Colorado Transportation Commission
Schedule & Agenda
June 15-16, 2022

For link to YouTube meeting access please see website:
http://www.coloradodot.info/about/transportation-commission/meeting-agenda.html

Kathy Hall, Chair
Grand Junction, District 7

Yessica Holguin
Denver, District 1
Don Stanton, Vice-Chair
Arvada, District 2
Eula Adams
Arapahoe County, District 3
Karen Stuart
Broomfield, District 4
Kathleen Bracke
Fort Collins, District 5
Barbara Vasquez
Cowdrey, District 6
Mark Garcia
Pagosa Springs, District 8
Lisa Hickey
Colorado Springs, District 9
Terry Hart
Pueblo, District 10
Gary Beedy
Genoa, District 11

THE CHAIRWOMAN MAY ALTER THE ITEM SEQUENCE OR TIMES

The times indicated for each topic on the Commission agenda are an estimate and subject to change. Generally, upon the completion of each agenda item, the Commission will immediately move to the next item. However, the order of agenda items is tentative and, when necessary to accommodate the public or the Commission's schedules, the order of the agenda items are subject to change.

Documents posted at http://www.coloradodot.info/about/transportation-commission/meeting-agenda.html no less than 24 hours prior to the meeting. The documents are in draft form and for information only until the Commission takes final action.

TRANSPORTATION COMMISSION WORKSHOPS
Wednesday, June 15, 2022

12:00 p.m. Commissioner Lunch (optional)

1:00 p.m. Budget Workshop (Jeff Sudmeier, Bethany Nicholas)

1:30 p.m. Vail Pass Workshop (Rob Beck, Karen Berdoulay, Jeff Sudmeier)

2:00 p.m. 10-Year Plan Update (Rebecca White & Aaron Willis & Marissa Gaughan)

2:30 p.m. Freight Committee: Freight Plan SOW Update (Commissioner Gary Beedy, Craig Hurst, Rebecca White)

3:15 p.m. GHG Mitigation Measures PD 1610 - Appendix A Amendments (Theresa Takushi, Rebecca White)

3:45 p.m. I-270 Critical Bridge Replacements Project Alternative Delivery Recommendation (Andrew Stratton, Adam Parks)

4:15 p.m. ARC Meeting (Frank Spinelli)

5:00 p.m. Adjournment

TRANSPORTATION COMMISSION MEETING
Thursday, June 16, 2022
8:00 a.m. Commissioner Breakfast

9:00 a.m. 1. Call to Order, Roll Call

9:05 a.m. 2. Public Comments

9:30 a.m. 3. Comments of the Chair and Individual Commissioners

9:50 a.m. 4. Executive Director's Management Report (Shoshana Lew)

10:00 a.m. 5. Chief Engineer's Report (Steve Harelson)

10:05 a.m. 6. CTIO (Formerly HPTE) Director's Report (Nick Farber)

10:10 a.m. 7. FHWA Division Administrator Report (Liz Cramer, Program Delivery Team Leader)

10:15 a.m. 8. STAC Report (Vincent Rogalski)

10:20 a.m. 9. Act on Consent Agenda

a) Proposed Resolution #1: Approve the Regular Meeting Minutes of May 19, 2022 (Herman Stockinger)

b) Proposed Resolution #2: IGA Approval >$750,000 (Steve Harelson)

c) Proposed Resolution #3: Disposal: US 24 (I-70 Business) and CO 71 (Heather Paddock)

d) Proposed Resolution #4: Disposal: 605 25th Greeley (Parcel 43-EX) (Heather Paddock)

e) Proposed Resolution #5: Disposal: Sterling Maintenance Site (Heather Paddock)

f) Proposed Resolution #6: Disposal: SH 21 & Platte, R-209, R-211, R-212, R-214 (Heather Paddock)

g) Proposed Resolution #7: Convey Camp George West Buildings to Colorado State Patrol (David Fox)

h) Proposed Resolution #8: FY23 Maintenance Projects $150k-$250k (Tyler Weldon)

10:25 a.m. 10. Discuss and Act on Proposed Resolution #9: 8th Budget Amendment of FY 2022 (Jeff Sudmeier and Bethany Nicholas)

10:30 a.m. 11. Discuss and Act on Proposed Resolution #10: 12th Budget Supplement of FY 2022 (Jeff Sudmeier and Bethany Nicholas)

10:35 a.m. 12. Discuss and Act on Proposed Resolution #11: State Infrastructure Bank Rate Update (Jeff Sudmeier and Bethany Nicholas)

10:40 a.m. 13. Discuss and Act on Proposed Resolution #12: GHG Mitigation Measures PD - Appendix A Amendments (Rebecca White and Theresa Takushi)

10:45 a.m. 14. Discuss and Act on Proposed Resolution #13: First Amendment to the HPTE/CDOT Floyd Hill Intra Agency Agreement (Nick Farber)

10:50 a.m. 15. Discuss and Act on Proposed Resolution #14: PD 1903.0 Hazmat Routing Policy (Rebecca White and Craig Hurst)

10:55 a.m. 16. Discuss and Act on Proposed Resolution #15: I-270 Critical Bridge Replacements Project Alternative Delivery Recommendation (Andrew Stratton, Adam Parks)

11:00 a.m. 17. Discuss and Act on Proposed Resolution #16: Acknowledgement of New Chair, Vice Chair and Secretary (Commissioner Karen Stuart) NO PRINTED RESOLUTION

11:05 a.m. 19. Recognition
- R1 Engineer Rotation Training Pilot Program (Jessica Myklebust, Daylin Gray, Koudouss Makara, Karen Pasapera Calcina)

11:20 a.m. 20. Other Matters

11:20 a.m. 21. Adjournment

The Bridge Enterprise Board of Directors meeting will begin immediately following the adjournment of the Transportation Commission Meeting. Est. Start Time: 11:30 a.m.

BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS MEETING

Thursday, June 16, 2022

11:30 a.m. 1. Call to Order and Roll Call

2. Public Comments (provided to commissioners in writing before meeting)

3. Act on Consent Agenda
- Proposed Resolution #BTE1: to Approve the Regular Meeting Minutes of May 19, 2022 (Herman Stockinger)

4. Discuss and Act on Proposed Resolution #BTE2: Increase the BTE Funding Commitment to the I-70 Vail Pass Project (Jeff Sudmeier)

5. Discuss and Act on Proposed Resolution #BTE3: Bridge & Tunnel Enterprise 10th Budget Supplement for FY'22 (Jeff Sudmeier)

6. Discuss and Act on Proposed Resolution #BTE4: Asset Ownership of BTE Funded and Completed Structures (Jerad Esquibel)

7. Discuss and Act on Proposed Resolution #BTE5: EJMT Funding Commitment (Jeff Sudmeier)

8. Discuss and Act on Proposed Resolution #BTE6: Approval to Impose a Bridge and Tunnel Impact Fee and a Bridge and Tunnel Retail Delivery Fee per SB 260 Requirements (Jeff Sudmeier)

9. Discuss and Act on Proposed Resolution #BTE7: Adopt Proposed Revisions to Policy Directive BE16.0 (Jerad Esquibel)

10. Other Matters

11. Adjournment

Transportation Commission Special Tour- Region 1 "KOA" Facility

~12:00 p.m.: Depart for Region 1 KOA Maintenance Complex, Visitor Parking Lot, 8500 E. Colfax, Aurora (either in your own vehicle or CDOT vehicle)

12:30 p.m.: Lunch served

1:00 p.m.: Tour Facility

3:00 p.m.: Tour Complete. Depart for home or return to HQ.

INFO ONLY

- Project Budget/Expenditure Memo (Jeff Sudmeier)
- June TC Grants Update (Hannah Reed)

COLORADO
Department of Transportation
Division of Accounting and Finance

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
BETHANY NICHOLAS, BUDGET DIRECTOR
DATE: JUNE 15, 2022
SUBJECT: FY 2021-22 BUDGET AMENDMENT

Purpose
To review the eighth budget amendment to the FY 2021-22 Annual Budget in accordance with Policy Directive (PD) 703.0.

Action
The Division of Accounting and Finance (DAF) is requesting the Transportation Commission (TC) to review and approve the eighth budget amendment to the FY 2021-22 Annual Budget, which consists of one item that requires TC approval. The eighth budget amendment reallocates $2.4 million from the 10 Year Plan Projects - Capital Mobility line to Agency Operations to provide the Colorado Transportation Investment Office (CTIO) with funding to procure a TIFIA loan for the I-70 Floyd Hill project.

FY 2021-22 Budget Amendment
Transfer to CTIO for Floyd Hill IAA for TIFIA Loan

Staff is requesting to move $2.4 million from the 10 Year Plan Projects - Capital Mobility line to Agency Operations for an IAA with CTIO to procure a TIFIA loan for the Floyd Hill project. Based on the Funding Gap Study that began in May 2020, CTIO can contribute approximately $165.0 million to the project by securing a TIFIA loan through the USDOT Build America Bureau. CTIO has previous experience procuring TIFIA loans for US 36, C-470, and I-25 North. The procurement of the TIFIA loan is expected to cost $2.4 million for legal and financial advisory services, and staff requests these funds to come from the existing $135.0 million in SB267 funds approved for the Floyd Hill project. Please see the attached memo from CTIO for more information.

The eighth budget amendment reallocates $2,400,000 from the 10 Year Plan Projects - Capital Mobility (Line 19) to CTIO Agency Operations (Line 66) to provide funding to the CTIO to procure a TIFIA loan for the Floyd Hill project.

Attachments
- Attachment A - FY 2021-22 Amended Revenue Allocation Plan
- Attachment B - memo from CTIO

Attachment A: FY 2021-22 CDOT AMENDED ANNUAL BUDGET (June 2022)

Line	Budget Category / Program	Rollforward from FY 2020-21	FY 2021-22 Allocation Plan	Proposed TC Amendments	Approved TC Amendments	EMT and Staff Approved Adjustments	Total FY22 Program Budget Available including Changes	Directed By	Funding Source
1	**COLORADO DEPARTMENT OF TRANSPORTATION**								
2	**Capital Construction**	**$21.0 M**	**$972.3 M**	**-$2.4 M**	**$334.5 M**	**$73.0 M**	**$1,398.4 M**		
3	**Asset Management**	**$21.2 M**	**$336.1 M**	**$0.0 M**	**$0.0 M**	**$70.4 M**	**$427.7 M**		
4	Surface Treatment	$11.1 M	$223.3 M	$0.0 M	$0.0 M	$0.0 M	$234.4 M	TC	FHWA / SH / SB 09-108
5	Structures	-$2.2 M	$61.9 M	$0.0 M	$0.0 M	$0.0 M	$59.7 M	TC	FHWA / SH / SB 09-108
6	System Operations-AM	$0.4 M	$34.3 M	$0.0 M	$0.0 M	-$1.6 M	$33.1 M	TC	FHWA / SH
7	Geohazards Mitigation	-$6.1 M	$10.1 M	$0.0 M	$0.0 M	$0.0 M	$4.0 M	TC	SB 09-108
8	Permanent Water Quality Mitigation	$2.3 M	$6.5 M	$0.0 M	$0.0 M	-$0.6 M	$8.2 M	TC	FHWA / SH
9	Emergency Relief	$15.7 M	$0.0 M	$0.0 M	$0.0 M	$17.1 M	$32.8 M	FR	FHWA
10	10 Year Plan Projects - Capital AM	$0.0 M	$0.0 M	$0.0 M	$0.0 M	$55.5 M	$55.5 M	TC / FR	FHWA
11	**Safety**	**$7.9 M**	**$115.3 M**	**$0.0 M**	**$24.5 M**	**-$11.5 M**	**$136.2 M**		
12	Highway Safety Improvement Program	-$5.9 M	$33.1 M	$0.0 M	$6.5 M	$6.5 M	$40.1 M	FR	FHWA / SH
13	Railway-Highway Crossings Program	$0.0 M	$3.6 M	$0.0 M	$0.0 M	$0.1 M	$3.7 M	FR	FHWA / SH
14	Hot Spots	-$0.1 M	$2.2 M	$0.0 M	$0.0 M	-$0.2 M	$1.9 M	TC	FHWA / SH
15	FASTER Safety	$10.6 M	$69.2 M	$0.0 M	$18.0 M	-$17.9 M	$79.8 M	TC	SB 09-108
16	ADA Compliance	$3.3 M	$7.2 M	$0.0 M	$0.0 M	$0.0 M	$10.5 M	TC	FHWA / SH
17	**Mobility**	**-$8.0 M**	**$520.9 M**	**-$2.4 M**	**$310.0 M**	**$14.0 M**	**$834.5 M**		
18	Regional Priority Program	$0.0 M	$48.4 M	$0.0 M	$0.0 M	$0.0 M	$48.4 M	TC	FHWA / SH
*19	10 Year Plan Projects - Capital Mobility	-$27.2 M	$450.0 M	-$2.4 M	$311.8 M	$17.1 M	$749.3 M	SL	FHWA / SB 17-267 / SB 21-260
20	National Highway Freight Program	$19.2 M	$22.5 M	$0.0 M	-$1.8 M	-$3.1 M	$36.8 M	FR	FHWA / SH
21	**Maintenance and Operations**	**$21.0 M**	**$347.7 M**	**$0.0 M**	**$8.3 M**	**-$0.4 M**	**$376.6 M**		
22	**Asset Management**	**$20.4 M**	**$312.3 M**	**$0.0 M**	**$13.8 M**	**$2.0 M**	**$348.5 M**		
23	Maintenance Program Areas	$2.9 M	$263.5 M	$0.0 M	$9.5 M	$0.0 M	$275.8 M		
24	Roadway Surface	$0.0 M	$40.4 M	$0.0 M	$9.5 M	$0.0 M	$49.8 M	TC	SH
25	Roadside Facilities	$0.0 M	$21.4 M	$0.0 M	$0.0 M	$0.0 M	$21.4 M	TC	SH
26	Roadside Appearance	$0.0 M	$9.8 M	$0.0 M	$0.0 M	$0.0 M	$9.8 M	TC	SH
27	Structure Maintenance	$0.0 M	$5.4 M	$0.0 M	$0.0 M	$0.0 M	$5.4 M	TC	SH
28	Tunnel Activities	$0.0 M	$4.0 M	$0.0 M	$0.0 M	$0.0 M	$4.0 M	TC	SH
29	Snow and Ice Control	$0.0 M	$79.1 M	$0.0 M	$0.0 M	$0.0 M	$79.1 M	TC	SH
30	Traffic Services	$0.0 M	$69.0 M	$0.0 M	$0.0 M	$0.0 M	$69.0 M	TC	SH
31	Materials, Equipment, and Buildings	$0.0 M	$17.5 M	$0.0 M	$0.0 M	$0.0 M	$17.5 M	TC	SH
32	Planning and Scheduling	$0.0 M	$16.8 M	$0.0 M	$0.0 M	$0.0 M	$16.8 M	TC	SH
33	Express Lane Corridor Maintenance & Operations	$1.3 M	$5.0 M	$0.0 M	$0.0 M	$0.6 M	$6.9 M	TC	SH
34	Property	$0.7 M	$19.9 M	$0.0 M	$0.0 M	$6.8 M	$27.4 M	TC	SH
35	Capital Equipment	$8.7 M	$23.9 M	$0.0 M	$4.3 M	$1.5 M	$38.4 M	TC	SH
36	Maintenance Reserve Fund	$6.9 M	$0.0 M	$0.0 M	$0.0 M	-$6.9 M	$0.0 M	TC	SH
37	**Safety**	**$2.1 M**	**$11.4 M**	**$0.0 M**	**-$5.5 M**	**-$1.2 M**	**$6.8 M**		
38	Strategic Safety Program	$2.1 M	$11.4 M	$0.0 M	-$5.5 M	-$1.2 M	$6.8 M	TC	FHWA / SH
39	**Mobility**	**-$1.5 M**	**$24.0 M**	**$0.0 M**	**$0.0 M**	**-$1.3 M**	**$21.3 M**		
40	Real-Time Traffic Operations	-$0.4 M	$14.0 M	$0.0 M	$0.0 M	-$1.3 M	$12.4 M	TC	SH
41	ITS Investments	-$1.2 M	$10.0 M	$0.0 M	$0.0 M	$0.0 M	$8.8 M	TC	FHWA / SH
42	**Multimodal Services & Electrification**	**-$9.5 M**	**$69.8 M**	**$0.0 M**	**$16.2 M**	**$7.4 M**	**$83.9 M**		
43	**Mobility**	**-$9.5 M**	**$69.8 M**	**$0.0 M**	**$16.2 M**	**$7.4 M**	**$83.9 M**		
44	Innovative Mobility Programs	$2.3 M	$11.1 M	$0.0 M	-$5.9 M	-$0.1 M	$7.5 M	TC	FHWA / SH
45	National Electric Vehicle Program	-$8.4 M	$0.0 M	$0.0 M	$0.0 M	$8.4 M	$0.0 M	FR	FHWA
46	Carbon Reduction Program - CDOT	$0.0 M	$0.0 M	$0.0 M	$7.6 M	$0.0 M	$7.6 M	FR	FHWA
**47	10 Year Plan Projects - Multimodal	-$14.4 M	$50.0 M	$0.0 M	$0.0 M	$0.0 M	$35.6 M	TC	FHWA / SB 17-267, SB 21-260
48	Rail Commission	$0.0 M	$0.4 M	$0.0 M	$14.5 M	$0.0 M	$14.9 M	SL	SL
49	Bustang	$10.9 M	$8.3 M	$0.0 M	$0.0 M	-$1.0 M	$18.3 M	TC	SB 09-108 / Fare Rev.
50	**Suballocated Programs**	**$314.2 M**	**$224.1 M**	**$0.0 M**	**$21.9 M**	**$31.2 M**	**$591.4 M**		
51	**Aeronautics**	**$16.6 M**	**$19.3 M**	**$0.0 M**	**$0.0 M**	**$7.8 M**	**$43.6 M**		
52	Aviation System Programs	$16.6 M	$19.3 M	$0.0 M	$0.0 M	$7.8 M	$43.6 M	AB	SA
53	**Highway**	**$136.0 M**	**$126.5 M**	**$0.0 M**	**$13.1 M**	**$12.1 M**	**$287.7 M**		
54	STBG-Urban (STP-Metro)	$108.4 M	$56.0 M	$0.0 M	$7.5 M	$7.1 M	$179.0 M	FR	FHWA / LOC
55	Congestion Mitigation and Air Quality	$33.5 M	$50.7 M	$0.0 M	$0.0 M	-$6.8 M	$77.4 M	FR	FHWA / LOC
56	Metropolitan Planning	$0.2 M	$9.2 M	$0.0 M	$1.3 M	$0.3 M	$11.1 M	FR	FHWA / FTA / LOC
57	Off-System Bridge Program	-$6.1 M	$10.6 M	$0.0 M	$4.2 M	$11.5 M	$20.2 M	TC / FR	FHWA / SH / LOC
58	**Transit and Multimodal**	**$161.6 M**	**$78.4 M**	**$0.0 M**	**$8.8 M**	**$11.4 M**	**$260.1 M**		
59	Recreational Trails	$2.6 M	$1.6 M	$0.0 M	$0.0 M	-$3.0 M	$1.2 M	FR	FHWA
60	Safe Routes to School	$2.9 M	$3.1 M	$0.0 M	$0.0 M	-$0.3 M	$5.8 M	TC	FHWA
61	Transportation Alternatives Program	$3.6 M	$12.0 M	$0.0 M	$8.8 M	$6.9 M	$31.3 M	FR	FHWA / LOC
62	Transit Grant Programs	$152.5 M	$61.7 M	$0.0 M	$0.0 M	$0.0 M	$214.2 M	FR / SL / TC	FTA / LOC / SB 09-108
**63	Multimodal Options Program - Local	$0.0 M	$0.0 M	$0.0 M	$0.0 M	$0.0 M	$0.0 M	SL	SB 21-260
64	Carbon Reduction Program - Local	$0.0 M	$0.0 M	$0.0 M	$0.0 M	$7.7 M	$7.7 M	FR	FHWA / LOC
65	**Administration & Agency Operations**	**$10.9 M**	**$102.7 M**	**$2.4 M**	**$9.3 M**	**$1.5 M**	**$126.9 M**		
66	Agency Operations	$8.6 M	$62.6 M	$2.4 M	$9.0 M	-$3.6 M	$79.0 M	TC / AB	FHWA / SH / SA / SB 09-108
67	Administration	$0.0 M	$37.5 M	$0.0 M	$0.4 M	$0.0 M	$37.9 M	SL	SH
68	Project Initiatives	$2.3 M	$2.6 M	$0.0 M	$0.0 M	$5.2 M	$10.1 M	TC	SH
69	**Debt Service**	**$64.8 M**	**$9.6 M**	**$0.0 M**	**$124.0 M**	**$142.1 M**	**$340.5 M**		
70	Debt Service	$64.8 M	$9.6 M	$0.0 M	$124.0 M	$142.1 M	$340.5 M	DS	SH
71	**Contingency Reserve**	**$2.0 M**	**$0.0 M**	**$0.0 M**	**-$16.0 M**	**$38.6 M**	**$24.6 M**		
72	Contingency Fund	$27.7 M	$0.0 M	$0.0 M	-$6.0 M	-$0.1 M	$21.6 M	TC	FHWA / SH
73	Reserve Fund	-$25.6 M	$0.0 M	$0.0 M	-$10.0 M	$38.6 M	$3.0 M	TC	FHWA / SH
74	**Other Programs**	**$30.3 M**	**$24.8 M**	**$0.0 M**	**$3.6 M**	**$1.8 M**	**$60.6 M**		
75	Safety Education	$22.5 M	$9.9 M	$0.0 M	$2.0 M	$1.0 M	$35.4 M	TC/FR	NHTSA / SSE
76	Planning and Research	$3.2 M	$14.7 M	$0.0 M	$1.6 M	$0.8 M	$20.4 M	FR	FHWA / SH
77	State Infrastructure Bank	$4.62 M	$0.2 M	$0.0 M	$0.0 M	$0.0 M	$4.8 M	TC	SIB
78	**TOTAL - CDOT**	**$454.8 M**	**$1,751.1 M**	**$0.0 M**	**$502.0 M**	**$295.1 M**	**$3,003.0 M**		

