

FasTracks Capital Cost Estimates by Corridor

**2010 Annual Program Evaluation
January 5, 2010**

North Metro Corridor Cost Summary (YOE \$, in millions)

2009 Working Estimate w/o Segment 0	\$ 994.6
2010 Annual Program Evaluation Changes	- \$84.8
Current Working Estimate	\$909.8

Challenges, Opportunities & Accomplishments:

- Working to decrease cost of major structures. Agreements with Denver Water and Metro Waste Water may provide benefits
- Completed purchase of the UPRR ROW will allow for early action construction to begin on the north end of the corridor
- Developing operations plan that allows for longer stretches of single track

Major Changes :

- Replaced 7.6 miles double track with single track which also reduces OCS Cost
- Acquiring BNSF ROW to avoid reconstruction of Brighton Boulevard
- Refined unit costs for stations and parking
- Field work defining areas of Hazardous Materials resulted in a reduced cost
- Ongoing utility survey in the north end of the corridor resulting in fewer required relocations
- Limit Freight Rail to NB track only

Gold Line Corridor Cost Summary

(YOE \$, in millions)

2009 Working Estimate	\$590.5
2010 Annual Program Evaluation Changes	-\$73.5
Current Working Estimate	\$517.0

Challenges, Opportunities & Accomplishments:

- New Starts process moving forward on schedule
- Estimate based on 30% design level
- 2010 APE based on bottoms up estimate
- Continued risk due to on-going RR negotiations
- 1.5 miles of single track (Ralston Rd. to Carr St.)
- Additional savings expected through Eagle P3 Alternative Technical Concept (ATCs)
- Receipt of ROD November 2009

Major Changes (2009 – 2010)

- 3-car to 2-car minimal station platforms
- Refinement of Environmental Mitigation costs due to clear requirements from the ROD
- Reduction in Communication Systems
- EIS/BE Contract Under Budget
- Cost of DUS to Pecos electrification and associated substation to Northwest Rail
- Peak headways increased from 7.5m to 15m. resulting in decrease in number of EMU vehicles (22 to 12)

I-225 Corridor Cost Summary

(YOE \$, in millions)

2009 Working Estimate	\$694.9
2010 Annual Program Evaluation Changes	-\$68.8
Current Working Estimate	\$626.1

Challenges, Opportunities & Accomplishments:

- The current design effort is at 30%
- A bottoms-up estimate was performed on the I-225 corridor for the 2010 APE

Major Changes (2009 – 2010)

- Modified some bridge approach grades to Maximum 6% (reducing retaining walls)
- Reduced cost of rail
- Reduced guardrail requirement to just at bridges
- Reduced elevator requirement to 1 each side of Pedestrian Connection
- Reduced communication systems
- Reduced costs for hazardous materials remediation based on field surveys
- Reduced cost for environmental mitigation based on field surveys

East Corridor Cost Summary

(YOE \$, in millions)

2009 Working Estimate	\$1,343.7
2010 Annual Program Evaluation Changes	-\$110.8
Current Working Estimate	\$1,232.9

Challenges, Opportunities & Accomplishments:

- Changes in 2010 APE (vehicles, advanced design)
- Eagle P3 RFP issued
- New Starts process moving forward on schedule
- Continued risk due to on-going RR negotiations
- Additional savings expected through Eagle P3 Alternative Technical Concept (ATCs)

Major Changes (2009 – 2010)

- Reduction in estimated material costs
- Refinement of material quantities
- Use of asphalt rather than concrete in parking lots
- Reduced platform design criteria
- Reduced communication systems
- Continued cost containment (no new scope) and refined design detail has decreased specific corridor costs
- Decreased vehicle count from 22 to 16

Commuter Rail Maintenance Facility (YOE \$, in millions)

2009 Working Estimate	\$189.1
2010 Annual Program Evaluation Changes	-\$10.5
Current Working Estimate	\$178.6

Major Changes (2009 – 2010)

- Rail reduction in yard
- Building size reduction
- Maintenance of way building size reduction
- Other miscellaneous reductions

Challenges, Opportunities & Accomplishments:

- Eagle Project concessionaire to develop O&M plan – which will ultimately determine the design of the CRMF
- The current design effort is approximately 30%
- Major site configuration redesign
- Major drainage redesign

Northwest Rail Corridor Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$706.9
2010 Annual Program Evaluation Changes	-\$41.7
Current Working Estimate	\$665.2

Challenges, Opportunities & Accomplishments:

- Continued risk related to railroad negotiations with BNSF – cost is not finalized
- 50% engineering completed on park-n-Rides and at-grade crossings
- 15% engineering completed on corridor alignment (BNSF to complete final design and construction)

