

Attachment 1

Summary Of Changes to FasTracks Program (Capital Costs 2004 – 2008)

Part I:

Corridor-by-corridor project cost estimates from the original 2004 FasTracks Plan through the 2008 Annual Program Evaluation (APE).

Parts II - V:

Project specific lists of all the changes made to the FasTracks Plan through this timeframe.

Part I:

Summary of FasTracks Corridor Costs from 2004 to 2008

A	B	C	D	E	F	G	H	I	J
Corridor	Original FasTracks Costs (2004) YOE, millions	Scope Changes (2004 - 2007) YOE, millions	RR Requirements (2004 - 2007) YOE, millions	Escalation (2004 - 2007) YOE, millions	APE Cost Estimate 2007 YOE, millions	Scope Changes (2007 - 2008) 2007\$, millions	RR Requirements* (2007 - 2008) 2007\$, millions	Escalation (2007 - 2008) YOE, millions	APE Cost Estimate 2008 YOE, millions
FasTracks Program Costs									
West Corridor	\$511.8	-\$64.4	\$0.0	\$217.1	\$664.5**			\$43.1	\$707.6**
Northwest Rail Corridor	\$565.1	\$35.1	\$0.0	\$84.2	\$684.4	\$65.1		\$147.2	\$896.7
Gold Line	\$463.5	\$37.5	\$0.0	\$51.5	\$552.5	\$1.0	\$23.9	\$89.1	\$666.5
I-225 Corridor	\$442.3	\$43.8	\$0.0	\$133.9	\$620.0			\$204.8	\$824.8
East Corridor	\$702.1	\$156.3	\$0.0	\$283.2	\$1,141.6	\$10.3	\$186.0	\$335.5	\$1,673.4
North Metro Corridor	\$420.0	\$113.7	\$0.0	\$103.5	\$637.2	\$2.3	\$195.4	\$230.1	\$1,065.1
Central Corridor Extension	\$68.7	-\$8.3	\$0.0	\$5.5	\$65.9			\$16.9	\$82.8
Southeast Corridor Extension	\$136.8	\$15.0	\$0.0	\$13.1	\$164.9			\$46.5	\$211.4
Southwest Corridor Extension	\$134.9	-\$6.4	\$0.0	\$50.1	\$178.6			\$39.2	\$217.8
U.S. 36 BRT - Phase 1	\$22.2	\$0.0	\$0.0	-\$0.6	\$21.6			\$1.8	\$23.4
U.S. 36 BRT - Phase 2	\$204.1	\$0.0	\$0.0	\$9.9	\$214.0			\$40.5	\$254.5
Denver Union Station	\$268.4	\$0.0	\$0.0	-\$53.0	\$215.4			\$31.7	\$247.1
Light Rail Maintenance Facility	\$100.4	-\$26.1	\$0.0	\$28.1	\$102.4	-\$68.1		\$7.6	\$41.9
Commuter Rail Maintenance Facility	\$80.4	\$109.4	\$0.0	\$13.6	\$203.4			\$32.9	\$236.3
Bus Maintenance Facility	\$71.7	-\$11.8	\$0.0	\$14.7	\$74.6			\$9.1	\$83.7
Other FasTracks Project Costs	\$524.7	\$31.1	\$0.0	\$16.0	\$571.8	-\$58.0	-\$102.0	\$268.0	\$679.8
Total Financial Plan Program Costs	\$4,717.1	\$424.9	\$0.0	\$970.8	\$6,112.8	-\$47.4	\$303.3	\$1,544.0	\$7,912.8

Project budgets are comprised of 60% materials and 40% labor and other costs

*Railroad requirements are due to further advanced engineering and negotiations with the railroads. These requirements include specific items such as barrier walls, track separation, signal upgrades and additional ROW and structures

**Includes 3rd party enhancements and preliminary engineering

Part II:

Scope and Cost Changes 2004 to 2007 +\$424.9 (see page 2, column C) (YOE, millions)

- **West (-\$64.4)**
 - Build single track from Federal Center to JeffCo
 - Additional utility relocations and retaining walls
 - Revised drainage requirements
 - Modify Sheridan grade crossing
 - Auraria West Station realignment
- **Northwest Rail (+\$35.1)**
 - Additional railroad requirements for pedestrian bridges at stations
 - Additional wetlands impact mitigation
 - Build three-car instead of four-car platforms
 - Modifications at Utah Junction from trench to flyover
- **Gold Line (+\$37.5)**
 - Technology change from light rail to commuter rail (EMU)
 - Reduced vehicle and systems cost
 - Increased ROW, pedestrian bridge and trackwork costs
- **I-225 (+\$43.8)**
 - More complicated bridge structure and elevated station at Colfax
 - Cut and cover tunnel under NB I-225 at Exposition
 - Increased design development for electrification and signaling
 - Increased environmental mitigation
- **East (+\$156.3)**
 - Additional drainage needs
 - Additional ROW
 - Additional cost to relocate utilities under UP ROW
 - Build at-grade crossing at Peoria instead of grade separation
- **North Metro (+\$113.7)**
 - Additional retaining walls and structures
 - Alignment change to avoid Sand Creek Junction (UPRR/BNSF railroad junction)
 - Increased utility relocation and environmental mitigation costs
 - Build three-car instead of four-car platforms
- **Central Corridor Extension (-\$8.3)**
 - Operate single-vehicle light rail on Downing St. and connect to downtown LRT loop
- **Southeast Corridor Extension (+\$15.0)**
 - Additional light rail fleet vehicles to meet demand

