTD Light Rail corridor
  - Opened in Oct. 07, 1994
  - 5.3 Miles between 1-25 and Broadway Station and 30<sup>th</sup> & Downing Station
  - 17 Rail Repair & Reconstruction Projects between 2012 and 2023
  - Divided into Areas and Phases
- **Downtown Rail Reconstruction Project (DRRP)**
  - Full Depth Pavement Reconstruction
  - Improve safety and mobility, address deteriorating transit infrastructure, and extend design life
  - Areas A, B, and C between 7<sup>th</sup>/Colfax and 30<sup>th</sup> & Downing Station
    - Area D (I25 & Broadway Station to 7<sup>th</sup>/Colfax) not included in improvements
  - Working on finalizing Scope
  - Phased Implementation
- **DRRP Phase I - Five (5) Intersections Improvement**
  - Full Depth Pavement at five (5) At-grade crossings
  - Improvements in Area B with Phase I implementation



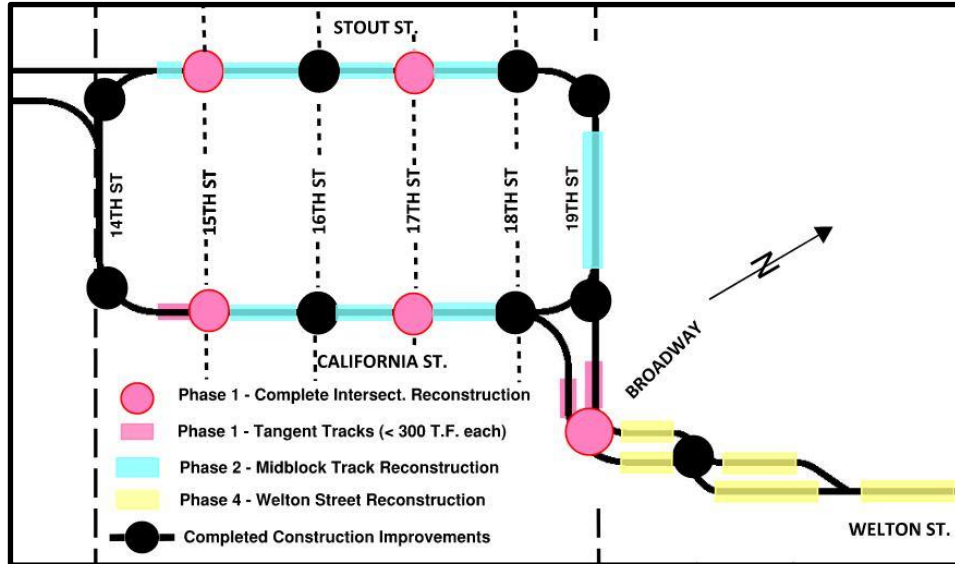
# Agenda Item: Phase 1 - Scope of Work

(Nomenclature)



