# North I-25 Commuter Rail Update

## Policy Update
### North Front Range MPO

## March 5, 2015

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# Purpose of the "Update"

- Advance development of an integrated inter-regional transit system envisioned in North I-25 EIS
- Focus on recommended elements of commuter rail
- Synthesize recommendations of recent studies such as NAMS, North Metro EIS, Interregional Connectivity Study, and others
- Refresh information parallel to I-25 planning and prior to the State Rail Plan Update of 2016-2017
- Focus on updates to right of way, operating plan, and cost estimate

# North I-25 EIS Map


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North I-25 Commuter Rail Update

# Stakeholder Involvement

- Technical Advisory Committee has met three times
- Updates to policy groups, before Draft Report
- September and February meetings with BNSF Railway

RTD

North Area Transportation Alliance

Town of Berthoud Est. 1888

City of Loveland

Larimer County Committed to Excellence

NFRMPO North Front Range Metropolitan Planning Organization

City of Fort Collins

City of Longmont Colorado

Weld County 1861

Boulder County

BNSF Railway

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## BNSF's Front Range Sub, Longmont – Fort Collins

| | | |
|---|---|---|
| Mileage: | 30.8 (Longmont MP 43.6, Fort Collins MP 74.4) | |
| Interchanges: | Longmont: | Great Western Ry. (OmniTRAX) |
| | Loveland: | Great Western Ry. (OmniTRAX) |
| | Fort Collins: | Great Western Ry. (OmniTRAX) |
| | | Union Pacific Railroad (UP) |
| Daily Usage: | 6 freight trains/day (range 5-10 trains/day) | |
| Passing | Loveland: | 4,079 feet |
| Sidings: | Longs Peak: | 1.62 miles (2 grade crossings thru) |
| | Fort Collins: | 7,295 feet (North Yard) |



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## BNSF's Front Range Sub, Longmont – Fort Collins

| | |
|---|---|
| ROW Width: | Generally 100 feet, some 200 feet |
| Signaling: | Un-signaled (Track Warrant Control or TWC) |
| Crossings: | Grade-separated: 2 (US 287, Eisenhower Blvd., Loveland) |
| | Signaled Grade Crossings: 34 |
| | Un-signaled grade crossings: 30 (14 Mason Street) |
| Side Tracks: | East Side: 8 |
| | West Side: 4 |
| Maximum Speed: | 49 MPH |
| Speed Restrictions: | Seven, speeds ranging 20-40 MPH, for 17.4 miles or 56% of the total route |

# Public Information

- CDOT hosted website including comment opportunities
- TAC meetings open to the public, with public comment period
- Press releases during the update effort
- Draft Report Review

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# Right of Way Analysis

- Analyze four distinct segments
  - Fort Collins South Transit Center to Longmont
    - EIS went to Downtown Fort Collins
  - SH 119: Longmont to I-25
  - I-25: SH 119 to Weld Co. Rd 8
    - EIS alignment along Weld County Road 7
  - RTD Boulder Branch Line
- Original Assumptions for ROW
  - Shared track (EIS)
- Changed Conditions for ROW
  - No “Eastern Freight Rail Bypass”
  - MAX BRT in Mason Corridor
  - Some development since
  - Separate Commuter Rail track

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# Right of Way Update

- Assumptions from North I-25 EIS
  - Land Classes/Types were based upon 2006 Ownership Data and did not consider future development
  - Access modifications would be required
  - Displacements occur where ROW impacts are substantial
  - Displaced occupants are eligible for relocation benefits
- Assumptions for the Update
  - Use same assumptions from EIS for consistency
  - Revised alignment utilizes I-25 corridor rather than WCR 7
  - Separate track for Commuter Rail



North I-25 Commuter Rail Update

# Operating Plan Update

- North I-25 EIS Operating Plan
  - 30 minute peak / 60 minute off-peak service both directions
  - 55 trains per day
  - 9 stations: downtown Fort Collins to RTD 162nd/Colorado station
  - 1 hour 45 minute travel time Fort Collins to Denver Union Station