Major Changes (2009 – 2010)

- Build 2-car platforms
- Phase parking
- Reduce elevators at stations
- Modify systems design criteria
- Adjustment to parking and station platforms

Southeast Corridor Extension Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$184.2
2010 Annual Program Evaluation Changes	-\$ 24.4
Current Working Estimate	\$159.8

Challenges, Opportunities & Accomplishments:

- The current design effort is approximately 30%

Major Changes (2009 – 2010)

- Remove costs for City Center Station, which has been included and cleared in the EE, but will be constructed at a later date when the City Center develops
- Reduce parking by 500 spaces
- Reduce station costs
- Reduced communication systems

Southwest Corridor Extension Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$165.6
2010 Annual Program Evaluation Changes	-\$9.6
Current Working Estimate	\$156.0

Major Changes (2009 – 2010)

- Changed Approach to parking (70% surface and 30% in structure vs. 100% in structure)
- Reduce station costs
- Reduction in systems requirements

Challenges, Opportunities & Accomplishments:

- The current design effort is approximately 30%

Central Corridor Extension Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$67.3
2010 Annual Program Evaluation Changes	-\$1.8
Current Working Estimate	\$65.5

Major Changes (2009 – 2010)

- Reduction in unit costs per station
- Updated bumping post costs
- Reduction in Communication Systems

Challenges, Opportunities & Accomplishments:

- Converted from extension of current light-rail operations to single-vehicle streetcar operations
- Stakeholder concerns with service plan, streetcar-type operations and single-vehicle capacity

Enhancements Project Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$97.9
2010 Annual Program Evaluation Changes	+\$2.1
Current Working Estimate	\$100.0

Enhancement Project Summary :

- Four car platform and system upgrades, including additional vehicles, Lincoln park-n-Ride, Bates Station and pedestrian enhancements at Belleview/Arapahoe

Challenges, Opportunities & Accomplishments:

- The enhancement projects will be nearly complete in 2010/2011

Other FasTracks Project Cost Summary (YOE \$, in millions)

2009 Working Estimate	\$621.0
2010 Annual Program Evaluation Changes	+\$30.4
Current Working Estimate	\$651.4

Project Description:

Other FasTracks Project Costs include all non-corridor specific commitments from the original FasTracks plan, and any project components that are shared across multiple corridors.

Major Projects Summary :

- DUS to Pecos (shared segment)
- North Metro I-25/144th Ave. bus park-n-Ride
- US 36 bike pedestrian access
- Program-wide management oversight
- US 85 ROW preservation
- North Metro UPPR ROW (Outside of Corridor Limits)
- Required and emerging railroad safety enhancements
- Commuter rail control center
- DUS electrification (result of EMU technology selection through EIS projects)

2010 Capital Cost Summary By Corridor



(In Millions of Year of Expenditure Dollars)

Corridor	APE 2010
FasTracks Program Costs	
¹ West Corridor - Federal Project	\$642.3
² West Corridor - Third Party Funded Projects	\$26.6
³ West Corridor - Additional RTD Costs	\$28.0
Northwest Rail Corridor	\$665.2
Gold Line	\$516.9
I-225 Corridor	\$626.0
East Corridor	\$1,232.9
North Metro Corridor	\$909.7
Central Corridor Extension	\$65.4
Southeast Corridor Extension	\$159.8
Southwest Corridor Extension	\$156.0
U.S. 36 BRT – Phase 1	\$23.3
U.S. 36 BRT – Phase 2	\$208.5
U.S. 36 BRT – Phase 2 ARRA Funding	\$7.6
⁴ Denver Union Station	\$283.3
Light Rail Maintenance Facility	\$28.9
Commuter Rail Maintenance Facility	\$178.5
Bus Maintenance Facility	\$0.0
Enhancements Projects	\$100.0
Other FasTracks Project Costs	\$651.4
Total FasTracks Program Costs	\$6,510.9

¹ Total cost identified for the West Corridor in the FFGA (\$709.8 million) includes financing charges and EIS/PE costs incurred prior to the FasTracks program.

² Third-party-funding for the Federal bridge replacement and bike bridges at Wadsworth and Kipling.

³ Includes costs for additional items in support of the West Corridor project which are not included in the FFGA, and which are locally funded.

⁴ Denver Union Station costs in the 2009 plan include only RTD locally-funded contributions to the joint project and grant funds and other reimbursements to be received by RTD. CDOT, other federal sources, TIF, metro district revenues, development rights revenues, and other sources are expected to contribute an additional \$220.7 million to the project, for a total project cost of \$500 million.