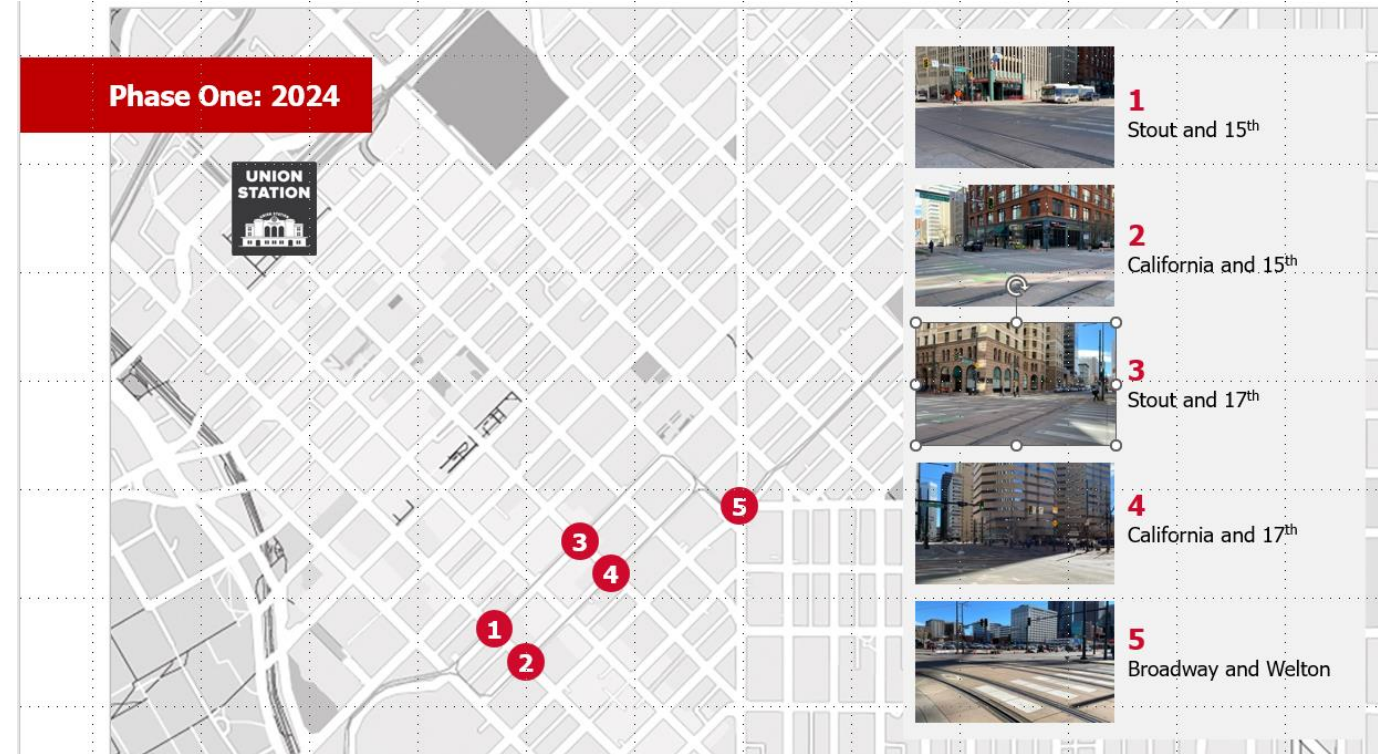
# Agenda Item: Phase 1 - Scope of Work

(Nomenclature)



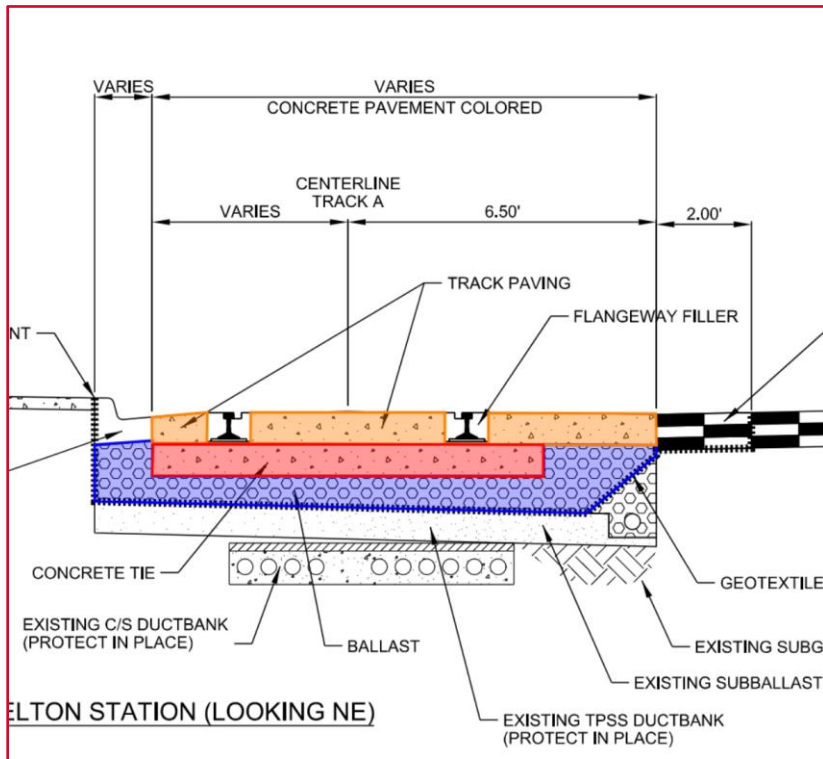
## DRRP Phase I – Five (5) Intersections Improvements

- SOW – Improvements of just five (5) rail Intersections
  - Paved Track (Broadway and Welton Intersection)
  - Precast Track (15<sup>th</sup> and 17<sup>th</sup> Intersections)
- Engineering Design – Approved 100% IFB
- Construction Schedule – June – August 2024
- Project Delivery – Design Bid Build

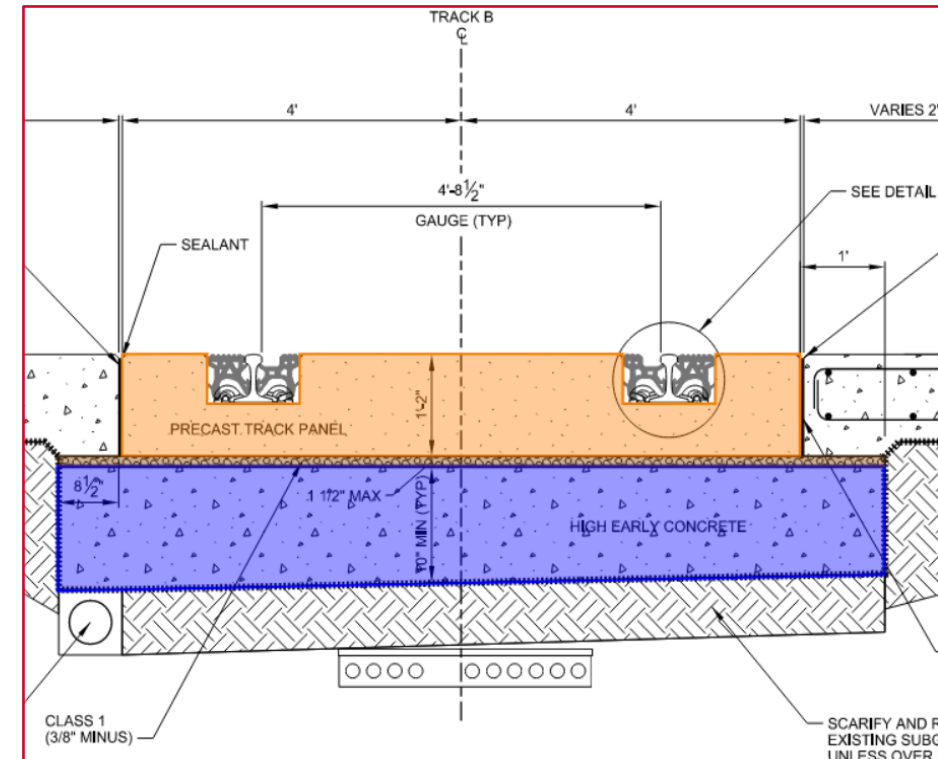


# Agenda Item: Phase 1 - Scope of Work

(Typical Sections)



