



COLORADO

Department of Transportation

I-270 Critical Bridge Replacements Alternative Delivery Public/Industry Meeting

May 25, 2022



Today's Presenters

Adam Parks, P.E. -
Resident Engineer, I-270



Matthew Pacheco, P.E. -
Alternative Delivery Program Manager





Welcome



MEETING AGENDA:

- Welcome and purpose of meeting
- Project overview
- CDOT delivery method selection process
- Project delivery method recommendation
- Collect comments
- Project Questions & Answers



Purpose of Meeting

- Review alternative delivery method recommendation for the I-270 Critical Bridge Replacements Project
- Solicit comments and respond to questions





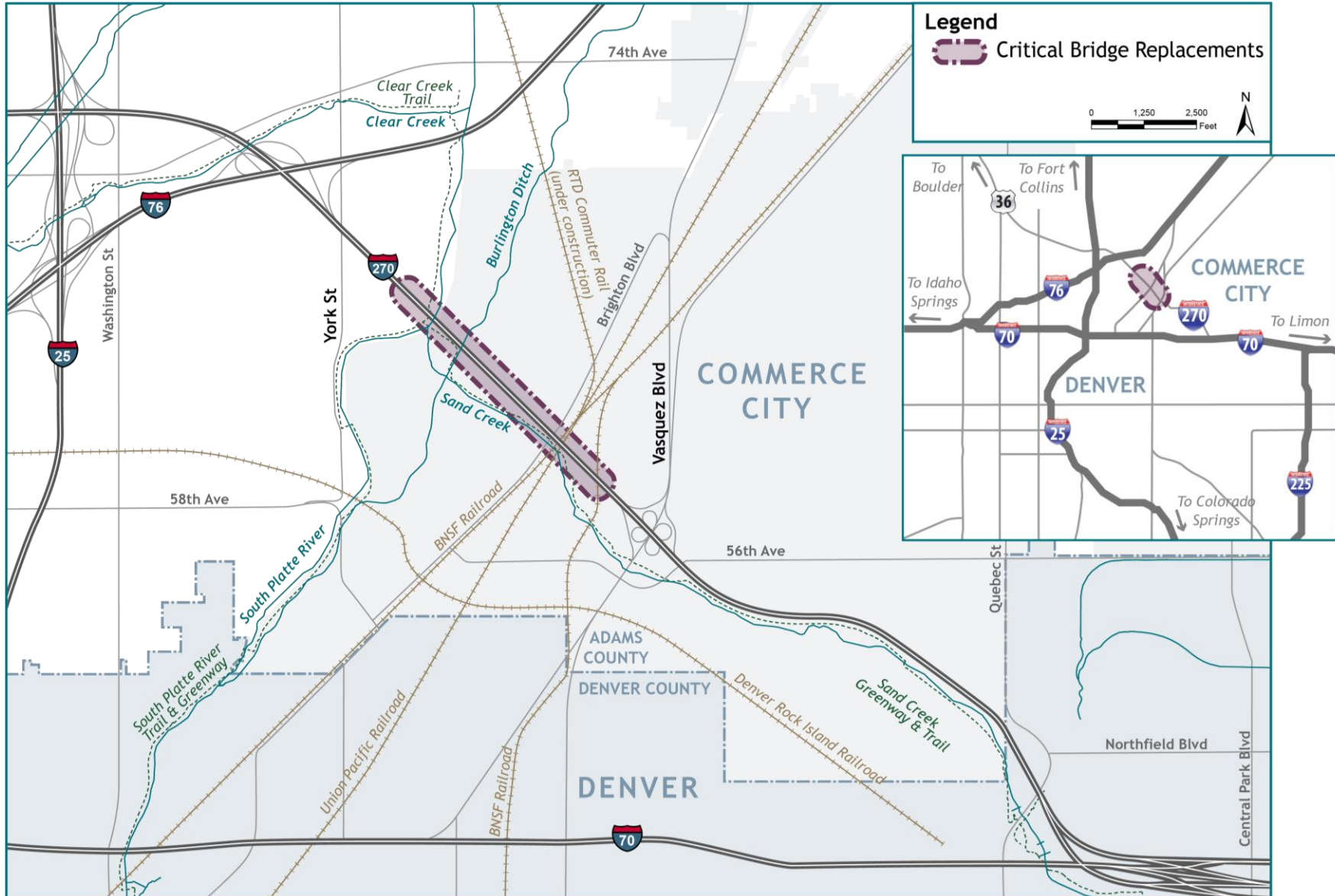
Project Background and Need



- On the I-270 corridor, there are eight (8) structures within a one-mile stretch between York St. and Vasquez Blvd. that have been in service for over 50 years and have been requiring frequent emergency deck repairs. These emergency deck repairs require lane closures which severely impact travel times and cause traffic to detour out-of-direction via I-70 and other local routes.
- Bridge inspections rated 6 of the 8 bridges in this one-mile segment as ‘poor’, which made them eligible for Bridge & Tunnel Enterprise (BTE) funding for full replacement.
