FRPR

FRONT RANGE
PASSENGER
RAIL

SOUTHWEST CHIEF & FRONT RANGE PASSENGER RAIL COMMISSION

COLORADO Department of Transportation

Segment Coalition Meeting

South Segment

September 17, 2020

FRPR FRONT RANGE PASSENGER RAIL

Welcome

FRPR FRONT RANGE PASSENGER RAIL

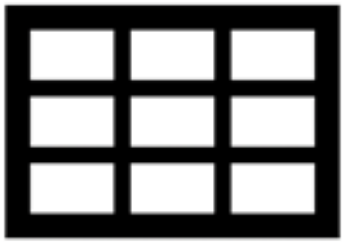
Google Meet Instructions

Headphones

Video

Chat

Mute



Gallery View

Menti.com for poll

Interactive Poll

GO TO **MENTI.COM** & ENTER THE CODE **16 42 04 9**

Would you rather…

be a superhero *or* **the world's best chef?**

Agenda

- Welcome and introductions
- Agenda review and meeting purpose
- July online meeting summary and outcomes
- Project updates
  - Alignment Alternatives
  - Preliminary Ridership
  - Preliminary Community and Environmental Impacts
- Advancing FRPR – next steps discussion for Segment Coalitions
- Timeline, thank you, and close

Introductions

South Segment Coalition Invitees

PUEBLO COUNTY

COLORADO SPRINGS
OLYMPIC CITY USA

UCCS
University of Colorado
Colorado Springs

Colorado Springs
CHAMBER & EDC™

CSU
PUEBLO

UNITED STATES
AIR FORCE ACADEMY

FORT CARSON
UNITED STATES ARMY
COLORADO

EL PASO COUNTY COLORADO
EST. 1861

Pikes Peak Area
Council of Governments
Communities Working Together

DOWNTOWN
COLORADO SPRINGS

THE GREATER™
PUEBLO CHAMBER
We Mean Business

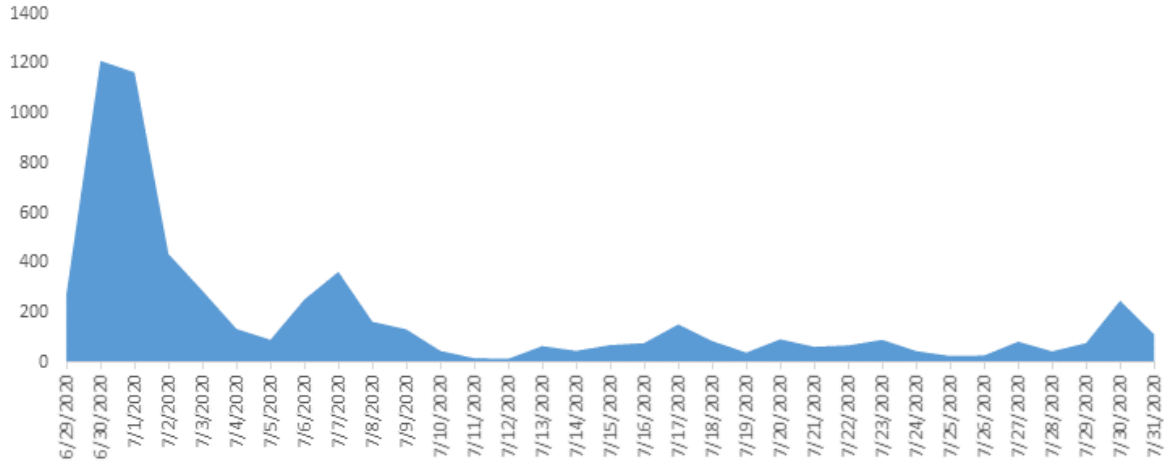
Online Public Meeting Summary

FRPR FRONT RANGE PASSENGER RAIL

General Statistics

Website Traffic: June 29 – July 31:

- Total Users: 8,279 (CO: 6,662)
- Total Sessions: 9,678 (CO: 7,834)



Session by Device (CO only):
Mobile: 4,424
Desktop: 3,021
Tablet: 389

Acquisitions by Session (CO only):
Referral: 2,821
- KRDO.com: 1,869
- Frontrangepassengerrail.com: 456
- Coloradoan.com: 177
- Denverpost.com: 140
- CoDOT.gov: 87
- Direct: 3,740

Social: 1,194
- Facebook: 882
- Twitter: 145
- Reddit: 92
- LinkedIn: 66

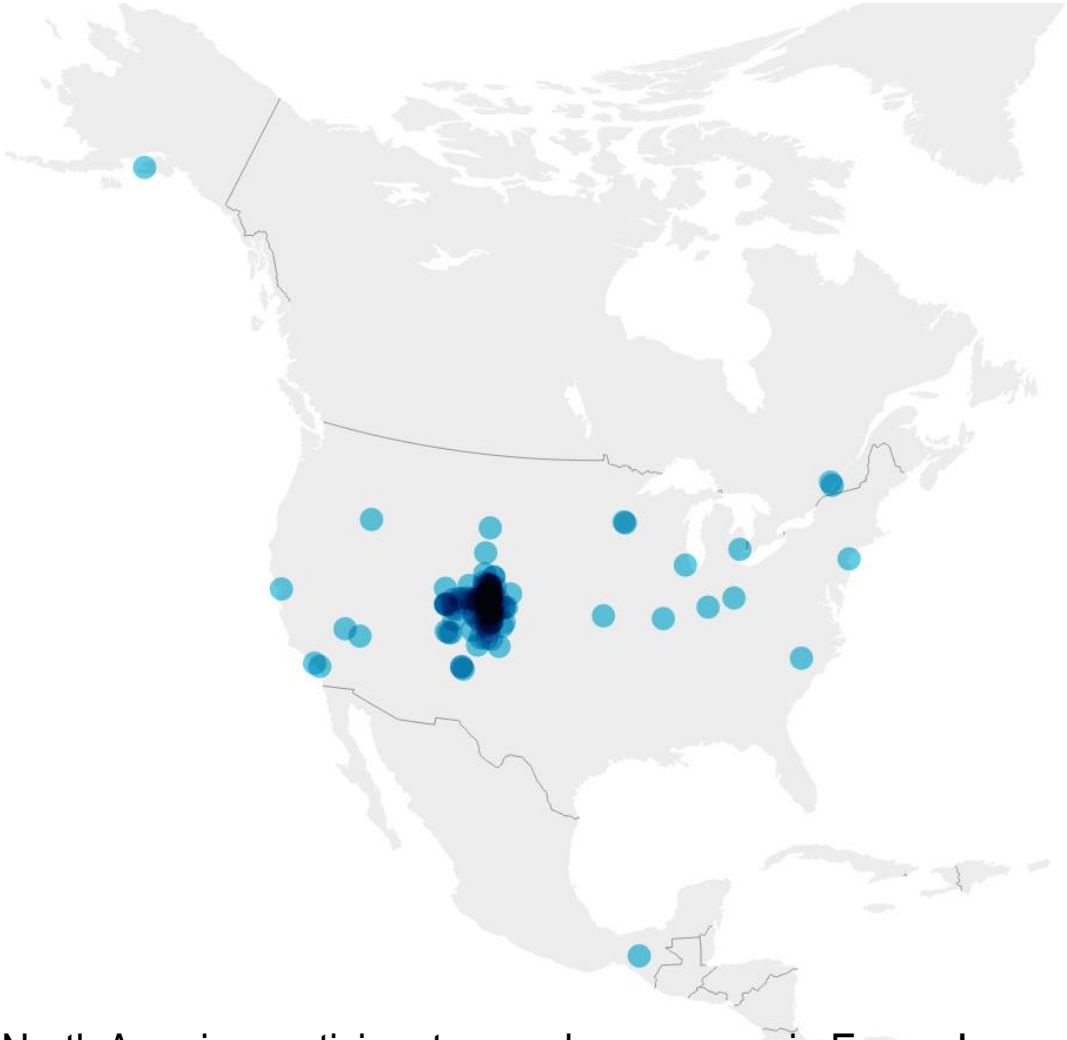
Organic: 79

Average Time on Page (CO): 4 minutes, 26 seconds

Top 25 Cities

1. Colorado Springs: 2,399
2. Denver: 1,757
3. Fort Collins: 743
4. Pueblo: 385
5. Aurora: 159
6. Lakewood: 146
7. Loveland: 128
8. Boulder: 125
9. Greeley: 117
10. Longmont: 97
11. Trinidad: 94
12. Woodmoor: 89
13. Arvada: 76
14. Broomfield: 74
15. Westminster: 69
16. Thornton: 64
17. Highlands Ranch: 60
18. Ken Caryl: 57
19. Breckenridge: 51
20. Castle Rock: 49
21. Parker: 46
22. Pueblo West: 41
23. Monument: 35
24. Canon City: 32