**PAVED TRACK TYPICAL SECTION**  
 Intersection - Broadway and Welton

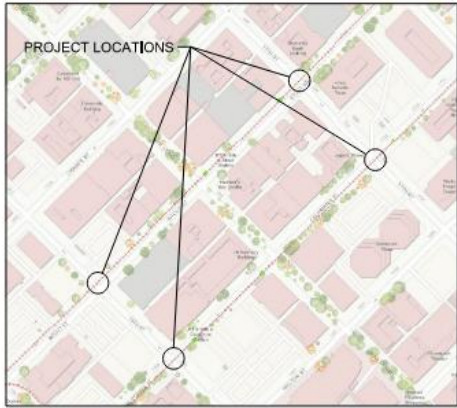


**STARTRACK TYPICAL SECTION**  
 Intersections - 15<sup>th</sup> & Stout, 15<sup>th</sup> & California  
 Intersections - 17<sup>th</sup> & Stout, 17<sup>th</sup> & California



# Agenda Item: Scope of Work

(Extent of Improvement))



**DRRP Phase I** : Full Depth Pavement Reconstruction at five (5) intersections located in Downtown Rail Loop (Area B)

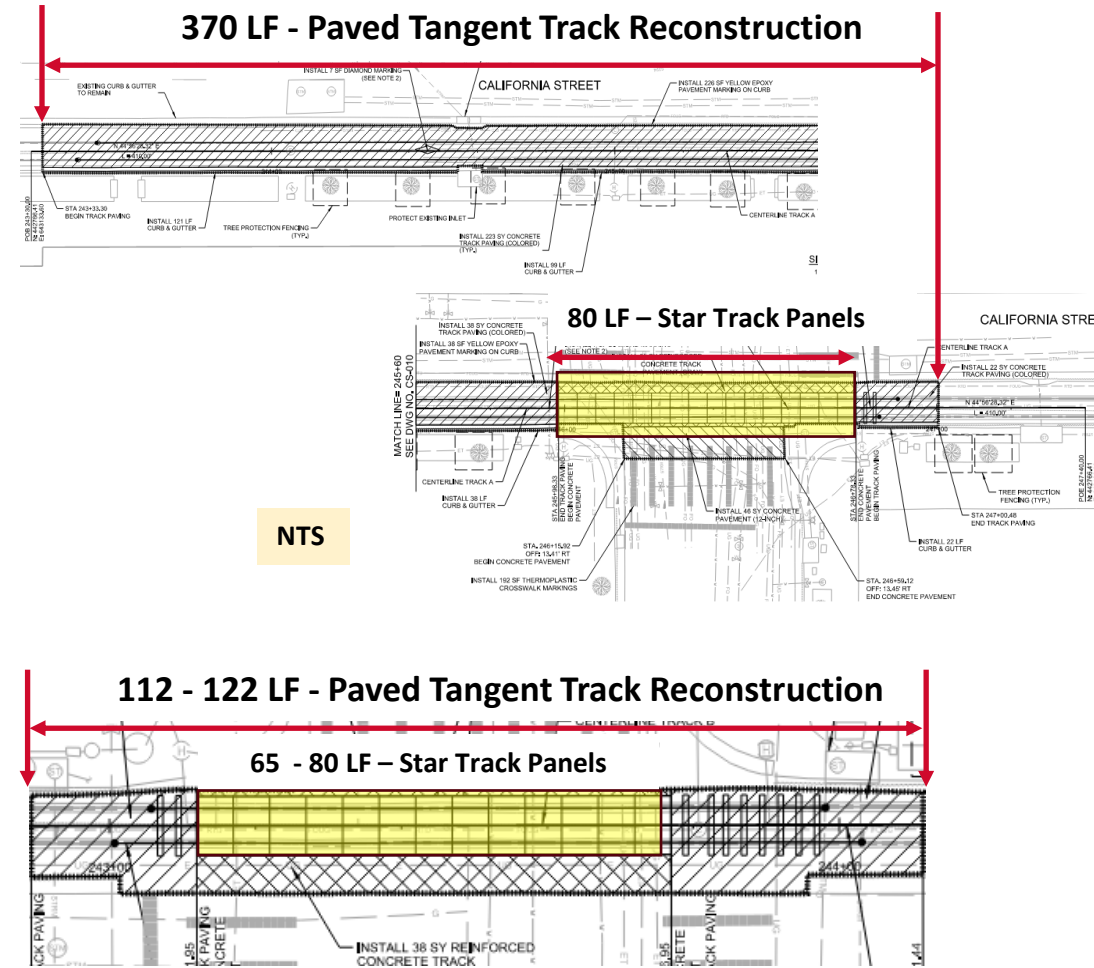
## 15<sup>th</sup> /California/ Stout Intersections (Couplets)