- CDOT is seeking approvals to proceed with the design phase for all 8 bridges.



Project Location





Critical Bridge Locations on I-270





Key Project Elements

- Replacement of 8 structures (4 pairs, most pairs to be replaced with a single bridge) between Vasquez Blvd. and York St.
- 6 structures are eligible for Bridge & Tunnel Enterprise funds (noted by *)
- Pavement: full reconstruction at bridge approaches
- Retaining walls
- ROW/Easements for construction access
- Floodplain Management Coordination (MHFD/Adams County)

I-270 Direction	Bridge Crossing	Bridge Number
WB	South Platte River	E-17-ID*
EB	South Platte River	E-17-IE*
WB	Burlington Irrigation Ditch Crossing	E-17-IF*
EB	Burlington Irrigation Ditch Crossing	E-17-IG*
WB	Brighton Blvd & 2 Railroad Crossings (UPRR & BNSF)	E-17-IH*
EB	Brighton Blvd & 2 Railroad Crossings (UPRR & BNSF)	E-17-II
WB	E. 60 th /BNSF Railroad	E-17-IJ*
EB	E. 60 th /BNSF Railroad	E-17-IK

Key Project Goals

- Replace deteriorating structures quickly to eliminate the impacts of emergency bridge repairs
- Anticipate and meet environmental requirements before, during, and after construction
- Limit impacts to the traveling public during construction and minimize the number of required full-freeway closures