Part II (cont.):

Scope and Cost Changes from 2004 to 2007 +\$424.9

(see page 2, column C)

(YOE, millions)

- **Southwest Corridor Extension (-\$6.4)**
 - Significant increase in materials costs due to major bridge structures over RR ROW, County Line Road and C-470
 - Roadway connection to Santa Fe no longer required as part of project (developer is currently constructing road)
- **US 36 BRT – Phase 1 and 2 (\$0.0)**
 - No changes
- **Denver Union Station (\$0.0)**
 - No changes
- **Light Rail Maintenance Facility (-\$26.1)**
 - Reduced capacity requirements due to Gold Line technology change from light rail to commuter rail
 - Expand existing Elati and Mariposa facilities to accommodate FasTracks LRT vehicles instead of building new LRT maintenance facility
- **Commuter Rail Maintenance Facility (+\$109.4)**
 - Facility to be located at UPRR 36th Street yards
 - Revised construction and ROW requirements
 - Increased environmental and utility mitigation
 - Revised drainage requirements
 - Capacity increase to accommodate Gold Line change to commuter rail from light rail
 - Changes to accommodate maintenance of two technologies – EMU and DMU vehicles
- **Bus Maintenance Facility (-\$11.8)**
 - Design facility for 125-bus capacity based on revised fixed route bus service plan
 - Design facility with outdoor canopy instead of indoor bus storage
- **Other FasTracks Project Costs (+\$31.1)**
 - Additional vehicles for growth in existing light rail corridors

Part III:

Scope and Cost Changes from 2007 to 2008 -\$47.4

(see page 2, column G)

(2007\$, millions)

- **Scope Savings -\$126.1**
 - Reduction from expanding Elati (i.e., not building a new light rail maintenance facility)
 - Deferment of 13th St. grade separation
 - Deferment of ITS
 - Deferment of power switches
 - Changes resulting from value engineering (all corridors)
- **Scope Adjustments +\$78.7**
 - East: FAA requirements for DIA Runway Protection Zone (e.g., alignment change, structure changes)
 - Northwest Rail: Additional walls, fill and ROW costs resulting from more detailed engineering
 - North Metro: Additional noise mitigation
 - Gold Line: Changes resulting from more detailed engineering
 - Other FasTracks Program Costs: Additional system-wide costs for Amtrak/FRA issues, separate track access to the CRMF and electrification of DUS

Part IV:

Changes Due to Railroad Requirements from 2007 to 2008 +\$303.3 (see page 2, column H) (2007\$, millions)

Changes specified below are subject to finalized negotiations with the railroads and could increase or decrease depending on the results of the negotiations

- **North Metro +\$195.4**
 - Separate railroad ROW and station apart from East Corridor
 - Additional bridges needed for BNSF alignment downtown
 - Reconstruction of Brighton Blvd (new alignment)
- **East Corridor +\$186 (Modified alignment)**
 - Additional costs for private ROW from DUS to Kearney (including building demolition)
 - New bridges over 38th and Broadway
 - Additional costs for structures, freight track relocation, barrier walls, etc. to share the corridor with UPRR
- **Gold Line +\$23.9**
 - Additional costs for private ROW and additional fill associated with UP 50' track centers west of Pecos
- **Other FasTracks Program Costs -\$102.0**
 - Reduction in Railroad ROW costs due to not purchasing the TOFC UPRR yard
 - Additional costs to meet railroad requirements between DUS to Pecos
 - Additional structure costs for Jersey Cut-Off

Part V:

Changes Due to Increased Material and Cost Escalation from 2007 to 2008 +\$1,544.0 (see page 2, column I) (YOE, millions)

- Using CPI as an indicator for construction cost escalation made sense in 2004 for FasTracks – but since then we have entered a “new era”
- Cost escalation is anticipated to increase above CPI over the long term
- RTD has applied the following updated escalation rates to each corridor of the FasTracks program

	Revised Assumptions
Materials Cost Escalation after 2007	<ul style="list-style-type: none"> • 2008 = 11.65% • 2009 = 10.71% • 2010 – 2012 = 6% / year • 2013 – 2017 = 5% / year • 2018 – 2035 = 3.3% / year (CPI)