Key to Acronyms:

TC = Transportation Commission
FR = Federal
SL = State Legislature
AB = Aeronautics Board
SH = State Highway
SIB = State Infrastructure Bank
LOC = Local
SB = Senate Bill
DS- Debt Service

Line	Budget Category / Program	Rollforward from FY20-21	FY 2021-22 Allocation Plan	Proposed TC Amendments	Approved TC Amendments	EMT and Staff Approved Adjustments	Total FY22 Program Budget Available including Changes	Directed By	Funding Source
79	**COLORADO BRIDGE & TUNNEL ENTERPRISE**								
80	**Capital Construction**	**$15.4 M**	**$105.8 M**	**$0.0 M**	**$0.0 M**	**-$10.1 M**	**$111.1 M**		
81	**Asset Management**	**$15.4 M**	**$105.8 M**	**$0.0 M**	**$0.0 M**	**-$10.1 M**	**$111.1 M**		
82	Bridge Enterprise Projects-BTE	$15.4 M	$105.8 M	$0.0 M	$0.0 M	-$10.1 M	$111.1 M	BTEB	SB 09-108
83	**Maintenance and Operations**	**$0.7 M**	**$0.5 M**	**$0.0 M**	**$0.0 M**	**$0.0 M**	**$1.1 M**		
84	**Asset Management**	**$0.7 M**	**$0.5 M**	**$0.0 M**	**$0.0 M**	**$0.0 M**	**$1.1 M**		
85	Maintenance and Preservation-BTE	$0.7 M	$0.5 M	$0.0 M	$0.0 M	$0.0 M	$1.1 M	BTEB	SB 09-108
86	**Administration & Agency Operations**	**$3.2 M**	**$1.9 M**	**$0.0 M**	**$0.0 M**	**$0.0 M**	**$5.1 M**		
87	Agency Operations-BTE	$3.2 M	$1.9 M	$0.0 M	$0.0 M	$0.0 M	$5.1 M	BTEB	SB 09-108
88	**Debt Service**	**$0.6 M**	**$17.2 M**	**$0.0 M**	**$0.0 M**	**-$9.1 M**	**$8.7 M**		
89	Debt Service-BTE	$0.6 M	$17.2 M	$0.0 M	$0.0 M	-$9.1 M	$8.7 M	BTEB	FHWA / SH
90	**TOTAL - BRIDGE & TUNNEL ENTERPRISE**	**$19.9 M**	**$125.3 M**	**$0.0 M**	**$0.0 M**	**-$19.3 M**	**$126.0 M**		
91	**COLORADO TRANSPORTATION INVESTMENT OFFICE (CTIO)**								
92	**Maintenance and Operations**	**$53.2 M**	**$9.9 M**	**$0.0 M**	**$6.2 M**	**$0.5 M**	**$69.7 M**		
93	Express Lanes Operations-CTIO	$53.2 M	$9.9 M	$0.0 M	$6.2 M	$0.5 M	$69.7 M	CTIOB	Tolls / Managed Lanes Revenue
94	**Administration & Agency Operations**	**$4.5 M**	**$4.1 M**	**$2.4 M**	**$1.0 M**	**$0.3 M**	**$12.2 M**		
95	Agency Operations-CTIO	$4.5 M	$4.1 M	$2.4 M	$1.0 M	$0.3 M	$12.2 M	CTIOB	Fee for Service
96	**Debt Service**	**$0.0 M**	**$8.7 M**	**$0.0 M**	**$0.0 M**	**$0.0 M**	**$8.7 M**		
97	Debt Service-CTIO	$0.0 M	$8.7 M	$0.0 M	$0.0 M	$0.0 M	$8.7 M	CTIOB	Fee for Service
98	**TOTAL - COLORADO TRANSPORTATION INVESTMENT OFFICE**	**$57.6 M**	**$22.7 M**	**$2.4 M**	**$7.2 M**	**$0.7 M**	**$90.6 M**		
99	**TOTAL - CDOT AND ENTERPRISES**	**$532.4 M**	**$1,899.2 M**	**$2.4 M**	**$509.1 M**	**$276.6 M**	**$3,219.6 M**		

*SB 17-267 directed the State Treasurer to execute lease-purchase agreements on existing state facilities to generate revenue for priority transportation projects. At least 10 percent of these proceeds must be used for transit projects. Of the $50 million in estimated revenue for transit projects, the department anticipates spending $2.4 million on Administration, $27.6 million on the construction of bus and pedestrian facilities, and $20.0 million on rolling stock.
**SB 18-001 created the Multimodal Transportation Options Fund, and allocated $71.75 million to the fund in FY 2018-19 and $22.5 million to the fund in FY 2019-20. This funding is annually appropriated by the General Assembly. The FY 2018-19 appropriation is available until the close of FY 2022-23 pursuant to SB 19-125, and the FY 2019-20 appropriation is available until the close of FY 2023-24 pursuant to SB 19-207. Of the total funding, the department will spend approximately $6 million on administration and operating costs, approximately $14 million for CDOT bus purchase and facility construction, and approximately $74 million wil l be passed through to local agencies for rolling stock purchases.

COLORADO
Transportation
Investment Office

MEMORANDUM

TO: CTIO[1] BOARD OF DIRECTORS / COLORADO TRANSPORTATION COMMISSION
FROM: NICK FARBER, DIRECTOR, CTIO; GEORGE HYPOLITE, CTIO GENERAL COUNSEL
SUBJECT: FIRST AMENDMENT TO INTRA-AGENCY AGREEMENT BETWEEN CTIO AND CDOT REGARDING FLOYD HILL REVENUE GAP STUDY
DATE: JUNE 15, 2022

Purpose

The purpose of this memo is to describe the First Amendment to the Floyd Hill Revenue Gap Study Intra-Agency Agreement (IAA) between the Colorado Department of Transportation (CDOT) and the Colorado Transportation Investment Office (CTIO) to reflect additional Scope of Work (SOW) and CDOT's contribution toward the procurement of a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan on the I-70 Floyd Hill Project.

Action

The CTIO Board of Directors (the Board) and Transportation Commission (TC) are asked to adopt a resolution that supports the staff recommendation to approve the First Amendment to the IAA.

Project Background

The Floyd Hill to Veterans Memorial Tunnels project is on I-70 West of Denver Metro in Clear Creek and Jefferson Counties. This corridor is critical for commuters, recreational travelers, and commerce and is the primary east-west route in Colorado. The project is currently only moving forward with the Canyon Viaduct Alternative, the preferred alternative in the Environmental Assessment.

Currently, it is projected that the total cost of the Floyd Hill Project is $700 million. CDOT has identified $460 million in total funding, including $135 million in SB-267 strategic funds and an estimated $325 million in combined enterprise financing from the Bridge and Tunnel Enterprise (BTE) and CTIO. This includes a maximum of $260 million in BTE-eligible project scope to address two deficient bridges based on preliminary cost estimates. As presented in May 2022 during the Floyd Hill Project Update Workshop, CDOT intends to submit a joint application for the three funding programs, MEGA, INFRA, and RURAL, which are combined under the Multimodal Project Discretionary Grant Opportunity, to fill the remaining funding gap of $240 million.

Overview of the IAA

In January 2020, the Board and the TC approved the original IAA, and in May 2020, CTIO embarked on a Floyd Hill Funding Gap Study with the assistance of the I-70 Collaborative Effort to determine how much CTIO could contribute to the project. The study assumed a full-time Express Lane on the Floyd Hill project

[1] The High-Performance Transportation Enterprise (HPTE) is now doing business as the Colorado Transportation Investment Office (CTIO). CTIO is how the enterprise refers to itself now and in the future. However, the HPTE name is retained for legislative and legal documents.

and the continuation of both the eastbound and westbound Mountain Express Lane operation restrictions. The Funding Gap Study was finished earlier this year and identified that CTIO can contribute between $60 and $80 million through toll-backed revenue bonds or around $165 million through a TIFIA loan.[2] CTIO plans to pursue a TIFIA loan for the Floyd Hill project through the USDOT Build America Bureau (BAB) based on the Funding Gap Study results.

IAAs between CDOT and CTIO document the substantive terms of how CDOT and CTIO work together and allocate rights and responsibilities on shared projects. This IAA states that because of CTIO's expertise and legal powers unavailable to CDOT and CTIO's experience in procuring TIFIA Loans, e.g., US 36, C-470, and I-25 North, CDOT desires to provide funding to CTIO for the procurement of a Floyd Hill TIFIA Loan. The procurement of the loan is expected to cost $2.4 million.[3]

CTIO, CDOT, and the Floyd Hill Project team have agreed to fund the current request from the existing $135.0 M in SB 267 funds approved for the Floyd Hill project. Since funds to cover the proposal have already been identified, staff is only requesting TC and Board approval of the First Amendment. If approved, staff will move funds from the existing project to be available for CTIO to deliver the SOW being proposed under the First Amendment.

Options/Decision Matrix

1. **Staff Recommendation**: Approve the First Amendment to the IAA between CDOT and CTIO and the additional payment of $2.4 M.
2. Review the proposed First Amendment to the IAA and provide instructions on changes or revisions.
3. Review but do not approve the First Amendment to the IAA. Direct CTIO and CDOT to find other ways to fill the funding gap on Floyd Hill.

Next Steps

If approved, CTIO will commence the contracting process with our traffic and revenue advisor to begin an investment-grade traffic and revenue study, hire financial advisors to assist with the TIFIA loan procurement, and hire legal counsel to negotiate the loan between CTIO and the BAB.

Attachments

First Amendment to the Floyd Hill Revenue Gap Study IAA

[2] The TIFIA loan amount assumes a 30-year loan at a 3.07 percent interest rate (as of June 1, 2022).
[3] This number includes $1.7 million for CTIO time and consultant costs and $675,000 for TIFIA's costs, which CTIO is required to pay.

COLORADO
Department of Transportation
Statewide Bridge and Tunnel Enterprise

MEMORANDUM

TO: THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
STEVE HARELSON, CHIEF ENGINEER
JASON SMITH, REGION 3 TRANSPORTATION DIRECTOR
KAREN BERDOULAY, VAIL PASS PROJECT DIRECTOR
ROB BECK, REGION 3 EAST PROGRAM ENGINEER
DATE: JUNE 16, 2022
SUBJECT: VAIL PASS PROJECT WORKSHOP

Purpose

This workshop was prepared to review the current financial status of the Vail Pass project with the Bridge and Tunnel Enterprise (BTE) Board of Directors (Board). Due to design refinements and cost escalation, the Board is being asked to approve a resolution to increase the BTE funding commitment to Vail Pass from $61.5M to $93.4M to fully fund the project and allow for the completion of two deficient BTE eligible bridges.

Action

Staff requests Board approval of Proposed Resolution #BTE-2 to increase the BTE funding commitment to the project from $61.5M to $93.4M, which includes design and construction of two BTE eligible structures F-12-AT (WB) and F-12-AS (EB). The two bridges will proceed to construction at different times with F-12-AT (WB) progressing to construction in June 2022 and F-12-AS (EB) in Summer 2023. Staff also requests approval of Proposed Resolution #BTE-3 to establish the construction phase budget for F-12-AT I-70 WB over Polk Creek, a $49.5M budget supplement, which is part of the overall $93.4M funding commitment for both bridges.

Background

In February 2020, BTE committed a maximum of $40M to fund the reconstruction BTE eligible F-12-AS (EB) over Polk Creek as part of the I-70 Vail Pass INFRA grant application. In April 2021, the I-70 Vail Pass project underwent a value engineering (VE) workshop by a group of third-party subject matter experts. A significant cost savings was identified if BTE eligible F-12-AT (WB) was built before the EB bridge allowing a more efficient alignment for the EB bridge which would reduce the EB bridge length from 1,100 to 600 feet long. Additionally, F-12-AT is a poor-rated bridge which is classified in the top tier of the BTE Bridge Prioritization Plan and was previously scheduled for replacement within a 10-year planning period due to its deteriorating condition. Addressing both structures will remove a total of over 60,000 square feet of poor-rated deck area from the CDOT inventory. In September 2021, the BTE Board approved an increase the program's maximum funding commitment from $40M to $61.5M to fund the addition of the I-70 WB over Polk Creek bridge replacement. The project will be delivered using both the Construction Manager/General Contractor (CM/GC) method and Design Bid Build (DBB) method. All scope that is greater than the original CM/GC fixed limit of construction cost will be delivered via the DBB method. Due to cost escalation and design refinements, the cost estimate for both bridges have increased to $93.4M. Table 1 defines the progression of BTE funding commitment requests for the EB and WB bridges.

2829 West Howard Place 3rd Floor, Denver, CO 80204

		Initial Commitment for INFRA grant **February 2020**	Added F-12-AT (WB) **September 2021**	Cost estimate increases to both bridges
Scope		Replacement of F-12-AS (EB)	Replacement of F-12-AS (EB) and F-12-AT (WB)	Replacement of F-12-AS (EB) and F-12-AT (WB)
Construction	F-12-AT (EB)	$ 36,824,000.00	$ 23,336,227.00	$ 37,000,000.00
	F-12-AS (WB)	$ -	$ 31,117,598.00	$ 49,494,000.00
Design		$ 2,900,000.00	$ 6,850,000.00	$ 6,850,000.00
Total Design and Construction Estimate		$ 39,724,000.00	$ 61,303,825.00	$ 93,344,000.00
Funding Commitment		$40,000,000	$61,500,000	$93,400,000

Table 1- Progression of Estimates and Funding Requests for BTE Eligible F-12-AS and F-12-AT

Further benefits associated with the revised EB bridge alignment and building the WB bridge sooner include:

1) Avoidance of an existing 45' tall wall which is high risk to replace.
2) Reduced environmental impact to Black Gore Creek since the revised alignment allows area to collect traction sand between the roadway and the creek.
3) Safety benefits will be realized earlier by building the WB bridge earlier. The reconstruction of the WB bridge includes correcting the substandard radius of the roadway curve and widening the inside shoulder to allow more space for driver correction.
4) Minimized impacts to the traveling public since reconstructing the WB bridge first allows for the phasing needed to build the EB bridge off-line and avoids throwaway overbuild work that would have been required to maintain traffic.
5) Decreased maintenance costs by replacing this BTE eligible structure sooner.

Value engineering has been completed to incorporate savings into the design, most notably the cost reduction of the F-12-AS (EB) bridge length reduction. However, design refinements and cost escalation due to the global COVID-19 pandemic and inflation have increased the total estimated cost for the BTE eligible portions of the Vail Pass Operations and Safety improvement project to $93.4M. Staff recommend that the BTE funding commitment is increased to fully fund the project and allow for the completion of two deficient BTE eligible bridges. Current BTE program forecasts indicate that an additional funding commitment of $31.9M can be accommodated between FY 2022-23 and FY 2025-26 (the remainder of the project construction schedule) using unprogrammed budget resources.

Next Steps

1) Staff will return to the Board for approval of Proposed Resolution #BTE-2 to increase the BTE funding commitment to the project from $61.5M to $93.4M and Proposed Resolution #BTE-3 to establish the construction phase budget for BTE eligible I-70 WB over Polk Creek (F-12-AT) with a $49.5M budget supplement, which is part of the $93.4M funding commitment.
2) F-12-AT will proceed to construction agreed upon price (CAP) negotiations in late June 2022 and start construction in August 2022 if CAP negotiations are successful.
3) Staff will bring an additional construction phase budget supplement request for F-12-AS to the BTE Board in summer 2023 prior to budgeting the committed funds and advertising the project.

Attachments

Attachment A: Vail Pass Project Workshop

COLORADO
Department of Transportation

I-70 Vail Pass Safety and Operations
BTE Workshop
06.15.2022

Agenda

1. SOW for WB F-12-AT added by TC in September 2021
2. Schedule and CM/GC value limit
3. BTE Budget and Estimate
4. Request:

   a. Increase the overall BTE project funding commitment for bridges F-12-AS (EB) and F-12-AT (WB) due to cost escalation and design refinement.

   b. Budget supplement in BTE funds to establish the construction phase budget for bridge F-12-AT (WB)

Project Background

In June 2020, CDOT was awarded a $60.7M INFRA grant for the first phase of the project to improve safety and traffic operations:

- MP 185 – 190 EB I-70 auxiliary lane
- MP 186 and 188 curve reconstruction
- MP 185.3 EB and WB bridge replacement (WB added in Sept. 2021)
- MP 182 Truck ramp reconstruction
- Six wildlife underpasses and fencing
- MP 185-187 Two miles of Vail Pass recreational trail relocation

40% Reduction in crashes where completing improvements

#1 Highest on I-70 in Colorado
Crashes/Million vehicle miles travelled in the State (based on data from 2010-2014)

306
TOTAL HOURS OF FULL CLOSURE DUE TO INCIDENTS 2014-2017

BTE Scope Timeline for this Project

Feb 2020
BE Resolution of Commitment for F-12-AS (EB) as part of INFRA grant

Initial Commitment of $40M for F-12-AS

April 2021
Major Project Value Engineering study identified cost savings if build F-12-AT(WB) before F-12-AS (EB).