Zip Code Participation

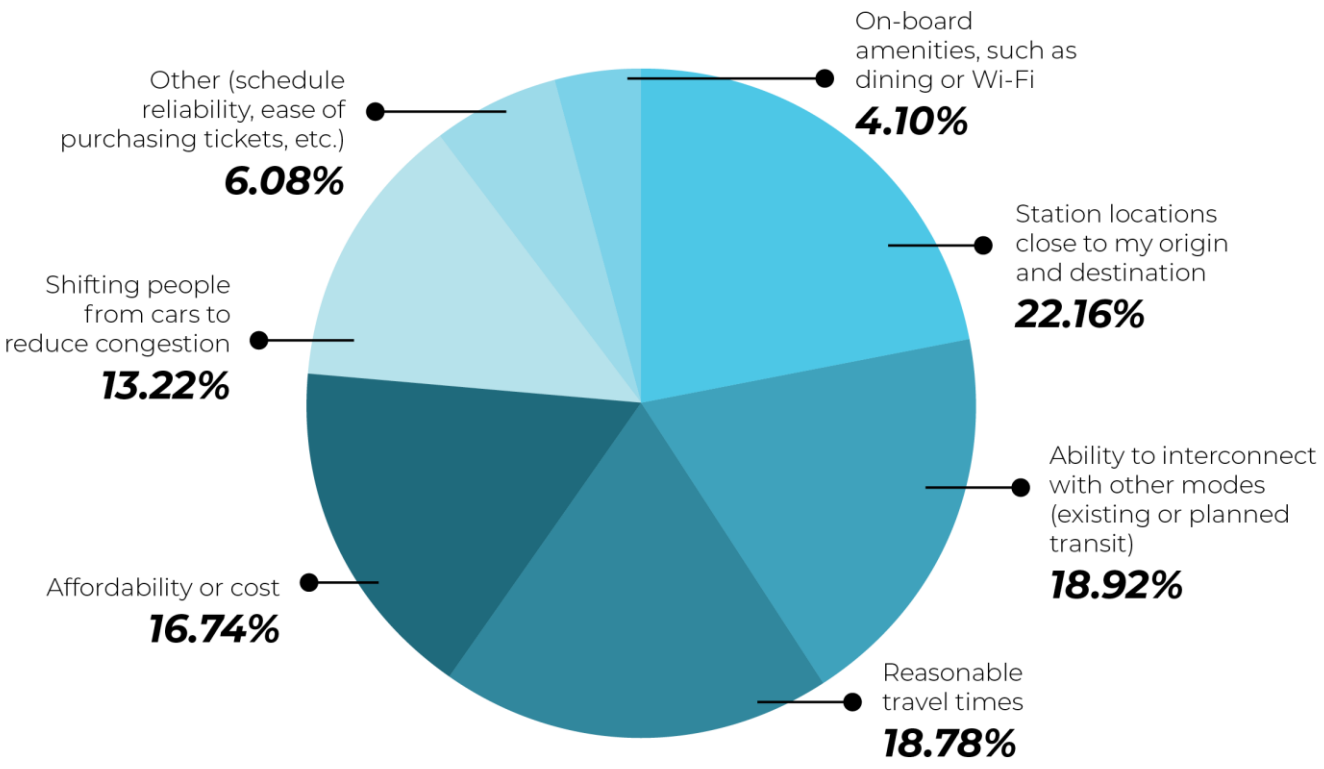


We attracted many North America participants – and even some in Europe!

Input Survey Question #1

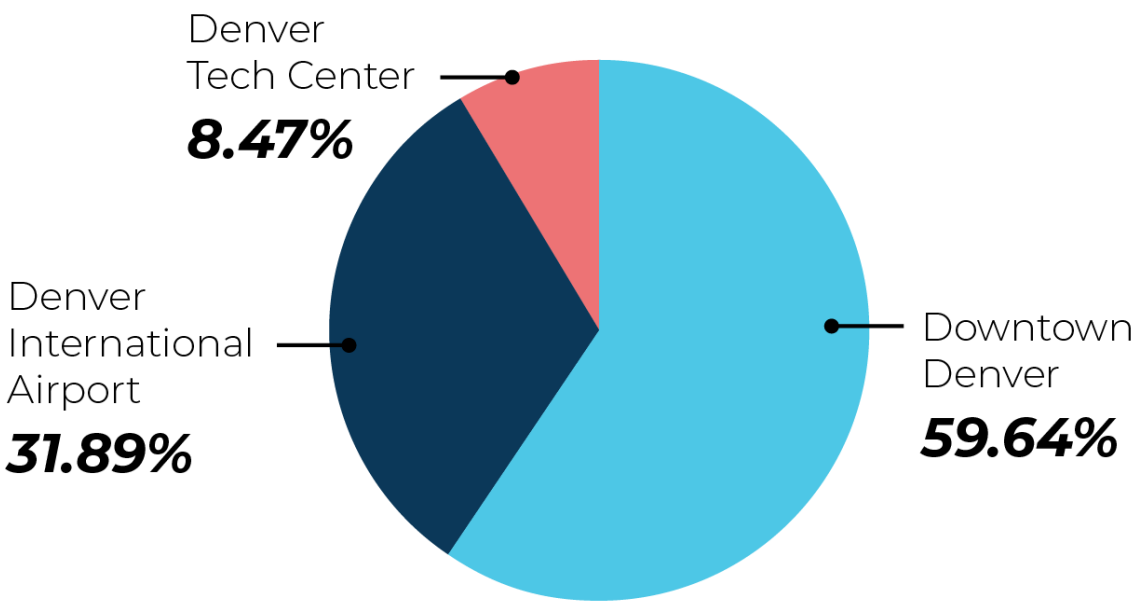
WHAT ARE THE MOST IMPORTANT OPERATIONAL CONSIDERATIONS TO YOU?

7,003 total selections



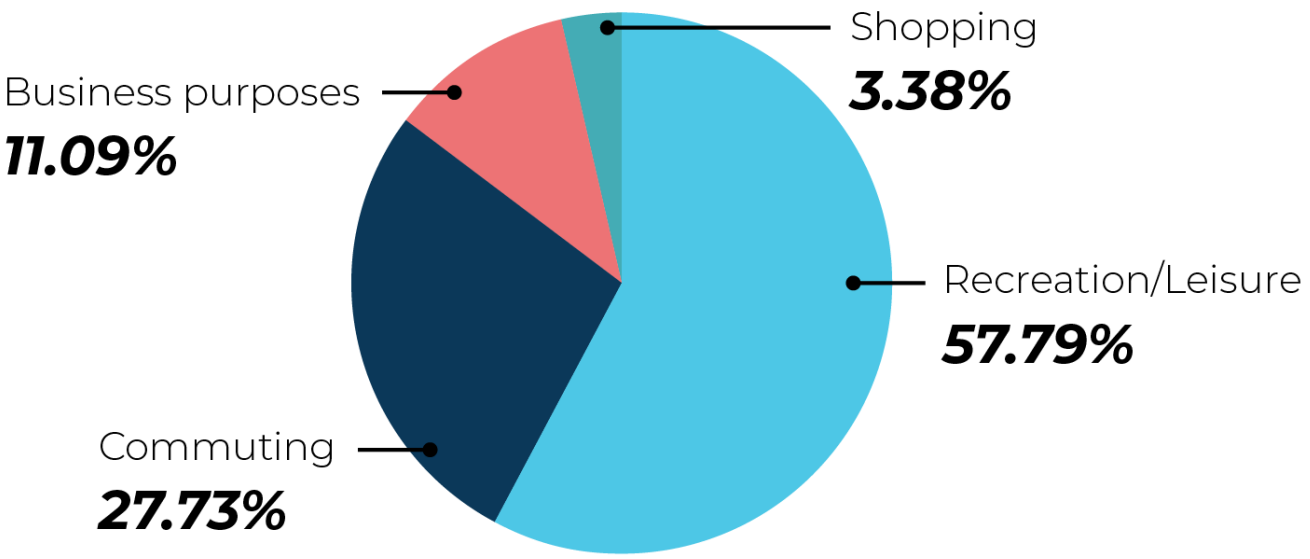
Input Survey Question #2

WHERE WOULD YOU MOST WANT THE ALIGNMENT OF FRONT RANGE RAIL TO GO?



