



**COLORADO**

Department of Transportation

# Southwest Chief Through Car Study Stakeholder Meeting 2 August 16<sup>th</sup>, 2023



# Meeting Overview

## Agenda

- Welcome/Project Update
- Service Options & Evaluation
- Investment Options
  - Operations Analysis
  - Conceptual Engineering / Cost
  - Station Area Analysis
- Next Steps



# Attendees

- Action22
- Amtrak
- BNSF Railway
- CDOT
- City of Colorado Springs
- Colorado Springs Downtown Partnership
- CO Springs Chamber & EDC
- CSU – Pueblo
- CU - Colorado Springs
- El Paso County
- City of Fountain
- FRA
- FRPR District
- City of La Junta
- La Junta Chamber
- La Junta Transit
- Otero Junior College
- PACOG
- PPACOG
- City of Pueblo
- Pueblo Chamber
- Pueblo County
- Pueblo Memorial Airport
- Pueblo Transit
- City of Trinidad
- Union Pacific Railroad
- US Airforce Academy





# Project Recap



## STUDY AREA

Southwest Chief (SWC) Through Car study area includes the existing freight rail corridor between Colorado Springs, Pueblo and La Junta.

## STUDY GOAL

Evaluate new passenger rail service to connect Colorado Springs and Pueblo to the *Southwest Chief* station stop in La Junta.

Scope includes:

- Rail operations simulation
- Travel demand forecasting
- Station area analysis
- Conceptual engineering, environmental analysis and cost estimation for capital improvements.

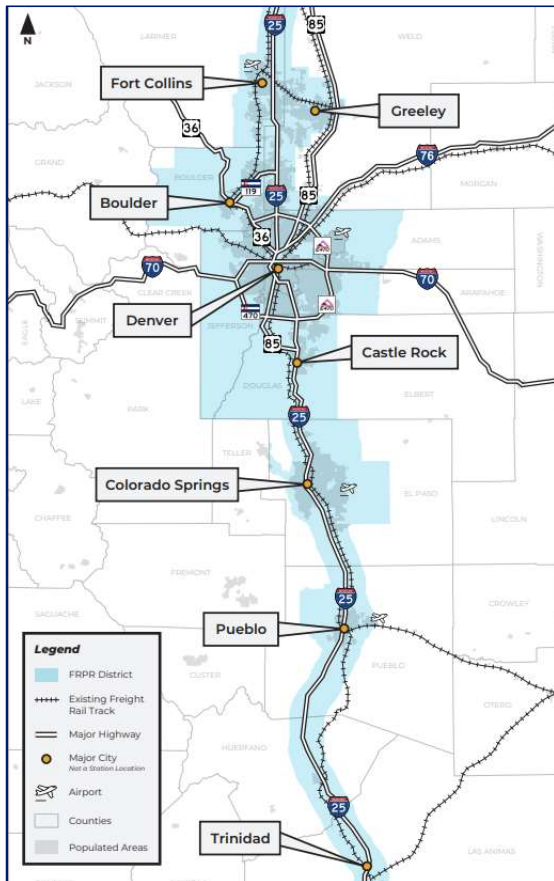
**OUTCOMES:** rail service options, investment options and governance strategies identified.



# SWC and FRPR SDP Project Update

## TASK SEQUENCING – SWC THROUGH CAR AND FRPR SDP

- Both projects include Colorado Springs – Pueblo segment<sup>1</sup> in their study areas.
- Service goals and characteristics differ for each project.
- SWC Through Car study team will pause analysis on the Colorado Springs – Pueblo segment and focus on the Pueblo – La Junta segment in the near term.
- At the appropriate point in the FRPR SDP, evaluation of a through car / integrated FRPR service option in the Colorado Springs – Pueblo segment will proceed.
- Revised task sequencing allows for a holistic approach to rail planning in the Colorado Springs – Pueblo segment.
- Avoids two separate efforts to model operations and design infrastructure for two different rail services.

