FRPR FRONT RANGE PASSENGER RAIL

MEETING NOTES

Project	Front Range Passenger Rail Service Development Plan and National Environmental Policy Act (NEPA)
Subject	Central Segment Coalition Meeting
Meeting Date	Wednesday, April 29, 2020
Time	2:00pm to 4:30pm
Location	Zoom Meeting
Attendees	Central Segment Coalition Members

Name	Organization
Andrew Iltis	Downtown Denver Partnership
Candace Smith	CU Boulder
Carla Perez	HDR
Carson Priest	NATA
Chris Enright	CDOT
Chuck Attardo	CDOT
Daniel Estes	CDR
Daniel Hutton	DSTMA
Danny O'Connor	City of Boulder
David Singer	CDOT
Erik Sabina	CDOT
Jack Tone	Downtown Denver Neighborhood, ColoRail
Jacob Riger	DRCOG – Rail Commissioner
Jim Souby	Colorado Rail Passenger Association – Rail Commissioner
Jason Knudson	SkyTran
Jeffrey Dawson	CDOT
Jeffrey Range	CDR
Karen Benker	Former RTD board member
Lee Cryer	RTD
Lisa Nguyen	Denver International Airport (DEN)
Lisa Streisfeld	CDOT
Mandy Whorton	Peak Consulting
Mark Kunugi	Denver International Airport (DEN)
Matt Jones	Boulder County
Nathan Anderson	Union Pacific Railroad – Rail Commissioner
Pete Rickershauser	BNSF – Rail Commissioner
Phil Greenwald	Longmont Area Chamber of Commerce
Randy Grauberger	SWC & FRPR Commission - Project Director
Rick Klein	City of La Junta – Rail Commissioner
Ron Papsdorf	DRCOG

Ryan Billings	City and County of Denver
Sarah Grant	Broomfield
Sophie Shulman	CDOT
Spencer Dodge	SWC & FRPR Commission, Liaison
Steve Durian	Jefferson County
Steve O'Dorisio	Regis University
Tim Hoover	CDOT
Walter Weart	Interested Public

MEETING SUMMARY

The following summary was written based on the presentation and discussions that took place during the meeting. Attachments to this summary include the meeting agenda and presentation slides.

WELCOME AND OPENING REMARKS

Jeffrey Range, Project Team, opened the meeting and discussed the agenda and proposed outcomes for the meeting, which included a description of the Front Range Passenger Rail Project (FRPR), the project status, Level 1 evaluation, Level 2 alternatives & evaluation, public involvement, and next steps. Participants introduced themselves.

Randy Grauberger, Southwest Chief & Front Range Passenger Rail Commission (SWC & FRPR Commission) Project Director, welcomed the Coalition members to the meeting and thanked them for their participation. Randy then discussed how the team is working through COVID-19 while remaining committed to safety, quality and communication. Carla Perez, Project Team, provided a legislative update and project status.

LEVEL 1 EVALUATION RESULTS

Mandy Whorton, Project Team, discussed the Level 1 evaluation, including the evaluation process, vision statement, the range of alternatives considered, fatal flaw evaluation, and the results.