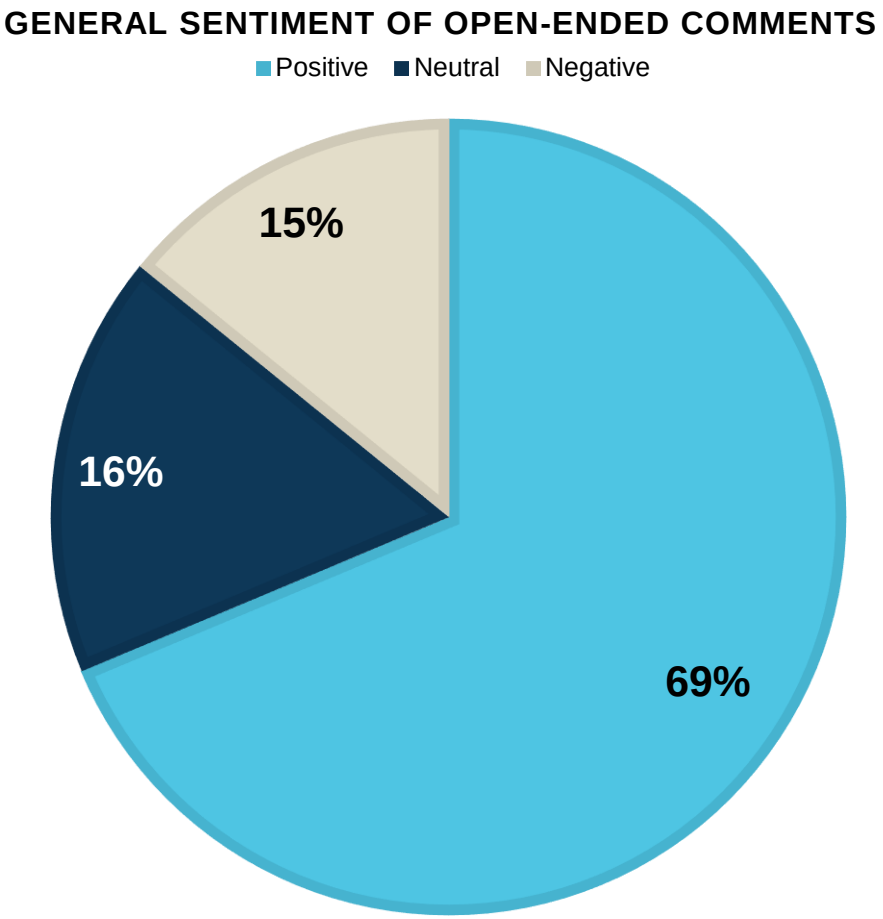
Input Survey Question #3

WHAT WOULD BE YOUR PRIMARY PURPOSE FOR USING FRONT RANGE PASSENGER RAIL?



General Open Ended Comment Sentiment

The following graph reflects the sentiment of the open-ended comments provided.



Coalition Discussion

- Thoughts & Reactions
- Previous Survey Efforts
- Recommendations for Next Survey Efforts

Project Updates

FRPR FRONT RANGE PASSENGER RAIL

Level 2 Evaluation Process

Project Development: Schedule

We Are Here

STEP 1

PROJECT INITIATION & SCOPING

What do we want Front Range Passenger Rail to be?

STEP 2

LEVEL 1 EVALUATION

What are the possibilities for corridors and operations?

STEP 3

LEVEL 2 EVALUATION

How do alternatives compare?

STEP 4

ADVANCE TO NEPA

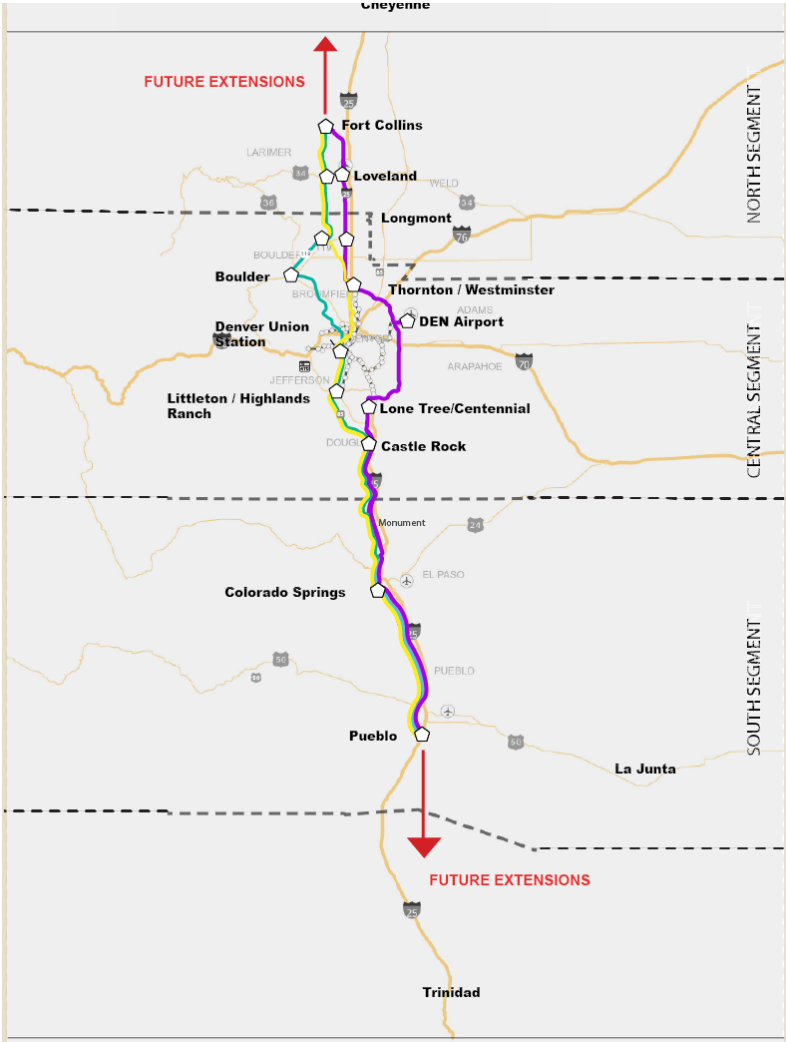
Federally required process to advance major infrastructure projects

STAKEHOLDER ENGAGEMENT AND GOVERNANCE

STEP 1: Developed Alignments from Corridors

Complete

- Three “backbone” corridors carried forward as feasible from the first level of review (Level 1)
  - BNSF Freight Rail Alignment
  - BNSF + I-25 Commuter Rail Alignment
  - I-25 + E-470 Highway Alignment
- Corridors were refined and engineered as alignments
  - Refined horizontal and vertical curves to meet design standards and improve speeds and travel times
  - Refined station areas to improve transit connections / support land use to increase ridership base
- Distinct alignments in three segments
  - Represent a range of options (needed for NEPA) that can be mixed and matched, to a certain extent
  - Potential to adjust both geometry and operations based on distinct needs, stakeholders, and context along Front Range communities



STEP 2: Performance and Operating Assumptions

- 24 trains per day, each direction
- One-hour headways (one train each hour) from 6am to 12am other than am and pm peaks (18 hours)
- 30-minute headways in the peak morning and evening commute periods (6-9am and 4-7pm)
- Nine primary stations, spaced from 12 to 43 miles apart
  - Secondary stations will be evaluated
- Max operating speed of 125 mph
- One-minute dwell time at most stations for passenger loading and unloading
- Two-minute dwell time at Denver Union Station, DEN Airport, and Colorado Springs stations
- Base fare of $0.32 per mile
- Parking at $2/day

STEP 3: Ridership Projections

Complete

- Use state-wide model
  - One of the most advanced in the US
  - Best practice in the field
  - "Activity based" to more accurately predict travel behavior
    - At the person-level rather than the zone-level
  - Adapted from DRCOG model that has been in use for 10 years
- Inputs
  - Each person in households and businesses modeled individually
  - Checked against US Census data, vehicle and transit ridership counts
  - Compared to "big data" sources
- Outputs
  - Annual ridership
  - Weekday and weekend, including events
  - Station to station boardings and alightings

Broad Observations

Denver is a hub

Few end to end trips; generally strongest markets are between adjacent stations (less than 30 miles)