September 2021
BTE Resolution of Commitment to add F-12-AT (WB)

Commitment expanded to $61.5M for F-12-AS (EB) and F-12-AT (WB)

June 2022
Requested BTE Resolution of Commitment to increase funding commitment for both bridges

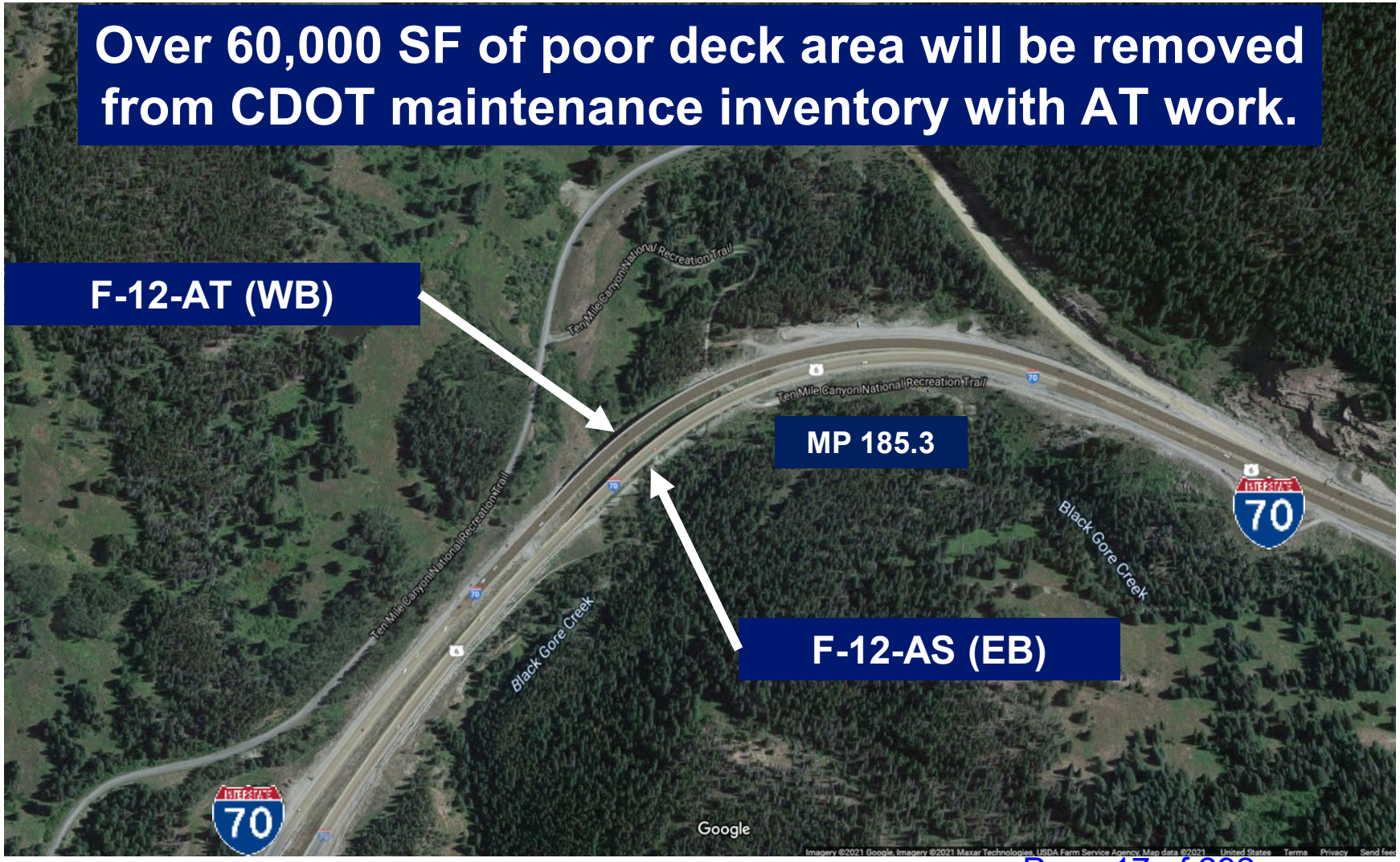
Location of F-12-AS (EB) and F-12-AT (WB)

F-12-AS (EB)

Structurally deficient and BTE eligible, part of original INFRA grant, start of 5-mile auxiliary lane

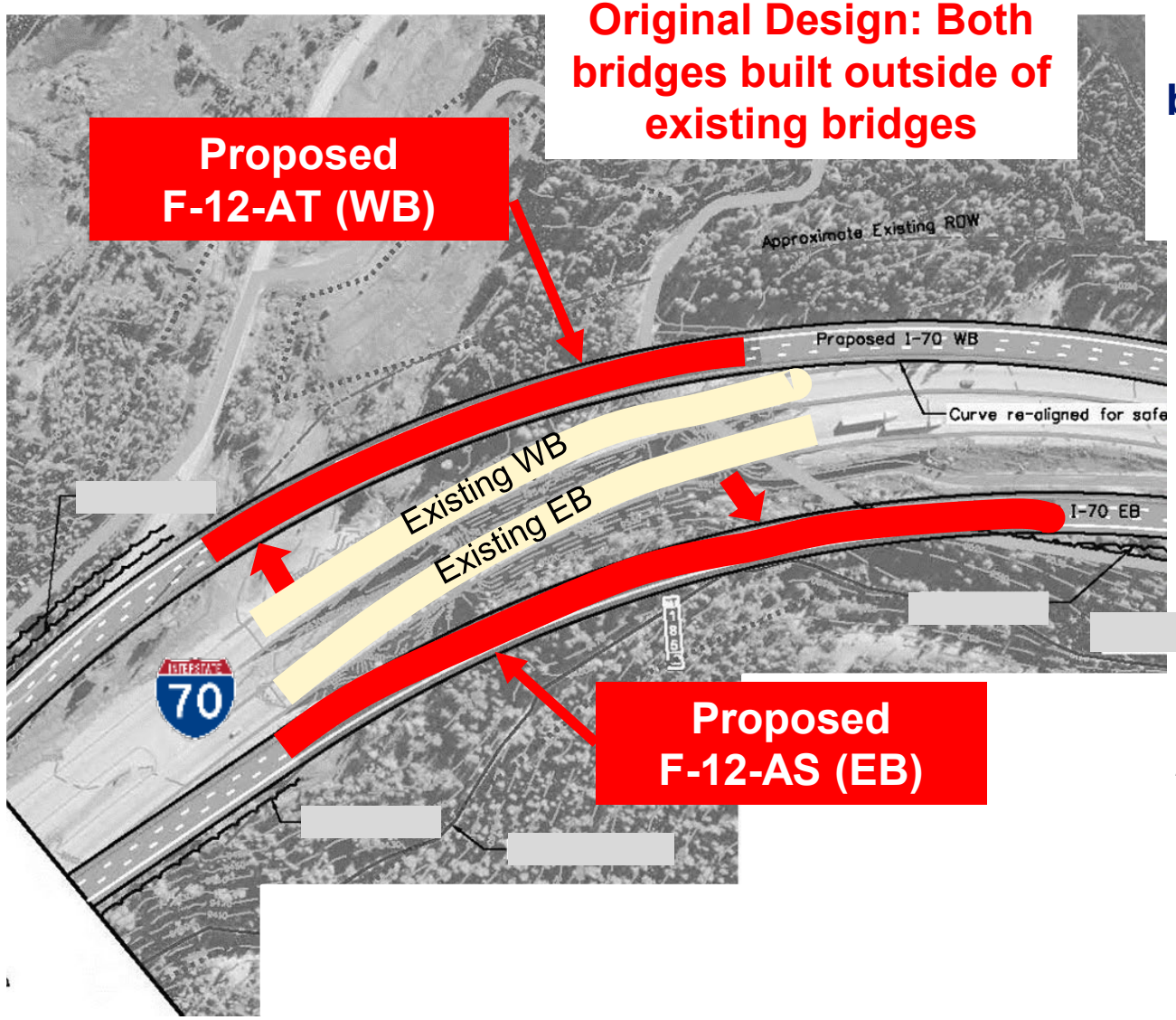
F-12-AT (WB)

Structurally deficient and BTE eligible. Poor rating due to fatigue cracking. Top Tier of BTE Prioritization Plan. Shown in FY 2027-28 in 10 year plan. Substandard roadway curve.

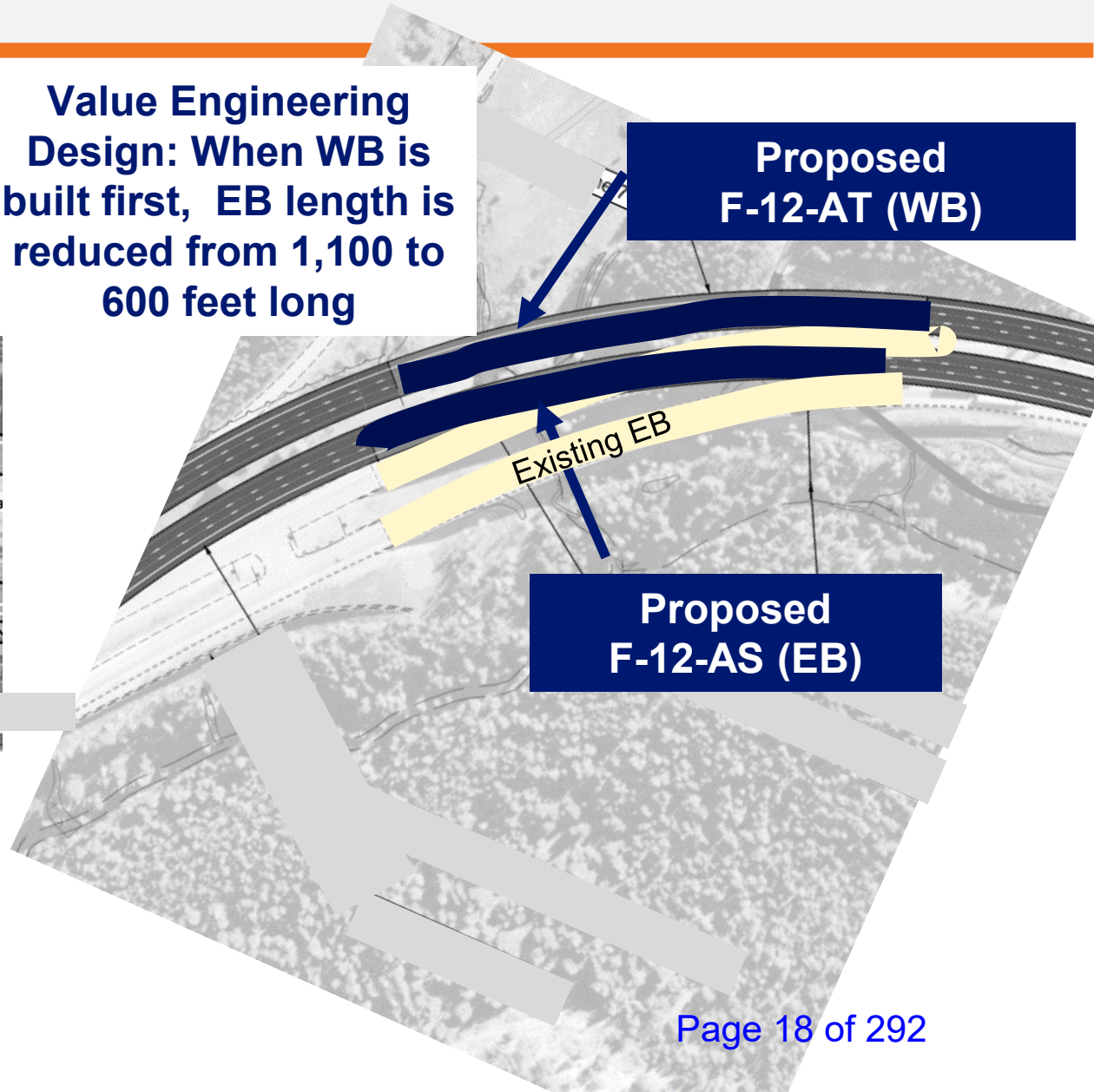


Refined design of F-12-AS (EB)

Original Design: Both bridges built outside of existing bridges



Value Engineering Design: When WB is built first, EB length is reduced from 1,100 to 600 feet long



Highlight of Value Engineering

Innovations	# of Innovations	Potential Savings
Approved	9	$ 31,732,659.20
Conceptual/In-progress	1	$ 173,750.00
Closed/Rejected	10	$ 15,953,002.00
Total Innovations (Approved or Rejected)	20	$ 47,859,411.20

Value Engineering Highlights

- F-12-AT added allowing F-12-AS to be built in a more efficient alignment, reducing the bridge length from 1,100 feet to 600 feet.
- Reduced export by modifying wall design to include use of onsite materials
- Generating on-site riprap from rock excavation
- Identified nearby locations for disposal of excess excavation
  - Vail Pass Rest Area embankment (36,000 CY) – win/win for CDOT, saves Rest Area project cost of importing material
  - East Vail Berm (13,000 CY)

Project Schedule

The Vail Pass Project will be delivered over 5 Construction Packages (CPs):

CP 1 – 4 will be delivered via the Construction Manager/General Contractor method (CM/GC) within the original fixed limit of construction cost

CP 5 will be delivered via the Design Bid Build Method (DBB)

CP 1 - Truck ramp & WB Hwy Closure	CM/GC Delivery Method up to Contract Fixed Limit of Construction Cost
CP 2 - Recreation Path	
CP 3 - F-12-AT (WB) Bridge Replacement	
CP 4 - Roadway	
CP 5 (DBB) - F-12-AS (EB) Bridge Replacement	Design Bid Build for all scope over CM/GC Fixed Limit of Construction Cost

Project Schedule

We are here

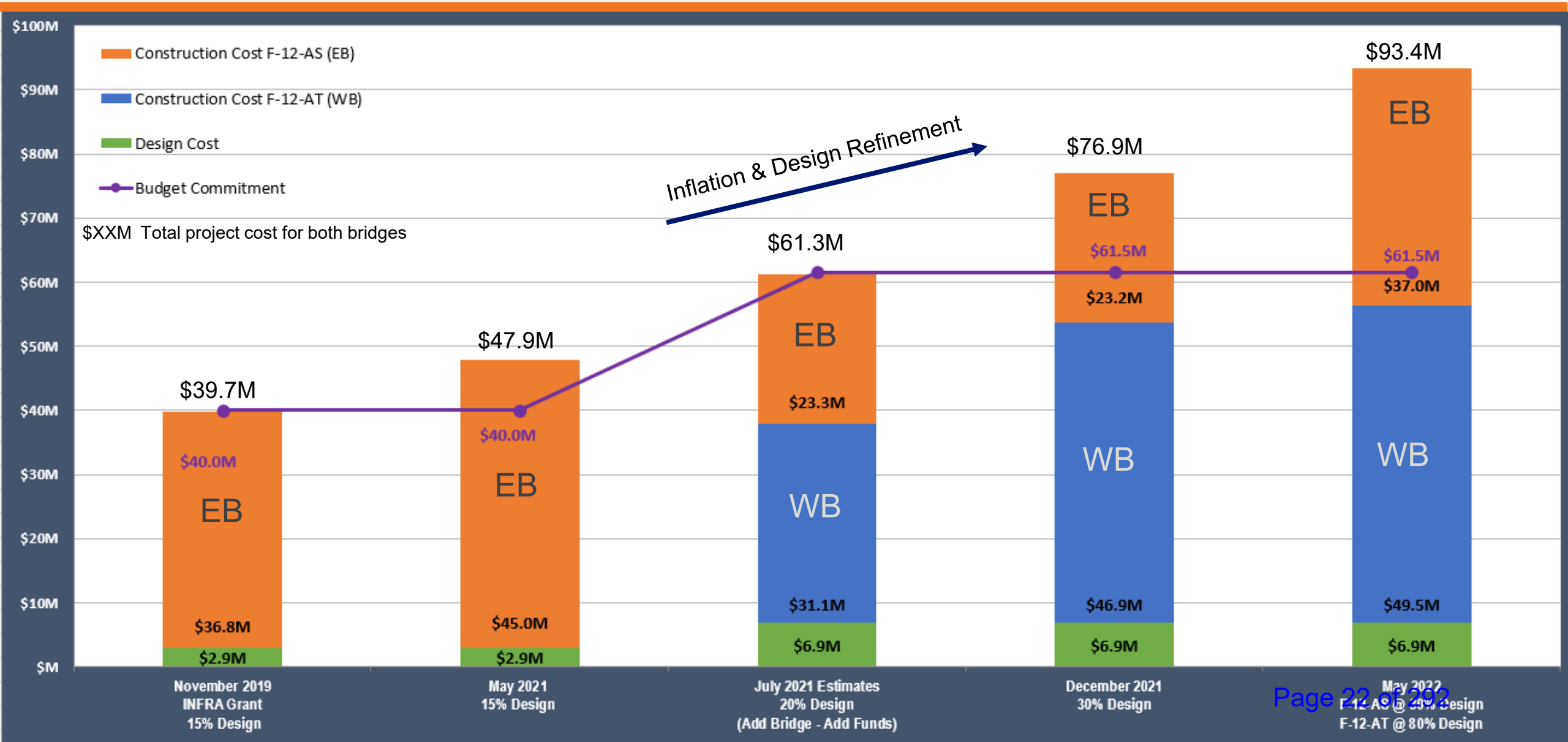
90% design F-12-AT
30% design F-12-AS

	2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CP 1 - Truck ramp & WB Hwy Closure		CAP	Construction																	
CP 2 - Recreation Path	Design				CAP	Construction														
CP 3 - F-12-AT (WB) Bridge Replacement	Design					CAP	Construction													
CP 4 - Roadway	Design								CAP	Construction										
CP 5 - F-12-AS (EB) Bridge Replacement	Design										AD	Construction								

CMGC Contract Fixed Limit of Construction Cost

Design Bid Build

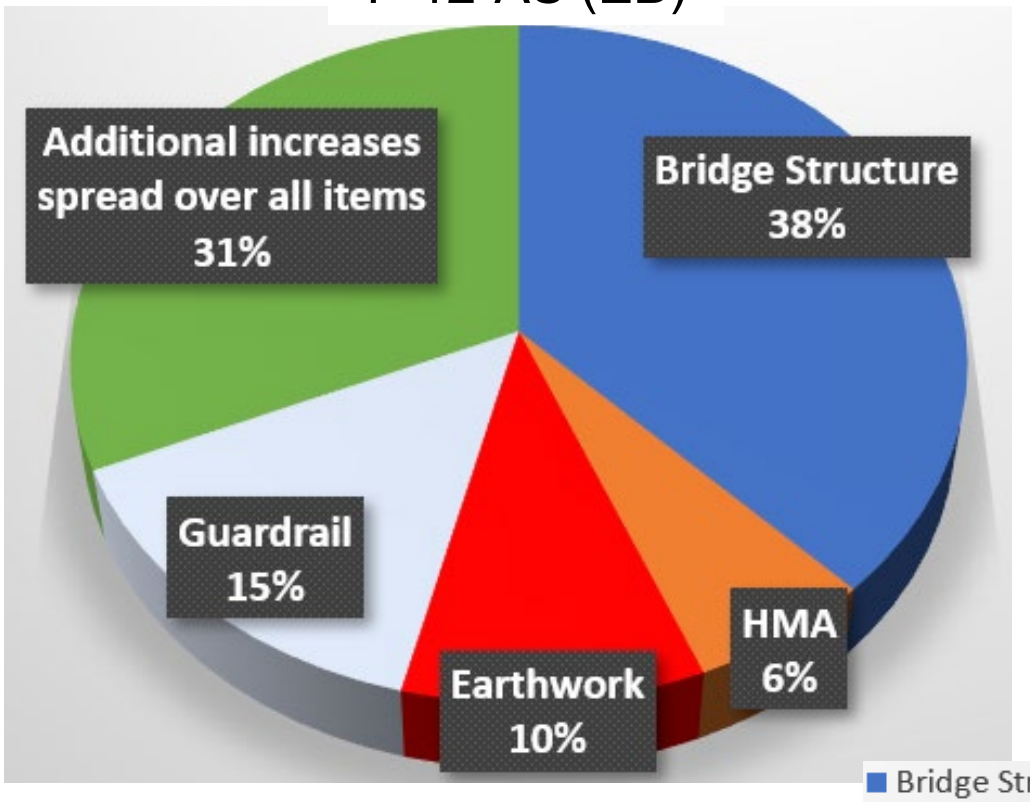
F-12-AS (EB) and F-12-AT (WB) Cost By Milestone



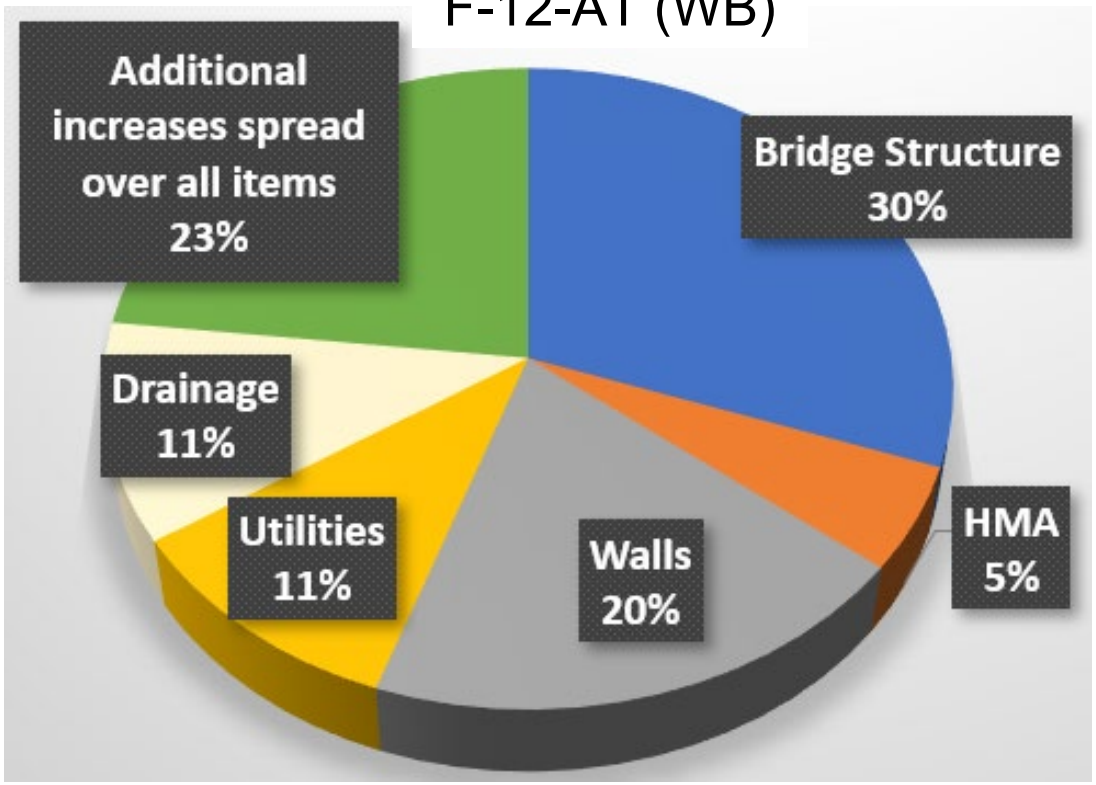
BTE Project Estimate

Cost increases comparing current estimates to the July 2021 Budgeting Estimate
Categories of increase defined

F-12-AS (EB)



F-12-AT (WB)



Project Location Specific Economic Effects

- Only 2 local asphalt and concrete suppliers – each with one in Eagle and one in Summit County. Suppliers continuing to increase prices
- Only 1 local gravel pit in Eagle County. Cheaper to truck materials from Clear Creek County than purchase locally
- Rural fuel prices
- Workforce housing and sustenance increasing in mountain location – Eagle County market 3.4x more expensive than national average[1]

[1]per the Council for Community & Economic Research's County Cost of Living Index

There has been a 57.5% increase for diesel in Vail in the last year

	Regular	Mid	Premium	Diesel
Current Avg.	$4.692	$5.010	$5.227	$5.479
Month Ago Avg.	$4.429	$4.773	$4.966	$5.449
Year Ago Avg.	$3.438	$3.734	$3.964	$3.478

BTE Requested Actions and Next Steps

- Requested Actions– Staff requests approval of two resolutions so F-12-AT (WB) can proceed to the construction agreement
  - Increase the overall BTE project funding commitment from $61.5M to $93.4M
  - F-12-AS (EB) and F-12-AT (WB) will progress to construction at different times. Current request is for a budget supplement for $49.5M in BTE funds to establish the construction phase budget for F-12-AT (WB), which is part of the overall $93.4M BTE funding commitment.