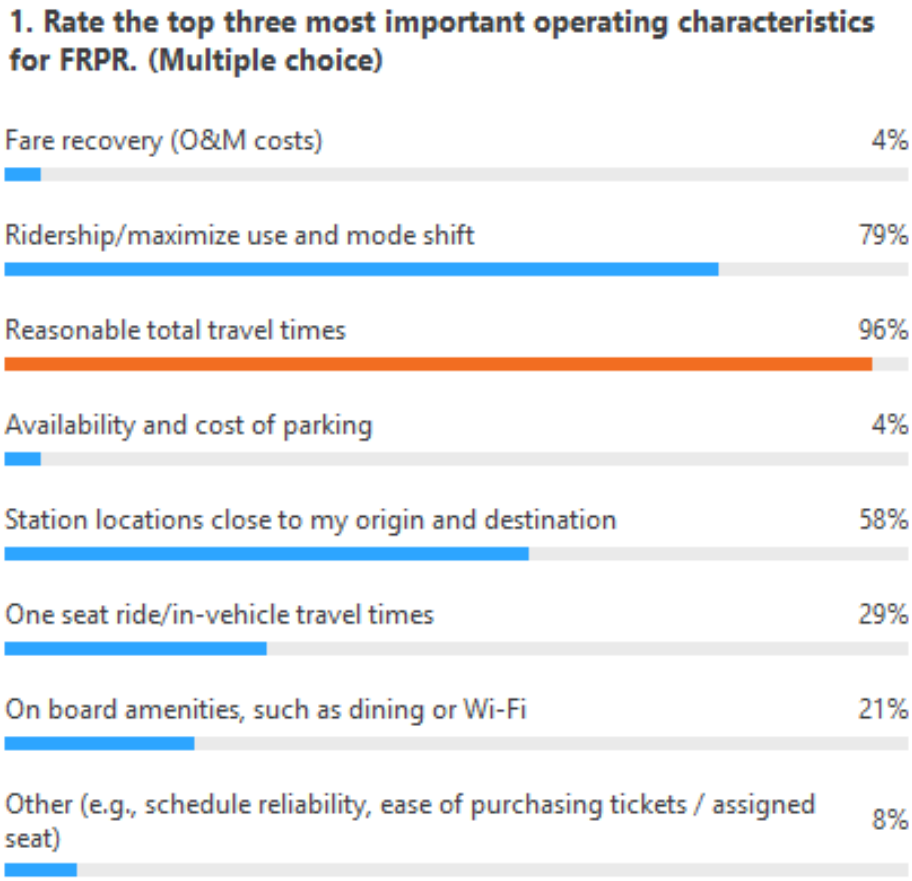
Below are questions that were asked during the discussion with the group.

- Question: Was Denver International Airport considered as a major employment center?
  - **Answer**: Yes, DEN is a major employment center. It's not shown on the map because it's coming out of the north segment. There are different ways to service DEN and Tech Center in southern region
- Question: Are residential and employment centers assumed to grow independent of passenger rail service or as a result of it?
  - **Answer**: These projections come from the MPOs (DRCOG, NFR, etc). They do not anticipate a new passenger rail system. We are looking at current projections without a rail line. Once we start looking at rail stations and alignments we will be

looking at ridership and relationship with land use and potential for that to change.

LEVEL 2 EVALUATION

Mandy Whorton, Project Team, continued the discussion about the Level 2 evaluation process, including alternatives that were carried forward, criteria, Level 2 alternatives, Central segment, and considerations for refinements. Attendees were asked to rate their top three most important operating characteristics; Results are below:



Below are key points that were discussed with the group.

- Reliability is critical for this to be successful
- Availability and cost of parking is at both origin and destination, both to use the train, and at the non-origin end of driving.
- It's not worth the investment if it's not better than a bus
    - Better generally means better travel times and ridership
    - Rail mode choice and ridership is affected by more than travel times. Bus and rail are different experiences it may be difficult to discern which mode is "better," there are a lot of factors that impact those experiences.
    - At least for urban transit systems, research shows that WiFi doesn't rank high for what customers want. However, WiFi might be more important for intercity rail.

- Would be great to see some enlarged maps of these potential routes in Denver. Hard to discern these distinctions with these 50K foot Level maps.
    - We will get an interactive map together that you can zoom in on. These are still at the corridor Level so, as Chris noted, there is some engineering needed to turn these into alignments where we can answer some of the specific questions about interactions with existing development and infrastructure. We aren't there yet but will be in the next round of refinement. Maybe a 1,000-foot Level over the 50k Level.

SOLO WORK

Attendees were asked to fill out a Survey Monkey questionnaire. The results are below.