Strongest demand for commuting but also recreation and special events

Notable projected reductions in vehicle miles traveled and carbon emissions

STEP 4: Cost Estimating

In Progress

Capital (construction) costs

- Using FRA Standard Cost Categories (SCC) to allow for comparison to other passenger rail systems
- Estimates based on conceptual alternative alignments
- 2020 base year of estimate, escalated using 3% per year
- Estimating accuracy +/- 25% (based on advanced planning level of project definition)

Operating and Maintenance Costs

- Estimate based on review of other operating passenger rail services
- Yearly OPEX estimate is reported based on train miles per year
- Train miles per year = length of corridor x number of trains per year

STEP 5: Community and Environmental Impacts

- High-level review of environmental and community context
  - Developed vs. undeveloped land uses
  - Issues identified in past studies
  - Differentiating resource in NEPA analyses
  - Stakeholder input and Federal, state and local agency coordination
- Resources considered for Level 2
  - Potential historic sites and districts
  - Streams, floodplains, and wetland impacts
  - Parks, Open Space, and Trails
  - Threatened and Endangered Species Habitat
  - Noise and vibration impacts for residential receptors
  - Air emissions and greenhouse gases
  - Right-of-way
  - Hazardous materials (Superfund sites)
  - Minority and low-income populations

STEP 6: Comparative Evaluation *In Progress*

Operational Considerations	Community / Environmental Impacts	Economic Considerations	Feasibility / Implementation
▪ Travel Time ▪ Ridership ▪ Operating Speed ▪ Reduction in Vehicle Miles Traveled (VMT) ▪ Ability to Interconnect with Other Modes (Existing or Planned Transit) ▪ 2045 Population Served	▪ Community Disruption ▪ Utilities and Energy ▪ Air Quality ▪ Natural Environment ▪ Historic ▪ Hazardous Materials ▪ Recreational Resources ▪ Noise and Vibration	▪ Capital Cost ▪ Operating Cost ▪ Revenue Potential ▪ Cost Effectiveness	▪ Interaction with Freight Railroad Operations / ▪ Customer Access ▪ Ease of Implementation ▪ Constructability ▪ System Flexibility ▪ Public Support

ALIGNMENT ALTERNATIVES

BNSF Freight Rail Alignment

Ridership

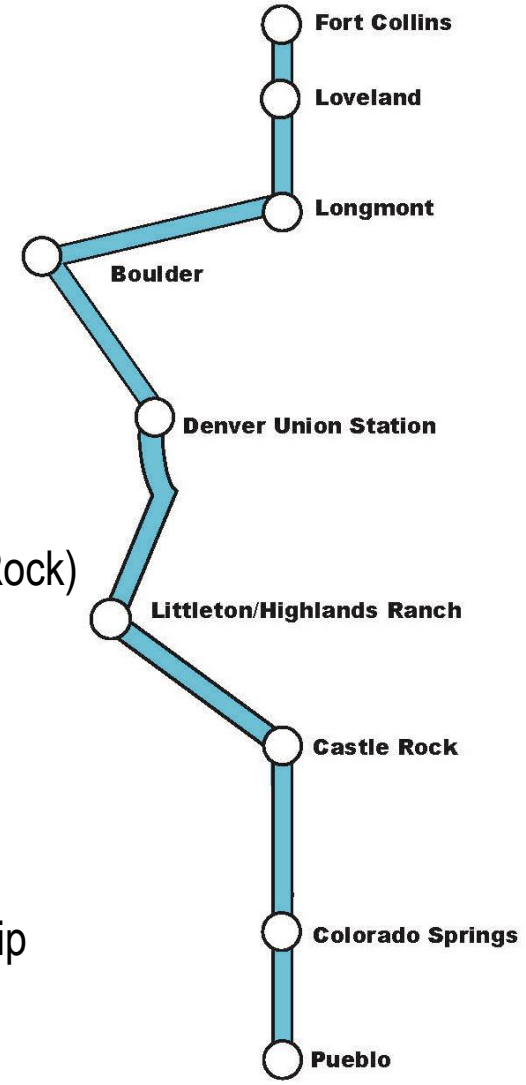
- Approx. 2.2 to 2.9 million riders per year, including 20% “special” trips
- Most trips within MPO areas
- Almost half of ridership in North Segment (north of DUS)
- DUS – Boulder is strongest market pair (16% of overall ridership)

Travel Speeds and Times

- Average speed of 66 mph
- Top average speed of 89 mph (between Colorado Springs and Castle Rock)
- End-to-end travel time of 173 minutes

Route and Connections

- Serves major population centers, including Boulder
- Strong interactions with RTD, including DUS hub
- Opportunity to serve secondary commuter stations and increase ridership
- End of line stations provide opportunity for future expansion north to Cheyenne and south to Trinidad and New Mexico



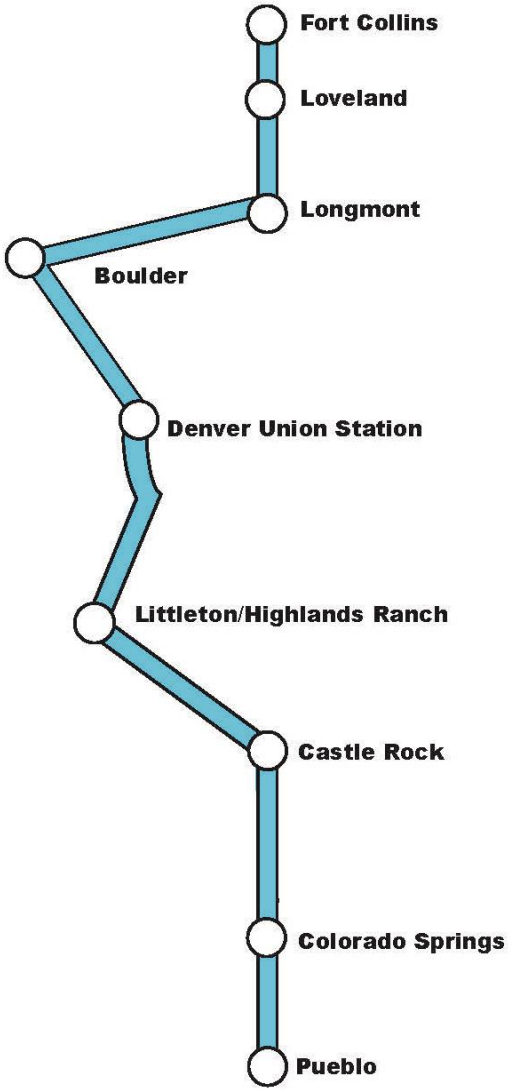
BNSF Freight Rail Alignment

Natural Resource Impacts

- Alignment parallels or crosses major drainages in the south and north segments and had potential for substantial stream and wetland impacts
- Potential to affect threatened and endangered species habitat in Douglas County
- Open space and wildlife impacts in northwestern Douglas and Boulder Counties

Community Impacts

- Alignment adjacent to 43 miles of sensitive residential noise receptors
- Alignment adjacent to 50 parks
- Alignment crosses through block groups with moderate and high percentages of minority and low-income populations, primarily in central segment
- Crosses the Denver Radium Superfund site in 7 locations



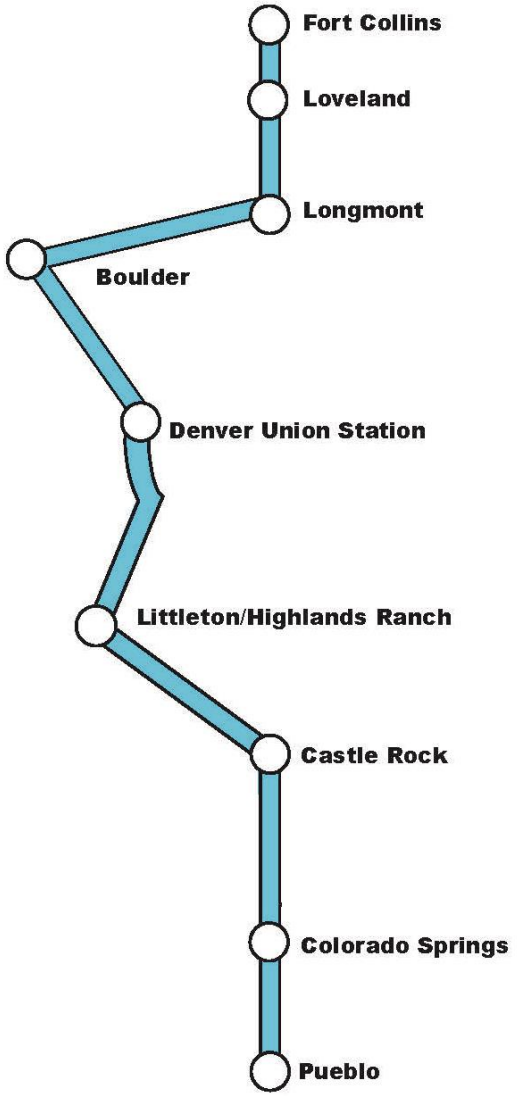
BNSF Freight Rail Alignment

Financial and Economic

- Cost estimates in progress
- Economic development benefits to be quantified in NEPA