- Update Operating Plan
  - 40 minute peak / 60 minute off-peak (tied to RTD North Metro service)
  - 44 trains per day
  - 7 Stations South Fort Collins Transit Center to RTD 162nd/Colorado station
  - 1 hour 40 minute travel time South Fort Collins to Denver Union Station
  - High-Level Platforms
  - FRA-Compliant Diesel Multiple Units (DMUs)

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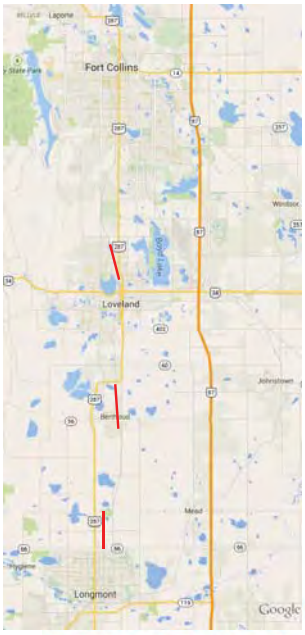
# Preliminary Passing Siding Locations

| Location | Limits |
|---|---|
| Loveland | South of N. Loveland Station / (north)<br>3.0 miles |
| Berthoud | South of Berthoud Station / (north)<br>2.4 miles |
| Longmont | South of N. Longmont Station / (north)<br>2.1 miles |
| I-25 Frontage Road | From Furniture Row / (north)<br>4.6 miles |








# Running Times and Speeds

| Station | Time Between Stations | Average Speed Between Stations | Total Trip Time | Maximum Speed in each Segment |
|---|---|---|---|---|
| Fort Collins | 0:00 | N/A | 0:00 | N/A |
| North Loveland | 8:45 | 57.1 | 8:45 | 70 |
| Loveland | 3:49 | 40.0 | 12:34 | 50 |
| Berthoud | 9:31 | 46.4 | 22:05 | 70 |
| North Longmont | 10:18 | 48.0 | 32:23 | 65 |
| Longmont (Sugar Mill) | 7:44 | 39.1 | 40:17 | 45 |
| SH 52 | 11:43 | 55.8 | 52:00 | 75 |
| 162nd Avenue | 10:00 | 50.1 | 62:00 | 75 |
| DUS | 36:00 | 31.0 | 98:00<br>1 hr 38 min | 65 |

# Concept of Operations (Example)

| Southbound | | | Northbound | |
|---|---|---|---|---|
| Depart Fort Collins | Arrive Denver Union Station | | Depart Denver Union Station | Arrive Fort Collins |
| | | | 6:00 AM | 7:40 AM |
| 5:10 AM | 6:50 AM | → | 7:00 AM | 8:40 AM |
| 5:50 AM | 7:30 AM | → | 7:40 AM | 9:20 AM |
| 6:30 AM | 8:10 AM | → | 8:20 AM | 10:00 AM |
| 7:10 AM | 8:50 AM | → | 9:00 AM | 10:40 AM |
| 8:10 AM | 9:50 AM | → | 10:00 AM | 11:40 AM |
| 9:10 AM | 10:50 AM | | | |
| 10:10 AM | 11:50 AM | | | |

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# Berthoud Maintenance Facility

- Stand-alone DMU maintenance
- Operations Center
- Car cleaning
- Toilet servicing
- Car washer
- Wheel true
- Fueling
- Overnight storage: track length for 21 cars

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# Cost Update

- Improve level of detail
- Update for changed conditions
- Request railroad input & concurrence similar to Northwest Area Mobility Study
- Update from 2009$ to 2014$
- Update to FTA / FRA Standard Cost Categories (SCC)