- ❖ @California - Total 370 linear feet of paved tangent track Reconstruction with 80 linear feet (16\*5) of New Star Track Panels and 290 linear feet of new paved track
- ❖ @California - Connect with 14<sup>th</sup> and California Rail Reconstruction section completed in 2023
- ❖ @California - ~270 linear Feet of Rail Reconstruction along California
- ❖ @Stout - Total 122 linear feet of paved tangent track Reconstruction with 65 linear feet (13\*5) of New Star Track Panels and 290 linear feet of new paved track

## 17<sup>th</sup> /California / Stout Intersections (Couplets)

- ❖ @California - Total 112 linear feet of paved tangent track Reconstruction with 80 linear feet (16\*5) of New Star Track Panels.
- ❖ @Stout - Total 114 linear feet of paved tangent track Reconstruction with 80 linear feet (16\*5) of New Star Track Panels.

## Single Track + Use of Star Track Panels for all Four out of Five Rail Intersections



NTS

NTS





# Agenda Item: Scope of Work

(Extent of Improvements)

**DRRP Phase I:** Full Depth Pavement Reconstruction at five (5) intersections located in Downtown Rail Loop (Area B)

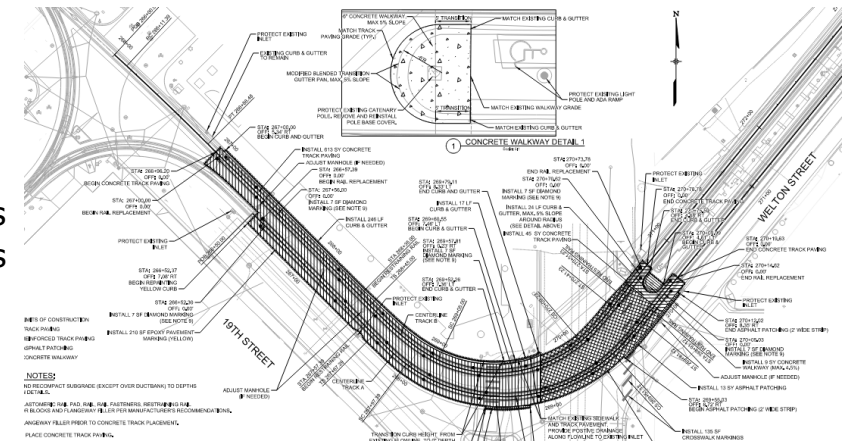
## Broadway & Welton intersection

- ❖ ~323 linear feet of paved double track with 42 welds
- ❖ Unlike the previous 4 intersections, which were Tangent Tracks (straight); this section has a sharp curve and will require 42 welds with pre-recurved rail.
- ❖ ~ 270 linear Feet of Rail Reconstruction along 19<sup>th</sup> Street.

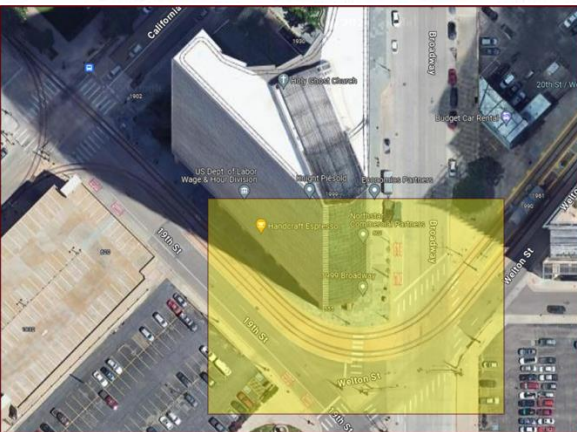
## Implementation Approach

- ❖ RTD intends to encourage the Contractor to start work at Broadway and Welton while PCL closes the intersection at 16th and California.
- ❖ RTD intends to encourage the Contractor to work in pairs rather than Singles or Quads to shorten the duration of construction and have less impact on downtown vehicles, mass transit, and pedestrian movements.

## Double Track + Cast In Place Concrete



NTS



# Agenda Item: Scope of Work

## (Construction Contractor)

- **Contractor Responsibilities**

- Obtaining Permits from CCD
- Notifying Business of Impacts
- Mobilization/Construction/Demobilization
- Construction Duration ~ 70 Calendar Days
- Work Windows
  - 7:00 AM - 9:00 PM - Weekdays
  - 8:00 AM - 5:00 PM - Saturday and Sunday
- **Period of Performance – 120 Calendar Days from NTP**

- **Anticipated Schedule**

- RFP Advertised – January 11, 2024
- Proposal Due – February 13, 2024
- Final Selection – March 08, 2024
- **Notice To Proceed – April 2024**
- **Obtaining Permits – April/May 2024**
- **Construction Start – June 2024**
  - Overall construction window is May 28, 2024 to September 1, 2024
  - RTD to work with Contractor on a schedule once the contract is signed.
- **Anticipated Construction Completion – August 2024**