Feasibility and Implementation Strategies

- Potential for right-of-way sharing with Class I railroads; additional analysis needed to assess conflict with freight rail operations using Rail Traffic Controller simulation
- Greatest potential for integration with Amtrak and RTD with common stations
- Follows planned commuter rail corridors (RTD B Line and CDOT I-25 North Commuter Rail alignments) with potential for joint development
- Public support for DUS connection and commuter rail along BNSF/US 287 alignment between Longmont and Fort Collins
- Public support DUS – Boulder rail service



BNSF + I-25 Commuter Rail Alignment

Ridership

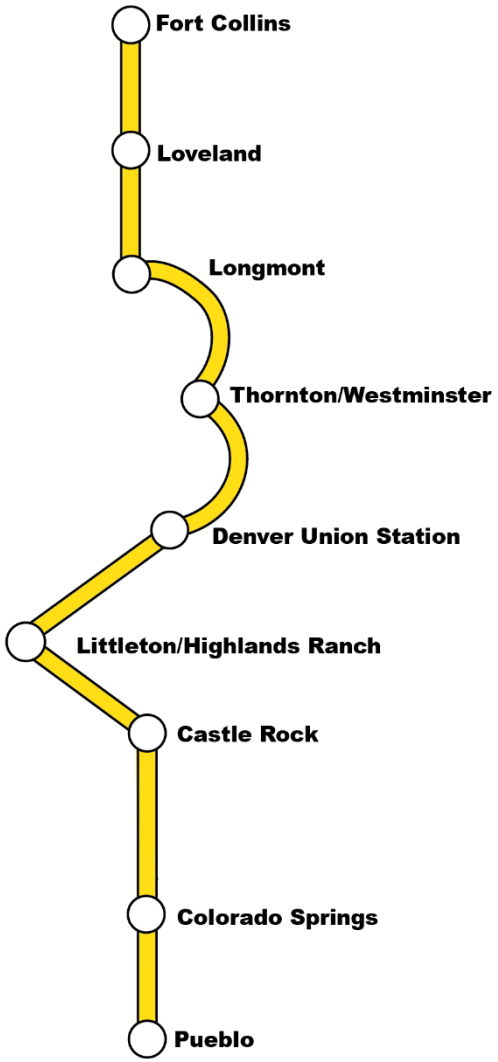
- Approx. 1.5 million riders per year, including 20 percent “special” trips
- Most activity around DUS and north and south suburban stations (Westminster and Highlands Ranch) (41% of total)
- Lower (43%) percentage of trips in North Segment compared to BNSF Alignment

Travel Speeds and Times

- Average speed of 65 mph
- Top average speed of 89 mph (between Colorado Springs and Castle Rock)
- End-to-end travel time of 168 minutes

Route and Connections

- Serves major population centers, including Thornton but not Boulder
- Same DUS hub and integration with I-25 commuter rail but not RTD Northwest Rail
- Same end of line expansion opportunities as other alternatives



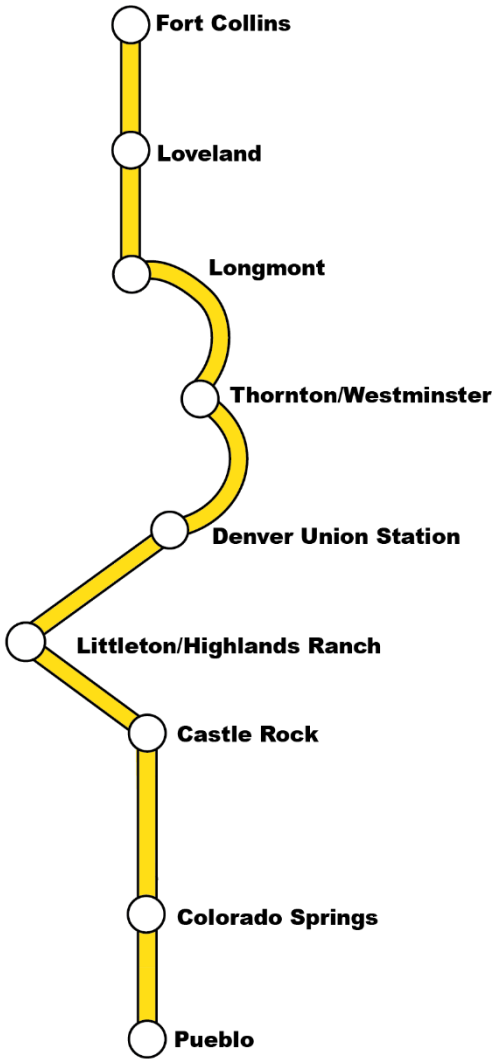
BNSF + I-25 Commuter Rail Alignment

Natural Resource Impacts

- Alignment parallels or crosses major drainages in the south and north segments and had potential for substantial stream and wetland impacts
- Potential to affect threatened and endangered species habitat in Douglas County
- Open space and wildlife impacts in northwestern Douglas and Boulder Counties

Community Impacts

- Alignment adjacent to 57 miles of sensitive residential noise receptors
- Alignment adjacent to 41 parks
- Alignment crosses through block groups with moderate and high percentages of minority and low-income populations, primarily in central segment
- Crosses the Denver Radium Superfund site in 7 locations



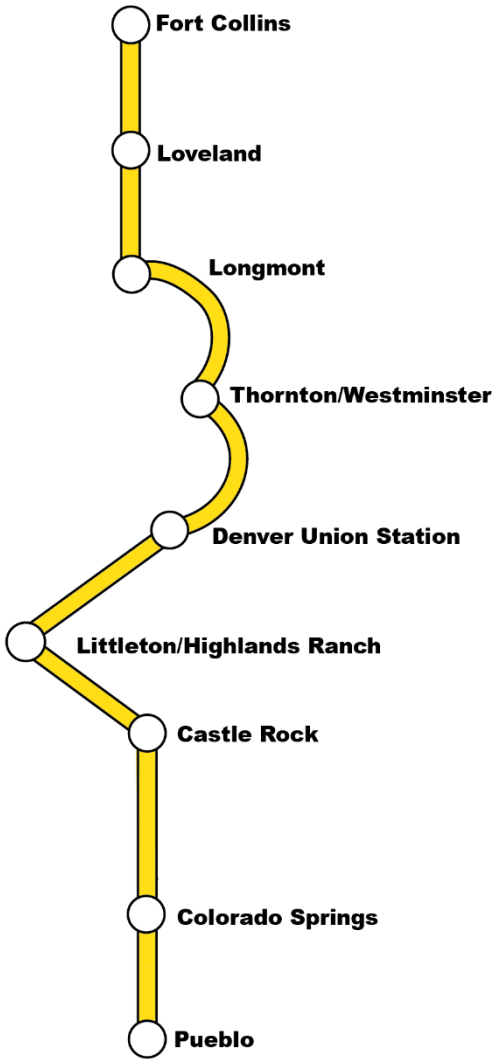
BNSF + I-25 Commuter Rail Alignment

Financial and Economic

- Cost estimates in progress
- Economic development benefits to be quantified in NEPA

Feasibility and Implementation Strategies

- Potential for right-of-way sharing with Class I railroads; additional analysis needed to assess conflict with freight rail operations using Rail Traffic Controller simulation
- Potential for integration with Amtrak and RTD with some common stations but not as great as with BNSF Alignment
- Follows planned CDOT I-25 North Commuter Rail alignment with potential for joint development
- Public support for DUS connection and commuter rail along BNSF/US 287 alignment between Longmont and Fort Collins