- Next steps
  - Late June 2022 F-12-AT (WB) will proceed to CAP and start construction in August 2022.
  - Spring 2023 F-12-AS (EB)will advance to FOR 80% Design.
  - Summer 2023 Staff will return to the Board to request BTE funds to establish the construction phase budget for F-12-AS (EB) and proceed with Advertisement.

COLORADO
Department of Transportation
Division of Transportation Development

2829 W. Howard Place
Denver, CO 80204-2305

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: REBECCA WHITE, DIRECTOR, DIVISION OF TRANSPORTATION DEVELOPMENT
DATE: JUNE 15, 2022
SUBJECT: 10-YEAR PLAN UPDATE

Purpose

The purpose of this memo is to provide the Transportation Commission with an update on the 10-Year Plan ahead of sharing an updated draft.

Action

No action is required.

Background

The 10-Year Plan is being updated to reflect state SB22-260 and federal infrastructure bill revenues, along with the recently adopted GHG pollution reduction planning rules, and the progress thus far in delivering the original first four years of the 10-Year Plan.

TPR/MPO Prioritization Discussions: Staff is currently in the process of updating the 10-Year Plan project tables based on approved sets of highway and multimodal projects from each TPR and MPO. The updated tables will show what has been funded in the first four years of the plan (FY 19-22), and proposed funding over the next four years (FY 23-26) which include both new and deleted projects. Lastly, staff has included a new column for project status to better track progress made toward delivering the 10-Year Plan.

GHG Baseline Model Overview: CDOT's modeling team is working on modeling both the CDOT "baseline" (non-MPO regionally significant projects in the 10 Year Plan) and the "compliance scenario" (non-MPO regionally significant projects in the updated 10 Year Plan). Staff anticipates sharing initial modeling results in the July timeframe. The NFRMPO and DRCOG also must demonstrate compliance with the GHG Rule by October 1, 2022, and are similarly working on updating their plans and conducting modeling runs.

10-Year Plan Narrative: Staff has developed a draft outline for the narrative portion of the updated 10-Year Plan. This narrative component focuses on what projects have been delivered to date, how CDOT will demonstrate compliance with the GHG planning rules, and what the 10-Year Plan delivers in terms of improved safety, a more resilient system, increasing multimodal options, and reinforcing

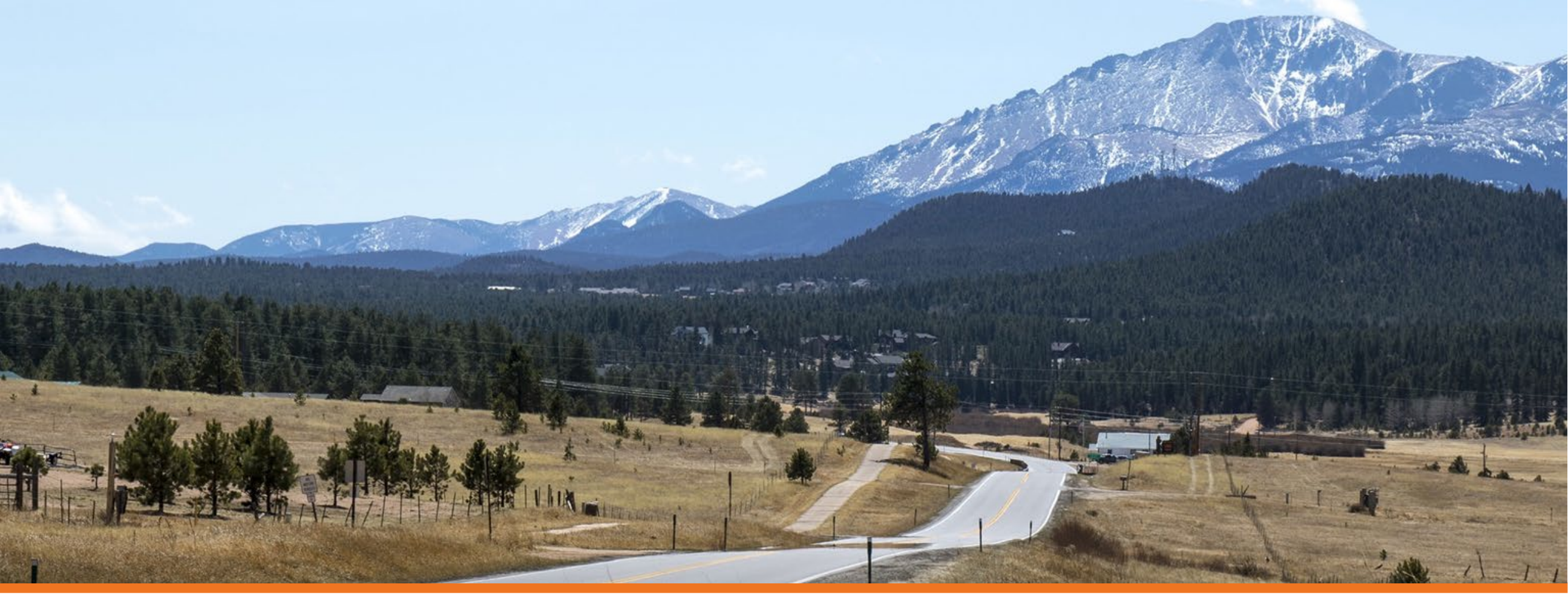
the Department's commitment to fixing Colorado's rural roads. The 10-Year Plan narrative will also include links to accountability dashboards that allow stakeholders to track progress moving forward.

Next Steps

Later this summer staff intends to share preliminary GHG modeling results that will frame the discussion on how CDOT plans to achieve the GHG reduction goals identified in the GHG planning rules. Additionally, staff will share the updated draft 10-Year Plan project tables for review and release for a 30-day public review and comment period.

Attachments

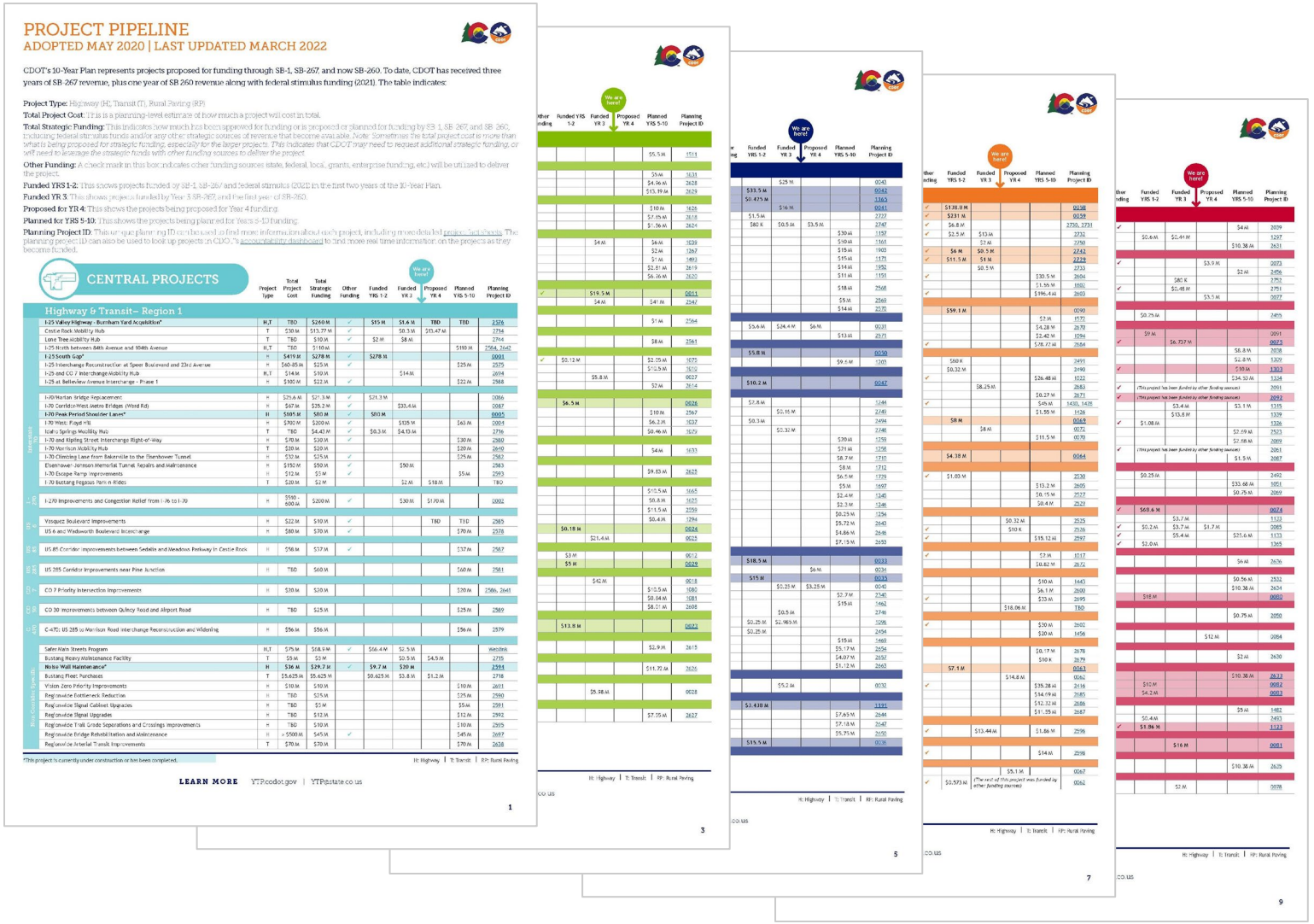
10-Year Plan Presentation



COLORADO
Department of Transportation

10 Year Plan Update
Transportation Commission
June 2022

Background: 10 Year Plan Project Tables



PROJECT PIPELINE
ADOPTED MAY 2020 | LAST UPDATED MARCH 2022

CDOT's 10-Year Plan represents projects proposed for funding through SB-1, SB-267, and now SB-260. To date, CDOT has received three years of SB-267 revenue, plus one year of SB 260 revenue along with federal stimulus funding (2021). The table indicates:

Project Type: Highway (H), Transit (T), Rural Paving (RP)
Total Project Cost: This is a planning-level estimate of how much a project will cost in total.
Total Strategic Funding: This indicates how much has been approved for funding or is proposed or planned for funding by SB 1, SB 267 and SB 260, including federal stimulus funds and/or any other strategic sources of revenue that become available. *Note: Sometimes the total project cost is more than what is being proposed for strategic funding, especially for the larger projects. This indicates that CDOT may need to request additional strategic funding, or will need to leverage the strategic funds with other funding sources to deliver the project.*
Other Funding: A check mark in this box indicates other funding sources (state, federal, local, grants, enterprise funding, etc.) will be utilized to deliver the project.
Funded YRS 1-2: This shows projects funded by SB-1, SB-267 and federal stimulus (2021) in the first two years of the 10-Year Plan.
Funded YR 3: This shows projects funded by Year 3 SB-267, and the first year of SB-260.
Proposed for YR 4: This shows the projects being proposed for Year 4 funding.
Planned for YRS 5-10: This shows the projects being planned for Years 5-10 funding.
Planning Project ID: This unique planning ID can be used to find more information about each project, including more detailed project fact sheets. The planning project ID can also be used to look up projects in CDOT's accountability dashboard to find more real time information on the projects as they become funded.

CENTRAL PROJECTS

Highway & Transit– Region 1

	Project Type	Total Project Cost	Total Strategic Funding	Other Funding	Funded YRS 1-2	Funded YR 3	Proposed YR 4	Planned YRS 5-10	Planning Project ID
I-25 Valley Highway - Burnham Yard Acquisition*	H,T	TBD	$260 M	✓	$15 M	$1.6 M	TBD	TBD	2576
Castle Rock Mobility Hub	T	$20 M	$13.77 M	✓		$0.3 M	$15.47 M		2756
Lone Tree Mobility Hub	T	TBD	$10 M	✓	$2 M	$8 M			2764
I-25 Worth between 84th Avenue and 104th Avenue	H,T	TBD	$100 M					$100 M	2564, 2642
I-25 South Gap*	H	$419 M	$278 M	✓	$278 M				0001
I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue	H	$60-85 M	$25 M	✓				$25 M	2575
I-25 and CO 7 Interchange Mobility Hub	H,T	$14 M	$10 M			$14 M			2694
I-25 at Belleview Avenue Interchange - Phase 1	H	$100 M	$22 M	✓				$22 M	2568
I-70/Harlan Bridge Replacement	H	$25.6 M	$21.3 M	✓	$21.3 M				0086
I-70 Corridor-West Metro Bridges (Ward Rd)	H	$67 M	$35.2 M	✓		$33.4 M			0087
I-70 Peak Period Shoulder Lanes*	H	$105 M	$80 M	✓	$80 M				0005
I-70 West: Floyd Hill	H	$700 M	$200 M	✓		$135 M		$63 M	0004
Idaho Springs Mobility Hub	T	TBD	$4.43 M	✓	$0.3 M	$4.13 M			2716
I-70 and Kipling Street Interchange Right-of-Way	H	$70 M	$30 M	✓				$30 M	2560
I-70 Morrison Mobility Hub	T	$20 M	$20 M					$20 M	2640
I-70 Climbing Lane from Bakerville to the Eisenhower Tunnel	H	$32 M	$25 M	✓				$25 M	2582
Eisenhower-Johnson Memorial Tunnel Repairs and Maintenance	H	$150 M	$50 M	✓			$50 M		2583
I-70 Escape Ramp Improvements	H	$12 M	$5 M	✓				$5 M	2593
I-70 Bustang Pegasus Park-n-Rides	T	$20 M	$2 M			$2 M	$18 M		TBD
I-270 Improvements and Congestion Relief from I-76 to I-70	H	$550 - 600 M	$200 M	✓		$30 M	$170 M		0002
Vasquez Boulevard Improvements	H	$22 M	$10 M	✓			TBD	TBD	2565
US 6 and Wadsworth Boulevard Interchange	H	$80 M	$70 M	✓				$70 M	2578
US 85 Corridor Improvements between Sedalia and Meadows Parkway in Castle Rock	H	$58 M	$37 M	✓				$37 M	2567
US 285 Corridor Improvements near Pine Junction	H	TBD	$60 M					$60 M	2581
CO 7 Priority Intersection Improvements	H	$20 M	$20 M					$20 M	2586, 2641
CO 30 Improvements between Quincy Road and Airport Road	H	TBD	$25 M					$25 M	2569
C-470: US 285 to Morrison Road Interchange Reconstruction and Widening	H	$56 M	$56 M					$56 M	2579
Safer Main Streets Program	H,T	$75 M	$68.9 M	✓	$66.4 M	$2.5 M			Westlink
Bustang Heavy Maintenance Facility	T	$5 M	$3 M			$0.5 M	$4.5 M		2715
Noise Wall Maintenance*	H	$36 M	$29.7 M	✓	$9.7 M	$20 M			2595
Bustang Fleet Purchases	T	$5.625 M	$5.625 M		$0.625 M	$3.8 M	$1.2 M		2718
Vision Zero Priority Improvements	H	$10 M	$10 M					$10 M	2691
Regionwide Bottleneck Reduction	H	TBD	$25 M					$25 M	2590
Regionwide Signal Cabinet Upgrades	H	TBD	$5 M					$5 M	2591
Regionwide Signal Upgrades	H	TBD	$12 M					$12 M	2592
Regionwide Truck Grade Separations and Crossings Improvements	H	TBD	$10 M					$10 M	2595
Regionwide Bridge Rehabilitation and Maintenance	H	> $500 M	$45 M	✓				$45 M	2697
Regionwide Arterial Transit Improvements	T	$70 M	$70 M					$70 M	2638

*This project is currently under construction or has been completed.

H: Highway | T: Transit | RP: Rural Paving

LEARN MORE YTP.codot.gov | YTPstate.co.us

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- Key component of the 10 Year Vision
- Shows project list, including project type, estimated cost, allocated and planned funding, link to Fact Sheets
- Has been reformatted several times to better show multimodal approach and latest funding status

Current Project Tables

CENTRAL PROJECTS

Highway & Transit– Region 1

	Project Type	Total Project Cost	Total Strategic Funding	Other Funding	Funded YRS 1-2	Funded YR 3 (We are here!)	Proposed YR 4	Planned YRS 5-10	Planning Project ID
I-25 Valley Highway - Burnham Yard Acquisition*	**H,T**	**TBD**	**$260 M**	✓	**$15 M**	**$1.6 M**	**TBD**	**TBD**	**2576**
Castle Rock Mobility Hub	T	$30 M	$13.77 M	✓		$0.3 M	$13.47 M		2714
Lone Tree Mobility Hub	T	TBD	$10 M	✓	$2 M	$8 M			2744
I-25 North between 84th Avenue and 104th Avenue	H,T	TBD	$110 M					$110 M	2584, 2642
I-25 South Gap*	**H**	**$419 M**	**$278 M**	✓	**$278 M**				**0001**
I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue	H	$60-85 M	$25 M	✓				$25 M	2575
I-25 and CO 7 Interchange Mobility Hub	H,T	$14 M	$10 M			$14 M			2694
I-25 at Belleview Avenue Interchange - Phase 1	H	$100 M	$22 M	✓				$22 M	2588
I-70/Harlan Bridge Replacement	H	$25.6 M	$21.3 M	✓	$21.3 M				0086
I-70 Corridor-West Metro Bridges (Ward Rd)	H	$67 M	$35.2 M	✓		$33.4 M			0087
I-70 Peak Period Shoulder Lanes*	**H**	**$105 M**	**$80 M**	✓	**$80 M**				**0005**
I-70 West: Floyd Hill	H	$700 M	$200 M	✓		$135 M		$63 M	0004
Idaho Springs Mobility Hub	T	TBD	$4.43 M	✓	$0.3 M	$4.13 M			2716
I-70 and Kipling Street Interchange Right-of-Way	H	$70 M	$30 M	✓				$30 M	2580
I-70 Morrison Mobility Hub	T	$20 M	$20 M					$20 M	2640
I-70 Climbing Lane from Bakerville to the Eisenhower Tunnel	H	$32 M	$25 M	✓				$25 M	2582

Interstate 70

Updated Project Tables

CENTRAL PROJECTS

Highway & Transit– Region 1

	Project	Project Type	Total Est. Project Cost	Total Strategic Funding	Other Funding	Funded FY 19-22	Proposed FY 23-26	Planned FY 27+	Project Status	Planning Project ID
	I-25 Valley Highway - Burnham Yard Acquisition	H,T	TBD	$260 M	✓	$16.6 M	TBD		◆	2576
	Castle Rock Mobility Hub	T	$30 M	[illegible].77 M	✓	$13.77				2714
	Lone Tree Mobility Hub	T	TBD	[illegible] M	✓	$10 M				2744
	I-25 North between 84th Avenue and 104th Avenue	H	TBD	$110 M			$110 M			2584, 2642
	I-25 South Gap	H	$419	$278 M	✓	$278 M			✓	0001
	I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue		$60-85 M	$25 M	✓		$25 M			2575
	I-25 and CO 7 Interchange Mobility Hub	H,T	$14 M	$10 M		$14 M				2694
	I-25 at Belleview Avenue Interchange - Phase 1		$100 M	$22 M	✓		$22 M			2588
Interstate 70	I-70/Harlan Bridge Replacement	H	$25.6 M	$21.3 M	✓	$21.3 M			●	0086
	I-70 Corridor-West Metro Bridges (Ward Rd)	H	$67 M	$35.2 M	✓	$33.4 M				0087
	I-70 Peak Period Shoulder Lanes	H	$105 M	$80 M	✓	$80 M			◆	0005
	I-70 West: Floyd Hill	H	$700 M	$200 M	✓	$135 M	$63 M			0004
	Idaho Springs Mobility Hub	T	TBD	$4.43 M	✓	$4.43 M				2716
	I-70 and Kipling Street Interchange Right-of-Way	H	$70 M	$30 M	✓		$30 M			2580
	I-70 Morrison Mobility Hub	T	$20 M	$20 M			$20 M			2640
	I-70 Climbing Lane from Bakerville to the Eisenhower T[illegible]nel	H	$32 M	$25 M	✓		$25 M			2582

We are here!