1. **How can we integrate with RTD to serve major destinations of DEN Airport, Denver Union Station, and the Denver Tech Center?**
    - Utilize the A train connections from DUS and increase direct regional bus service from outlying population centers. Consider direct service from major activity hubs along future FRPR.
    - Given the physical constants in the Central Region, RTD would be a feeder to the primary corridor line. This assumes that the corridor trains would use DUS. Trying to include DIA in the primary corridor forces the route too far east and a one seat transfer should not create a significant barrier to riders. particularly with integrated fares
    - Assuming Front Range passenger rail service goes through DUS, DIA could be reached via the A-Line with an express train service making limited stops between DUS and DIA, much as occurs in other cities around the world. To serve Denver Tech Center, there could be an express service on RTD light rail between DUS and the Tech Center, making limited stops - unfortunately, requires an expanded footprint with known existing expansion constraints. To service Front Range passenger rail patrons from the south (Castle Rock and beyond), could be an express bus service up I-25 between the Tech Center and Castle Rock, or between a Front Range passenger rail transfer station along 470 in the Mineral/Littleton area.
    - It's critical that this routing touch DUS as the critical commuter hub for the entire region. If to DEN, then many trips will not be made on this service.
    - Connect to RidgeGate for DTC service Connect to RTD A line for DIA and DUS
    - Any integration with RTD is essentially a mode change. The further we can push onboarding into communities, and deliver them closer to the RTD station, the better. SkyTran mitigates this though elevated track, offline stations, smaller vehicles with lower headways, and vertical switching at less than the cost/mile of light rail. Conventional rail will have problems securing land near the stations... but the principles stay the same.
    - DIA is already on a rail line connected to the heart of the city. Other areas need rail mobility. DUS is very important to connect. SW line does that. As for the DTC, you might want to consider a spur line of FRPR to reach the last RTD rail station, i.e. Lone Tree.
    - If the train stops at DUS, folks will have to take the A Line to DIA. There is no express train. For the Tech Center, I think folks will either have to take the light rail to

Union Station or RTD could run an express shuttle from Nine Mile station to Englewood Station or from Belleview to Downtown Littleton.

- Having a Front Range rail station at Union Station would allow for integration with RTD to also serve DIA and DTC. However, I'm sure the capital costs of going into and out of Union Station will be astronomical.
- Serving DEN seems to duplicate recent rail investments. This should make a connection at ends and center of major RTD routes, but should not try to duplicate those services.
- Utilize existing RTD regional routes and rail as logical transfer points
- It's my belief that leveraging the existing RTD system at three points is the key to success for a FRPR system. First, to connect to a not yet existing N-Line end-of-line alignment near I-25. Second, along E-470 to DIA with a connection to the A-Line. Finally a connection at the south end to at the Ridge Gate Parkway station. For those riding from north of Denver Metro to well south of Denver Metro, the train simply stops only three times at those three locations in the Denver Metro region, optimizing travel time and connections.
- Single seat service is a laudable goal, but may not be realistic. interchange points to move from FRPR to RTD and DIA is a more viable solution.
- If the SW Corridor is used coming up from Castle Rock, a station at Mineral could be a transfer point to RTD express buses using C 470 managed lanes to get people into the Tech Center or RTD's rail lines in the SE Corridor. Connect to DIA with RTD's A line from DUS
- I think we should rely on transfers for DIA and Tech center, Shared line with RTD to DUS
- Is there a way to link to RTD at SE end of line (Ridgegate) and then swing over to US-85 alignment? In general, don't want to cannibalize RTD ridership, but have strategic connection points between FR Rail and RTD.
- A route through Union Station may be more expensive and challenging, but it takes advantage of local connections to RTD and in turn, DEN, locations to the west, Aurora, etc.
- Early and frequent communication with RTD describing purpose and need, and alternatives analysis will be very important in integrating the project.
- FRPR should serve DUS directly - that provides the best connectivity to the region from a single point of station, and can drastically improve RTDs ability to serve their destinations. With stations at either end of the metro area, potentially this could provide an express service instead of making many stops, riders can get to DUS then get on RTD to distribute from the center out, with a fast trip to the center of the spokes.
- DEN - A-Line with seamless fare structure DUS - Must serve direct or as close to direct as possible DTC - RTD SE Lines
- Develop a network of key mobility hubs between FRPR and RTD with consistent mode options, signage, wayfinding, color-coding, infrastructure, etc. Integrate these mobility hubs with mobile apps/user interfaces for consistency.