I-25 / E-470 Highway Alignment

Ridership

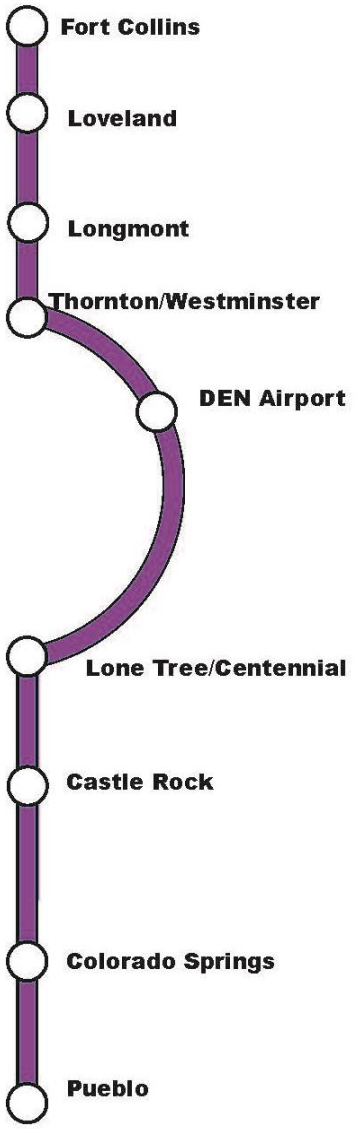
- Approx. 2.2 million riders per year, including 20 percent “special” trips
- Most activity at DEN Airport but very strong at south suburban Lone Tree/Centennial station (20% of total)
- More than twice the ridership south of Denver compared to other alternatives

Travel Speeds and Times

- Average speed of 77 mph
- Top average speed of 100 mph (between Colorado Springs and Pueblo)
- End-to-end travel time of 149 minutes

Route and Connections

- Does not serve downtown Denver, downtown Longmont, downtown Loveland, or Boulder
- Serves DEN Airport and Denver Tech Center
- Does not interact with planned commuter rail alignments
- Same end of line expansion opportunities



FRPR FRONT RANGE PASSENGER RAIL

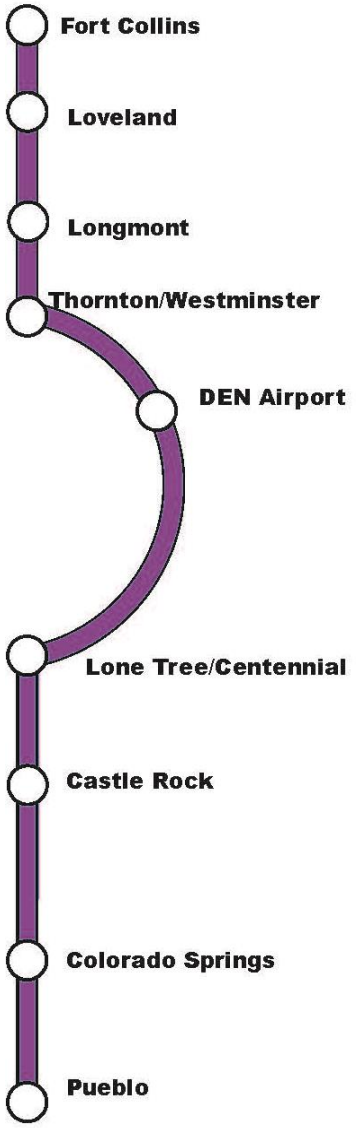
I-25 / E-470 Highway Alignment

Natural Resource Impacts

- Alignment has similar impacts in southern segment but the easterly alignment in central and particularly north segments affect
  - Fewer streams, wetlands, and floodplains
  - Less impact to riparian wildlife habitat, open spaces, and threatened and endangered species habitat

Community Impacts

- Alignment adjacent to 42 miles of sensitive residential noise receptors
- Alignment adjacent to 3 parks
- Alignment crosses through about 25 and 50 percent fewer block groups with moderate and high percentages of minority and low-income populations than freight alignments
- Immediately adjacent to the Lowery Landfill Superfund site



FRPR FRONT RANGE PASSENGER RAIL

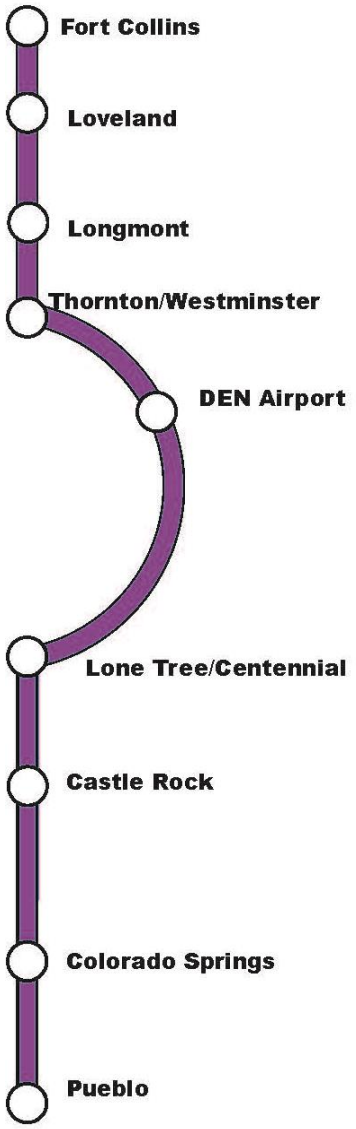
I-25 / E-470 Highway Alignment

Financial and Economic

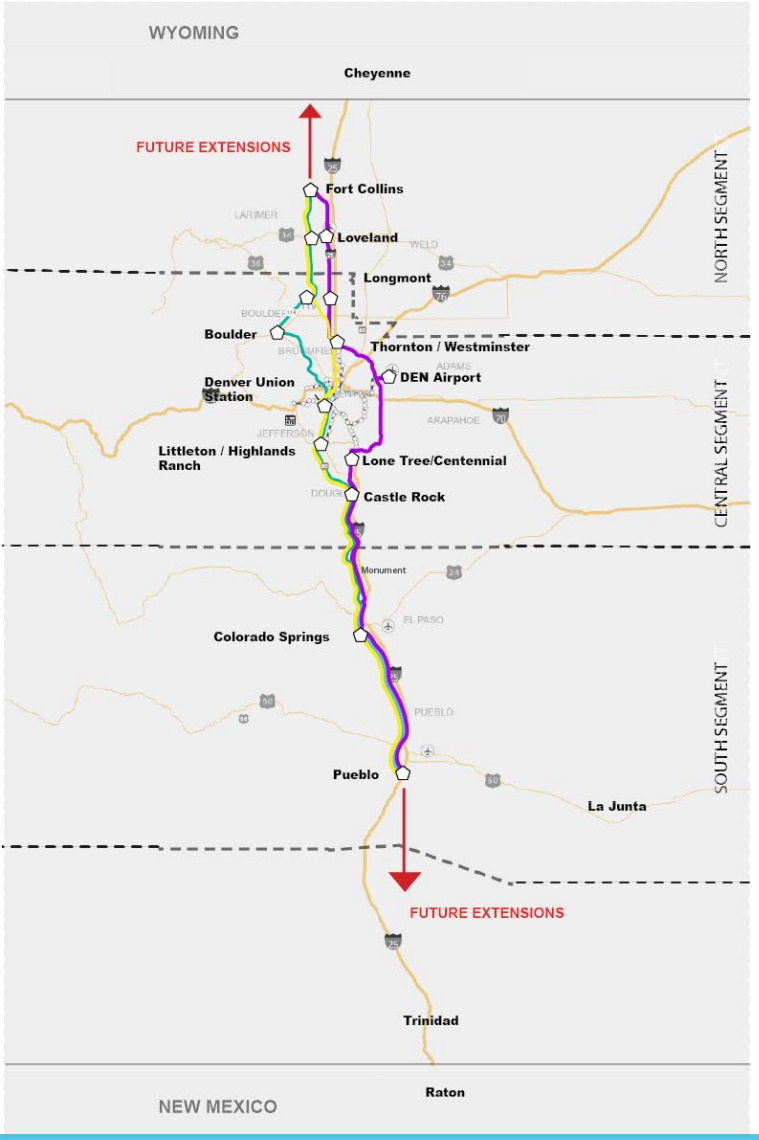
- Cost estimates in progress
- Economic development benefits to be quantified in NEPA

Feasibility and Implementation Strategies

- Limited potential for track and right-of-way sharing or conflicts with Class I railroads
- Limited potential for integration with Amtrak or RTD
- Areas of potential shared highway right-of-way
- Greater potential to integrate with CDOT I-25 mobility hubs and Bustang ridership
- Some public support for DEN Airport connection
- Less public support for perceived Denver bypass and inability to serve DUS