EXAMPLE

10 Year Plan Redlined Version

PROJECT PIPELINE
ADOPTED MAY 2020 | UPDATE ADOPTED AUGUST 2022

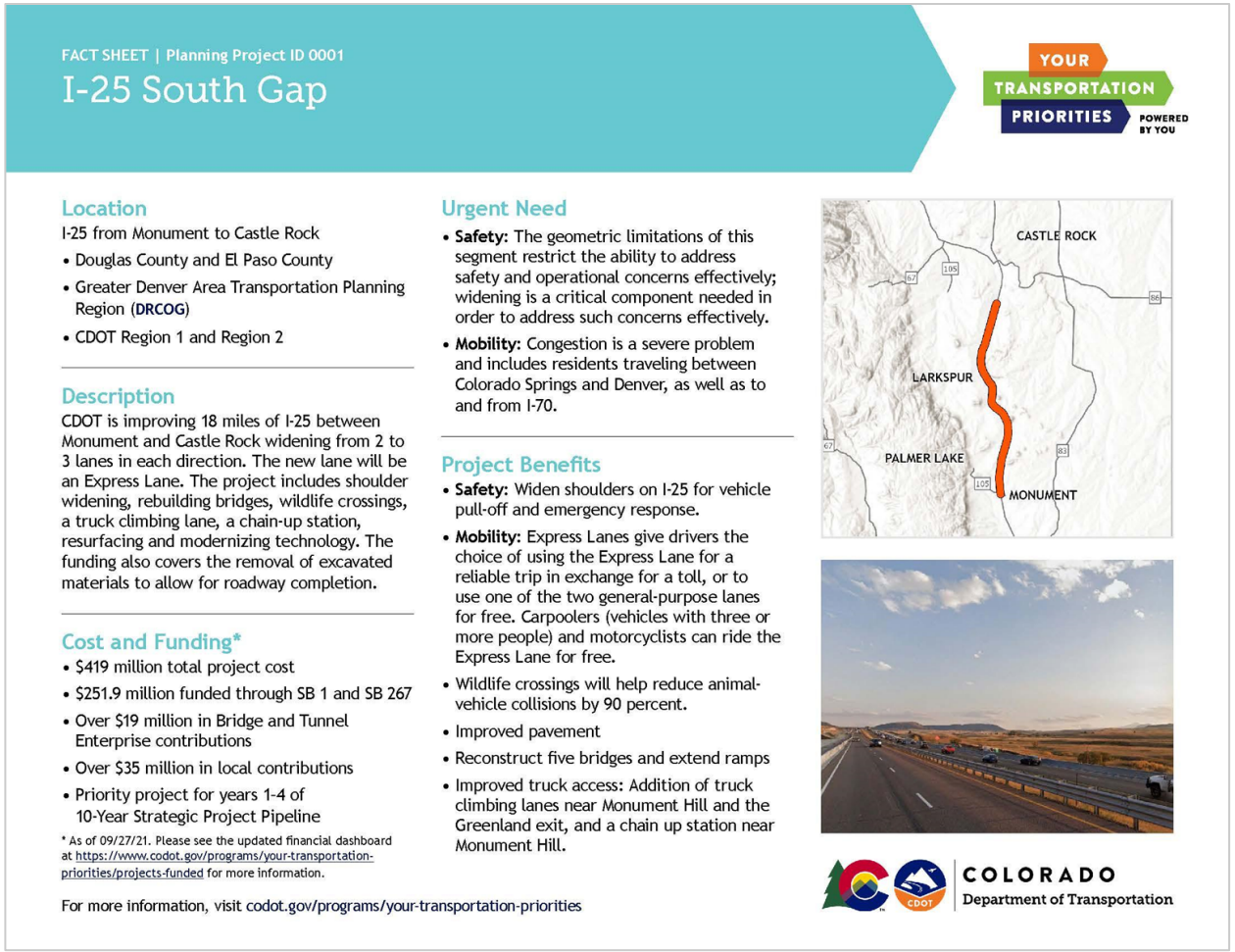
NORTHEAST PROJECTS

		Project Type	Total Est. Project Cost	Total Strategic Funding	Other Funding	Funded FY 19-22 (We are here!)	Proposed FY 23-26	Planned FY 27+	Project Status	Planning Project ID
Highway & Transit– Region 4										
Interstate 25	Berthoud Mobility Hub	T	$14.5 M	$12.5 M	✓	$12.5 M			◆	2729
	Centerra-Loveland Mobility Hub	T	$21 M	$6.5 M		$6.5 M			◆	2742
	Firestone - Longmont Mobility Hub (Phase 1)	T	$6.823 M	$6.823 M	✓	$6.823 M				2730, 2731
	Firestone - Longmont Mobility Hub (Phase 2)	T	$16.5 M	$15.5 M	✓	$15.5 M				2732
	Firestone - Longmont Mobility Hub Access Improvements	T	$2.0 M	$2.0 M		$2 M				2750
	Harmony Road Park-n-Ride Expansion	T	$0.5 M	$0.5 M		$0.5 M				2733
	I-25 and CO 14 Interchange Improvements	H	$60 M	$30.5 M	✓		$3.5 M	$27 M		2604
	I-25 North Express Lanes: Segment 5 (CO 56 to CO 66)	H	$350 M	$196.4 M	✓		$98.2 M	$98.2 M		2603
	I-25 North Express Lanes: Segment 6 (CO 56 to CO 402)	H	$293.38 M	$231 M	✓	$231 M			◆	0059
	I-25 North Express Lanes: Segment 7 & 8 (CO 402 to CO 14)	H	$598.62 M	$138.8 M	✓	$138.8 M			◆	0058
	I-25 Bustang ~~Service in Region 4~~ Fleet Expansion	T	$2.5 M	$2.5 M				$2.5 M		2690
	North I-25 Transit ~~Service~~ Fleet Purchase	T	$3 M	$3 M			$1.5 M	$1.5 M		1802
Interstate 70	~~Essential Bus Service between Burlington and Denver~~	~~T~~	~~$2.42 M~~	~~$2.42 M~~						~~1094~~
	I-70 Arriba Rest Area	H	$2 M	$2 M				$2 M		1572
	I-70 Bethune to Burlington	H	$175 M	$31.22 M	✓		$31.22 M			TBD
	I-70 Replacing Failing Pavement	RP	$59.1 M	$59.1 M		$59.1 M			✓	0090
	~~Resurfacing Select Segments of I-70 between Seibert and Stratton~~	~~H~~	~~$175 M~~	~~$28.72 M~~					~~$28.72 M~~	~~2684~~
	Rural Roads Bridge Package 1 Rehabilitation and Repair ~~I-70 Bridges near Limon~~	H	$4.28 M	$4.28 M			$3.8 M	$0.48 M		2670
Interstate 76	I-76 Atwood Bridge Rehabilitation and Repair	H	$0.27 M	$0.27 M				$0.27 M		2671
	I-76 CO 144 West, Westbound Diamond Grind and Slabs MP 55.1 to MP 61.9	RP	$8.05 M	$8.05 M		$8.05 M			◆	0069
	I-76 Corridor Improvements and Preservation	H	$200 M	$26.48 M	✓		$26.48 M			1022
	I-76 East of Sterling (Part 2) - Slabs and Diamond Grind	H	$8.25 M	$8.25 M		$8.25 M			●	2683
	I-76 New Local Fixed-Route Transit Service in Fort Morgan	T	$1.55 M	$1.55 M			$1.55 M			1426
	I-76 Reconstruction from Fort Morgan to Brush	H	$125 M	$45 M	✓		$20 M	$25 M		1430, 1428
	I-76 Sterling East: MP 124.7 to MP 128.2	RP	$8.05 M	$8.05 M		$8.05 M			●	0072
	I-76 US 34 East, Slabs and Diamond Grind both directions from MP 66 to MP 73.9	RP	$11.5 M	$11.5 M				$11.5 M		0070
	Outrider Improvements at Brush, Fort Morgan, Hudson, and Lochbuie	T	$0.32 M	$0.32 M		$0.32 M				2490
	Outrider Improvements at Sterling	T	$80 K	$80 K		$80 K				2491

Next month, staff will bring a redlined version of the updated project tables to STAC and TC

- New projects are bold green
- Deleted projects have red strikethrough
- We will include a separate attachment that explains why projects were added/deleted

Fact Sheets



FACT SHEET | Planning Project ID 0001

I-25 South Gap

YOUR TRANSPORTATION PRIORITIES POWERED BY YOU

Location

I-25 from Monument to Castle Rock

- Douglas County and El Paso County
- Greater Denver Area Transportation Planning Region (DRCOG)
- CDOT Region 1 and Region 2

Description

CDOT is improving 18 miles of I-25 between Monument and Castle Rock widening from 2 to 3 lanes in each direction. The new lane will be an Express Lane. The project includes shoulder widening, rebuilding bridges, wildlife crossings, a truck climbing lane, a chain-up station, resurfacing and modernizing technology. The funding also covers the removal of excavated materials to allow for roadway completion.

Cost and Funding*

- $419 million total project cost
- $251.9 million funded through SB 1 and SB 267
- Over $19 million in Bridge and Tunnel Enterprise contributions
- Over $35 million in local contributions
- Priority project for years 1-4 of 10-Year Strategic Project Pipeline

* As of 09/27/21. Please see the updated financial dashboard at https://www.codot.gov/programs/your-transportation-priorities/projects-funded for more information.

Urgent Need

- **Safety:** The geometric limitations of this segment restrict the ability to address safety and operational concerns effectively; widening is a critical component needed in order to address such concerns effectively.
- **Mobility:** Congestion is a severe problem and includes residents traveling between Colorado Springs and Denver, as well as to and from I-70.

Project Benefits

- **Safety:** Widen shoulders on I-25 for vehicle pull-off and emergency response.
- **Mobility:** Express Lanes give drivers the choice of using the Express Lane for a reliable trip in exchange for a toll, or to use one of the two general-purpose lanes for free. Carpoolers (vehicles with three or more people) and motorcyclists can ride the Express Lane for free.
- Wildlife crossings will help reduce animal-vehicle collisions by 90 percent.
- Improved pavement
- Reconstruct five bridges and extend ramps
- Improved truck access: Addition of truck climbing lanes near Monument Hill and the Greenland exit, and a chain up station near Monument Hill.

COLORADO Department of Transportation

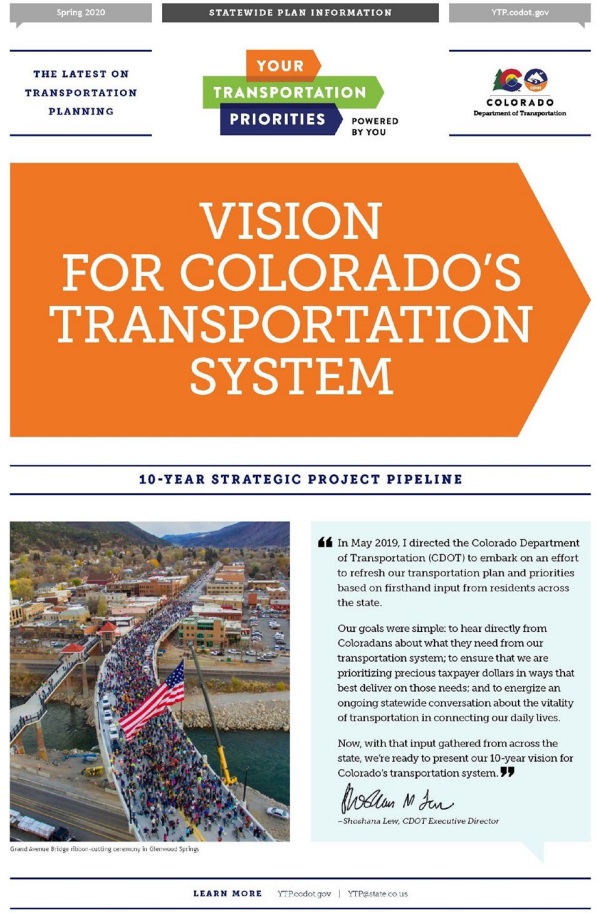
For more information, visit codot.gov/programs/your-transportation-priorities

Staff is also working to update the 10-Year Plan project Fact Sheets

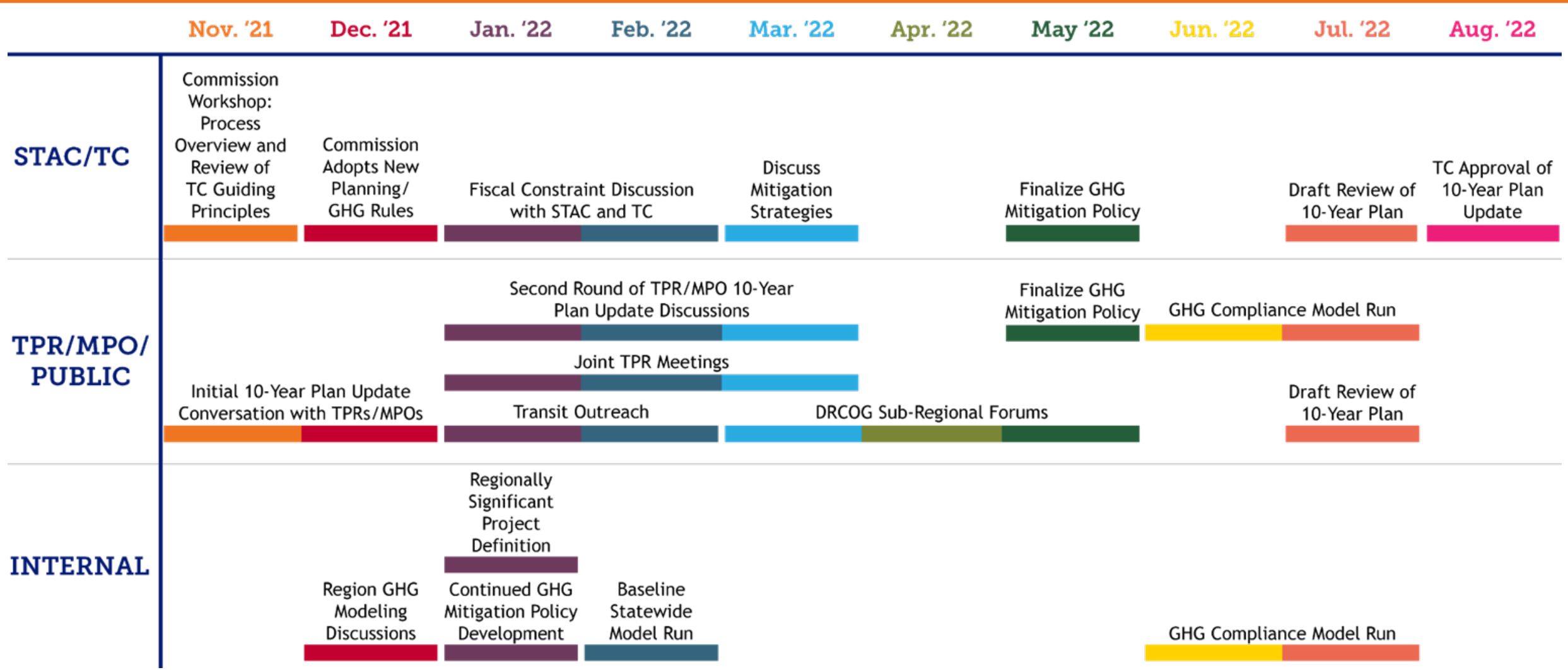
- Fact Sheets include basic info about the project such as:
  - Project Name & Planning ID#
  - Location
  - Description
  - Cost & Funding
  - Urgent Need
  - Project Benefits
  - Map
- Project IDs on 10 Year Plan Project Tables link to project fact sheet

New Opening Text Outline

- **Intro** - Opening remarks by Director Lew
- **Background** – Origin of 10-Year Plan, why update now, & we are following through with what we said we'd do
- **What does the 10-Year Plan Accomplish for the Traveling Public?** Safety, Resilience, Fix it First, Multimodal
- **GHG Rule** – What it is, what compliance means, etc.
- **What's New** – Transit, Bustang Expansion, etc.
- **What Remains the Same** – Rural roads, asset commitments, etc.
- **Resources and Accountability** – Dashboards, Reports



10 Year Plan Update Timeline



COLORADO
Department of Transportation

Questions?

COLORADO
Department of Transportation
Division of Transportation Development

2829 W. Howard Place
Denver, CO 80204-2305

MEMORANDUM

TO: THE FREIGHT, REGIONAL, AND INTERSTATE MOBILITY COMMITTEE OF THE TRANSPORTATION COMMISSION
FROM: REBECCA WHITE, DIRECTOR, DIVISION OF TRANSPORTATION DEVELOPMENT
CRAIG HURST, MANAGER, DTD FREIGHT MOBILITY AND SAFETY BRANCH
DATE: JUNE 15, 2022
SUBJECT: FREIGHT COMMITTEE WORKSHOP OVERVIEW

Purpose

The purpose of this memorandum is to outline the discussion topics that will be presented at the workshop for the Freight, Regional, and Interstate Mobility Committee of the Transportation Commission.

Action

No action required. Specific discussion topics within the workshop will request action from the Transportation Commission and will be outlined in memorandums specific to these topic areas.

Background

Three topics will be presented for discussion and consideration by the Committee at this workshop:

1. *Update on the Colorado Freight Plan (CFP)* - provide the Committee with information regarding the purpose and intent in updating the 2019 Colorado Freight Plan and DRAFT Scope of Work (SOW) key elements (information only).
2. *Revised Policy Directive 1903.0 "Hazardous Materials Routing Policy"* - provide the Committee with information regarding the updates to Policy Directive 1903.0 --Hazardous Materials Routing (requested action item via resolution).
3. *National Highway Freight Program (NHFP) Budget Request for EJMT Hazmat Study Continuation* - CDOT staff is requesting $350,000 from NHFP funding to investigate the next steps to mitigate risk and improve the safety of transporting hazmat along I-70/US 6 (requested action item via budget supplement).

Attachments

Workshop Topic Memorandums:

1. Colorado Freight Plan Update DRAFT Scope of Work Overview
2. Updated Policy Directive 1903.0 “Hazardous Materials Routing Policy”
3. NHFP Budget Request for EJMT Hazmat Study Continuation

Attachment A - Freight Committee Workshop Presentation

COLORADO
Department of Transportation
Division of Transportation Development
Freight Mobility and Safety Branch
2829 W. Howard Place, 4th Floor
Denver, CO 80204-2305

TO: The Freight, Regional, and Interstate Mobility Committee of the Transportation Commission

FROM: Rebecca White - Director, Division of Transportation Development (DTD)
Craig Hurst – Freight Safety and Mobility Branch Manager

DATE: June 15, 2022

SUBJECT: Colorado Freight Plan Update DRAFT Scope of Work Overview

Purpose: The purpose of this memorandum is to provide the Committee with information regarding the purpose and intent in updating the 2019 Colorado Freight Plan and DRAFT Scope of Work (SOW) key elements.

Action: No Action Required

Background: The Colorado's Department of Transportation's (CDOT's) first Colorado Freight Plan (CFP) was approved by the Transportation Commission and the Federal Highway Administration (FHWA) in March of 2019. This plan positioned CDOT to receive National Highway Freight Program (NHFP) funds and provided short-term and long-term guidance for CDOT, public agencies, private industry partners, and members of the Colorado Freight Advisory Council (FAC).

Description: In accordance with the federal planning requirement to update the CFP every 5 years, the DTD Freight Safety and Mobility Branch is about to embark on a process to update the current plan to meet the federal planning requirements as articulated in the FAST Act and the new Infrastructure Investment & Jobs (IIJA) Act of 2021. This updated plan will position CDOT for future NHFP funding and other potential grant funding opportunities. This plan will also guide much of the work to be performed by the Freight and Safety Mobility Branch and continued stakeholder coordination and collaboration.

Details:
General Plan Concept: The updated CFP will include both short-term and long-term strategies for implementation. This will result in a plan that has defined time-based and achievable outcomes driving towards measurable results.

Key Plan Focus Areas: Based on the goal areas of the last CFP, new federal planning requirements, and priorities of the Department, the following six key focus areas will be intrinsic to many of the strategies that will result from the updated CFP. They include:

- Safety
- Mobility
- Asset Management
- Greenhouse Gas Emissions Reduction
- Risk and Resiliency
- Equity and Inclusion

Planning Horizons: To have a focused look at existing and future needs in the CFP, the following planning horizons have been identified:

- A baseline year of 2019 for existing conditions
- Short-term planning horizon of 2030
- Long-term planning horizon of 2040

The year of 2020 and COVID-19 really heightened the need for good freight planning and a better understanding of freight logistics and supply chain issues and needs in Colorado. COVID-19 presented the industry with unprecedented operational and workforce challenges. CDOT was key in working with the freight industry stakeholders and regulatory and enforcement agencies to help provide temporary solutions. To better plan for these and other types of events, the CFP will include a focused look at the year 2020 and associated strategies.