# Questions??

# Agenda Item: RTD & CCD Coordination

## (Discussions So Far)

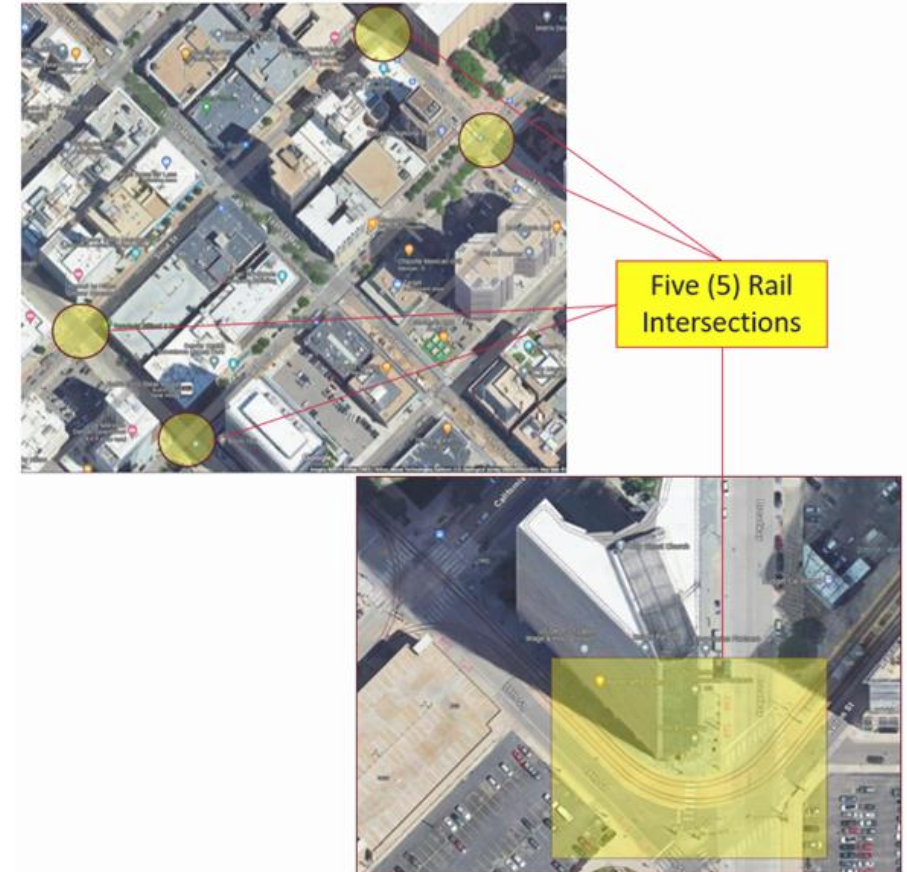
- Ongoing coordination efforts between the groups of RTD (Construction, Bus Operations, and Service Planning) and the City & County of Denver (Engineering, Transit, and Special Project)
  - Since February 2024
- Street Closures & Traffic Detours
- Bike/Pedestrian Detours
- Affected Bus Routes
- Mall Shuttle Detours
- MetroRide Detours
- Phase I Construction Phasing



# Agenda Item: RTD & CCD Coordination

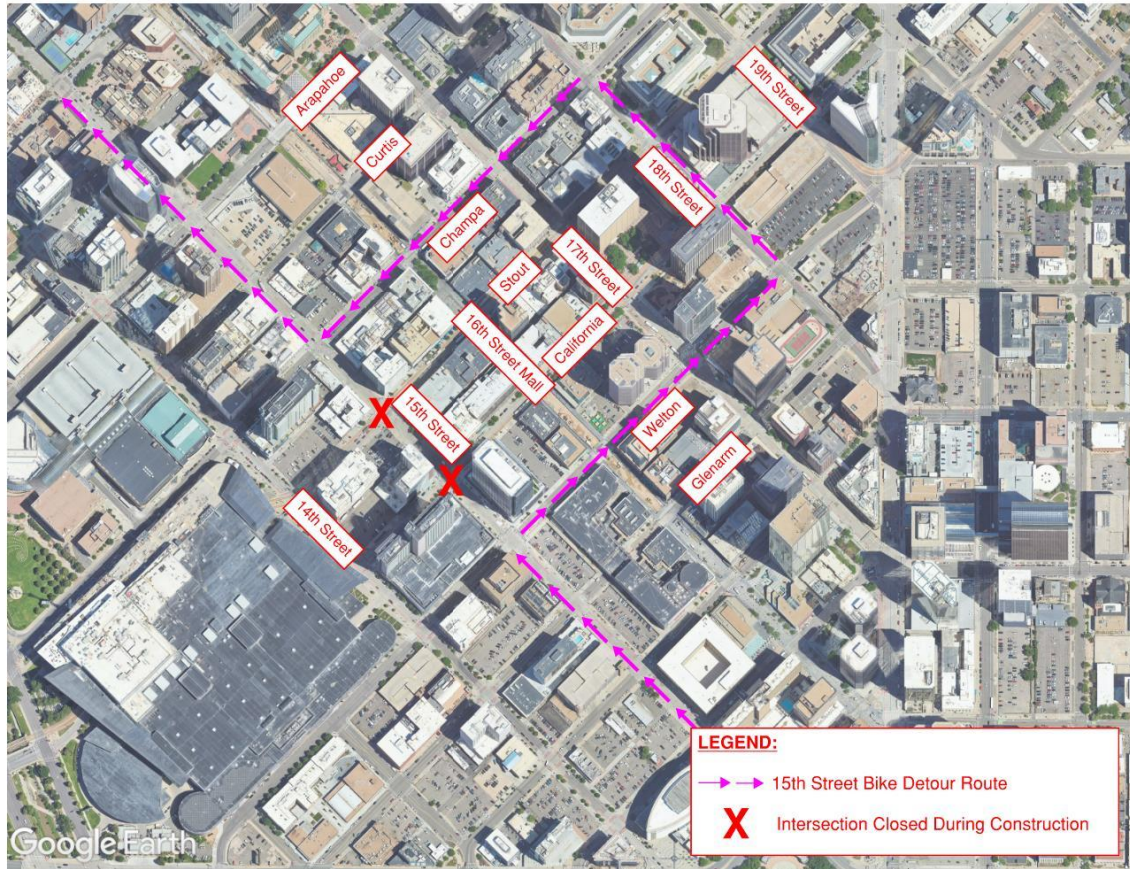
## (Guiding Principles)

