

I-270/I-76 Reroute/Bypass Alternative
Draft Cost Estimate

An alternative to improve I-270 and reclassify I-70 (**I-270/I-76 reroute**) would involve converting the existing portion of I-70 from I-25 to I-270 to a limited access roadway. Additional capacity would be added to I-270 and I-76. The viaduct between Washington Street and Colorado Boulevard would be reconstructed or removed.

This alternative was eliminated in the first level of screening as part of the Environmental Impact Statement process. Cost estimates typically are not prepared for eliminated alternatives. However, in order to respond to questions regarding the details for this particular alternative, high level cost estimates were developed based on the assumptions described below. These estimates should be considered both preliminary and conservative given the considerable unknowns. Further, these estimates do not include the cost of rebuilding I-70 into collector/arterial roadway, improvements to Brighton Blvd, or any improvements that may be needed on I-25.

Basis for Estimated Costs

In order to provide an equitable and comparable estimate, I-270/I-76 reroute costs are based on estimates generated for the non-viaduct portions (from Colorado Blvd to I-225) of the current alignment alternative in the 2008 Draft Environmental Impact Statement along with typical CDOT base project estimates.

I-70 East Project Estimates for Roadway from Colorado Blvd to I-225/CDOT Base Estimates

- Average cost per lane mile: \$8.8 million
- Average cost per square foot of structures (bridges that need to be rebuilt): \$250/sq. ft.
- Cost per additional interchange: \$20 million

Estimated Cost of I-270/I-76 Reroute

Length of I-270/I-76 highway reroute: 12.8 miles

Typical section for highway reroute: 12 lanes & 4 shoulders

(8 lanes to accommodate I-70 traffic, 4 lanes for traffic already on I-270 and I-76)

Total lane miles: 12.8 miles \times 16 lanes = 204.8 miles

Subtotal: Roadway cost = 204.8 miles \times \$8.8 million = \$1.8 billion

Proposed structure area: 3.2 million square feet

Structure cost = 3.2 million \times \$250 = \$800 million

Additional interchanges: 4

Interchange cost = 4 \times \$20 million = \$80 million

Subtotal: Construction cost = \$1.8B + \$800M + \$80M = \$2.7 billion

Preliminary data. Should not be considered in final decisions. Information is subject to change.

30 percent construction contingency: \$680 million

15 percent design, 20 percent construction oversight: \$800 million

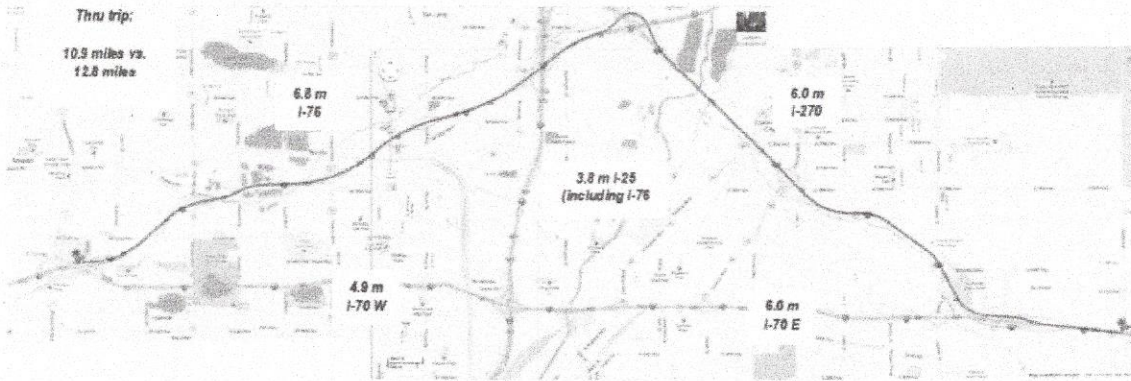
Total: construction cost = \$2.7B + \$680M + \$800M = \$4.2 billion

Estimated cost for other project elements:

I-70 removal: \$47 million

Right of way: \$100 million (assumed \$8.2 million per mile)

Total DRAFT Estimate = \$4.2b + \$47m + \$100m = \$4.35 billion



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Key Issues Regarding CDOT's Reroute Cost Estimate