Overview of Work Tasks: The following work tasks are the major components in updating the CFP. Tasks are not necessarily in the order of plan development and many of the tasks may be done in tandem. It is important to note that many of the details and level of effort will be determined in future task order development:

- Data Collection and Analysis for Issues and Trends Identification (Quantitative and Qualitative)
- Transportation and Logistics – Economic Forces & Colorado's Freight System (Urban and Rural)
- Mapping CDOT Owned Existing System Assets and Other Key Assets
- Conduct Needs Assessment and Gap Analysis
- Identify Freight Emerging Trends, Innovation, Technology and Transportation Demand Strategies
- Identify Future Freight Alternative Fuel Programs Aiming to Reduce GHG Emissions
- Conduct Strategy Screening and Documenting Results, Establish Performance Reporting & Monitoring
- Identifying Funding Opportunities

- Stakeholder Engagement and Public Outreach

Next Steps/General Timeline:

- RFP Published - July 2022
- Contract Execution and Notice to Proceed – September 2022
- Kick-off CFP Development - September 2022

Attachment A: Freight, Regional, and Interstate Mobility Committee Presentation: Colorado Freight Plan Update

COLORADO
Department of Transportation
Division of Transportation Development
2829 W. Howard Place
Denver, CO 80204-2305

MEMORANDUM

To: The Freight, Regional, and Interstate Mobility Committee of the Transportation Commission

From: Rebecca White - Director, Division of Transportation Development (DTD)
Craig Hurst - Manager, Freight Mobility and Safety Branch
Annelies van Vonno, Planning Specialist, Multimodal Planning Branch

Date: June 15, 2022

RE: Updated Policy Directive 1903.0 "Hazardous Materials Routing Policy"

Purpose:
The purpose of this memorandum is to provide the Freight, Regional, and Interstate Mobility Committee with information regarding the updates to Policy Directive 1903.0 --Hazardous Materials Routing.

Action Requested:
Approval of amended Policy Directive

Background and Rationale for Updating the Directives:

The Hazardous Materials Routing Policy Directive (PD) details the process CDOT follows when deciding to petition the Colorado State Patrol (CSP) for changes to hazardous materials routes maintained by CDOT. The PD was last modified in 2014. Proposed updates would address two key issues:

1-While the Department's Freight program has been the de facto lead for hazardous materials (hazmat) routing requests for some time, the existing PD does not reflect this function. Recently passed Senate Bill 21-260 legislation formally created the Freight Mobility and Safety Branch with the purpose of planning, designing, and implementing projects and programs that enhance freight mobility and safety within the state.

2-In 2020, CDOT received a request from CSP to provide comments on a petition submitted by Weld County for the reinstatement of the petroleum exemption and allowance of the statutory exemption for crude oil on Weld County Highway 49 between I- 76 and US 34. While CSP has sole authority for hazmat route designation, the Department is obligated to provide comments and recommendations on petitions when

requested by the Colorado State Patrol. However, the existing Directive does not include an organized and structured process to guide this review. compile and submit comments and recommendations to the Colorado State Patrol when officially requested to do so.

Key changes include:

Policy Directive 1903.0 "Hazardous Materials Routing Policy"

- Clarifying the Transportation Commission's authority to promulgate rules regarding the operation of motor vehicles in any tunnel which is part of the state highway system.
- Adding a process when the Department will provide comments and analysis on petitions related to non-CDOT owned roadways as requested by the Colorado State Patrol or by other petitioning entities.
- Adding a definition for "petitioning entity" that is consistent with the definition and terminology used by the Colorado State Patrol in their own hazardous materials routing rules and procedures.
- Establishing the newly created Freight Mobility and Safety Branch as the lead for consideration of hazmat route change requests both for CDOT and non-CDOT owned facilities.
- Requiring the Freight Mobility and Safety Branch to assemble an interdisciplinary Hazmat Route Advisory Team to consider any hazmat route change requests, both from internal applicants or as requested by the Colorado State Patrol or an outside petitioning entity.
- Other minor technical changes were made to the Policy Directive.

Next Steps:

Consideration of a resolution to adopt the updated Policy Directive.

Attachments:

A:Freight, Regional, and Interstate Mobility Committee Presentation: Policy Directive 1903.0
B: Revised Policy Directive 1903.0 "Hazardous Materials Routing Policy"
C: Resolution

COLORADO DEPARTMENT OF TRANSPORTATION	X POLICY DIRECTIVE ☐ PROCEDURAL DIRECTIVE

Subject	Number
Hazardous Materials Routing Policy	**1903.0**

Effective	Supersedes	Originating Office
XX.XX.~~21~~2022 ~~6.24.14~~	06.24.14 ~~05.20.2010~~	**Division of Transportation Development**

I. PURPOSE

Title 42, Article 20 of the Colorado Revised Statutes governs the routing of Hazardous Materials by Motor Vehicles on all public roads. The Colorado State Patrol ("CSP") has sole authority to designate which public roads should ~~shall~~ be used and which should ~~all~~ not be used by Motor Vehicles~~-~~ transporting Hazardous Materials.~~-~~ Pursuant to the provisions of § 42-4-106 (7)(a), C.R.S., the ~~Colorado Department of Transportation~~Transportation Commission of Colorado maintains the authority to promulgate rules regarding the operation of any motor vehicle in any tunnel which is part of the state highway system.~~authority over tunnels on the state highway system.~~

The Colorado Department of Transportation ("Department") is the ~~petitioning~~ Petitioning ~~authority e~~Entity with respect to any public road maintained by the state that is not located within a town, city, or city and county.~~-~~ ~~In addition, t~~The Transportation Commission of Colorado ("Commission") must approve any P~~p~~etition the Department wishes to make to the Colorado State Patrol regarding changes to ~~h~~Hazmat ~~r~~Routes. In addition, the Department also provides comments on Petitions related to non-CDOT owned roadways as requested by CSP or by other Petitioning Entities.

The purpose of this policy is to provide a process by which the Department should ~~shall~~ consider changes made to ~~h~~Hazmat ~~r~~Routes on roads maintained by the Department. ~~-~~The process includes the submission of ~~p~~Petitions to the Commission for its consideration and approval according to the criteria established in this Policy Directive. The additional purpose of this policy is to outline a process by which CDOT will provide comments and analysis on Petitions related to non-CDOT owned roadways as requested by CSP or by other Petitioning Entities.

II. AUTHORITY

Transportation Commission pursuant to § 43-1-106 (8)(a), C.R.S.

Hazardous Materials Transportation Act of 1987, § § 42-20-101, *et seq.* ~~through 511~~, C.R.S.

Federal Hazardous Material Transportation Law, 49 U.S.C., § § ~~Section~~ 5101, ~~5128~~ *et seq.*

Federal Hazardous Material Regulations, HMR, 49 CFR, Parts 100-185

8 CCR 1507-25, The Permitting, Routing, and Transportation of Hazardous and Nuclear Materials and the Intrastate Transportation of Agricultural Projects in the State of Colorado.

III. APPLICABILITY

This Policy Directive applies to all Divisions, Regions, Branches, and Offices of the Colorado Department of Transportation.

IV. DEFINITIONS

"Applicant" means regional Department staff, local government, or private industry who requests the Department to act on its behalf as petitioner to the Colorado State Patrol. See § 42-20-302(1)(a)-(e), (b) and (c), C.R.S.

~~"Department" means the Colorado Department of Transportation pursuant to § 43-1-103, C.R.S.~~

"Hazardous Materials" or "Hazmat" means those materials listed in Ttables 1 and 2 of 49 CFR 172.504, excluding highway route- controlled quantities of radioactive materials as defined in 49 CFR 173.403 (l), excluding ores , ~~the products from mining, milling, smelting, and similar processing of ores,~~ and the wastes and tailing therefrom, and excluding special fireworks ~~as defined in 49 CFR 173.88 (d)~~ when the aggregate amount of flash powder does not exceed fifty (50) pounds.

"Motor Vehicle" means any device which is capable of moving from place to place upon public roads. The term includes, but is not limited to, any mMmotorized vVvehicle or any such vehicle with a
trailer or semi-trailer attached thereto. §42-20-103 (4), C.R.S.

"Petition" means the Colorado State Patrol Hazardous Material Route Designation Petition ~~ing~~ Packet, including the route analysis process, worksheets, and ~~p~~Petition resolution.

"Petitioning Entity" means local government entities, CDOT, a public highway authority, and any governmental entity that is a partner in a public-private partnership with respect to any highway, road or street it maintains, when making a~~n~~ Petition to the Colorado State Patrol ("CSP") for a new hazardous materials routes designation or for a change to an existing route designation as it is allowed under §42-20-302(1)(a)-(e), C.R.S.

V. POLICY

A. When considering whether to ~~pp~~Petition the ~~Colorado State Patrol~~CSP to change ~~h~~Hazmat ~~r~~Routes, the Department must ~~shall~~ follow a consistent, ~~systematic~~systematic, and deliberative process regarding the submission of a P~~p~~etition by an Applicant.

B. The Department has established a procedure for consideration of H~~h~~azmat ~~r~~Route changes, including a process for outside entities to request an analysis from CDOT as set forth in greater detail in Procedural Directive 1903.1.

C. ~~-~~The Department must ~~shall~~ not bring a ~~h~~Hazmat R~~r~~oute change recommendation to the Commission for consideration unless it finds that, at a minimum, the routes available for the transportation of ~~h~~Hazardous M~~m~~aterials by ~~m~~Motor ~~v~~Vehicle pursuant to § 42-20-302(8), C.R.S. under consideration:

a) Are feasible, practicable, and not unreasonably expensive for such transportation;

b) Are continuous within a jurisdiction and from one jurisdiction to another;

c) Provide greater safety to the public than other feasible routes;

d) Do not unreasonably burden interstate or intrastate commerce;

e) Do not include arbitrary designations or are intended by the petitioner merely to divert the transportation of ~~h~~Hazardous ~~m~~Materials to other communities;

f) Do not interfere with the pickup or delivery of ~~h~~Hazardous ~~m~~Materials; and

g) Are consistent with all applicable state and federal laws and regulations.

D. ~~The Division of Transportation Development ("DTD") must shall be the lead section for consideration of Hhazmat Rroute change requests. To assist in each analysis, DTD must shall convene a HAZMAT Route Advisory Team, consisting of appropriate Department personnel with expertise to consider the safety, environmental, traffic, and policy implications of any suggested change.~~The Department has also established a procedure to provide review and comment on petition packets for petitioning entities requesting Hazmat Route changes or designations for non-CDOT owned properties, when requested by the CSP or by another Petitioning Entity. Greater detail regarding this process is included in Procedural Directive 1903.1. In its review, the Department must consider if the route available for the transportation of Hazardous materials by motor vehicle pursuant to § 42-20-302(8), C.R.S. meets the minimum requirements- listed above in Section C.

E. The Department's Freight Mobility and Safety Branch shall be responsible for consideration of Hazmat Route change requests for all facilities, regardless of ownership. In some cases, an internal Applicant may request additional analysis, information, or review for their Petition packet. In other cases, a Petitioning Entity outside of the Department may request the Department's review and comments on Petition packets. In either scenario, the Freight Mobility and Safety Branch must assemble an interdisciplinary Hazmat Route Advisory Team consisting of appropriate Department personnel with expertise to consider the safety, environmental, traffic, and policy implications of any suggested change as outlined in Procedural Directive 1903.1.

F~~E~~. The Department may not submit a P~~p~~etition for the same route more than once within 365 days from the issuance date of the Colorado State Patrol's decision.

VI. IMPLEMENTATION PLAN

This Policy Directive is ~~shall be~~ effective upon signature.

The Office of Policy and Government Relations shall post this Policy Directive on CDOT's intranet as well as on public announcements.

VII. REVIEW DATE

This Policy Directive must ~~shall~~ be reviewed on or before ~~XXXX~~August 202~~6~~7~~June 2019~~.

_____ _____

Secretary, Transportation Commission Date of Approval

COLORADO
Department of Transportation
Division of Transportation Development
2829 W. Howard Place
Denver, CO 80204-2305

TO: The Freight Regional and Interstate Mobility Committee of the Transportation Commission

FROM: Rebecca White, Director, Division of Transportation Development
Craig Hurst, Manager, Freight Mobility and Safety Branch
Kathleen Collins, Transportation Planning Analyst, Freight Mobility and Safety Branch

DATE: June 15, 2022

RE: NHFP Budget Request for EJMT Hazmat Study Continuation

Purpose: CDOT staff is requesting $350,000 from the National Highway Freight Program (NHFP) funding to investigate the next steps to mitigate risk and improve the safety of transporting hazmat on along I-70/US 6.

Action: Seeking Transportation Commission (TC) approval of a June 2022 budget amendment to transfer $350,000 of NHFP funds to the EJMT Hazmat Study Continuation project.

Background: In current practice, hazardous materials (hazmat) trucks, such as gasoline tankers, are not allowed to pass through EJMT and are routed over Loveland Pass via US Highway 6 (US 6). Loveland Pass is a difficult route, with tight switchbacks and steep grades. Snow events in the area create even more hazardous driving conditions and avalanche danger along US 6, often requiring road closures. When US 6 is closed, portal attendants close EJMT to normal traffic and allow hazmat vehicles to enter EJMT once per hour.

The transport of hazmat using US 6 and I-70 via the EJMT is complicated by balancing the low probabilities of some of the events that concern CDOT and the public (such as major fires, explosions, and environmental catastrophes) with the daily need for the safe transport of people, energy, and chemicals that facilitate Colorado's economy.

Senate Bill (SB) 19-032 required CDOT to conduct a study assessing the feasibility of allowing the transportation of hazardous materials through EJMT and to prepare a report that includes the findings and recommendations as to whether and under what conditions the transportation of hazmat through the EJMT could be allowed.

In December 2020, the required study (i.e., Transportation of Hazardous Materials through Eisenhower-Edwin C Johnson Memorial Tunnel - Study) was completed in cooperation with the US DOT, FHWA, CSP and stakeholders listed in SB 19-032. In early 2021 the study

participants and stakeholders formed a working group to identify areas of focus for next steps. The working group consists of representatives from the communities near the tunnel, CDPS Fire, CSP Hazmat and Motor Carrier Safety, CDOT Engineering, operations, maintenance, freight, and government affairs. The working group was organized with subcommittees of Hazmat Routing, Tunnel Infrastructure, Roadway Infrastructure, and Operations Safety. These subcommittees identified 17 items to further study and investigate, and this next effort will be to address six of those items.

Details: CDOT staff is requesting $350,000 of NHFP funds for the project to continue to work with the subcommittees to investigate the next steps to mitigate risk and improve the safety of transporting hazmat on this portion of I-70/US 6. With these additional funds to continue the study, the further analysis requested by stakeholders will be able to proceed. This work will help to ensure that all practical risk-reducing options and strategies are considered, and that study recommendations are well-informed and reasonable.

Next Steps:
TC requested to approve a Budget Amendment.

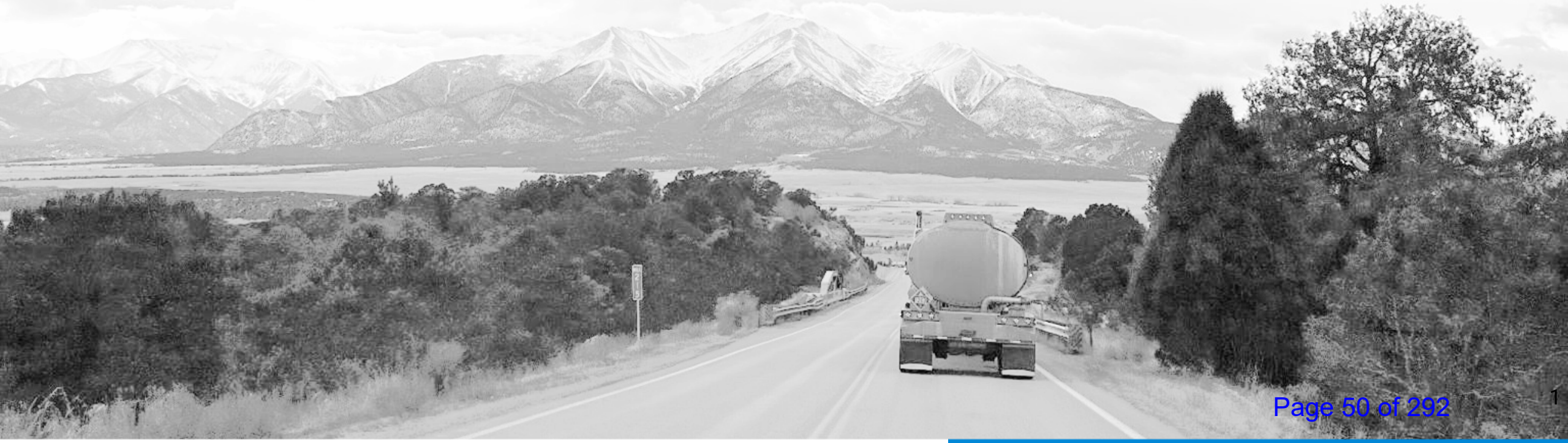
Attachment A: Freight, Regional, and Interstate Mobility Committee Presentation

COLORADO
Department of Transportation
Freight Mobility & Safety Branch

Presented by:
Rebecca White, Director
AND
Craig Hurst, Manager
June, 2022

Freight, Regional, and Interstate Mobility Committee

of the Transportation Commission



Agenda

Freight Plan Update

Hazardous Materials Movement

a. Updated Policy Directive
b. Study Funding Request--EJMT

COLORADO
Department of Transportation

Freight Plan Update

Background

FHWA approved as Fast Act Compliant Plan - March 2019:

- Provided short & long term guidance for CDOT
- Identified measurable strategies
- Positioned CDOT for NHFP & other grant opportunities
- Paved the way for future partnership opportunities

Accomplishments

Why Now?


Heightened worldwide focus on goods movement
Position the State for future funding
Ensure compliance with new requirements
guide the new Branch's planning & operations initiatives

Federal Requirements

Infrastructure Investment and Jobs Act

- Truck Parking facility assessment
- Resiliency & Redundancy
- Adds population & sector analysis requirements
  - Military
  - Disproportionately Impacted Communities
- Increases frequency of plan updates from 5 to 4 years

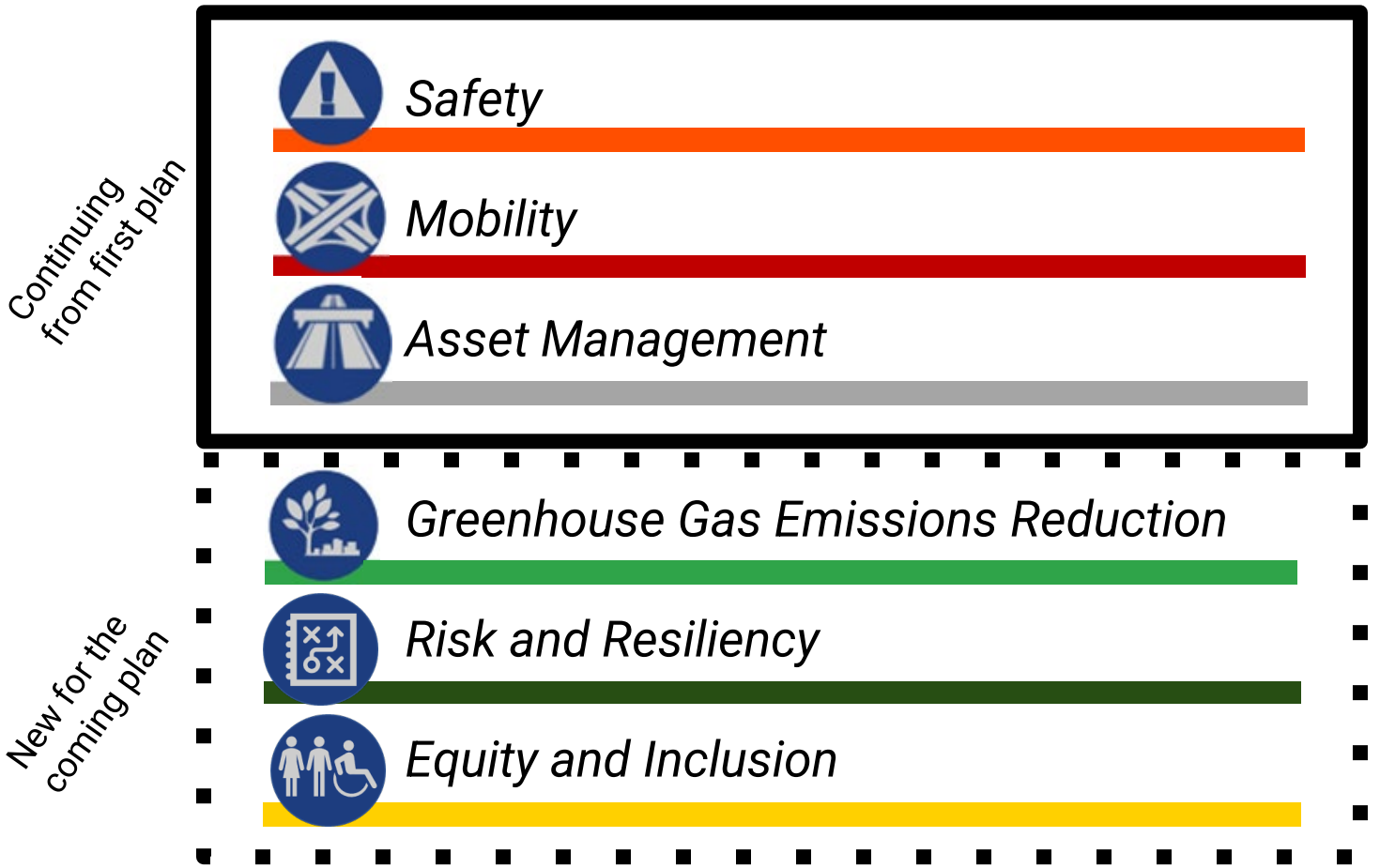
Fixing America's Surface Transportation Act