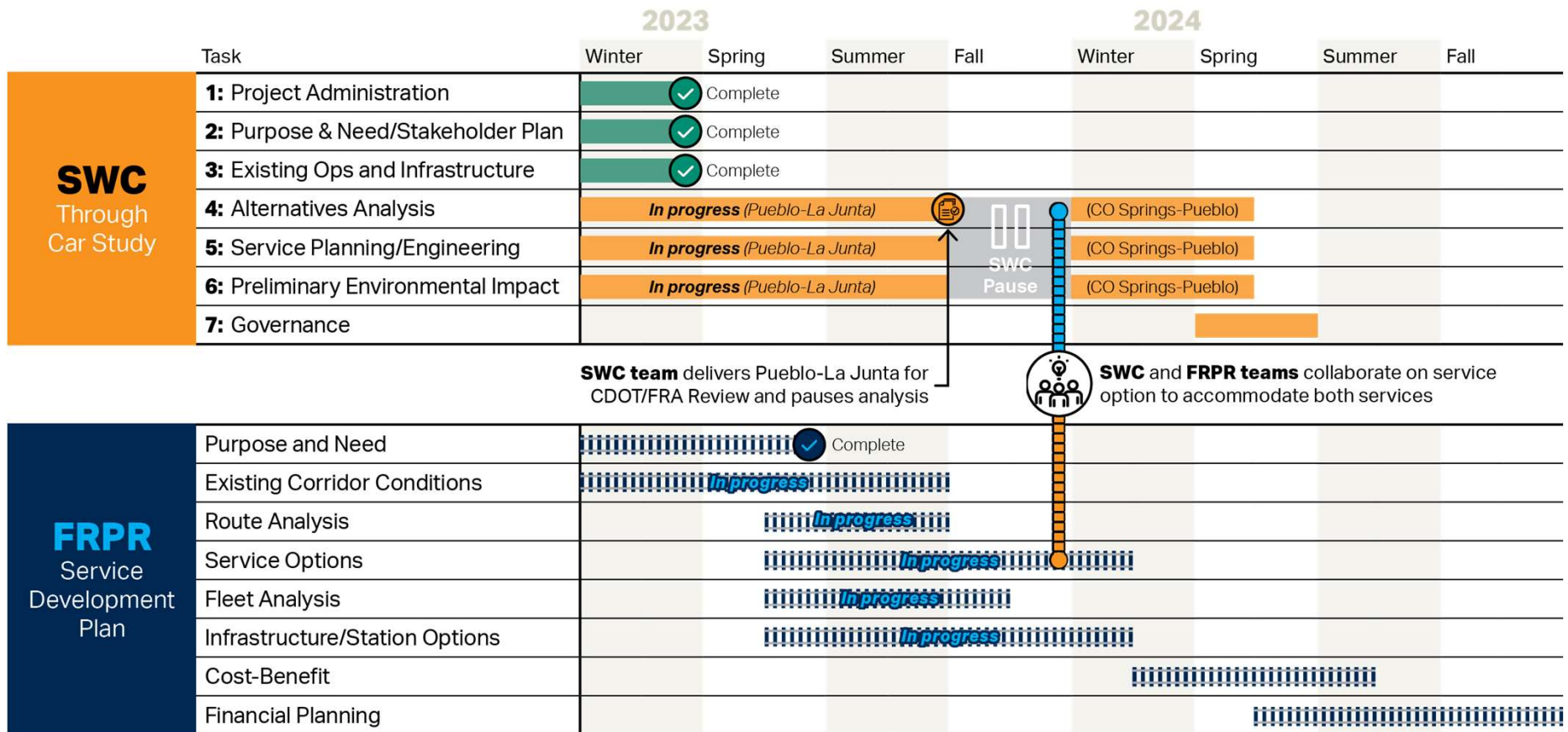


1. The front range corridor is included in the FRA Long Distance Service study area (<https://fralongdistancerailstudy.org/>) . Findings could further inform corridor needs.





# Project Schedules





# Preliminary Service Options

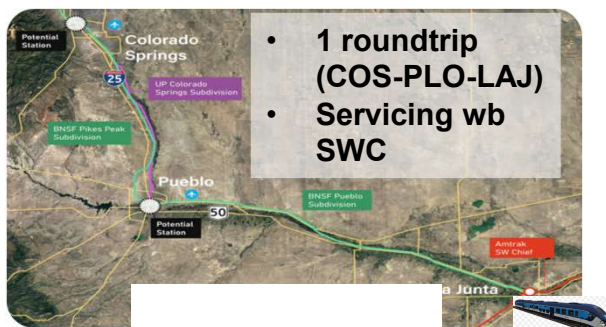
**Southwest Chief runs daily between Chicago and Los Angeles (both directions). In Colorado, the stops are Lamar, La Junta and Trinidad**

**Westbound SWC (Amtrak 3) Daily Scheduled  
La Junta (LAJ) Arrival: 7:49 AM**

**Eastbound SWC (Amtrak 4) Daily Scheduled  
La Junta (LAJ) Arrival: 7:22 PM**



= Daily Service Start Location – Connecting Service





# Preliminary Service Options Screening

## Stage 1 Evaluation and Results

Preliminary Service Options were scored on how they addressed the five Project needs, identified during the Purpose & Need phase of the project. Preliminary Service Options advanced from this stage are subject to a secondary screening based on FRA-Approved Evaluation Criteria.

Preliminary Service Options	Project Needs					<b><u>RESULT</u></b>
	Provide transit Service to additional markets	Provide additional safe, reliable, efficient travel choices	Support tourism and economic development	Advance a longer-term passenger rail vision	Provide safety improvements and modifications to the rail corridor	
<b>SO1</b> Two daily roundtrips servicing eb and wb SWC (COS-PLO-LAJ)	●	●	●	●	●	<b>Advance</b>
<b>SO2</b> One daily roundtrip servicing eb SWC (COS-PLO-LAJ)	●	● / ●	●	●	●	<b>Eliminate</b>
<b>SO3</b> One daily roundtrip servicing wb SWC (COS-PLO-LAJ)	●	● / ●	●	●	●	<b>Eliminate</b>
<b>SO4</b> One train per day servicing wb SWC (Alternating Days: LAJ-PLO-COS, COS-PLO-LAJ)	●	●	● / ●	●	●	<b>Eliminate</b>
<b>SO5</b> One train per day servicing eb SWC (Alternating Days: LAJ-PLO-COS, COS-PLO-LAJ)	●	●	● / ●	●	●	<b>Eliminate</b>
<b>SO6</b> Two daily roundtrips servicing eb and wb SWC (PLO-LAJ)	●	●	●	●	● / ●	<b>Advance</b>

● Does not meet project need

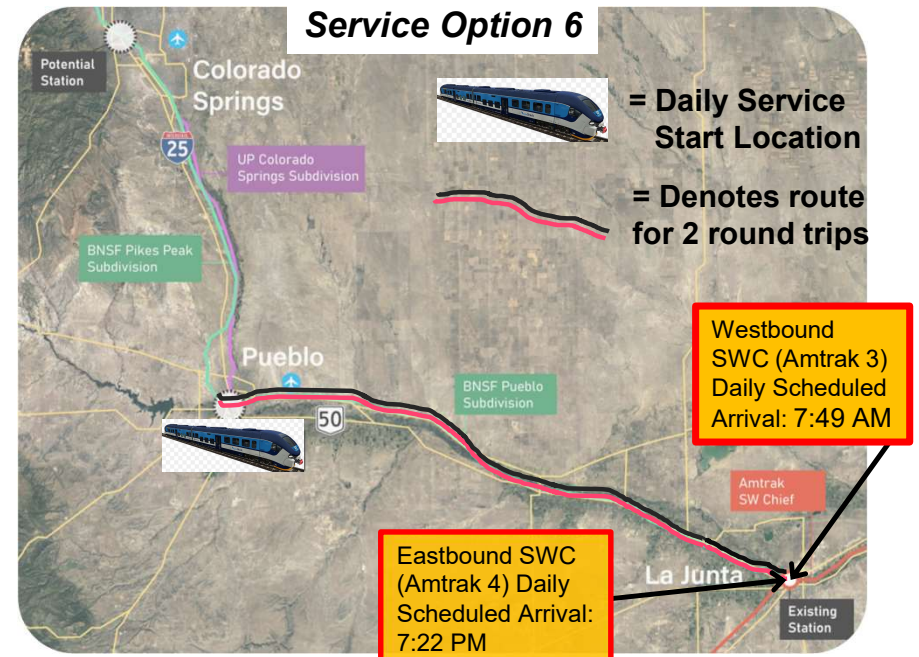
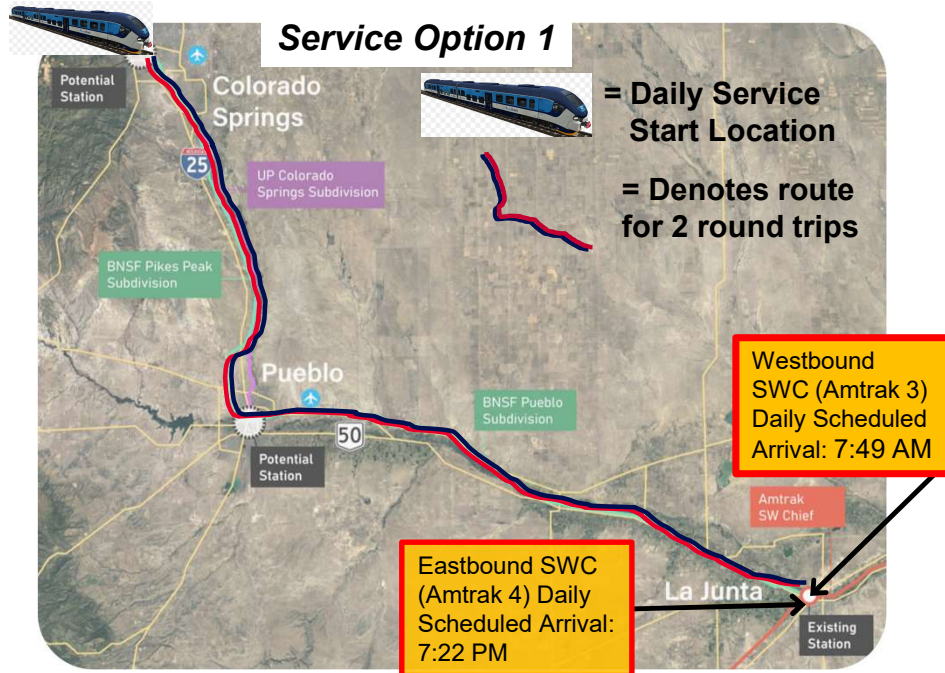
● Somewhat meets project need/  
further analysis needed