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COST COMPARISON BETWEEN E.I.S. (2009) AND PRELIMINARY ESTIMATE UPDATE (2015)
BY STANDARD COST CODE (SCC)

| SCC COST CODE | COST CODE DESCRIPTION | ENVIRONMENTAL IMPACT STATEMENT (2009) (IN MILLIONS $) | ENVIRONMENTAL IMPACT STATEMENT (ADJUSTED TO 2014) (19.8% TOTAL ESCALATION USED) (IN MILLIONS $) | PRELIMINARY COST ESTIMATE (2014) (IN MILLIONS $) | EXPLANATION OF DIFFERENCE |
|---|---|---|---|---|---|
| 10 | GUIDEWAY/TRACK ELEMENTS (TRACK AND STRUCTURES) | $78.7 | $94.3 | $165.8 | EIS assumed a Hwy. 7 alignment with sections of track shared with BNSF. EIS assumed 18.0 m. of single track and 6.7 mi. of double track. Current Preliminary Cost Estimate Update assumes 31.6 mi. of single track and 12.3 miles of double track. Total track increased by 79%. Extrapolated cost approximately equal. |
| 20 | STATIONS/TERMINALS | $32.8 | $39.3 | $15.0 | Very similar assumptions between EIS and Preliminary Cost Estimate Update except Update has no pedestrian overpasses and elevators. |
| 30 | SUPPORT FACILITY (YARDS, SHOPS, ADMIN. BLDGS.) | $56.9 | $68.2 | $25.5 | Preliminary cost estimate update based upon similar structure and yard to available data from RTD FasTracks Projects. |
| 40 | SITE WORK AND SPECIAL CONDITIONS (STRUCTURES, RET. WALLS) | $69.7 | $83.5 | $132.3 | Cost differential is primarily due to expanded route track and associated construction. |
| 50 | SYSTEMS (COMMUNICATIONS, SIGNALS, ELECTRICAL, TRAIN CONTROL) | $94.9 | $113.7 | $241.3 | Current Cost Estimate Update includes Positive Train Control (PTC). |
| 60 | RIGHT-OF-WAY, LAND, EXISTING IMPROVEMENTS | $24.8 | $29.7 | $129.8 | Preliminary Cost Estimate Update provides an initial cost for ROW from BNSF, additional parcels needed for construction and associated soft costs. |
| 70 | VEHICLES | $150.8 | $180.7 | $78.0 | EIS assumed 29 DMU vehicles at $5.2 million each. Current operational plan requires a total of eighteen (18) DMU vehicles at between $4.2 million-$4.5 million depending upon powered vs. unpowered. |
| 80 | PROFESSIONAL SERVICES | $140.4 | $168.2 | $124.0 | Based upon typical percentages and costs from similar project. |
| 90 | CONTINGENCY | $35.3 | $42.3 | $281.1 | 30% contingency used for preliminary cost estimate update based upon conceptual nature of project status. |
| | **TOTALS** | **$684.30** | **$819.9** | **$1,192.8** | |

Note: Preliminary estimate used - N. I-25 Cross-over with Sugar Mill Station Alignment

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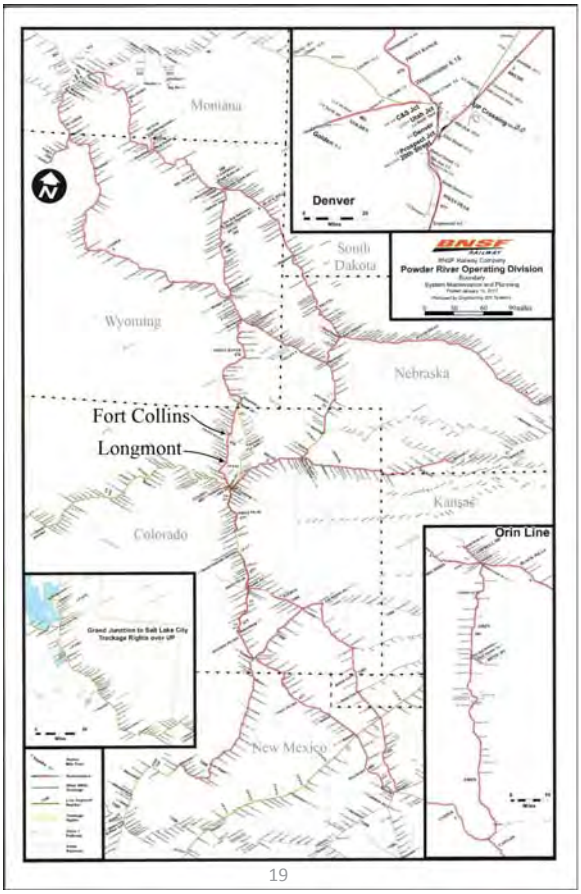
# Summary