- Inventory of network freight impacts
- focus on asset management

Philosophical Approach

Planning & Operations

Focus Areas


Continuing from first plan
Safety
Mobility
Asset Management
New for the coming plan
Greenhouse Gas Emissions Reduction
Risk and Resiliency
Equity and Inclusion

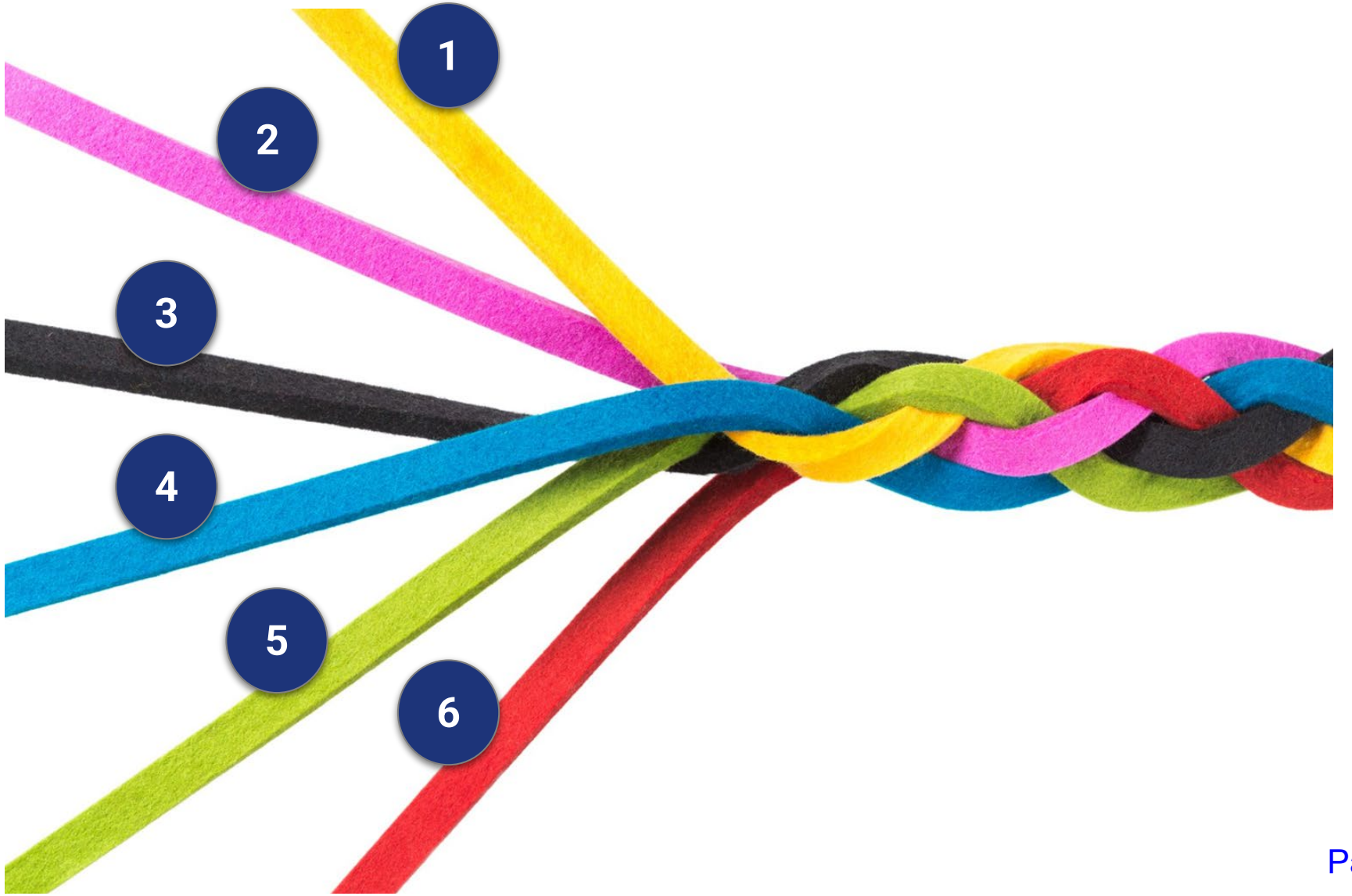
Tasks & Timeline

November 2022 — December 2023

Engagement

ALL STEPS INCLUDE:

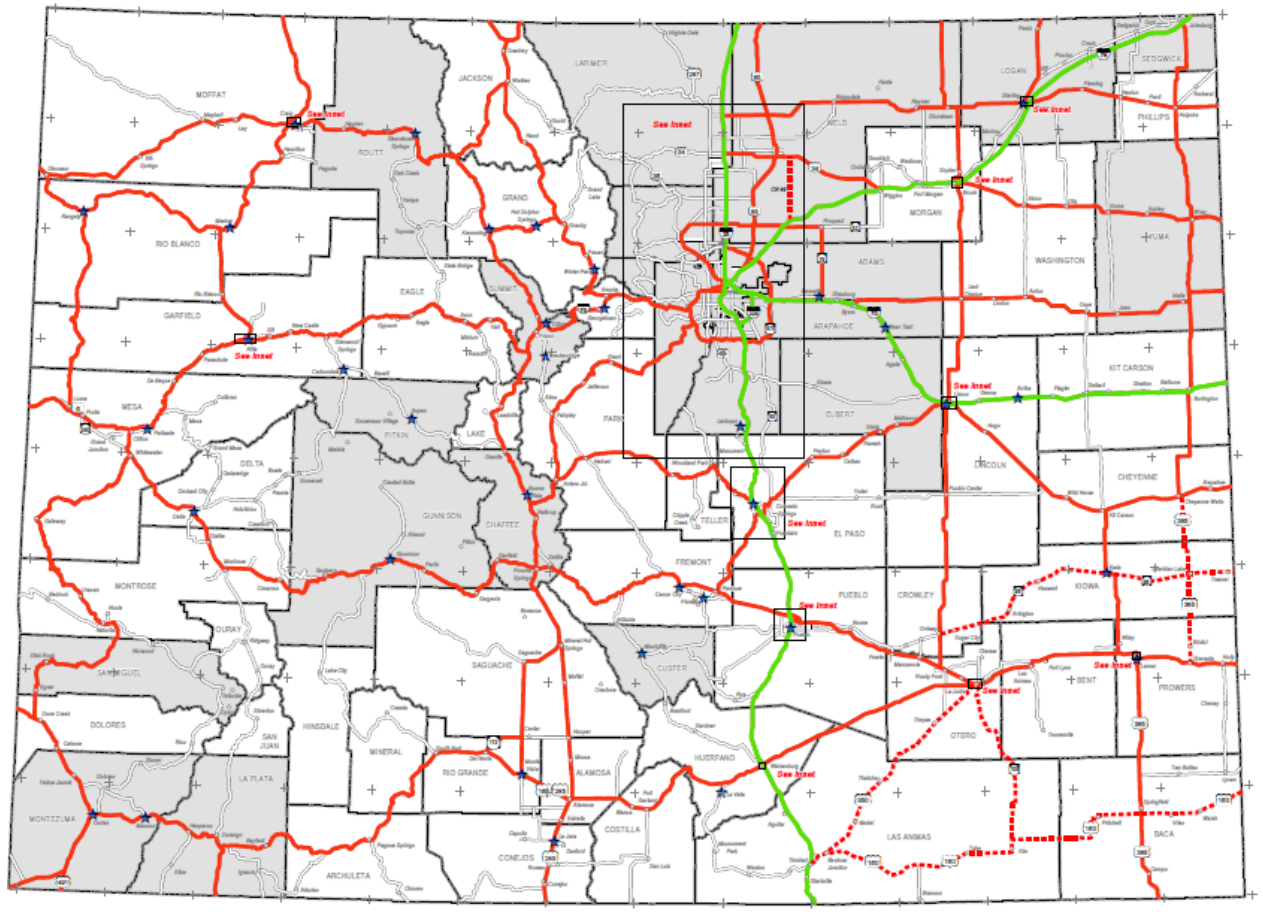
Stakeholder Engagement



RESULTING IN:

Well-Informed, Community-Inclusive Plan

Questions?

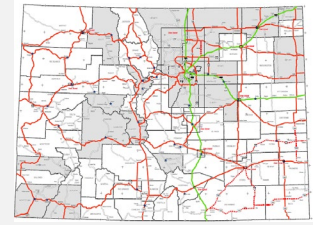


COLORADO
Department of Transportation

Hazardous Materials Routing

Policy Directive 1903.0 and Procedural Directive 1903.1

Purpose



Hazardous Materials Routing Policy and Procedure:

- Process and procedures established for CDOT to assist Colorado State Patrol (CSP) with evaluation of petitions submitted by a third party to request designation of a hazardous materials route on a non-CDOT (off-system) route.

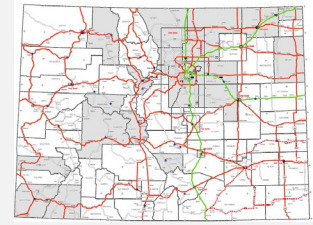
Policy:

- Factors to consider when bringing a hazmat route change request to the Commission
- Establishes DTD as lead section for consideration of hazmat routes change requests
- Allows the Department to submit a petition for the same route no more than once a year

Procedure:

- Establishes a process for internal CDOT applicants to request the Department to consider a hazmat route change and required materials
- Establishes a Hazmat Route Advisory Team to advise DTD
- Establishes requirements for public meetings and a 180-day time limit for the Hazmat Route Advisory Team to approve or deny the request

Why?



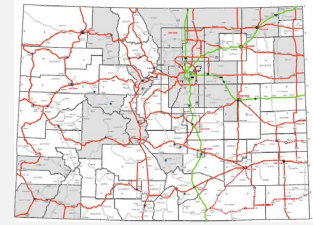
To Create Transparency by:

- Defining and updating roles and responsibilities in consideration of the newly created Freight Safety and Mobility Branch
- Documenting and clarifying existing processes
- Adding definitions to be consistent with Colorado State Patrol's policies

To Create an Organized Process and Procedures for:

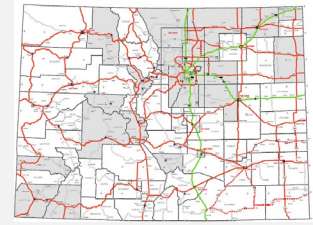
- Responding to requests for analysis, comments and recommendations by Colorado State Patrol and other outside petitioning entities

Policy Directive Key Updates



- Clarifying the Transportation Commission's authority to promulgate rules regarding the operation of motor vehicles in any tunnel which is part of the state highway system.
- Adding a process by with the Department will provide comments and analysis on petitions related to non-CDOT owned roadways as requested by the Colorado State Patrol or by other petitioning entities.
- Adding a definition for "Petitioning Entity" that is consistent with the definition and terminology used by the Colorado State Patrol in their own hazardous materials routing rules and procedures.
- Establishing the newly created Freight Mobility and Safety Branch as the lead for consideration of Hazmat Route change requests both for CDOT and non-CDOT owned facilities.
- Requiring the Freight Mobility and Safety Branch to assemble an interdisciplinary Hazmat Route Advisory Team to consider any hazmat route change requests, both from internal applicants or as requested by the Colorado State Patrol or an outside petitioning entity.

Vetting Process



- Freight Mobility and Safety Branch
- Division of Transportation Development
- Commercial Vehicle Permits Office
- Traffic Safety & Engineering Services
- Region Traffic Engineers
- Environmental Programs Branch and Region Planning and Environmental Managers
- Environmental Justice and Equity Branch Representative
- Section Maintenance Superintendents
- Staff Bridge
- Office of Policy & Government Relations
- Civil Rights
- Executive Management Team

COLORADO
Department of Transportation

EJMT Hazmat Study Continuation

Request

Overview

Problem Statement

- Is having Hazardous Materials Freight vehicles traveling over Loveland Pass the safest option to transport these unsafe materials for all road users and our environment?

Background

- Senate Bill (SB) 19-032 required CDOT to conduct a study assessing the feasibility of allowing the transportation of hazardous materials through EJMT.

Results

- Study completed in December, 2020.
- 17 items require further investigation; 6 recommended to continue.

How?

What is Involved in the Study Continuation?

- Further refinement of the information gathered from the study previously - comparing risks associated with hazardous materials transport along Loveland Pass vs. through EJMT (including speeding and runaway trucks)
- To obtain a better understanding of the risk mitigation options for tunnel, roadway, and operational safety
- More specifically, risk assessing:

loss of life | public infrastructure | environment | economic impacts

- Further analysis of the initial study findings, including assessment of more robust implementation options, and/or consideration of designation of other alternative hazmat routes.

National Highway Freight Program Funds

- Established by the FAST Act of 2015 and continued under IIJA of 2021
- Provides approximately $20 million per year in funds for freight projects
- Program funded projects starting in FY 2016
- Call for Projects for FY 22 & 23 has initiated with $20 million available for the call for projects with the plan for FHWA to approve projects for funding in November 2022.
- In compliance with PD 703.0, TC does not need to approve program expenditures for funding programs with established project selection processes
- However, the request for funds to continue the EJMT hazmat study was presented between application cycles. Thus, staff is requesting TC support for these funds via a budget supplement
- By providing these funds now, staff can initiate work immediately.

Ask and Next Steps?

(Request)

Approve via budget supplement the transfer of $350,000 of National Highway Freight Program funds for study continuation.

COLORADO
Department of Transportation
Freight Mobility & Safety Branch

Thank You

COLORADO
Department of Transportation

DATE: June 15, 2022

TO: Transportation Commission

FROM: Rebecca White, Director, Division of Transportation Development
Theresa Takushi, Greenhouse Gas Program Specialist
Herman Stockinger, Deputy Director

SUBJECT: **GHG Mitigation Measures Policy Directive**

Purpose

This memo provides a summary on the amendments to the Greenhouse Gas (GHG) Mitigation Measures Policy Directive (PD-1610), which the Transportation Commission (TC) adopted on May 19, 2022.

Action

Amend PD-1610 via Commission resolution.

Background

Last month, the Commission adopted Policy Directive 1610 on GHG Mitigation Measures, an important but voluntary component of the GHG Pollution Standard (the GHG Planning Rule).

This month, CDOT staff will present an amended version of Appendix A to the GHG Mitigation Measures Policy Directive 1610. Appendix A lists the officially approved GHG Mitigation Measures and their associated calculation methodology. Due to the extensive and complex nature of the contents of the Appendix, the Department expects that there will be periodic updates to improve the calculation methodologies as well as the addition of entirely new GHG Mitigation Measures. The Transportation Commission is being asked to consider PD amendments for approval at the June Commission meeting in order to fix some small errors and provide more compliance options for CDOT and the MPOs subject to the GHG Planning Rule.

Details

The following amendments have been made to the Appendix of the Policy Directive:

1. Updated emission factors for LDVs
2. Allow agencies to take account for population growth in census tracts and blocks when taking credit for certain GHG Mitigation Measures
3. Added a new GHG Mitigation Measure - new/increased intercity transit service
4. Added a new GHG Mitigation Measure - moderate intensity Transit Oriented Development (TOD)
5. Added a new GHG mitigation Measure - demand response transit
6. Modified the calculation methodology for an existing measure - setting parking maximum for commercial facilities
7. Small corrections for formatting

Next Steps

Additional amendments will be presented to the Commission in the coming months, including a proposal around Disproportionately Impacted Communities.

Attachments

- A - Slide presentation
- B- Redline of amendments to the GHG Policy Directive Appendix A (GHG Mitigation Measures)
- C- Resolution

COLORADO
Department of Transportation

GHG Pollution Standard for Transportation Planning:
Amendments to Appendix A Policy Directive 1610.0
June 2022

Policy Directive 1610 - GHG Mitigations

- GHG mitigation strategies are a key concept within the GHG Rule providing another pathway toward meeting the GHG reduction levels in the Rule.
- GHG Mitigation Measures are those that can't be effectively modeled YET or are too small to be captured.
- At the May 2022 Transportation Commission meeting, Policy Directive 1610 was adopted by the Commission.
    - All changes to the Appendix of Policy Directive 1610 come before the Commission.

Summary of Amendments to Appendix A

1. Updated emission factors for LDVs
1. Allow agencies to take account for population growth in census tracts and blocks when taking credit for certain GHG Mitigation Measures
1. Added a new GHG Mitigation Measure - new/increased intercity transit service
1. Added a new GHG Mitigation Measure - moderate intensity Transit Oriented Development (TOD)
1. Added a new GHG mitigation Measure - demand response transit
1. Modified the calculation methodology for an existing measure - setting parking maximum for commercial facilities
1. Small corrections for formatting

1.Corrected 2025 LDV Emission Factor

- Changed the emission factors for LDVs in 2030, 2040, and 2050

2025	2030	2040	2025
303 g/mi	256 g/mi	119 g/mi	46 g/mi
TBD	281 g/mi	163 g/mi	77 g/mi

- Points for nearly all GHG Mitigation Measures which reduce GHGs by decreasing the VMT of LDVs have increased slightly

2. Claim Alternative Future Densities

- Idea came from conversations with MPOs

- Several strategies have core urban, urban, suburban, and rural designations associated with them - added language to allow agencies to take population growth into account when using GHG Mitigation Measures

- For example, agency may build a bike lane in a rural environment in 2023 that will be suburban by 2030 - agency allowed to take credit for the increased points in 2030

3. New GHG Mitigation Measure - new/increased intercity transit service

- Intercity transit service crosses multiple regional and metropolitan areas, e.g. CDOT's Bustang service
- Intercity buses have a more efficient driving cycle due to use of the highway

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050
New/increased fixed-route transit service[9] -electric	Per 1,000 additional vehicle revenue-hours[10] in evaluation year	1	287	23	11	4
New/increased fixed-route transit service -electric/diesel fleet average			87	18	11	4
New/increased fixed-route transit service - intercity[11] fleet average bus	Per 1,000 vehicle revenue-miles	1	2	2	1	-
New/increased fixed-route transit service - intercity electric bus			3	2	1	-

4. New GHG Mitigation Measure - Mixed-use TOD moderate intensity

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Mixed-use Transit-Oriented Development (TOD) - higher intensity	Per acre of area rezoned for mixed-use TOD accommodating at least 25 residential units/acre and 150 jobs/acre, within 1/2 mile of fixed-guideway transit station	30	~~559~~	45	21	8	
Mixed-use TOD - moderate intensity	Per acres of area rezoned for mixed-use TOD accommodating at least 15 residential units/acre and 100 jobs/acre, within ½ miles of high-frequency bus transit or fixed guideway station	30	45	36	17	6	

5. New GHG Mitigation Measure - new/increased demand-response bus service

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Implement bus priority treatments[12]	Per 1,000 vehicle revenue-miles per weekday of affected service in evaluation year	30		2~~6~~4	1~~3~~0	~~6~~4	
New/increased demand-response bus service	Per 1,000 new vehicle revenue hours	1		6	5	2	

6. Modified calculation

methodology for existing measure - set parking maximums for commercial facilities

- Previous calculation methodology was based on the relationship between *residential* parking supply and commute trip VMT, wanted to improve the accuracy of this measure
- New calculation assumes a linear relationship between auto mode share and parking supply at commercial facilities
- 4 categories

Points per 10,000 sq. ft. gross floor area of commercial capacity:	2025	2030	2040	2050
Non-Central Business District, max 2.5 spaces/1,000 sq. ft.	3	3	1	1
Non-Central Business District, max 2.0 spaces/1,000 sq. ft.	7	7	4	2
Central Business District, max 1.5 spaces/1,000 sq. ft.	5	4	2	1
Central Business District, max 1.0 spaces/1,000 sq. ft.	9	8	5	2

7. Formatting Corrections

1. Corrected an inconsistency in the metric column of the Appendix - changed from “current year” to “baseline plan year 1”

1. Deleted the multiplier “2.0 - separated/protected lane or bike boulevard” for the shared-use path strategy

Questions?

COLORADO DEPARTMENT OF TRANSPORTATION	X POLICY DIRECTIVE □ PROCEDURAL DIRECTIVE	
Subject **Greenhouse Gas Mitigation Measures**		**1610.0**
Effective **5/19/22**	**Supersedes** **New**	**Originating Office** **Division of Transportation Development**

I. PURPOSE

The purpose of this Policy Directive is to fulfill the requirements of the Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (the Rule), which directs the Colorado Department of Transportation (CDOT), in consultation with the Metropolitan Planning Organizations (MPOs), to establish an ongoing administrative process and guidelines for selecting, measuring, confirming, verifying, and reporting Greenhouse Gas (GHG) Mitigation Measures. CDOT and MPOs may use GHG Mitigation Measures in order to assist them in meeting the Regional GHG Planning Reduction Levels in 2 CCR 601-22. This Policy Directive sets forth the intent and principles of GHG mitigations and the process for establishing, tracking, and verifying mitigation measures. It further establishes the quantification methodology and the associated GHG reductions/scores for each measure.