● Meets project Need effectively





# Service Options Advanced for Further Analysis



Conceptual Timetable (assumes on-time SWC)	Through Car (eastbound)	Through Car (westbound)	Through Car (eastbound)	Through Car (westbound)
Arrival/Departure	Departure/Arrival	Arrival/Departure	Departure/Arrival	Departure/Arrival
Colorado Springs	5:25 am	10:34 am	4:58 pm	10:02 pm
Pueblo	6:10 am	9:43 am	5:43 pm	9:11 pm
	6:15 am	9:38 am	5:48 pm	9:06 pm
La Junta	7:34 am	8:19 am	7:07 pm	7:47 pm
	-	-	-	-

Conceptual Timetable (assumes on-time SWC)	Through Car (eastbound)	Through Car (westbound)	Through Car (eastbound)	Through Car (westbound)
Arrival/Departure	Departure/Arrival	Arrival/Departure	Departure/Arrival	Departure/Arrival
Pueblo	6:10 am	9:43 am	5:43 pm	9:11 pm
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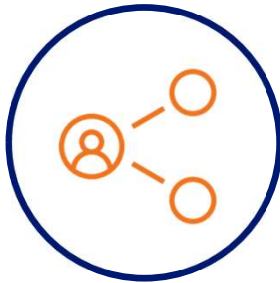


# Second Stage Evaluation Criteria



## Connectivity

Qualitative evaluation given the new passenger rail connections and expected level of ridership created by each service option.



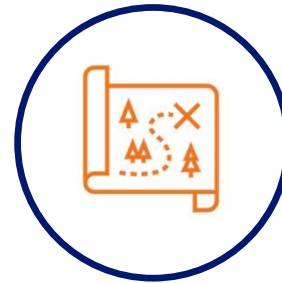
## Service Reliability

Qualitative evaluation considering potential utility of the through car service option in context of reliability and performance, measured by on-time performance and average time late data of the existing *Southwest Chief* service.



## Effects to Freight Network

Each service option may result in adjustments to freight operations and infrastructure considering the number of newly added passenger trains per day to their network, and the time of day which the passenger trains would operate.



## Environmental

Considers potential for service options to impact the existing natural and built environment.



## Financial and Economic Factors

Service options with higher connectivity and frequency likely create more ridership and economic activity but cost more to implement and operate.



## Project Readiness

Considers the immediate viability of each service option with consideration for future planned passenger rail within the corridor.



# Second Stage Evaluation

## Preliminary Service Options Scored Against FRA Approved Evaluation Criteria

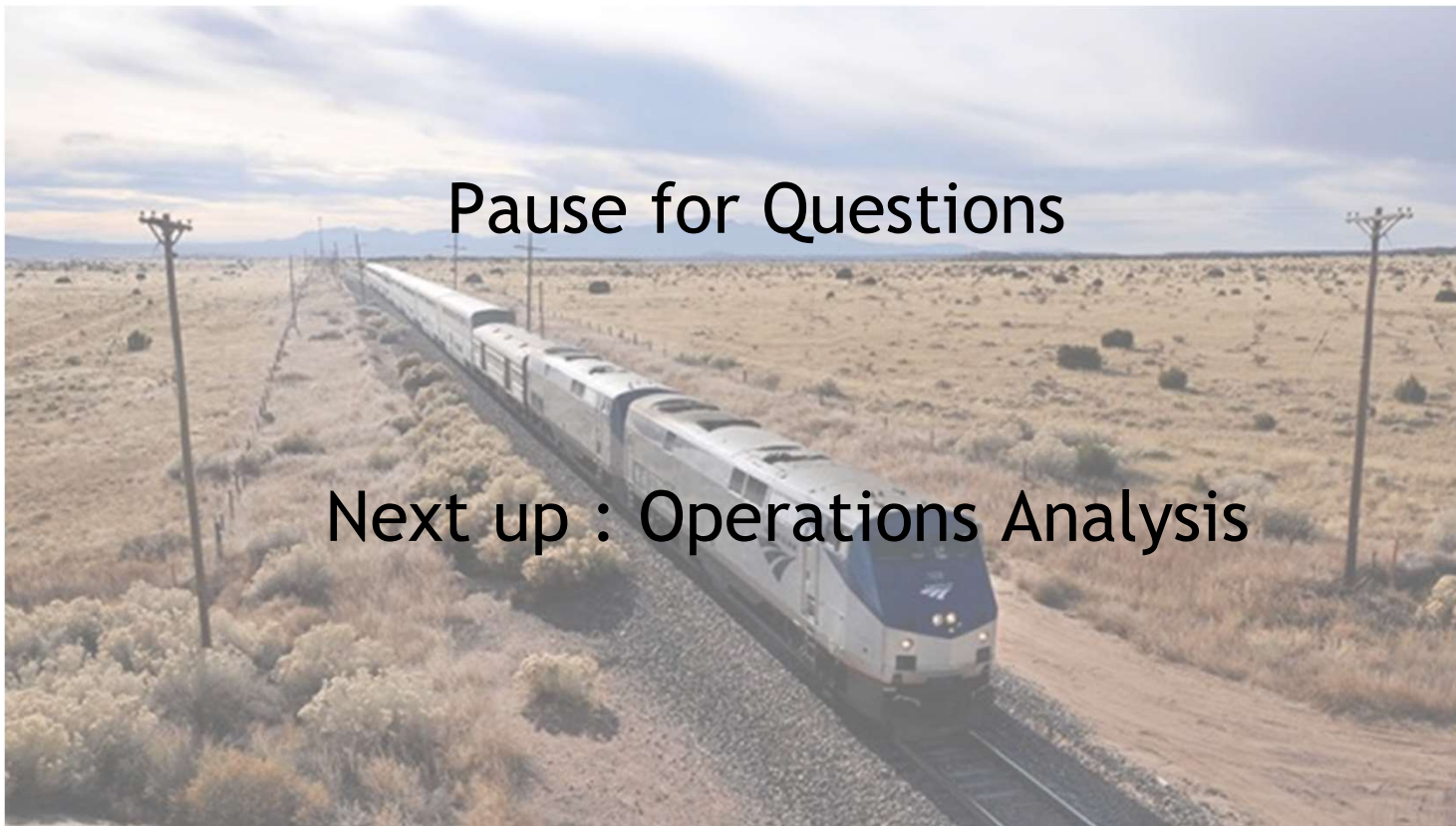
Preliminary Service Option Evaluation Criteria	Preliminary Service Option 1 (LAJ-PLO-COS)	Preliminary Service Option 6 (LAJ-PLO)
Connectivity	●	●
Service Reliability	●	●
Effects to Freight Network	●	●
Environmental Impacts	●	●
Financial & Economic	●	●
Project Readiness	●	●