| Update Element | DRAFT Findings |
|---|---|
| Right of Way | • No eastern bypass means a separate Commuter Rail track is required ("double tracking" throughout)<br>• Northern terminus at South Fort Collins Transit Center<br>• I-25 use in lieu of WCR 7 |
| Operating Plan | • Adapt operating plan to RTD connection<br>• Initial RTD peak freq.= 20 minutes → 40 min Com. Rail<br>• High-level platforms required<br>• FRA-compliant diesel multiple units (DMU)<br>• Passing track locations = "triple track" |
| Cost Estimate | • $690 Million = EIS estimate, in 2009$<br>• $820 Million = EIS adjusted for inflation to 2014$<br>• $1.2 Billion = current working estimate in 2014$ reflecting scope changes above to ROW & Operations |



# Questions/Comments








# BNSF Commuter/Passenger Principles

- BNSF will consider accommodating passenger trains speeds up to but not beyond 90 MPH.
- Passenger equipment and rolling stock used has to be FRA compliant.
- Any commuter operation cannot degrade BNSF's freight service, negatively affect BNSF's freight customers or BNSF's ability to provide them with service.
- BNSF will not incur any liability for commuter operations that it would not have but for those operations.
- Capital investments necessary for commuter service are the responsibility of the public.
- BNSF will limit commuter operations to the commuter schedules initially agreed upon and for which the capital improvement plan has been designed.
  - Future expansions will have to undergo the same analysis and provide any required capital improvements before schedules can be changed, services or stations added.
- Investments made for commuter projects must not result in BNSF incurring a higher tax burden.
  - Property improvements should not become part of BNSF's tax base.
  - Materials used should be exempt from all sales and use taxes, etc., or BNSF must be made whole for any increased tax burden.

# BNSF Commuter/Passenger Principles

- Studies of how commuter service might be provided must take into account not only the current freight levels, but projected freight traffic growth.
- Studies must reflect BNSF's actual operating conditions and cost structures.
  - Construction cost estimates must reflect BNSF labor costs.
  - Passenger schedules cannot assume that BNSF will not operate any freight trains during peak commuter periods.
- BNSF must retain operating control of rail facilities used for commuter services.
  - All dispatching, maintenance and construction must be done under the control of BNSF.
  - Passenger stations, parking lots and other non-rail facilities may be publicly owned and operated.
- BNSF must be compensated for any and all costs incurred in providing commuter service and make a reasonable return for providing the service.
- Improvements must include grade crossing protection and inter-track fencing as required to minimize the risk of accidents due to liability and service interruption concerns.





# FRONTRUNNER SOUTH (UTAH)

| | |
|---|---|
| Segment: | Salt Lake City, UT to Provo, UT |
| Length of Line: | 44.4 route miles / 55.5 track miles |
| Date in Service: | 2012 |
| Type of Rolling Stock: | Locomotives (7), freight switcher, cab cars (10), coaches (8), rehabilitated coaches (10) |
| Description: | * One track added to parallel Union Pacific track<br>* Approximately 10 miles of double track constructed where right-of-way width allowed<br>* Shares 2-mile section with freight operator<br>* Implementing Positive Train Control (most was installed with construction project)<br>* Cost/mile high due to challenging areas of construction, limited access to construction sites, crossings and neighborhood construction |
| Total Cost of Project (Adjusted to 2014): | $1.07 Billion |
| Cost of Stations (Adjusted) (8 stations with parking): | $23.4 Million |
| Cost of Maintenance Facility (Adjusted): | $1.4 Million |
| Cost of Right-of-way (Adjusted): | $92.2 Million |
| Cost of Rolling Stock (Adjusted): | $88.7 Million |
| Cost per Route Mile (Adjusted): | $24.1 Million |
| Cost per Track Mile (Adjusted): | $19.3 Million |
| * Cost of Core Project/Route Mi. (Adj.) | $19.5 Million |
| * Cost of Core Project/Track Mi. (Adj.) | $15.6 Million |

* Core project excludes stations, maintenance facility, ROW and vehicles