Key Project Risks

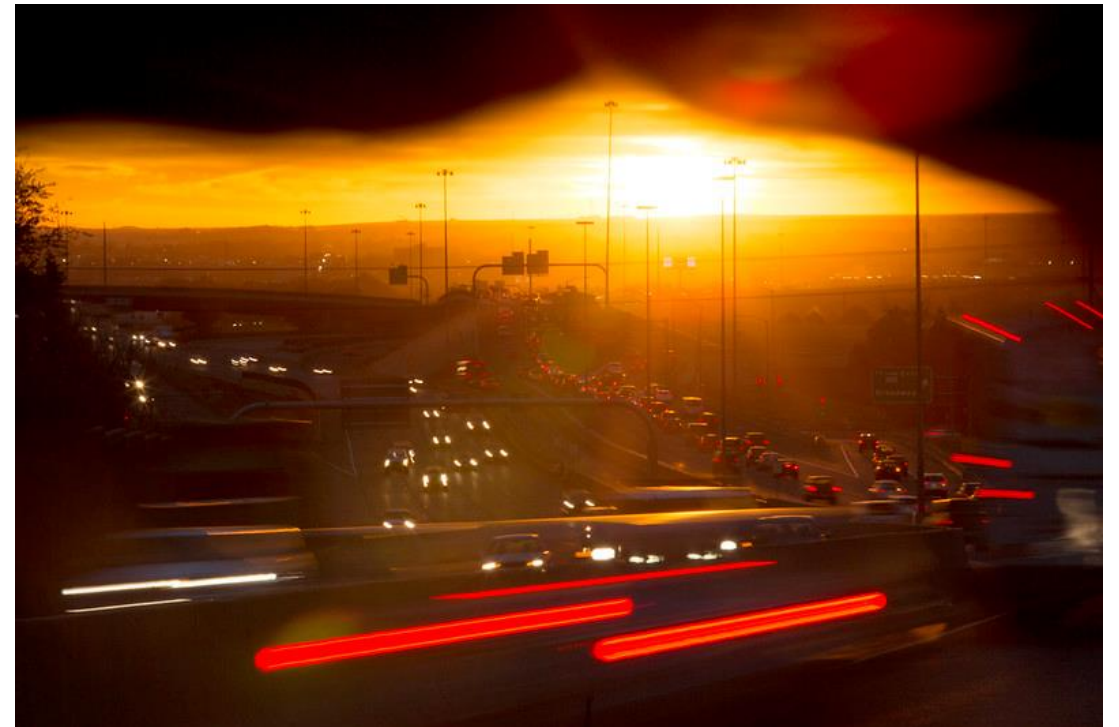


- Third party (Railroad, Ditch Company, etc.) reviews and approvals prior to construction
- Geotechnical engineering investigations (natural or artificial obstructions)
- Escalation of project costs due to labor and material market conditions



Project Funding

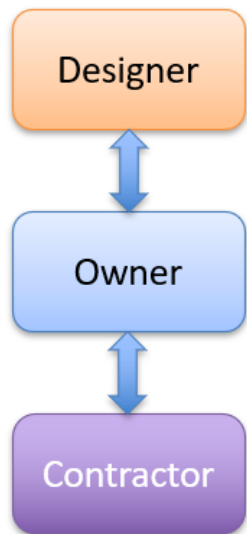
- Bridge & Tunnel Enterprise (BTE)
- Senate Bill 17-267 funds (2017)



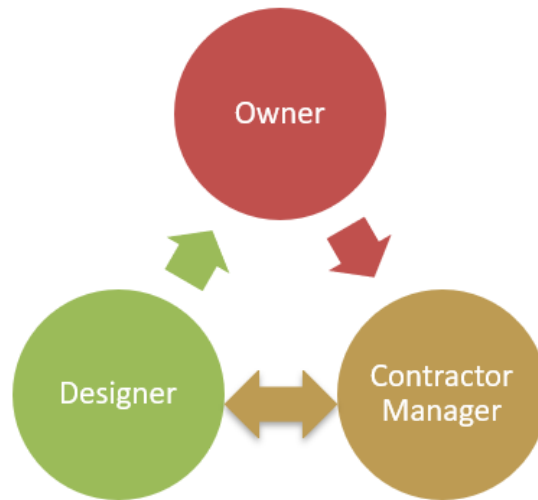


Toolbox of Project Delivery Options

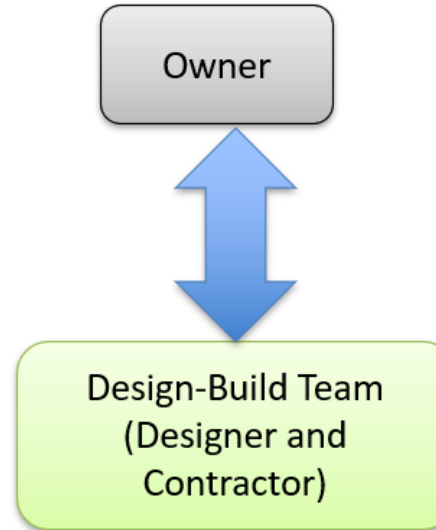
Design-Bid-Build



CM/GC



Design-Build



- Types of Project Delivery at CDOT
 - Design-Bid-Build (Traditional)
 - Design-Build (Alternative)
 - Construction Manager/General Contractor (CM/GC) (Alternative)
- Project Delivery selection is considered through a detailed workshop process



How Does CDOT Decide?