### RECOMMENDATION:

Advance **Preliminary Service Option 6** for further analysis *in the near term*, pause further evaluation of COS-PLO segment until appropriate alignment with FRPR SDP.

● = Somewhat meets criterion      ● = Meets criterion effectively





Pause for Questions

Next up : Operations Analysis



# Operations Analysis

## Rail Traffic Controller (RTC) Operations Model - Inputs

- Infrastructure and operational conditions data allow the project team to accurately model the present-day rail network in Rail Traffic Controller (RTC) Operations Simulation software.
- The present-day RTC model will be the foundation for proposed RTC modeling, which will include proposed passenger service.
- Existing Conditions will inform the level of infrastructure investment needed to accommodate the proposed SW Chief Through car service options.
- Takeaway: need to detail what's existing to inform and develop the proposed passenger service.



Infrastructure:

- Track inventory and characteristics (geometry, speeds, etc)
- Signals



Operations:

- Number of trains/day and routings through the study area
- Length, tonnage, etc



# Operations Analysis

## Rail Traffic Controller (RTC) Operations Model - SWC Connector

### GOAL

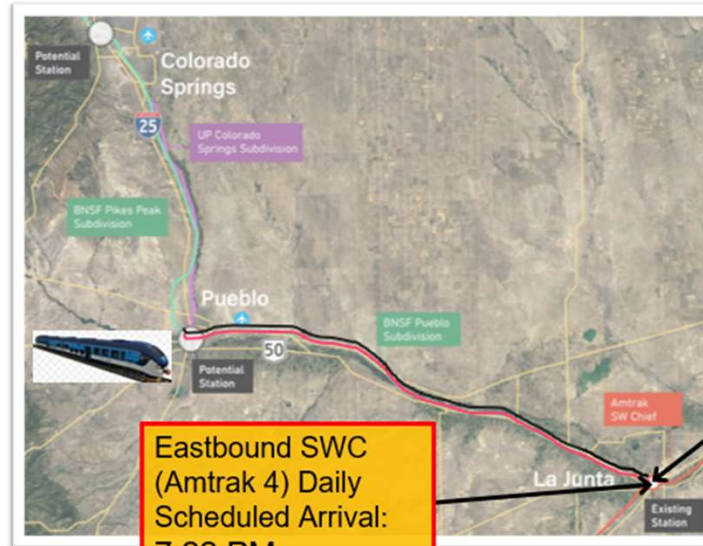
- Introduce new SWC Connector service:
  - SWC Connector Schedule:
    - Reliable and reasonable runtime
      - SB must connect to Amtrak SWC at La Junta
      - NB not as critical, but avoid unreasonable delay
  - Existing/Future Freight: Minimize delays

### HOW

- Implement infrastructure mitigation depending on severity of train delays

### ASSUMPTIONS

- 4-week sample size
- 95% performance factor on runtime (conservative)
- Maximum speed: Freight: 55 MPH; Passenger: 79 MPH
- Existing train data (Freight and Amtrak SWC) (2019)
- Includes track inspection/maintenance activities



Eastbound SWC  
(Amtrak 4) Daily  
Scheduled Arrival:  
7:22 PM

Westbound SWC  
(Amtrak 3) Daily  
Scheduled Arrival:  
7:49 AM



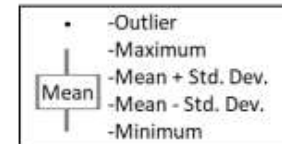


# Operations Analysis

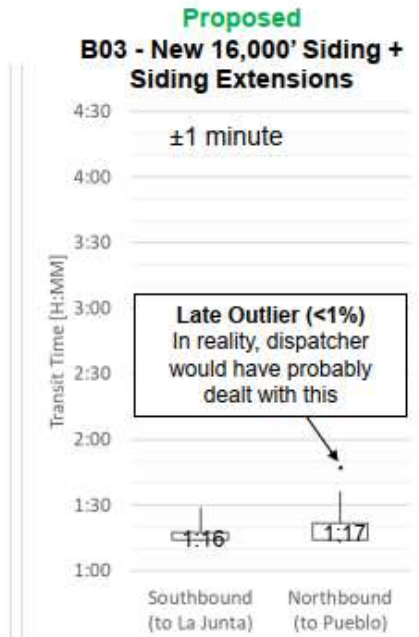
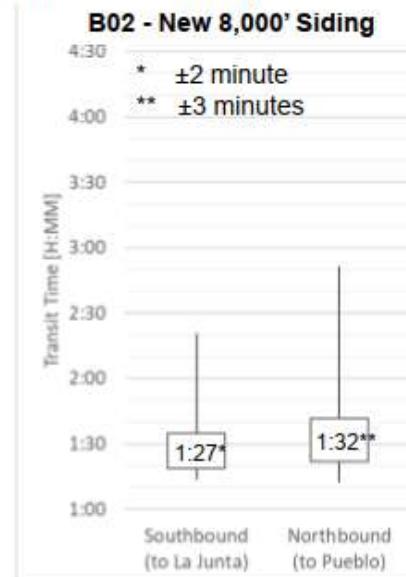
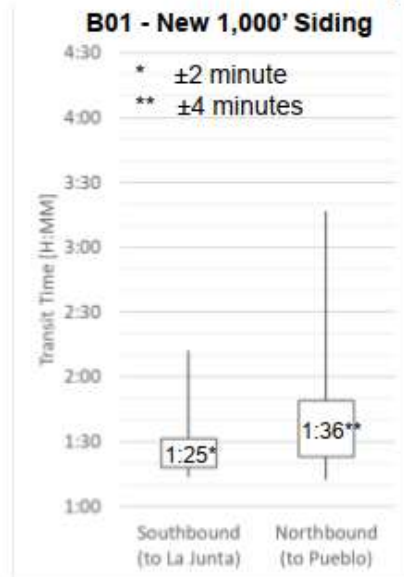
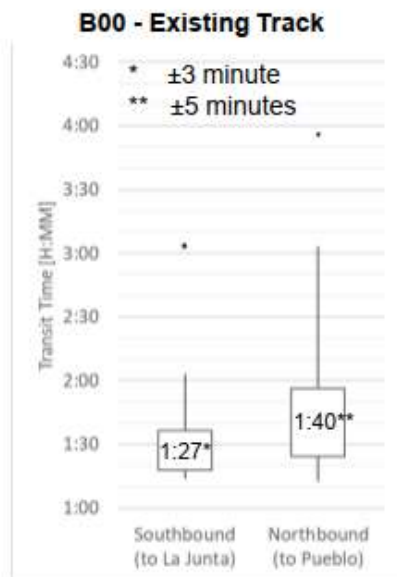
## SWC Connector Transit Time Distributions – Future Freight