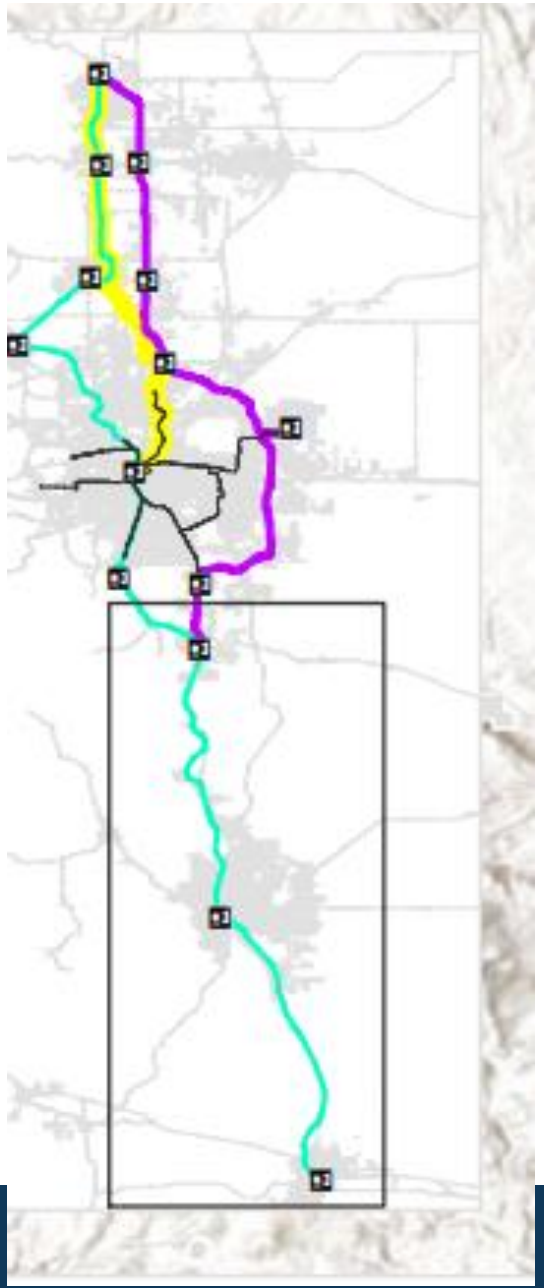
Alignments Recommended for NEPA



- All are technically feasible
- Reasonable range
  - Differing partnership opportunities
  - Differing impacts and benefits
  - May present ability to mix and match best components/minimize impacts

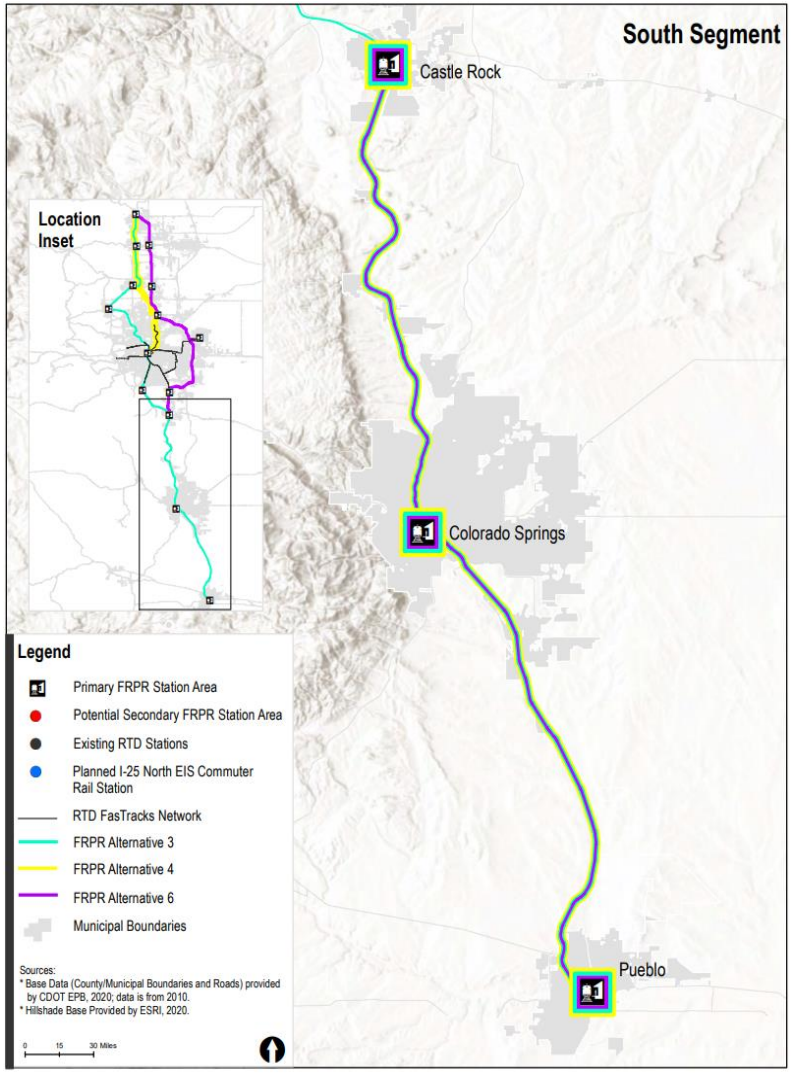
Break

SOUTH SEGMENT



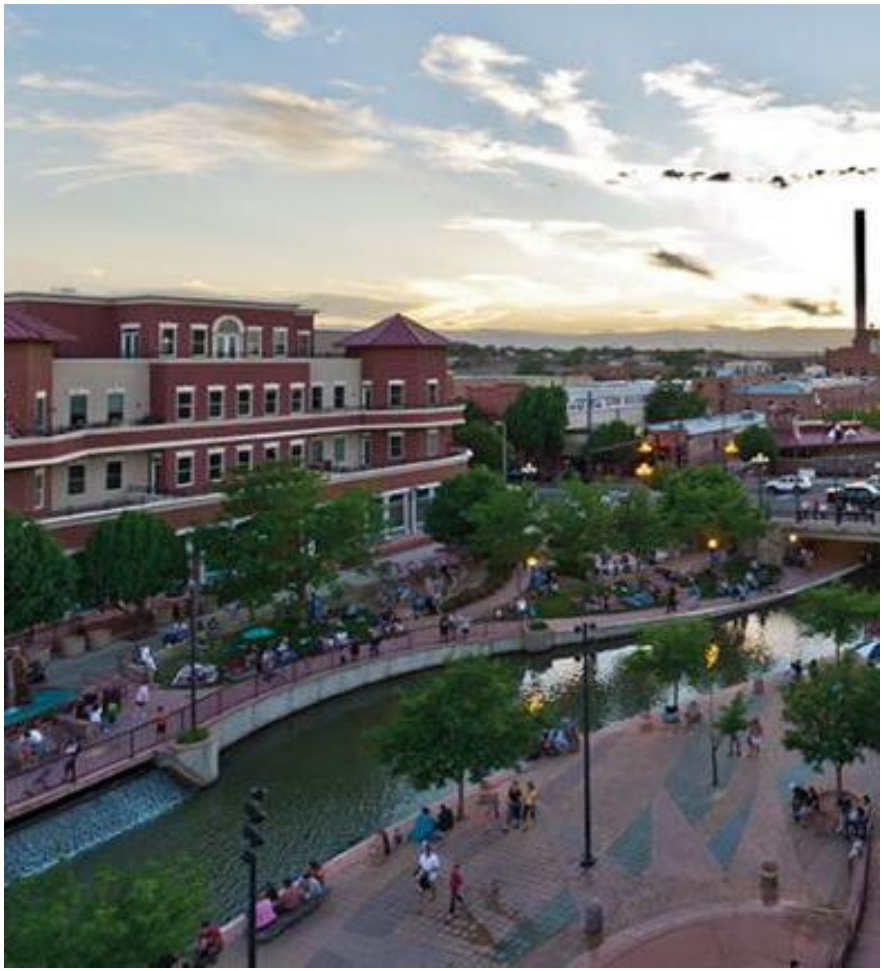
South Segment: Pueblo to Castle Rock

- Interstate and freight corridors serve the same communities for the entire segment
  - Ridership highest for I-25/E-470 Alignment in south segment
- Bustang building ridership demand
- Fastest speeds and longest distances between communities / primary station locations
- Environmental and community impacts are similar because the alignments are similar
  - Highway alignment has notably less impact on potential wetlands (11 acres vs. 53 acres)
  - Freight alignment avoids impacts to 11 acres of threatened and endangered species habitat