- CDOT has developed a specific Tool to assist our Project Teams in making this decision. It is the:

Project Delivery Selection Matrix (PDSM)

<https://www.codot.gov/business/designsupport/adp-db-cmgc/pdsm>

- A 4-8 hour workshop is held to complete the PDSM
- It is a Goals and risk analysis tool that guides project teams through 5 primary “Critical Discussions” to determine Opportunities and Obstacles that each “Major Delivery Method” presents.
- CDOT does not require the PDSM to be completed on all projects



Project Delivery Selection Factors

Delivery Method Opportunity/Obstacle Summary			
	DBB	CM/GC	DB
Primary Selection Factors			
1. Project Complexity and Innovation			
2. Project Delivery Schedule			
3. Project Cost Considerations			
4. Level of Design			
5. Risk Assessment			
Secondary Selection Factors			
6. Staff Experience/Availability (Agency)			
7. Level of Oversight and Control			
8. Competition and Contractor Experience			

Rating Key

- ++ Most Appropriate delivery method
- + Appropriate delivery method
- Least Appropriate delivery method
- X Fatal Flaw (discontinue evaluation of this method)



PDSM Workshop

- I-270 Critical Bridge Replacements Project Delivery Selection Matrix (PDSM) Workshop
 - CDOT process for determining project delivery methods for complex projects
 - 10 participants
 - Representatives from:
 - CDOT
 - FHWA
 - Started and finalized in Feb. 2022





CM/GC Delivery Primary Differentiators

The CM/GC delivery method provides CDOT the earliest opportunity to procure a qualified Designer and a Construction Manager with needed expertise for the Project and accommodates early and continuous collaboration between the Owner, Designer, General Contractor, and stakeholders throughout all Project phases.

In addition, the Construction Manager's early and continuous input into design may identify additional or previously unknown risks while providing further consideration of opportunities for innovation, feasible mitigation strategies and collaborative scope development.



- Advantage of early contractor input on complex project challenges:
- Railroads and Ditch Company approvals for overpass designs and construction
 - Constructability and site access planning
 - Maintenance of Traffic planning for each bridge construction phase
 - Accelerated Bridge Construction (ABC) opportunities



Potential to start construction before entire design, ROW, etc. is complete (i.e., phased design)



Project Team collaboration can result in early cost certainty



Collaborative design process, guided by CDOT, can pursue a quality and practical project



Through strong CDOT management and project team collaboration, risks can be identified, quantified, and mitigated



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Project Delivery Selection Factors and Recommendation - CM/GC

Delivery Method Opportunity/Obstacle Summary

	DBB	CM/GC	DB
Primary Selection Factors			
1. Project Complexity and Innovation	+	++	+
2. Project Delivery Schedule	+	++	+
3. Project Cost Considerations	-	+	+
4. Level of Design	+	++	-
5. Risk Assessment	-	+	+
Secondary Selection Factors			
6. Staff Experience/Availability (Agency)		Pass	
7. Level of Oversight and Control		Pass	
8. Competition and Contractor Experience		Pass	

Rating Key

- ++ Most Appropriate delivery method
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- Least Appropriate delivery method
- X Fatal Flaw (discontinue evaluation of this method)



Next Steps



Prepare and publish meeting summary Q&A document and recording



Consider input from this meeting related to Alternative Delivery Selection of CM/GC



Present Delivery Recommendation to Transportation Commission



Develop and Release Requests for Proposals



I-270 Environmental Assessment (EA) Comments and Future Outreach

- The broader I-270 environmental study is making progress
- Stay engaged:
 - Visit www.codot.gov/projects/i270 and click on *Share Your Input*
 - Project Hotline: 303-512-4270
 - Send an email: cdot_i270@state.co.us
- Next EA public outreach event (virtual and in-person options) later this year



¿Qué es lo mejor para el futuro de la I-270?
¡Tus comentarios son necesarios!



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Comments and Questions



bit.ly/CDOT-CBRForm

- To submit a comment on the CM/GC alternative delivery method recommendation, please access the QR code with your phone
 - You can also provide comments via the url typed into the Zoom chat window
- To submit a question for the Q&A session, click the Q&A icon located at the bottom of the Webinar screen. Questions will be addressed in the order in which they are received.



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Questions & Answers