4 week sample period with a 95% confidence interval

- 1200+ freight trains
- Scheduled 1h34m SB runtime to meet SWC arrival with **99% OTP**



### Transit Time (Pueblo – La Junta)



- NB varies greatly
- SB can be late

- Improves NB slightly
- Improves SB

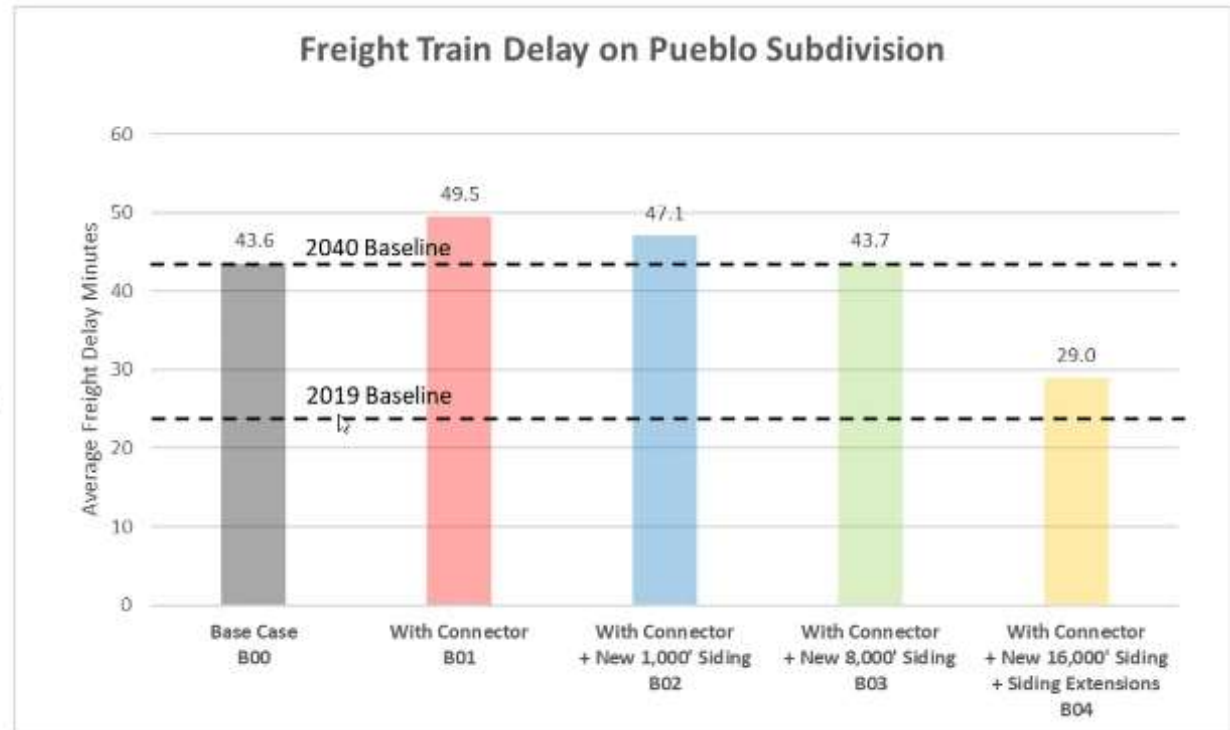
- Further Improves NB

- Improves to existing (A02)
- One late NB train per month



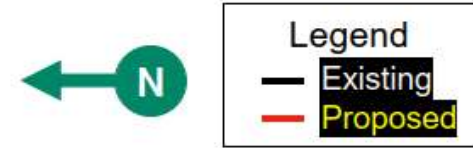
## Freight Delay – Future Freight

- 4-week sample size
- SWC Connector increases average freight and local delays by 14%
  - Delay minutes / train mile over the simulated time period
  - SWC Connector delays
- New 8,000 ft Siding
  - Restores average freight delays to close to pre-Connector levels
  - SWC Connector delays
- New 16,000 ft Siding + Siding Ext.
  - Restore average freight delays closer to 2019 levels
  - SWC Connector running on-time

