

Final EIS

August 2011

North I-25 EIS Project Office

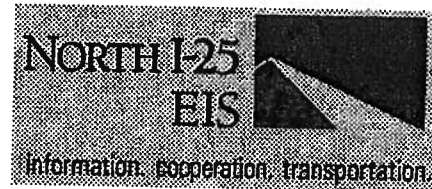
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November 9, 2006

Vicky McLane

North Front Range MPO

235 Matthews Street

Fort Collins, CO 80524

**Re: North I-25 EIS  
Minimal Rail Alternative Request**

Dear Ms. McLane

At the request of the North Front Range MPO, the North I-25 EIS transit team has undertaken an evaluation of minimal commuter rail options. This information was expected to serve as the basis for our RTD / NFRMPO coordination meeting on October 26, which was cancelled due to weather. We have summarized our efforts in the attached memo. Our key conclusions include:

- Two minimal options were evaluated.
- Ridership for the minimal options is forecasted to be between 6% and 23% of the Package A ridership.
- Capital costs for the minimal options are expected to be about 27% of the Package A costs, and O&M costs are expected to be between 13% and 24% of the Package A O&M costs.

Based on these conclusions, a minimal option is feasible as part of a phasing plan for the commuter rail package. Please refer to the memo for more details. Further evaluation of these minimal options is expected to occur during the Final EIS process.

We look forward to continuing our dialogue on this project effort. Please let us know if you have any questions.

Yours truly,

Gina McAfee

Deputy Project Manager

Cc:

Liz Rao, RTD

Lee Cryer, RTD

Henry Stoppiekamp, RTD

Bill Van Meter, RTD

Chris Quinn, RTD

Dave Shelley, RTD

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John Daggett, NFRMPO

Dave Beckhouse, FTA

Bob Garcia, CDOT R4

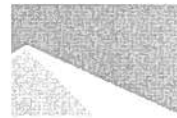
Dave Martinez, CDOT R4

Stan Elmquist, CDOT R4

Carol Parr, CDOT R4

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## Commuter Rail Phasing

Due to a variety of requests, the commuter rail component for the North I-25 EIS has been examined in further detail to evaluate how phasing and minimal options may affect the transit portion of the project. Although a full phasing analysis will not be undertaken until the Final EIS, this memo provides an initial look at potential phasing options. A summary of the options will be documented in the DEIS, along with phasing options that could be considered for BRT, Commuter Bus, and highway elements of the two packages. The first section of this white paper outlines the current DEIS packages and their transit components, including commuter rail. The second section provides information on several commuter rail phasing options that have been examined.

### DEIS PACKAGE SUMMARY

The two DEIS packages reflect different transit approaches for the North I-25 study area. These packages are shown in the attached figures. Only Package A includes a commuter rail component; Package B provides Bus Rapid Transit (BRT). Both packages have been coded into the project's travel demand model and the model has been run to develop 2030 daily ridership forecasts. These forecasts are summarized in the table below.

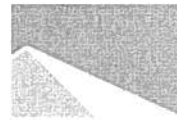
2030 DEIS Daily Transit Ridership Forecasts		
	Package A	Package B
Major investment transit boardings <sup>1</sup>	5,825	5,850
Commuter rail boardings	4,300	(none)

Costs have also been developed for both packages. The unit costs used for commuter rail components were based on typical costs for similar projects. These costs have been compared to RTD data being used for their FasTracks effort. The results of this comparison indicate that there are very few differences. These differences are less than 5%, and they tend to balance out (costs that are low compared to RTD are offset by costs that are high compared to RTD). The team is comfortable that the unit costs being used represent appropriate Colorado experience and are acceptable at the DEIS level of analysis. The costs are summarized in the table below.

DEIS Package Capital Costs (2006 dollars)		
	Package A	Package B
Major Investment (roadway & transit)	\$1.86B	\$1.53B
Commuter Rail	\$818M	(none)

These costs include capital expenditures (tracks, lanes, etc.), right-of-way (ROW), and transit vehicle fleets costs.

<sup>1</sup> Package A includes Commuter Rail and Commuter Bus boardings; Package B includes BRT boardings.



## Commuter Rail Phasing

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Annual operating and maintenance costs are shown below.

DEIS Package O&M Costs (2006 dollars)		
	Package A	Package B
Major Transit Investment	\$38.5M	\$12.2M
Commuter Rail	\$28.5M	(none)

## MIMINAL COMMUTER RAIL OPTION SUMMARY

Given various requests for nominal commuter rail options in the project study area, the team undertook a supplemental analysis of what a minimal commuter rail option could consist of. Several other commuter rail agencies (peer systems) were reviewed to see how they began service and how service has developed since the initial startup.