Pueblo

- All alternatives follow freight into Pueblo and integrate with city's station area planning
- All can integrate with SW Chief extension to the south
- Primary ridership Pueblo – Colorado Springs
  - More than 90 percent of Pueblo weekday travel to Colorado Springs
- Freight alignment better integrates with potential Amtrak extension to the north into Colorado Springs and Denver



Colorado Springs

- Physically constrained with severe challenges to access, add track and identify a station location without significant community disruption
- No station area planning
- Potential to add stations for Fort Carson, north Colorado Springs/Air Force Academy with either alignment
- Weekday travel from Colorado Springs
  - Freight alignments primarily to Pueblo (38 percent) and Denver Union Station (45 percent)
  - I-25 Highway alignment split between Pueblo (26 percent), Denver Tech Center (33 percent), and DEN Airport (39 percent)

Castle Rock

- On freight alignments, more than 80 percent of Castle Rock ridership is to DUS, with remaining to Mineral and Colorado Springs
- On highway alignment, 50 percent of Castle Rock trips are to DEN Airport, 40 percent to Lone Tree/Centennial, and 10 percent to Colorado Springs
- Lack of consensus on station location but model assumes downtown “walk to and walk from” location

Note: Castle Rock is technically in Central Segment with DRCOG but included here for reference as the point of alignment departure between freight and highway corridors

Project Development: Schedule

Next Steps

STEP 1

PROJECT INITIATION & SCOPING

What do we want Front Range Passenger Rail to be?

STEP 2

LEVEL 1 EVALUATION

What are the possibilities for corridors and operations?

STEP 3

LEVEL 2 EVALUATION

How do alternatives compare?

STEP 4

ADVANCE TO NEPA

Federally required process to advance major infrastructure projects

STAKEHOLDER ENGAGEMENT AND GOVERNANCE

Next Steps for Project Development

- **Getting NEPA ready**
  - Comparative analysis of and recommendation of range of NEPA alternatives
    - Complete cost estimates
    - Analyze and refine ridership
    - Evaluate freight/passenger rail operations (RTC modeling)
  - Finalize NEPA scoping (pre-NOI) package
  - Develop agency and stakeholder engagement and NEPA coordination plans
- **Decisions that will be made during NEPA and Service Development Plan (SDP) process:**
  - Rail Technology (NEPA)
  - Primary and Secondary Station locations (NEPA)
  - Phasing/Segments (NEPA)
  - Service Characteristics (headways)

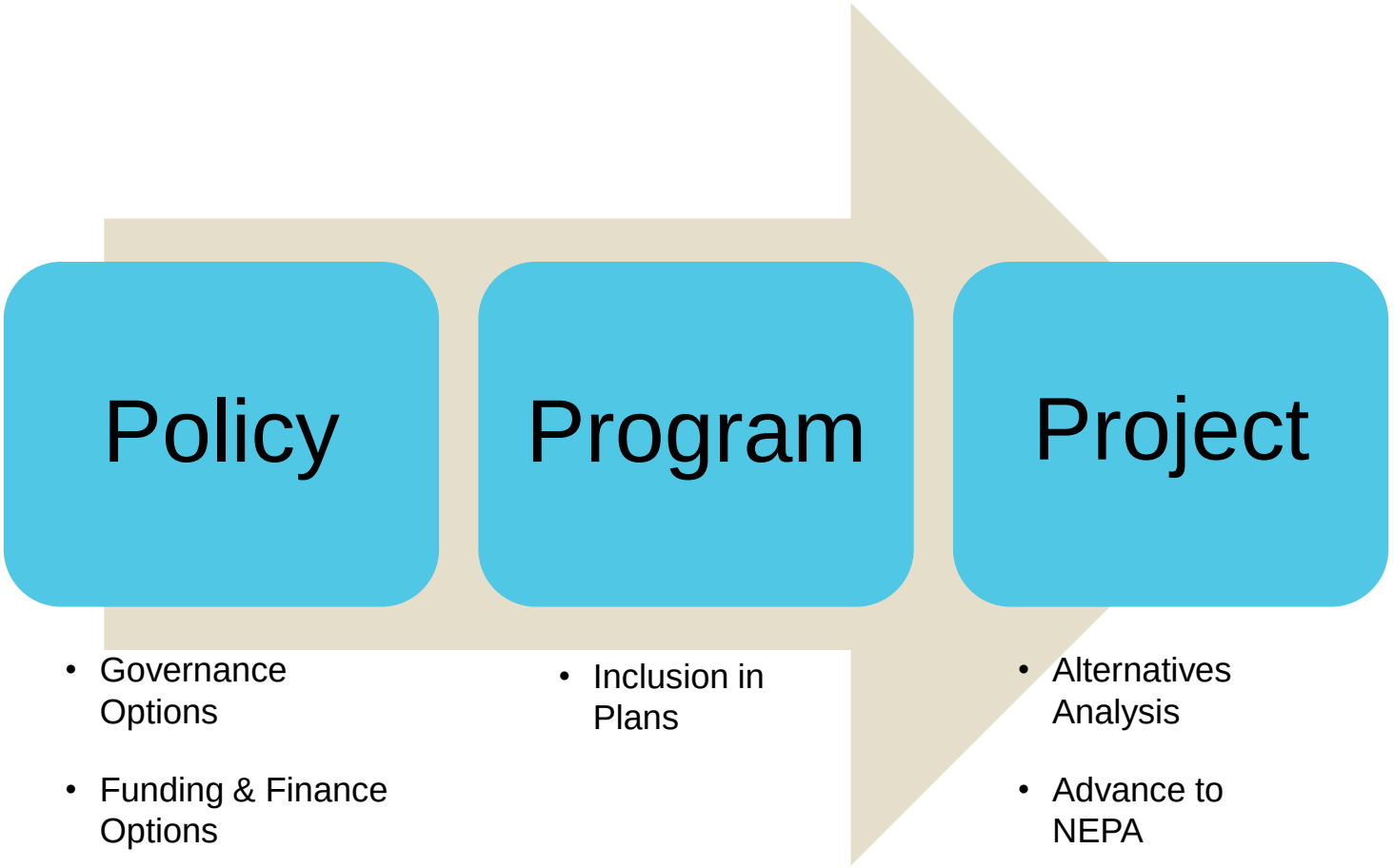
Advancing FRPR – Next Steps

FRPR FRONT RANGE PASSENGER RAIL

FRPR Has Momentum!

- Three different survey mechanisms show measurable support for advancing FRPR
- Legislative and local elected interest
- Amtrak interest
- Class 1 RR interest
- Potential Partnership Opportunities

Framework for Advancing to Next Steps



Governance Options

Public Rail Authority:

- Legislatively created option to allow formation anywhere in the state.
- Provide the power to plan, design, fund, finance, build, operate and maintain a passenger rail system.
- Would require adoption and contracts among participating entities

Front Range Passenger Rail Authority (FRPRA):

- Legislatively create the Front Range Passenger Rail Authority
- Specific powers to plan, design, fund, finance, build, operate and maintain with preferred conditions for the Front Range Passenger Rail system including specific Board structure and boundaries
- **The Southwest Chief and Front Range Passenger Rail Commission was leaning toward support of this approach.**

Expand Current Commission Authority:

- Amend the current statutory authority of the Southwest Chief and Front Range Passenger Rail Commission to expand its directive to further review the options above and allow more in depth evaluation before recommending an approach for advancing the implementation for Front Range Passenger Rail.

Coalition Feedback

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Where does the vision for FRPR currently reside with your organization?

- Exists in current plan
- Being considered plan updates
- Community conversations currently underway
- More information is needed
- Other

Vision - *Developing passenger rail that serves Front Range communities from Fort Collins to Pueblo is a critical component of Colorado's future. FRPR will provide a safe, efficient, and reliable transportation option for travel between major population centers and destinations along the Front Range and create a backbone for connecting and expanding rail and transit options in the state and region.*

Near Term Strategies

- Initiate conversations with legislators in terms of FRPR Governance and funding for Rail Commission and its ongoing/future planning efforts.
- Continue to identify network of local elected officials along corridor
- Schedule updates/briefings on project status with stakeholder organizations
- Update corridor segment coalitions on status of project by end of 2020
- Continue regular meetings with Class 1 Railroads, RTD and Amtrak on technical issues
- Post online meeting results on stakeholder information pages or community update page
- Post study results by end of year on stakeholder information pages or community update page

Discussion Opportunity

Comments / Questions

Closing

Next Steps

Summarize:

- Key meeting points
- Action items

Thank You!

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