RTD FasTracks

PROJECT DELIVERY METHODS

Prepared for: PCJPB August 2013

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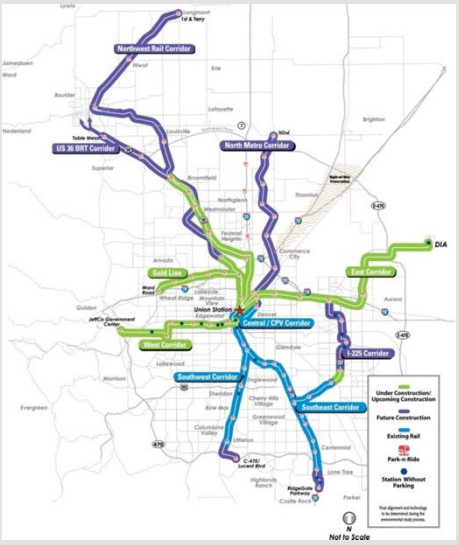
RTD FasTracks

The RTD FasTracks Plan



- 122 miles of new light rail and commuter rail
- 18 miles of Bus Rapid Transit (BRT) service
- Voters approved sales tax increase in 2004
- Multi-modal hub at Denver Union Station
- FasTracks is a program of projects

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FasTracks Status

- 64 miles of new rail line currently complete or under contract ($5 billion)
- Environmental processes complete
- Light rail maintenance facility, light rail vehicle purchases, platform extensions, power upgrades and other enhancements to the existing system also complete
- Moving forward with committed projects and maximizing funding opportunities

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Challenge

- Effectively managing approximately $5 billion of simultaneous construction within budget and schedule constraints.

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RTD PROJECT HISTORY

Corridor Project	Delivery Method	Cost (millions)	Opening Date
Central Corridor	5.3 Mile – Design-Bid-Build	$117 million	September 1994
Southwest Corridor	8.6 Mile – Design-Bid-Build	$180 million	July 2000
Central Platte Valley	1.8 Mile - Design-Bid-Build	$48 million	April 2002
Southeast Corridor – T-REX	19.2 Mile – Design-Build; Multi-Modal Project with CDOT	$1.7 billion (LRT - $900 million)	November 2006

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FasTracks Summary Status

Corridor Project	Description/Delivery Method	Cost (millions)	Opening Date	Delivery Status
West Rail	12.1 Mile Light Rail/ Construction Manager General Contractor	$707	April 2013	Opened April 26, 2013 on budget, ahead of schedule
Denver Union Station	Multimodal Terminal/ Design Build	$500	May 2014	Under construction - 80% Complete
US 36 – Phase I	11 Mile Bus Rapid/ Transit/Managed Lane with CDOT Design Build	$312	January 2015	Under Construction – 19% Complete
US36 – Phase II	5 Mile Bus Rapid Transit/Managed Lane with CDOT/ Design Build/PPP	$109	End of 2015	Awarded – Final Close Summer 2013
Eagle P3	36 Mile Electrified Commuter Rail/ Design Build Operate Maintain/PPP	$2,100	Through 2016	Under Construction – 37% Complete
I-225	10.5 Mile Light Rail/ Design Build	$687	Spring 2016	In final design; Construction started
North Metro	18.5 mile Electrified Commuter Rail (5.8 Miles to 72nd Avenue)/Received unsolicited design build proposal	$180 (funded)	2017	Segment One to 72nd Avenue in Final Design on hold pending unsolicited proposal and RFP (July 2013)
Southeast Extension	2.3 Miles/ TBD	$205	TBD	In New Starts (entry to PE)

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Design-Bid-Build

- Works well when owner wants control over design (e.g. Elati Maintenance Facility), risks are unknown until more advanced design can be done or when challenging stakeholder issues exist
- Takes more time in the schedule
- Limits innovation from the private sector
- More change orders (owner has risk for design) and more contentious relationships between owner and contractor

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Construction Manager General Contractor

- Contractor is bought in early when design is proceeding
- Contractor provides constructability and value engineering input during design
- A final guaranteed maximum price (GMP) is negotiated
- Owner has control and risk for design although contractor involvement during design can limit that risk
- Requires strong cooperation of design firm, owner and contractor
- Negotiated GMP limits competitive pricing and will impact schedule if negotiations are not successful

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Design-Build

- Faster schedule from overlap in activities
- Best value selection fosters collaboration and innovation
- Effective partnering is key
- Shifts certain risks (i.e. design) to the Design-Build contractor
- Fewer change orders, but they are larger on average
- Requires fewer resources for the owner oversight
- Requires quick decision making