- Downtown Accessibility
  - Only the downtown loop will be affected
- Mobility for vehicles and RTD Buses
  - At least keeping one lane open on California and Stout
- Accessibility for Hotels and Parking Garages
  - Access to Alley Ways
- Improvements will be conducted linearly
  - One Couplet at a time
- Implementation Approach
  - Broadway/Welton Improvement First and then the couplets
- Mall Shuttle & MetroRide Operating simultaneously



# Agenda Item: RTD & CCD Coordination

(Bike/Pedestrian Detour)



For illustration Only

# Agenda Item: RTD Service Changes

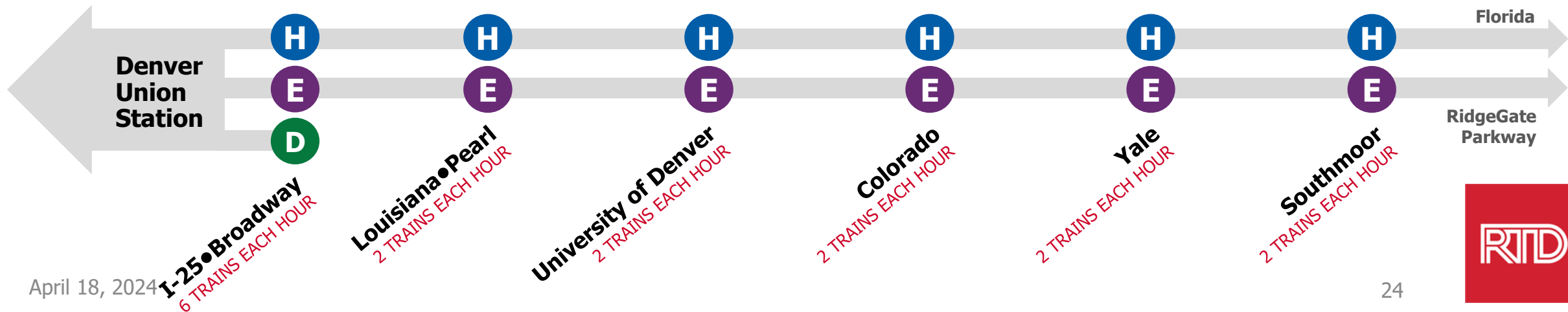
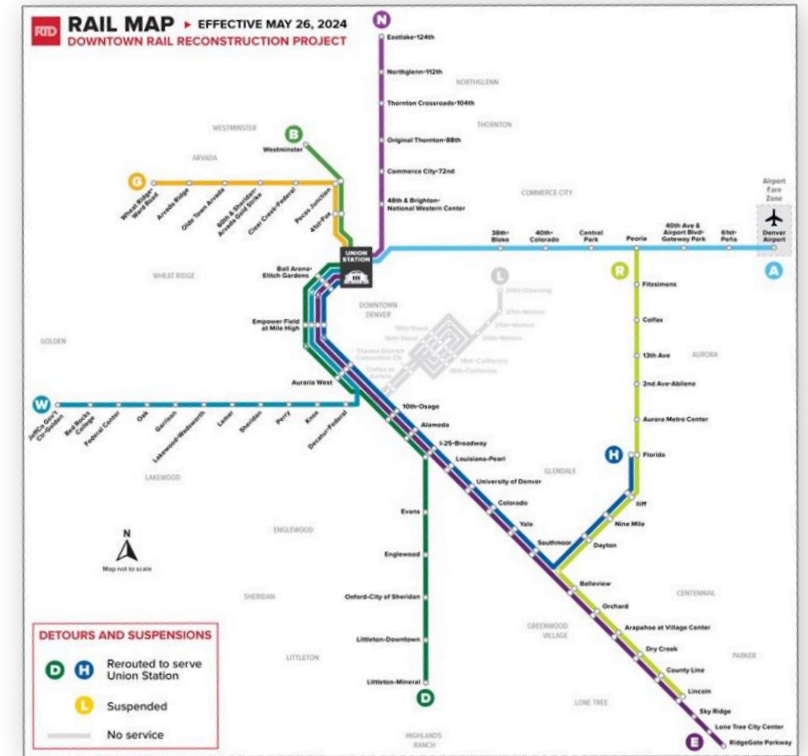
- RTD reviews, proposes, and implements changes to its service schedules three times a year
  - Typically take effect in January, May, and September
- In May 2024, RTD will implement minor and major changes to bus routes and rail lines
- Service changes enable represented employees to select work shifts, while simultaneously focusing on increased reliability, improved on-time performance, and adjusted travel needs
  - Account for summer break at schools
  - Support near-term planned maintenance and reconstruction projects