2. **How fast is it reasonable for passenger rail to traverse established communities, particularly between Littleton to central Denver on the freight corridor?**
   - Speed should be reasonably comparable to driving at peak hour. Amenities such as WiFi and dining and factors such as fare cost as compared to driving may make longer travel times more tolerable. Note that passengers may be traveling shorter distances to stations along the corridor, not necessarily traversing the corridor end to end, or all to central Denver.
   - An example is RTD heavy rail cars have a top speed of 79 (?) MPH but run more slowly in congested areas. Speed limits in highly congested areas can be used however, unnecessary speed restrictions create problems with overall transit time. Modern grade crossing techniques can significantly mitigate the risk.
   - Need to control access to the Front Range passenger rail ROW to deter trespassers, provide for safe vehicle crossings by maximizing grade separations, minimizing grade crossings. With those constraints, expect speeds could be, with surrounding community input, at whatever the rest of the system operates at, or close to it. Taking a look at how Amtrak instituted high-speed rail between New Haven, CT and Boston, MA could provide some useful information.
   - Unfortunately, this speed of the service will be regulated by the density served. I can't see a 125 mph train traveling through our Old Town neighborhoods in Longmont (Atwood Street). Reasonable speed would need to be under 35-45 mph in the cities, especially with some of the turns in the current track.
   - Grade separate
   - I think it is fairly well established what the noise and safety requirements are for conventional rail. Noise/safety barriers would improve speed. However, top speed isn't your only concern, you also need to consider wait times for loading and unloading. Offline stations would help increase speed - SkyTran is maglev and could reasonably travel at speeds of 60-150mph with much lower noise, offline switching, and elevated eliminating traffic safety concerns.
   - Cost may determine this. RTD also needs to figure out express service on their rail system. This is common in Europe. For example, ridership is low on the West rail line because the bus is faster than the train in some circumstances.
   - At least as fast as light rail and commuter rail. On runs along Santa Fe, it could really go as fast as the traffic goes, if not faster.
   - 80 mph
   - A stop in Littleton may be too close to increase travel times. 15mins would be ideal.
   - On freight corridor, 45-60 mph.
   - Not sure I have the expertise to answer this particular question.
   - faster than rush hour traffic, but not as fast as unencumbered traffic.
   - That is a well-protected, very straight corridor so high speeds (70+) would/could be acceptable. That would compare very favorably to the 20 mph automobile average speed in the I-25 SE Corridor during peak hours.
   - Wild guess, don't know stops, 15 minutes?
   - It depends how many grade crossings, how close to established communities, station locations, etc. Are the Eagle RTD lines a comparable speed profile?
   - If the travel time could be 30 - 45 minutes from established communities on the outskirts of the Denver suburbs to central Denver, it would be competitive with driving and an attractive alternative.

- At the present time, taking the C-Line from Mineral to Union Station takes 30 minutes. 30 minutes would be the minimum time requirement from Littleton to downtown Denver.
- No speed is too fast if the corridor has reasonable safety and meets the geometric needs. 125+MPH happens in Europe and the Northeast Corridor
- NA
- I don't have enough information to answer this. This would be based on legal limits, complaint data, accident data and other factors. Personally I would say as fast as legally possible but I don't believe all residents would agree.

ADDITIONAL DISCUSSION POINTS

- 79 limit is due to track classes, we can go up to 90 without a sealed corridor. If we are doing a sealed corridor (complying with safety standards to prevent vehicle and pedestrian conflicts at crossings), it is possible to go faster; it gets more challenging at the 125 mark where all crossing must be grade-separated. Grade-separated crossings also allow for quiet zones.
- Need to examine each of the three segments individually
    - Great point. South we can go really fast because there are wide open areas and longer distances between stations or markets. To the north, with the station spacing we are looking at in Level 1, cruising speeds cannot be as high because of acceleration and deceleration requirements.
- Question: With new curvature and grade-separations, how will freight share these corridors?
    - **Answer**: Remains to be determined. We're anticipating making sure everything is heavy rail vs light so there is some capability to interoperate safely but more discussion and development is needed. Improved curvature for freight presumably wouldn't be a problem, but grade separations impacting right-of-way could be a concern.