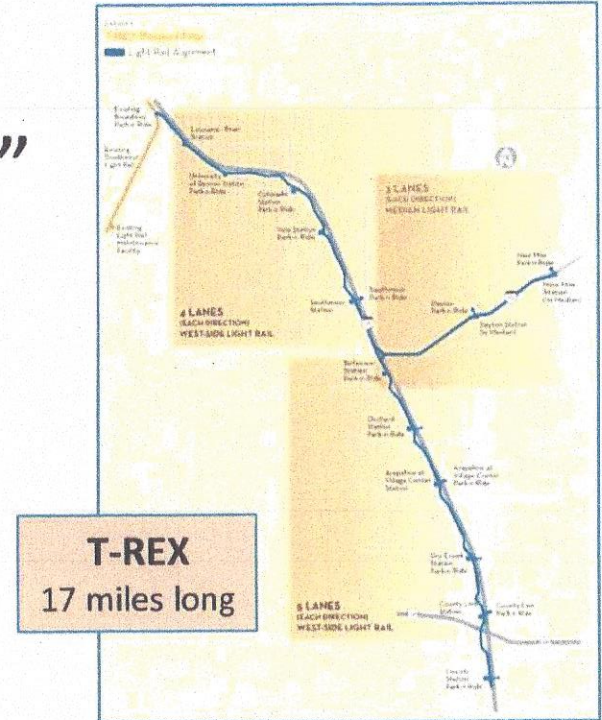
	I-270/I-76 Reroute Cost Estimate		Issues
	Amount	Cost	
1.Route length	12.8 miles		
2.Existing through lanes	4		
3.Existing shoulder lanes	4		
4.New through lanes	8		If only 50% of the traffic on I-70 is "through," why does more than the entire number of existing I-70 (i.e. 6) lanes need to move to the I-270/I76 Reroute option?
5.New shoulder lanes	4		
6.Total new lanes added	16		
7.Total new lane-miles added	204.8		
8.Roadway cost per lane-mile	\$8.8 M		Should be around \$2M per lane mile, based on other recent CDOT Interstate widening projects, such as I-225, I-25 Colorado Springs to Monument, and I-25 North Forty.
Subtotal roadway cost	Item 7 x Item 8	\$1,800,000,000	This line item alone is more than twice the cost of the entire T-REX highway project.
Additional structure cost	\$800 M	\$800,000,000	
New interchanges	\$20M each x 4	\$80,000,000	
Total construction cost		\$2,700,000,000	
Other costs:			
30% contingency		\$680,000,000	This is a math error.
15% design and 20% CO		\$800,000,000	This is a math error.
I-70 removal		\$47,000,000	
Right-of-way	\$8.2M per mile	\$100,000,000	
Total Project Cost Estimate		\$4,350,000,000	

Source: CDOT I-270/I-76 Reroute/Bypass Alternative Draft Cost Estimate, July 9, 2012.

Recap of Three Projects

Project	Cost
T-REX Rebuild 17 miles with 209 new lane-miles	\$795 million
Parsons Corp. I-70 Mountain Proposal Rebuild 53 miles, approx 550 lane miles plus new tunnels	\$3.5 billion
CDOT Reroute Cost Estimate Rebuild 12.8 miles with 204.8 new lane-miles	\$4.35 billion ?

A "Reasonableness" Check on CDOT's Reroute Cost Estimate



T-REX
17 miles long

I-25 from Logan St to I-225: 12 lanes x 6.5 miles =	78 lane-miles	I-270/I76 Reroute Cost Estimate
I-25 from I-225 to C-470: 14 lanes x 6.5 miles =	+91 lane-miles	
I-225 from I-25 to Parker Rd: 10 lanes x 4.0 miles =	<u>+40 lane-miles</u>	
Total Lane-miles Constructed =	209 lane-miles	
		12.8 miles long x 16 lanes =
		204.8 lane-miles

Total Highway Cost	\$795 million	\$4.35 billion
Total Highway Cost per Lane Mile	\$3.80 million/lm	\$21.2 million/lm

Source: Southeast Corridor Constructors and CDOT.