- Many startup systems begin with peak period (morning and evening), peak direction (AM inbound, PM outbound) service. Others begin with bi-directional peak period service. Given the significant directionality of the DEIS Package transit ridership (both bus and rail), a peak period, peak direction service was assumed.
- To maximize their return on investment, start-up systems often use existing rail lines for their initial segments. ROW acquisition and new rail line construction could be time-consuming and costly, so it was considered inconsistent with the goal of a minimal option. Therefore, the minimal options exclude the proposed new alignment connecting Longmont to the North Metro FasTracks line. The minimal option follows the BNSF line from Fort Collins to Longmont, where it connects with RTD's Northwest Rail FasTracks corridor.
- The existing BNSF line allows for a maximum freight speed of 49 mph, with speed reductions in several segments of the corridor due to geometric or other constraints. It was assumed that this speed would not be changed for passenger service under the minimal alternative since geometric improvements can require substantial ROW acquisition and construction costs. However, a signal system was assumed to help coordinate passenger and freight operations along the corridor.
- Many startup systems begin with as few stations as possible, with an eye toward serving key population centers and allowing other stations to be implemented gradually as demand grows. Given the forecasted ridership from Package A, stations were sited at South Transit Center (Ft Collins), 4<sup>th</sup> Street (Loveland), Berthoud, and 1<sup>st</sup> / Terry (Longmont).
- Peer systems include Sounder (Seattle, WA), Rail Runner (Albuquerque, NM), Altamont Commuter Express (San Jose, CA) and Coaster (San Diego, CA)
- Two operator scenarios were considered. If a contract were established with RTD, service could continue through 1<sup>st</sup> / Terry along Northwest Rail to Denver Union Station. If a separate operator is assumed, a forced transfer at 1<sup>st</sup> / Terry may be required. Since funding is still undecided, these two options were forwarded through the analysis.

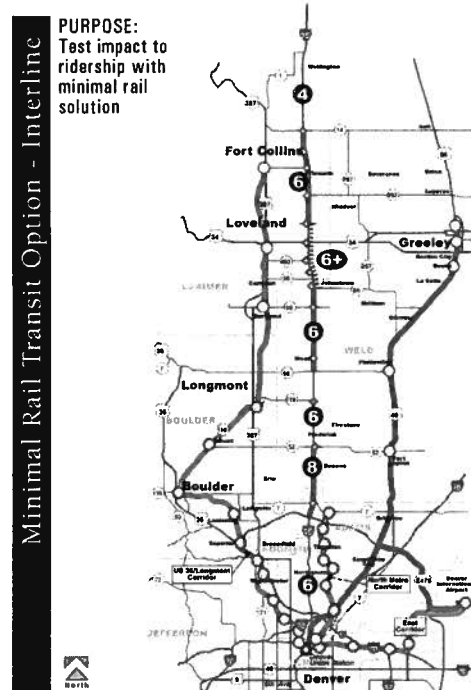


## Commuter Rail Phasing

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These evaluations resulted in two minimal commuter rail options. These options have been shown graphically on the attached figure.

- **Minimal Commuter Rail Option 1** includes three AM inbound and three PM outbound trains on 60 minute headways, with a forced transfer at RTD's 1<sup>st</sup> / Terry station (part of FasTracks). New stations include South Transit Center, SH 402, and Berthoud.
- **Minimal Commuter Rail Option 2** includes three AM inbound and three PM outbound trains on 60 minute headways, with through service at 1<sup>st</sup> / Terry. Stations are the same as those in Option 1.



Both options were coded into the travel demand model in place of the Package A commuter rail alternative. The ridership results are shown in the table below.

2030 Minimal Option Daily Transit Ridership Forecasts		
	Minimal Option 1	Minimal Option 2
Commuter rail boardings	250	1000

Costs were also developed for the minimal options. Assumptions included:

- No maintenance facility would be provided – the maintenance would be contracted to RTD or another entity instead.



## Commuter Rail Phasing

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- The BNSF line under consideration would require signals to ensure appropriate separation from freight trains. Other capital improvements include stations and some minor track upgrades.

The resulting costs are shown in the table below.

Minimal Option Costs (1996 dollars)		
	Minimal Option 1	Minimal Option 2
Capital Costs	\$222M	\$219M
O & M Costs	\$3.8M	\$6.8M

## CONCLUSIONS

This memo describes potential commuter rail phasing options for minimal commuter rail operations of DEIS Package A. The evaluation presents the operating plans and the resulting ridership forecasts and cost estimates. Reducing the commuter rail operations as described in this paper results in much lower capital and operating costs but also results in substantial reductions in ridership.

A summary of this analysis will be described in the DEIS to identify that a range of phasing options can be considered for the Package improvements. The Final EIS will include a more comprehensive evaluation of phasing plans. If commuter rail is carried forward into the Final EIS other phasing elements that might be evaluated include a single track system with more frequent service, passing sidings to allow directional service, track upgrades to improve travel times, phasing of station construction, phasing from peak period to full day service, and the full rail alternative as defined in Package A.