# Agenda Item: RTD Service Changes

## (Light Rail Service)

- Train frequencies will be temporarily adjusted between May and September 2024
  - No Train Service inside the downtown loop
  - D & H lines rerouted to DUS (No Downtown Loop Service)
  - L Line suspended (No Service in Downtown Loop)
  - The R Line will continue its 30-minute frequency
  - E and H line trains will be adjusted to one-hour frequencies
    - ▶ Stations served by both lines will have one E and H line train each hour





# Agenda Item: RTD Service Changes

(Light Rail Service)

Line	Service Changes	Service Span (Sunday – Thursday)	Service Span (Friday and Saturday)	Notes
<b>D</b>	<ul style="list-style-type: none"> <li>Detoured to Denver Union Station</li> <li>Service span adjustment</li> </ul>	5 a.m. – midnight	5 a.m. – 2 a.m.	Temporary detour
<b>E</b>	<ul style="list-style-type: none"> <li>One-hour headways (Coping Panels Project)</li> <li>Service span adjustment</li> </ul>	5 a.m. – midnight	5 a.m. – 2 a.m.	Temporary headways
<b>H</b>	<ul style="list-style-type: none"> <li>One-hour headways (Coping Panels Project)</li> <li>Detoured to Denver Union Station (Downtown Rail Project)</li> <li>Service span adjustment</li> </ul>	5 a.m. – midnight	5 a.m. – 2 a.m.	Temporary detour and headways
<b>L</b>	<ul style="list-style-type: none"> <li>Service suspended</li> </ul>	—	—	Temporary suspension of service <i>Route 43 is an alternative</i>
<b>N</b>	<ul style="list-style-type: none"> <li>Extend Saturday evening service</li> </ul>	—	Saturday evening	One southbound train at 11:13 p.m. and one northbound at 11:56 p.m.
<b>R</b>	<ul style="list-style-type: none"> <li>On-time performance schedule adjustment</li> <li>Service span adjustment</li> </ul>	5 a.m. – midnight	5 a.m. – midnight	No adjustment to current headways
<b>W</b>	<ul style="list-style-type: none"> <li>Service span adjustment</li> </ul>	4:30 a.m. – midnight	5 a.m. – 2 a.m.	No adjustment to current headways

# Agenda Item: RTD Service Changes

(Mall Shuttle & MetroRide)

- May 2024 Runboard reinstates the Free MetroRide to provide alternative connections between Denver Union Station and destinations within the Central Business District
- Service added to support the near-term Downtown Rail Reconstruction Project
- Free MetroRide and MallRide will operate simultaneously
  - MallRide and MetroRide will operate every ten minutes, seven days a week, between 5:45 a.m. and 7 p.m.

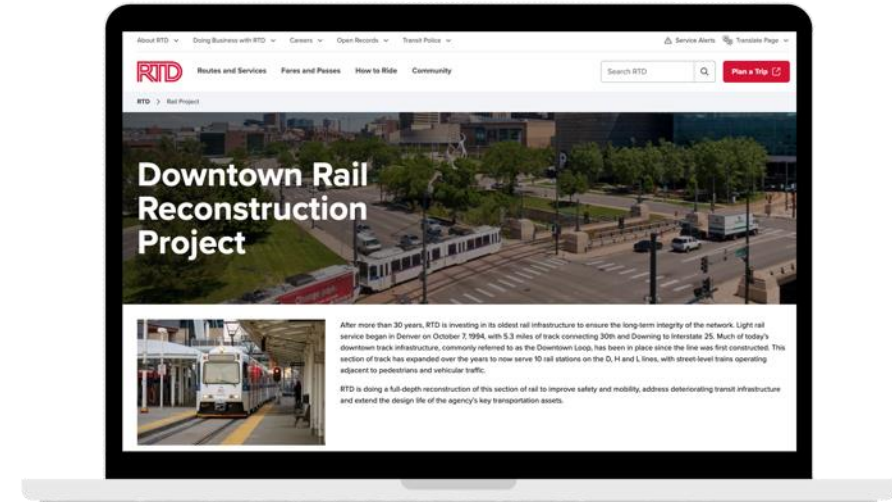


# Questions??

# Agenda Item: Communications and Outreach

(Project Website)

- A webpage is available with an overview of the project's four phases, maps, disruption information, and photos
  - **RTD Downtown Rail Reconstruction Project Webpage**
    - <https://www.rtd-denver.com/railproject>
  - The online resource will be regularly updated as the project progresses
- RTD is hosting a series of community meetings near all impacted rail lines
  - Meeting dates and times are available on the project webpage and RTD's social media platforms
  - Meetings will be held in English and Spanish and include an ASL interpreter



[rtd-denver.com/railproject](https://www.rtd-denver.com/railproject)

# Agenda Item: Communications and Outreach

(Open Houses)

- Meetings will be held in English and Spanish
- Additional meetings will be added as requested and needed

## **Monday, April 1**

5:30 p.m. – 7:30 p.m.

Lone Tree Library  
10055 Library Way, Lone Tree

## **Wednesday, April 17**

5:30 p.m. – 7:30 p.m.

RTD Headquarters  
1660 Blake Street, Denver

## **Wednesday, April 24**

5:30 p.m. – 7:30 p.m.