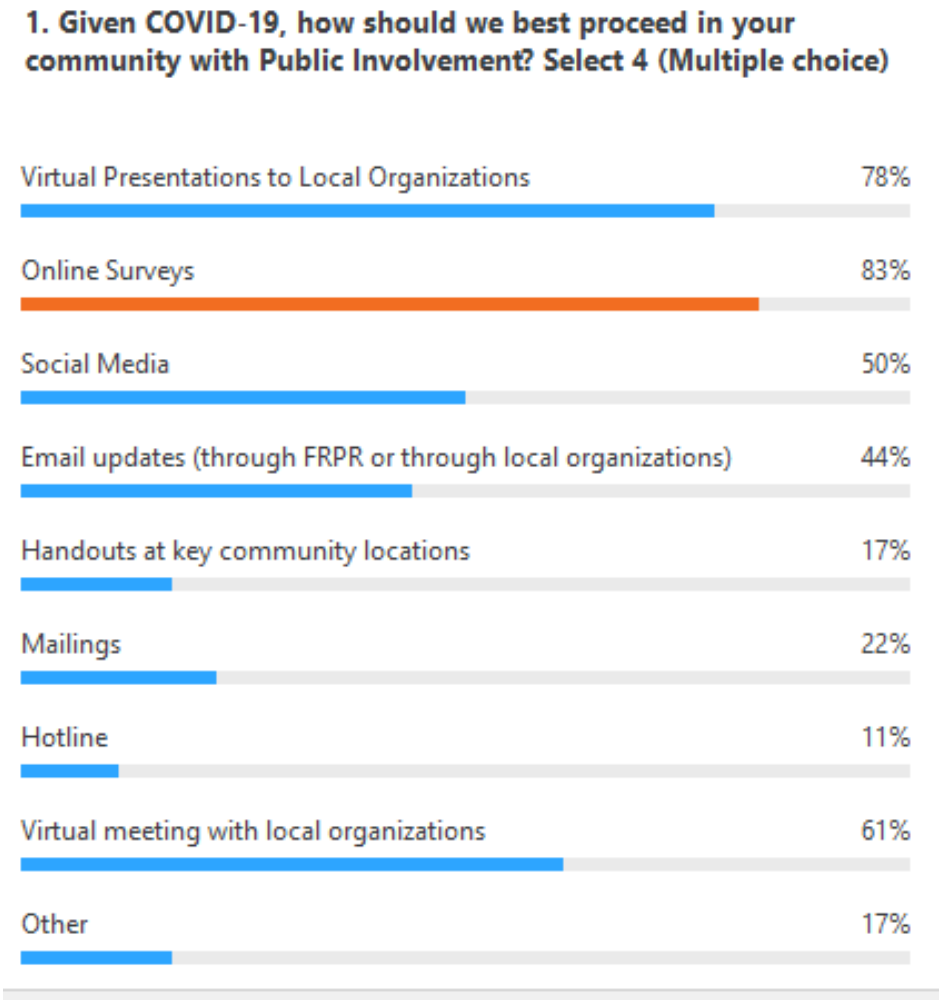
RIDERSHIP

Erik Sabina, CDOT, discussed the ridership and the preliminary baseline results. Below are key discussion points and questions with the group.

- Question: What examples have you been looking at?
    - Looking at Cascades service in the northwest, FrontRunner in Salt Lake City area, and services in and out of Chicago, Brightline in Florida
    - Existing passenger rail systems in the US that we compare favorably with in terms of ridership are Amtrak's Hiawatha (Chicago to Milwaukee); San Joaquins (Bakersfield-Oakland-Sacramento); and Keystone(Philadelphia to New York City)
- The I-25 corridor through Denver is not specifically a rail alternative. When the team refers to highway corridor running, it is primarily to the south and north of Denver. Much like how the T-Rex segment is recommended for elimination

PUBLIC ENGAGEMENT

Jeffrey Range, Project Team, discussed the public involvement process, what has been done to-date, and COVID impacts. The group was asked how the team should proceed with public involvement. Below are the poll results and key discussion points.



- Design sessions are an ideal strategy as the project moves into NEPA and preliminary design.
- The process of gathering human requirements and building towards that. Organizations like Ideo, you can bring together groups of people by asking a series of questions or design games that leads to various outputs. EX: Input on ways you can minimize impact on higher speed rail lines through a neighborhood and get those ideas. Parallel processing in a meeting. Great opportunity for the community to see that they contributed. Mitigates frustration and allows voices to be heard.
- In the next six months we will be in the comparison analysis and identify tradeoffs that we will need to weight and get input on. By the end of the year we want to have a recommendation for what the backbone would be for the FRPR.

- Many cities have their own community TV station. Presenting the plan is very visual, might take advantage of these TV stations, they are always looking for content.
- We'll remain flexible to engagement as the summer evolves with COVID impacts unknown
- I liked the online engagement that was talked about earlier but was not listed. The online engagement can be available anytime for anyone to walk through the information and provide targeted/strategic feedback. In person interactions will likely not be supported or encouraged through this summer/fall.

CLOSING DISCUSSION

Randy Grauberger, Southwest Chief & Front Range Passenger Rail Commission (SWC & FRPR Commission) Project Director, discussed the Burnham Yard status, including Bill 267 funding and the opportunity to purchase the yard. No decisions have been made.

Jeffrey Range closed the meeting with next steps.