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Design-Build (continued)

- Well matched with a systems (electrification) project where manufacturers/suppliers do much of the design
- Best value selection fosters collaboration and innovation
- Effective partnering is key
- Shifts certain risks (i.e. design) to the Design-Build contractor
- Still requires effective oversight by the owner
- Variations include design-build-maintain (DBM) and design-build-operate-maintain (DBOM)

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Public Private Partnership

- Adds financing from the concessionaire (DBFOM)
- Provides long-term integrated delivery
- Availability payments are tied to operational performance criteria so provides great incentive to consider life cycle costs and operability
- Good value for the money
- Procurement period can be longer, more complex and expensive
- Private financing more expensive than public financing

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Lessons Learned at RTD

- Match the project and its risks with the delivery method
- In many cases there is not necessarily a right or wrong delivery method. All types of delivery methods have been successful. If they are not, there is usually some other fundamental reasons
- One size does not fit all projects
- Make sure agency management and project staff is vested in the delivery method
- Bring the right expertise in to manage that delivery method

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Lessons Learned at RTD (continued)

- Best value selections have resulted in strong proposals and teams
- In choosing a delivery method consider risk, schedule, cost, innovation of private sector, number of contracts/contractors, stakeholder involvement
- Reflect the agency goals in the evaluation criteria (i.e. price, public outreach, DBE programs, safety, quality)
- Keep the Board and stakeholders informed during the procurement process while respecting the need for confidentiality

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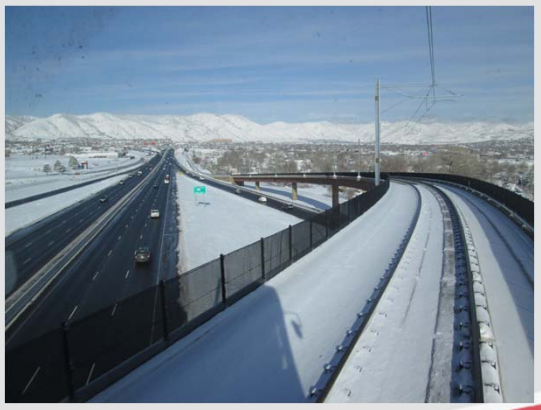
RTD Commitment

- RTD and Caltrain are the two agencies currently implementing a 25kV electrified commuter rail. We are both in this together and welcome our collaboration and mutual support.



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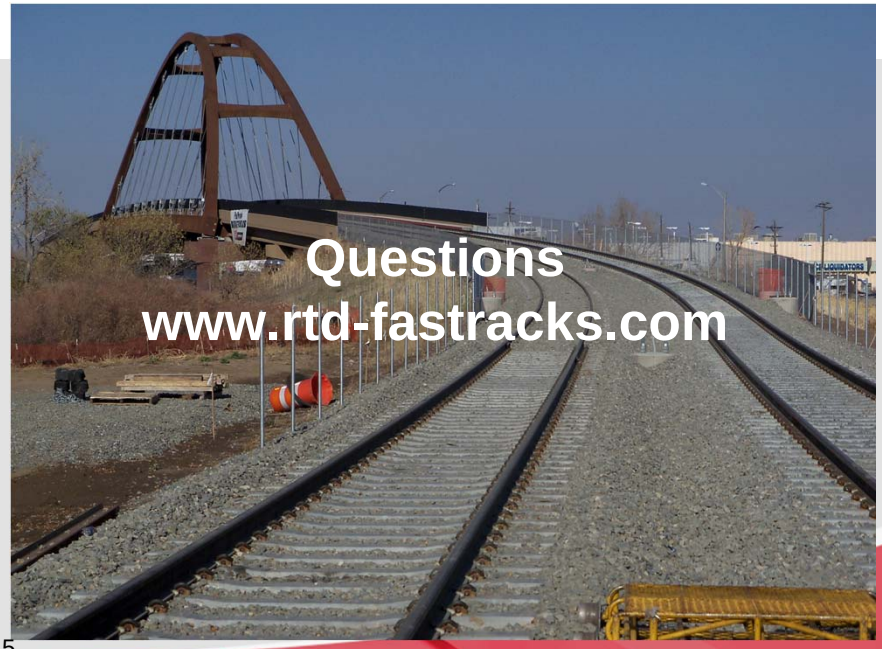

Questions
www.rtd-fastracks.com

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