Glenarm Recreation Center  
2800 Glenarm Place, Denver

## **Tuesday, April 30**

5:30 p.m. – 7:30 p.m.

Kitchen Network  
1785 N. Quebec Street, Denver

## **Thursday, May 2**

5:30 p.m. – 7:30 p.m.

Columbine Library  
7706 W Bowles Ave, Littleton

# Agenda Item: Communications and Outreach

## Impact Team Ambassadors

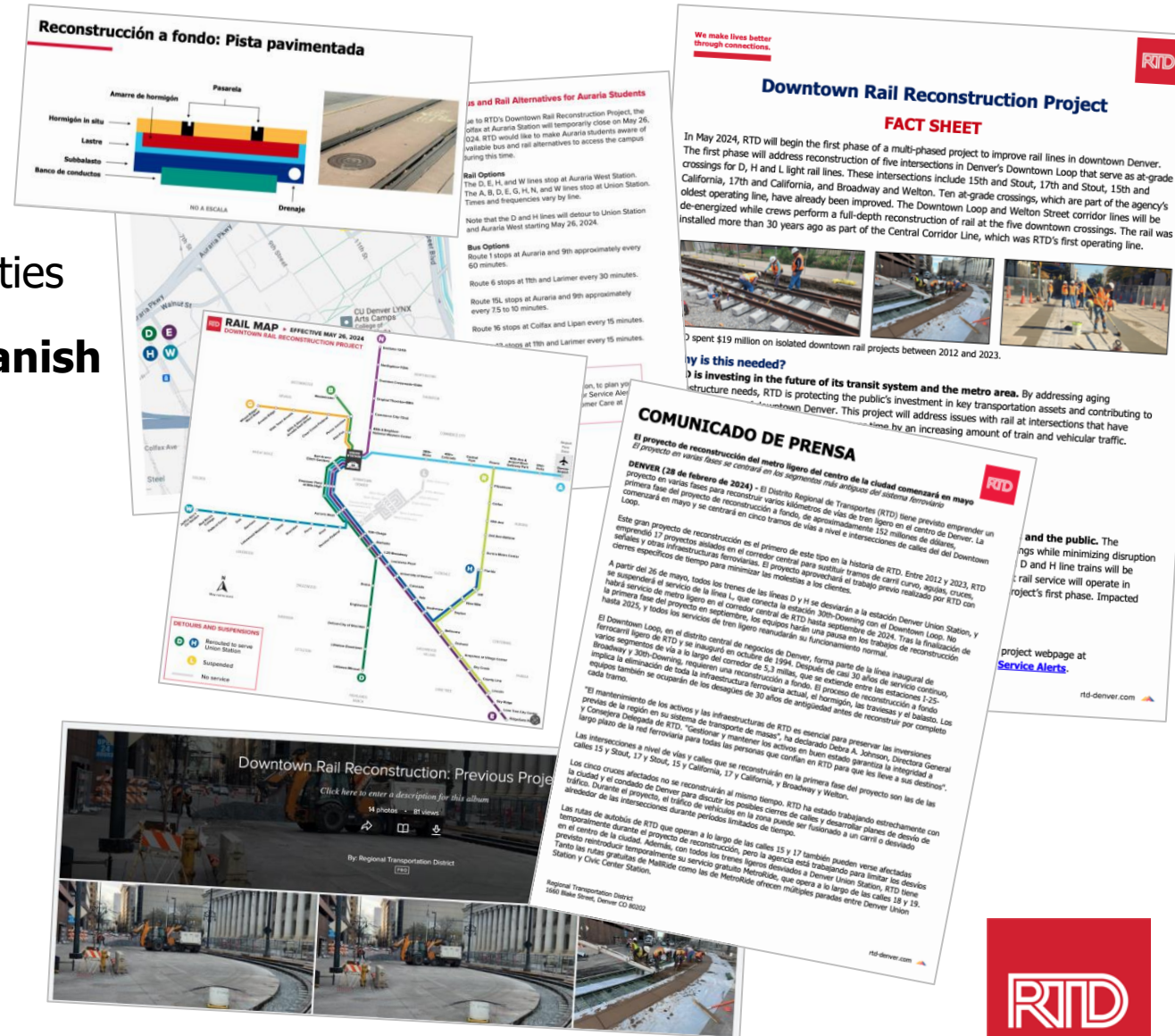
- RTD will deploy agency employees across its system to support customers through September 2024
  - The Impact Team will assist customers at stops and stations impacted by the May service changes and major events
  - The effort is focused on enhancing the customer experience and creating a welcoming transit environment
  - Impact Team members will be trained to answer frequently asked questions, provide trip information, and show customers how to sign up for Service Alerts and purchase fare
  - In October 2024, RTD will assess the team's overall impact and make plans for continuing the program in the future



# Agenda Item: Communications and Outreach

(Partner Toolkit)

- Be an extension of our team
- Share information and updates with your communities
- **Partner toolkit is available in English and Spanish**
  - Sample news release copy
  - Sample newsletter copy
  - Sample social media posts
  - Article about RTD's project team
  - Maps and illustrations
  - Fact Sheet and FAQs
  - Photos and b-roll video



# Agenda Item: Next Steps

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- Contractor On-Board
- Project Phasing Plan
- Finalize Project Schedule
- Contractor to Obtain Permits
- Finalize Bus Detour Messaging and Graphics
- Continue Public Engagement





# Questions??