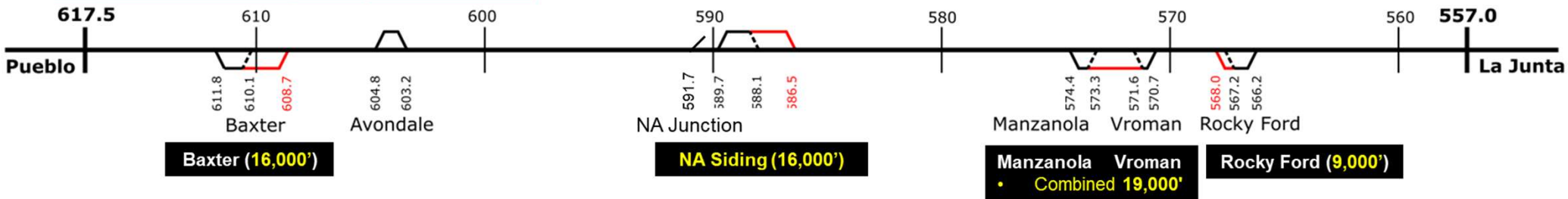




# Operations Analysis



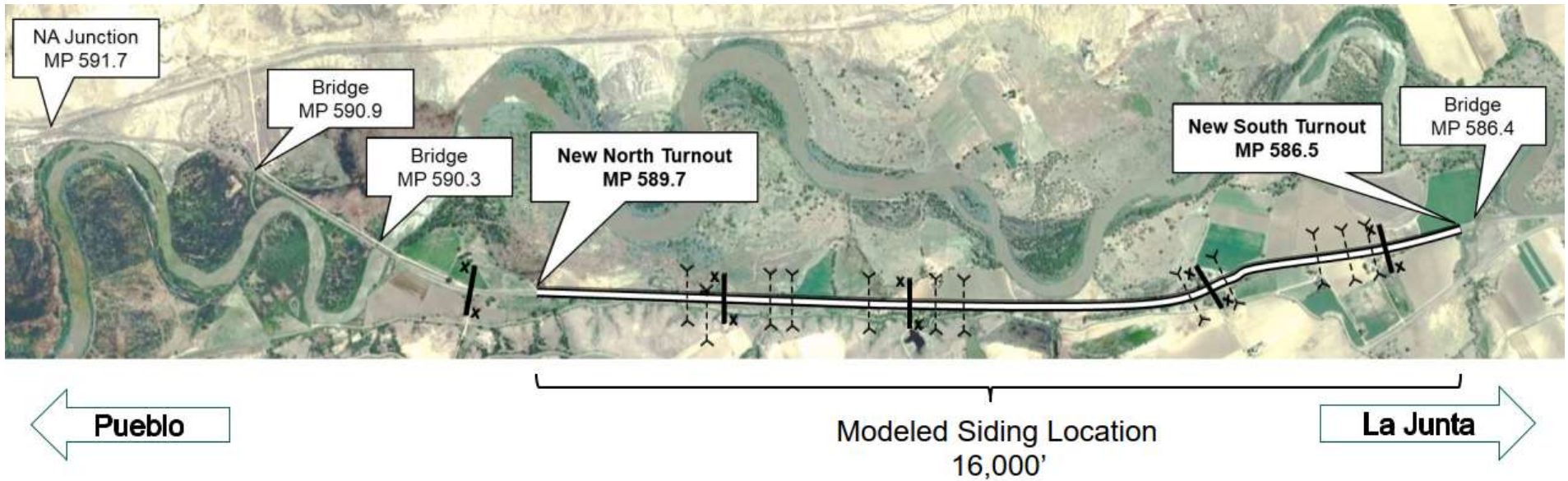
## Proposed Future (2040) – Case B04







# Improvement Example - New 16,000 ft Siding

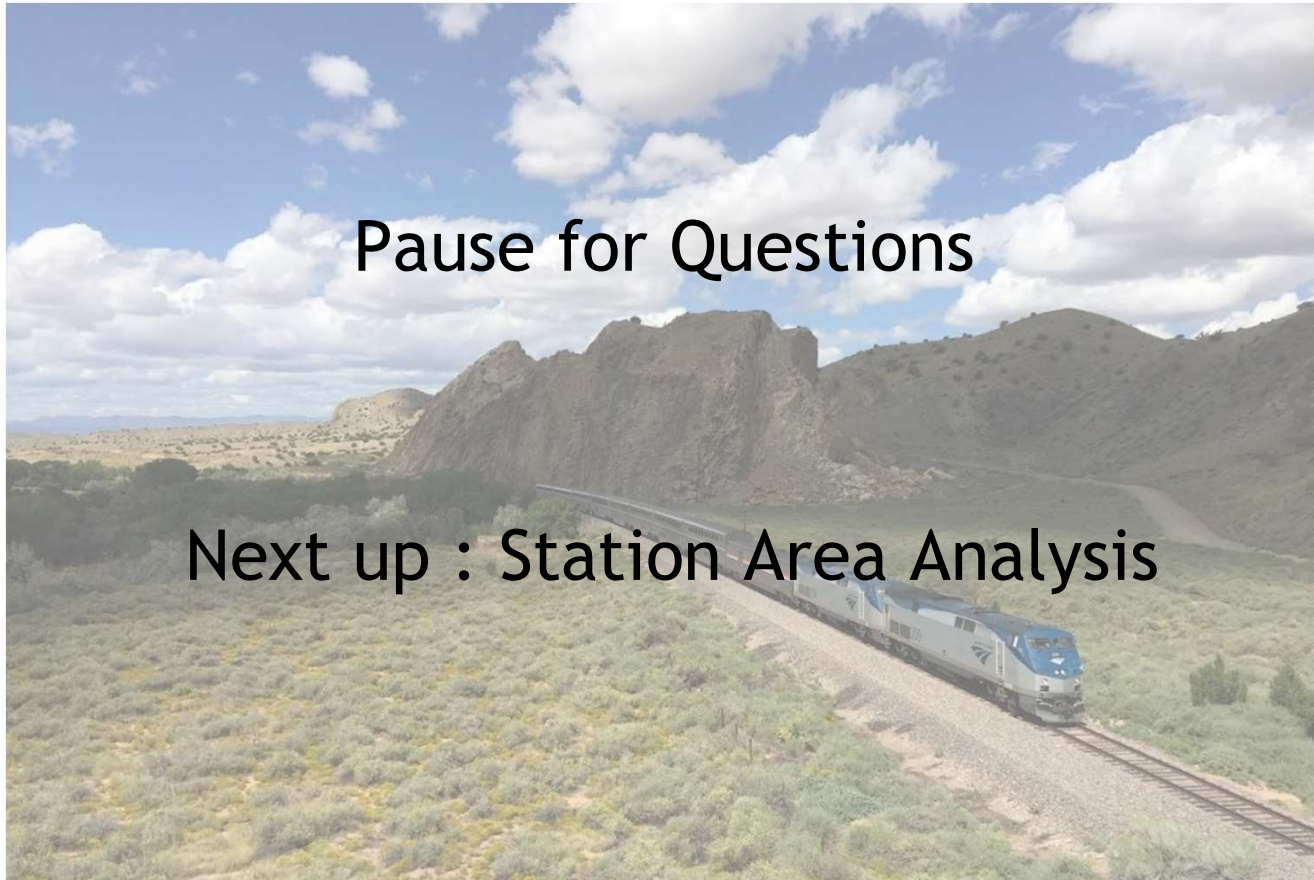


- Preferred location is just south of NA Junction
- Midpoint between Avondale and Manzanola
  - ~3.3 miles of track with no bridge crossings
    - 4 private crossings – farm crossings



Pause for Questions

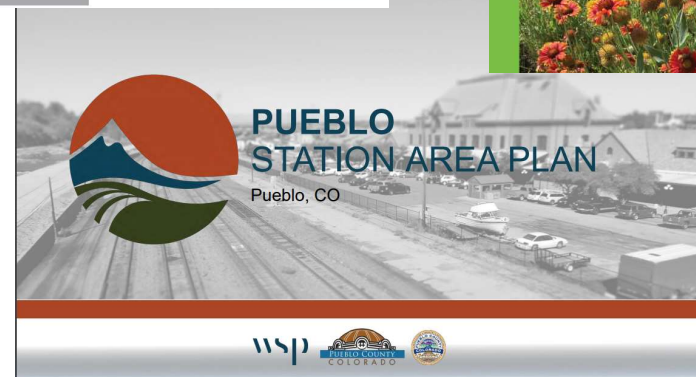
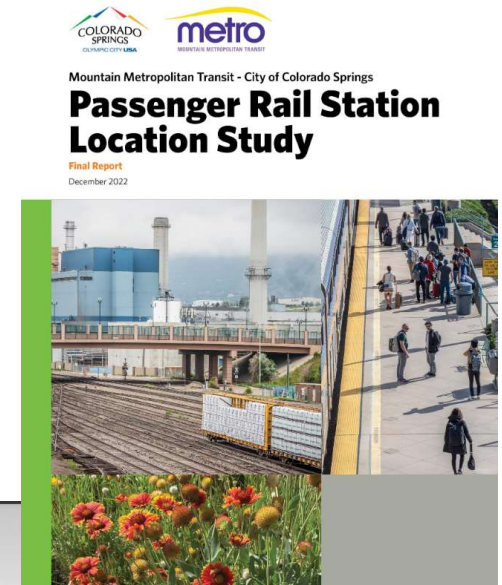
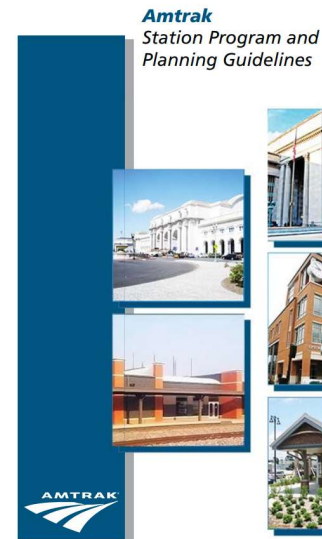
Next up : Station Area Analysis





# Station Area Analysis

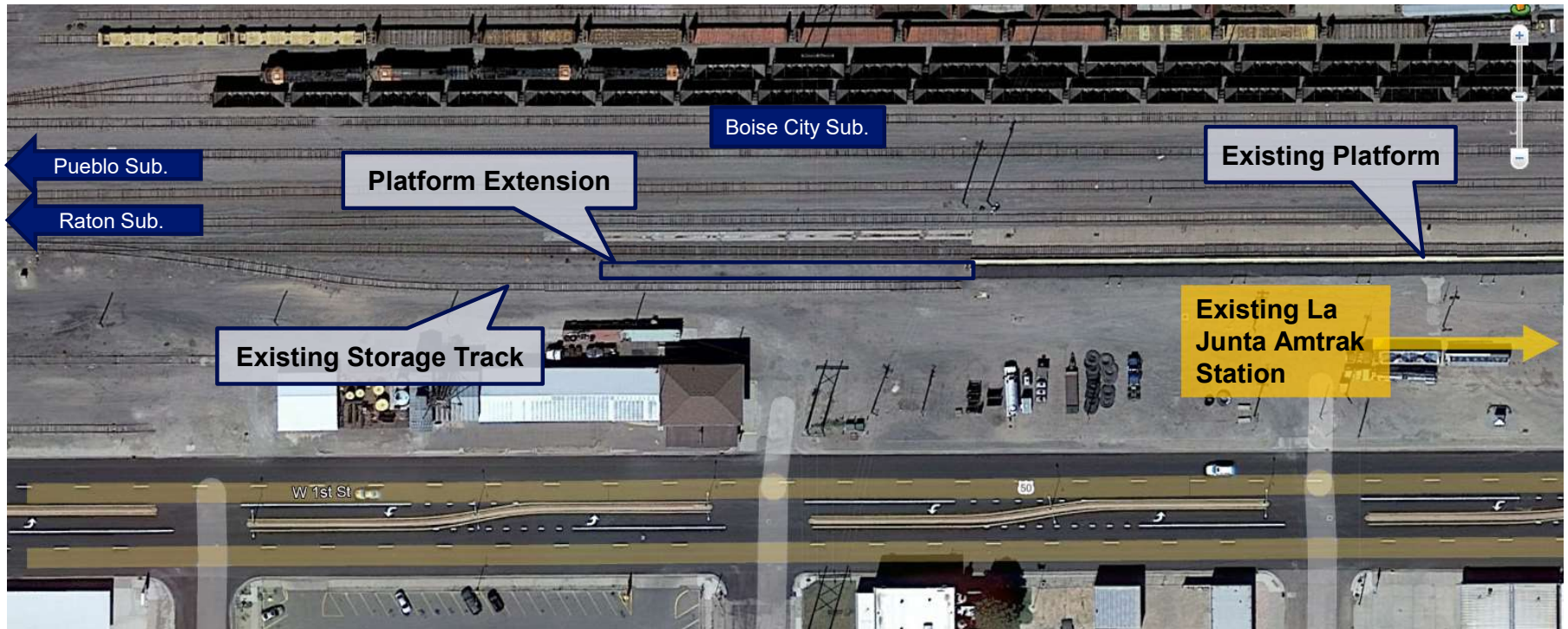
- Integrating previously completed/ongoing study findings
  - How users would access stations
  - Complementary mobility services
  - First/last mile connections
  - Existing amenities
  - Improvement options







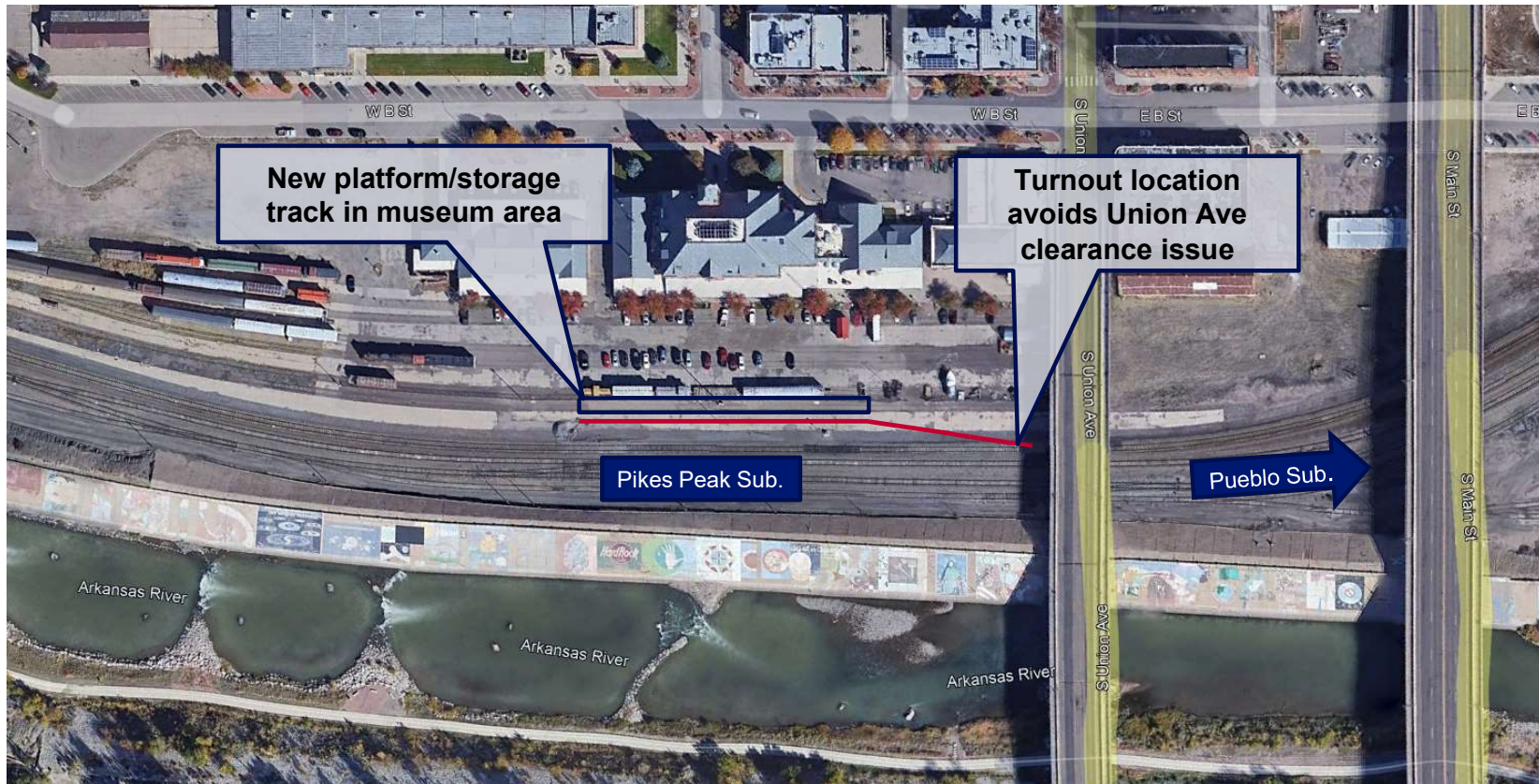
# La Junta Platform Extension







# Pueblo Station Area\* for RTC Modeling



\*The preferred platform and track layout at Pueblo is still under analysis by their team and stakeholders. This is an assumed platform location for the purpose of the SWC Through Car study RTC model.



# Conceptual Engineering & Cost Estimation



- Conceptual engineering and cost estimating will inform investment options for the La Junta – Pueblo segment of the corridor.
- Capital improvements follow BNSF standard design guidelines.
- Cost estimating follows FRA Standard Cost Categories.

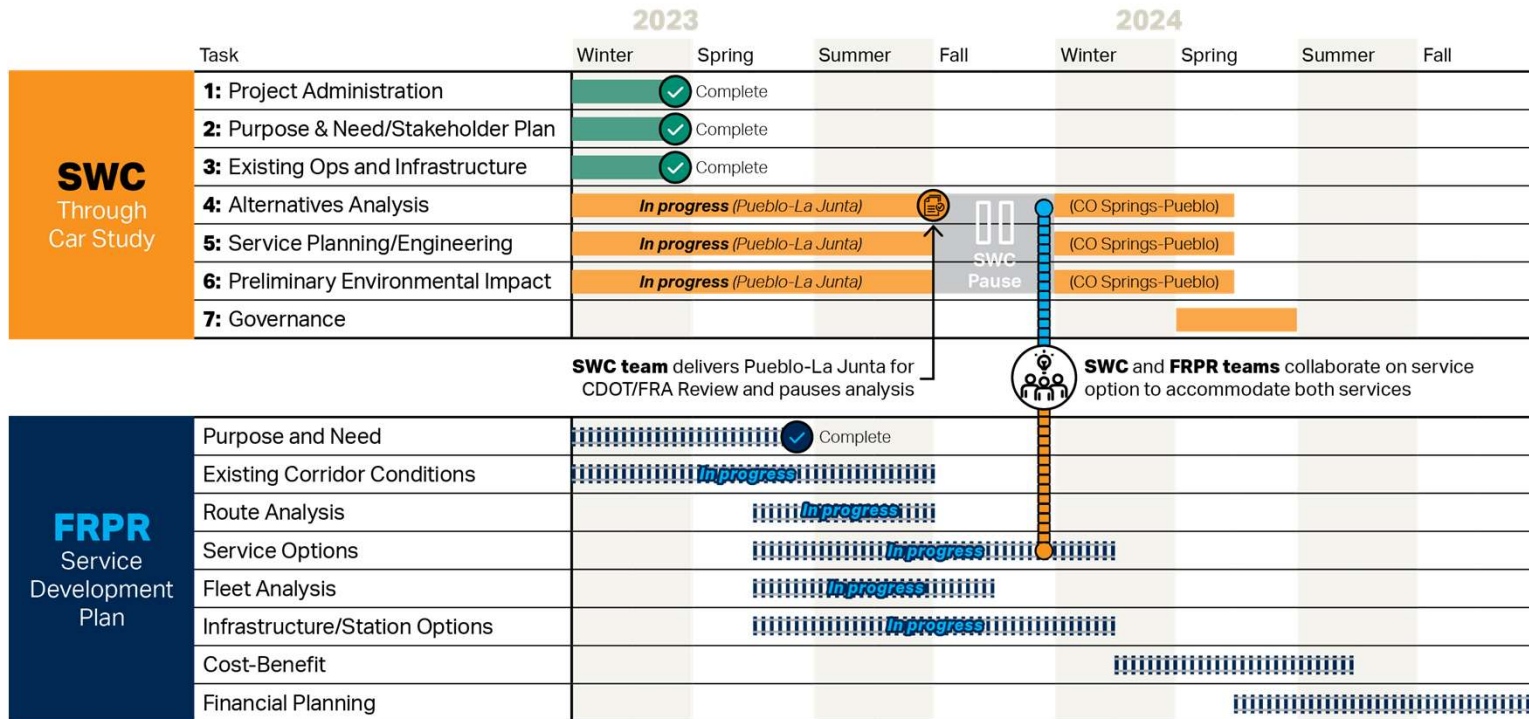
## **Preliminary Improvements:**

- Siding extensions, new 16,000' siding track, new control points and powered turnouts, culvert extensions, signal and crossing upgrades, PTC/CTC installation on the Pueblo Subdivision, platform/station track in Pueblo, platform extension at La Junta.





# Feedback / Next Steps



- **Technical Next Steps**

- Conceptual engineering/cost estimation
- Travel demand
- Governance

- **Project Website :** [Here's the link.](#)