II. AUTHORITY

Transportation Commission pursuant to § 43-1-106 (8)(a), C.R.S.
§ 43-1-128, C.R.S.
2 CCR 601-22, Rules Governing Statewide Transportation Planning Process and Transportation Planning Regions (the "Rule").

III. APPLICABILITY

This Policy Directive shall apply to all CDOT Divisions, Regions, Branches, and Offices as well as to the state's current five MPOs: Denver Regional Council of Governments (DRCOG), North Front Range Metropolitan Planning Organization (NFRMPO), Pikes Peak Area Council of Governments (PPACG), Grand Valley Metropolitan Planning Organization (GVMPO), and Pueblo Area Council of Governments (PACOG), as well as any MPOs created during the lifetime of the Rule.

IV. BACKGROUND

The broad purpose of this Policy Directive is to help achieve the objectives of the Rule, which is intended to reduce GHG emissions from the transportation sector. Specifically, the Policy Directive fulfills the following requirement within 2 CCR 601-22, Section 8.02.4:

> "By May 1, 2022, CDOT in consultation with the MPOs shall establish an ongoing administrative process and guidelines, through a public process, for selecting, measuring, confirming, verifying, and reporting GHG Mitigation Measures. CDOT and MPOs may incorporate one or more GHG Mitigation Measures into their plans in order to assist in meeting the Regional GHG Planning Reduction Levels in Table 1. Such a process and guidelines shall include, but not be limited to, how CDOT and MPOs shall determine the relative benefits and impacts of GHG Mitigation Measures, and measure and prioritize localized benefits to communities and Disproportionately Impacted Communities in particular. The mitigation credit awarded to a specific solution shall consider both regional and community benefits."

GHG Mitigation Measures are an important, but voluntary, component of the Rule as they provide an additional option to demonstrate compliance with the GHG Reduction Levels (Table 1 in the Rule). For this reason, the GHG reductions achieved by GHG Mitigation Measures must be real, additional, quantifiable, and verifiable. GHG Mitigation Measures will be considered additional if it is not currently listed as a specific and quantified action in the GHG Roadmap or captured in an agency's model. The GHG Mitigation Measures included in this Policy Directive--and the scores or reduction levels assigned to these measures--are based on the best available research, calculation methodology and forecasting tools available nationwide.

It also is important to understand how GHG Mitigation Measures relate to transportation plans ("Applicable Planning Documents" in the Rule), which include a range of projects-- from roadway expansions to new transit and bike lanes. The Rule requires CDOT and MPOs to model "at a minimum… Regionally Significant Projects" to demonstrate compliance. The words "at a minimum" give the flexibility to model projects that are not Regionally Significant. This approach has the benefit of providing a full analysis of all the projects within a plan and, further, of realizing the benefits of a model to capture the interrelationships of these strategies across the transportation network. However, not all projects can be accurately modeled yet. This is either because they are too small to be detected within a model (e.g. a segment of bike lane) or are beyond the current overall capability of an agency's model. Thus, this Policy largely focuses on GHG Mitigation Measures that cannot yet be accurately quantified within CDOT or an MPO's travel demand modeling runs. The Commission recognizes that this dynamic will

change over time. As models continue to improve, transportation system elements currently treated as GHG Mitigation Measures may be incorporated into the models which may require amendments to this Policy.

V. DEFINITIONS

The defined terms in this Policy Directive have the same meaning as in the Rule except as explicitly set forth herein. Some definitions are repeated here for convenience.

"Applicable Planning Document", as stated in the Rule (1.02), are MPO Fiscally Constrained Regional Transportation Plan (RTP), Transportation Improvement Program (TIP) for MPOs in Non-Attainment Areas, CDOT's 10-Year Plan and Four-Year Prioritized Plan in Non-MPO areas, and amendments to the MPO RTPs and CDOT's 10-Year Plan and Four-Year Prioritized Plan in Non-MPO areas that include the addition of Regionally Significant Projects.

"Disproportionately Impacted Communities", as stated in the Rule (1.11), is defined in § 24-38.5-302(3), C.R.S. as a community that is in a census block group, as determined in accordance with the most recent United States Decennial Census where the proportion of households that are low income is greater than forty percent (40%), the proportion of households that identify as minority is greater than forty percent (40%), or the proportion of households that are housing cost-burdened is greater than forty percent (40%).

"Greenhouse Gas (GHG)", as stated in the Rule (1.16), are pollutants that are anthropogenic (man-made) emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride

"Greenhouse Gas (GHG) Mitigation Measures", as stated in the Rule (1.18) or "Mitigation Measures", are non-Regionally Significant Project strategies that reduce transportation GHG pollution and help meet the GHG Reduction Levels.

"Greenhouse Gas (GHG) Reduction Level", as stated in the Rule (1.17), is the amount of the GHG expressed as CO2e reduced that CDOT and MPOs must attain through transportation planning.

"GHG Transportation Report" is the report that is required to be submitted as part of the Rule which shows compliance toward meeting the reductions levels.

“Metropolitan Planning Organization" or “MPO”, as stated in the Rule (1.28), is an organization designated by agreement among the units of general purpose local governments and the Governor, charged to develop the Regional Transportation Plans (RTPs) and programs in a Metropolitan Planning Area pursuant to 23 U.S.C. § 134. Colorado currently includes five designated MPOs: DRCOG, PPACG, PACOG, GVMPO and NFRMPO.

“Mitigation Action Plan” (MAP) is an element of the GHG Transportation Report that specifies which GHG Mitigation Measures shall be implemented that help achieve the GHG Reduction Levels.

“Off-Model” means tools are better suited to use independent of the travel model, including calculation methodology in order to quantify or estimate the effects of GHG reductions.

“Policy Directive” is a document adopted by the Transportation Commission that specifies organizational and Commission goals and policies and is used to help implement the Rule.

“Regionally Significant Project”, as stated in the Rule (1.42), is a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network or state transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel. Modifications of this definition shall be allowed if approved by the State Interagency Consultation Team. If the MPOs have received approval from the Environmental Protection Agency (EPA) to use a different definition of regionally significant project as defined in 40 C.F.R. § 93.101, the State Interagency Consultation Team will accept the modified definition. Necessary specificity for MPO Models or the Statewide Travel Model will be approved by the State Interagency Consultation Team. The Transportation Commission may issue guidance for implementation of this definition based on population density or other defined factors from time to time.

“State Interagency Consultation Team” (IACT), as stated in the Rule (1.44), consists of the Division Director or the Division Director’s designee, the Colorado Department of Public Health and Environment (CDPHE) Director of Air Pollution Control Division or the Director’s designee, the Director of each MPO or their designee, and the Colorado Energy Office Director or Director’s designee. The Division Director may appoint additional member(s) from outside of these organizations. The State Interagency Consultation Team works collaboratively and consults appropriately to approve modifications to Regionally Significant definitions, to address

classification of projects as Regionally Significant, and to consult on issues that may arise regarding modeling assumptions and projects that reduce GHG emissions.

VI. POLICY

The Transportation Commission adopts the processes and priorities stated herein to guide the development of GHG Mitigation Measures, the approval of new GHG Mitigation Measures, the elements of a Mitigation Action Plan and GHG Mitigation Measure Status Report, and the analysis of the efficacy of GHG Mitigation Measures. Due to the evolving nature of evaluation techniques it is expected that this Policy may be reviewed and amended in the early months and years of its adoption.

A. Overall Process for Establishing GHG Mitigation Measures

This Policy Directive includes a list of approved GHG Mitigation Measures (Appendix A) that have been reviewed, vetted, and scored by the Department's subject matter experts, reviewed and recommended by the Interagency Consultation Team, and provided to the Air Pollution Control Division as required by the Rule, Section 8.04.2.

This Policy recognizes the need to balance appropriate analytical rigor around the expected reductions of GHG Mitigation Measures with encouraging new ideas and adapting to advancements in measurement methodologies. Further, the Commission recognizes that in the early compliance period for the Rule, MPOs may identify valid and quantifiable GHG Mitigation Measures that are not contemplated in Appendix A. Thus, this Policy provides two pathways for including mitigation measures in a MAP: 1) Using an approved measure listed in Appendix A or 2) Proposing a new measure so long as the process outlined below for validating and reviewing a measure is followed.

A locally-driven project, not otherwise prompted or developed as a result of CDOT or MPO action (e.g. funded or directly incentivized) may be included in the Mitigation Action Plan if it is a GHG Mitigation Measure contained in Appendix A of this Policy.

1. Proposing and Approving New GHG Mitigation Measures

a. Inclusion in Appendix A:

Any individual or organization may nominate a new GHG Mitigation Measure for review and potential approval. CDOT shall develop an online form on CDOT's website to receive these nominations. Staff, in consultation with the Transportation

Commission, reserves the discretion to prioritize newly nominated GHG Mitigation Measures based on the information available and the effort required to assess.

Additionally, CDOT staff will establish a regular process of inventorying best practices from around the country with a focus on identifying a range of effective GHG Mitigation Measures for urban, suburban, and rural contexts throughout the state. Staff shall engage CDOT's Environmental Justice branch in this process to help ensure that GHG Mitigation Measures and policy updates are regularly adapted to, and developed with, input from Disproportionately Impacted Communities.

In order to be included in Appendix A as an approved GHG Mitigation Measure, all new measures must follow the process outlined below:

- Assessment by CDOT GHG Program staff according to the framework listed in Table 1. The individual or group submitting the new measure shall be expected to provide, to the extent possible, this information and data upon submission of a proposed GHG Mitigation Measure.
- Review and recommendation by the Interagency Consultation Team.
- Confirmation and verification by the Air Pollution Control Division (APCD) (as required by 8.04.2).
- Approval by the Transportation Commission for incorporation into Appendix A.

Table 1: Framework for Submitting New GHG Mitigation Measures

New GHG Mitigation Measure Submission Components	Description of New GHG Mitigation Measure
Strategy Description	Describe the overall strategy, including: ● The nexus with the transportation sector ● Description of what the strategy achieves or implements ● Description of how the strategy reduces CO2e emissions ● If possible, identification of how the strategy is not already reflected-- or cannot be accurately measured by-- land use and travel modeling tools, thus warranting an off-model estimate of CO2e emission reductions ● Description of additionality. A GHG Mitigation Measure will be considered additional if it is not currently listed as a specific and quantified action in the GHG Roadmap or captured in an agency's modeling.
Quantification Methodology	Describe the methodology for quantifying CO2e emissions reductions from the strategy, including: ● Empirical evidence supported by verifiable data sources ● Clearly document all assumptions, sources of data, and calculations
Challenges and Constraints	● Potential challenges and constraints with quantifying and implementing strategy

b. Including a Mitigation Measure in a MAP not included in Appendix A.
If a GHG Mitigation Measure is not included in Appendix A, but submitted as part of a MAP, such measures must include the information in Table 1 and follow the process outlined below. CDOT staff shall work expeditiously to review new Mitigation Measures and support each submittal through this process.

- Assessment by CDOT GHG Program staff according to the framework listed in Table 1.
- Review and approval by the Interagency Consultation Team.
- Confirmation and verification by the Air Pollution Control Division (APCD) (as required by 8.04.2).

The Commission shall revisit this provision by May 2023 to determine its necessity and effectiveness based on the experience of the initial compliance period (i.e. October 2022 deadline).

B. Process for Scoring Approved GHG Mitigation Measure

Approved GHG Mitigation Measures will be scored and the scores included in Appendix A. The scoring is related to the ability of a GHG Mitigation Measure to reduce GHG emissions relative to a certain metric (e.g. per mile of bike lane). It also provides a way to distinguish and value the location and context of GHG Mitigation Measures.

The scores are based on the following factors:

1. Metric (e.g. per mile of bike lane)
2. Points/metric
3. Additional multipliers
4. Adjustment for effectiveness over time, and
5. A total expected lifetime of each measure

C. GHG Mitigation Action Plan

Subsection 8.02.6.3 of the Rule states as follows: "If (GHG) Mitigation Measure(s) are needed to count toward the GHG Reduction Levels in Table 1, the MPO or CDOT may submit a Mitigation Action Plan that identifies GHG Mitigation Measures, if any, needed to meet the GHG Reduction Levels within Table 1". The Transportation Commission will evaluate Mitigation Action Plans and determine their sufficiency to assure that the Plan meets the GHG Reduction Levels needed for compliance.

The following information must be included in a Mitigation Action Plan:

a. GHG Emissions Reductions: Summary of emissions analysis from GHG Transportation Report, including the estimated gap to achieve the GHG Reduction Levels specified for each horizon year.
b. GHG Mitigation Measure Summary/Description: Each measure shall include the following details as listed in Table 2.

Table 2: Description for Each Mitigation Measure

Component	Description of information to be submitted with application.
Measure Description	A description of the measure, including scale, location, and how it would affect travel activities expected to result in GHG reductions.
Timing	Anticipated start date, completion date, and dates of any other key milestones.
GHG Reductions	If using the points as set up in Appendix A, record the GHG reductions and associated technical data in each year of the project's lifetime. If agencies would like to substitute specific local data for the inputs or parameters that form the basis of the calculation methodologies of the strategies in Appendix A, document the GHG reductions and associated technical data. Agencies shall work with CDOT technical staff to verify the new technical data inputs. If using a GHG Mitigation Measure that is not included in Appendix A, document the GHG reductions and associated technical data listed in Table 1 used to calculate the GHG emissions reductions of the strategy. The Commission notes that there is a risk of disapproval under this scenario due to the Commission reviewing without the benefit of being pre-approved through the Appendix A process.
Co-benefits	Quantification, where possible, of specific co-benefits including reduction of co-pollutants (PM2.5, NOx, etc.) as well as travel impacts (changes to VMT, pedestrian/bike use, transit ridership, etc. as applicable), for each relevant compliance year in the project's lifetime.
Benefits to Disproportionately Impacted Communities	A description of the benefits to Disproportionately Impacted Communities and stakeholder engagement conducted with those communities. Include an accounting of the amount of mitigation dollars directly spent in--or designed to serve--Disproportionately Impacted Communities as a subset of total dollars.
Measure Origin and History	Include a description of the origin of the measure, including, where applicable, the role of the MPO or CDOT. Description must explain how the GHG Mitigation Measure is additional per the guidance provided above. A GHG Mitigation Measure will be considered additional if it is not currently listed as a specific and quantified action in the GHG Roadmap or captured in an agency's modeling. A locally-driven project, not otherwise prompted or developed as a result of CDOT or MPO action (e.g. funded or directly incentivized) may be included in the Mitigation Action Plan if it is a GHG Mitigation Measure contained in Appendix A of this Policy. If a project was specifically identified in a previous fiscally constrained plan as of January 30, 2022, it is not eligible as a GHG Mitigation Measure in a new

	plan UNLESS the new GHG Mitigation Measure is funded from a pool of non-specific projects (and not otherwise modeled in a previous plan), in which case it may be used as a GHG Mitigation Measure in the new plan.
Funding/ Resources/ Partnerships	Funding source(s), including if those funds are confirmed if any partnerships have been made or in-kind/matches are included.
Other Info As Needed	Any other relevant information that may be needed for thorough review of the proposed GHG Mitigation Measure.

D. GHG Mitigation Measure Status Reports and Follow-Up Analysis.

1. Submitting a GHG Mitigation Measure Status Report.

Following the approval of a GHG Mitigation Action Plan, CDOT and the MPOs are required to submit an annual status report for each GHG Mitigation Measure to the Transportation Commission starting on April 1 of each calendar year subsequent to the approval of the MAP. The following information shall be included in each status report (as outlined in the Rule):

- The implementation timelines;
- The current status
- For measures that are in progress or completed, quantification of the annual benefit of such measures
- For measures that are delayed, canceled, or substituted, an explanation of why that decision was made and, how these measures or the equivalent will be achieved
- For measures located in a Disproportionately Impacted Community that are delayed, canceled, or substituted, an explanation of why that decision was made and, how these measures or the equivalent will still be achieved in Disproportionately Impacted Communities

If an agency fails to implement or find a substitute for a delayed or canceled GHG Mitigation Measure, the Commission will need to consider whether an Applicable Planning Document is in compliance, as per subsection 8.02.6.4 of the Rule. The Commission shall consider failure to submit reports and any analysis therein in subsequent review of future plans presented for consideration.

2. Analyzing the Efficacy of GHG Mitigation Measures.

CDOT shall create a process to evaluate the effectiveness of implemented GHG Mitigation Measures against predicted achievement of those measures by no later than the end of 2026 and annually thereafter if needed. Such analysis shall be provided to the Interagency Consultation Team for their review and consideration as to whether this information merits a change to the score applied to relevant measure(s). The Commission shall incorporate subsequent review and revisions into this Policy Directive. Further, CDOT and MPOs shall conduct ongoing review in advance of the next plan update in order to better understand how GHG Mitigation Measures are being developed and implemented.

V. IMPLEMENTATION PLAN

This Policy Directive shall be effective immediately upon approval by the Transportation Commission.

The Office of Policy and Government Relations shall post this Policy Directive on CDOT's intranet as well as on public announcements.

VI. REVIEW DATE

This Directive shall be reviewed by January 2023, following the adoption of various transportation plans in 2022.

_____ _____

Herman Stockinger
Transportation Commission Secretary

Date of Approval

APPENDIX A.

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Table 1. GHG Mitigation Measures and their points/metric in each compliance year.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Pedestrian/Bicycle							
Bike lane/facility[4] - core urban[5]	Miles of two-way facility built between baseline	30	26~~23~~	21~~19~~	12~~9~~	6~~3~~	2.0 – separated / protected lane or bike boulevard
Bike lane/facility - urban			14~~12~~	11~~10~~	7~~5~~	3~~2~~	
Bike lane/facility – suburban			4~~4~~	~~4~~3	2~~1~~	1	

[1] Lifetime Effectiveness of GHG Mitigation Measures: The table lists the number of years after implementation or expenditure for which a strategy remains effective. Some infrastructure projects have long lasting effects, while other programs must be annually reinstated e.g., transit operations and parking pricing. For those programs that must be annually reinstated, agencies may take credit for as many years as the applicable planning document commits to funding said program. An agency may take credit for the GHG reductions of a given project over its lifetime effectiveness.

[2] 1 point corresponds to 1 metric ton of CO2 reduced. Agencies may take partial credit for any of these measures, i.e. if an agency builds half a mile of bike lane in an urban area, it may take half the points (6 points).

[3] Year of emissions factor basis for points: now-2025: 2025; 2026-2030: 2030; 2031-2040: 2040; and 2041-2050: 2050.

[4] "Sharrows" are not considered bike facilities in this application; however, a bike boulevard (low-volume street that includes pavement markings, signage, and traffic calming measures) is considered a bike facility. A "mixed-use district" is a street along which both residential and commercial (including retail) uses are permitted by zoning and where multiple non-residential uses (including retail) are present or planned.

[5] For all strategies in this Appendix ~~pedestrian and bicycle facilities~~, "core urban" corresponds to census tract or block group population density of greater than 10,000; "urban" to density between 4,000 and 10,000 persons per square mile; "suburban" to density between 500 and 4,000 persons per square mile; and "rural" to density of less than 500 persons per square mile. If there is evidence to show that a census tract or block group's population density will grow (e.g. shift from rural to suburban), agencies may claim a different density for a project. ~~"Sharrows" are not considered bike facilities in this application; however, a bike boulevard (low-volume street that includes pavement markings, signage, and traffic calming measures) is considered a bike facility. A "mixed-use district" is a street along which both residential and commercial (including retail) uses are permitted by zoning and where multiple non-residential uses (including retail) are present or planned.~~

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Bike lane/facility – rural	plan year 1 and evaluation year[6]	30	1~~1~~	1	1	1	1.5 – within mixed-use district or ½ mi of transit station or school
Sidewalk/pedestrian facility - core urban			28~~25~~	23~~21~~	13~~10~~	6~~4~~	1.5 – within mixed-use district or ½ mi of transit station or school
Sidewalk/ pedestrian facility - urban			9~~8~~	7~~6~~	4~~3~~	2~~1~~	
Sidewalk/ pedestrian facility - suburban			1~~1~~	1	1	1	
Sidewalk/ pedestrian facility – rural			1~~1~~	1	1	1	
Shared-use path[7] - core urban	Miles of two-way facility built between baseline		84~~75~~	6~~93~~	40~~29~~	19~~11~~	
Shared-use path - urban			39~~34~~	32~~29~~	1~~83~~	~~95~~	

[6] "Evaluation year" is the year for which projected GHG mitigation is being compared against a target, i.e., 2025, 2030, 2040, 2050.

[7] A shared use path is a facility that is physically separated from motorized vehicular traffic by an open space or barrier, either within the highway right-of-way or within an independent right of way, and with minimal cross flow by motor vehicles. Shared use paths should have a minimum width of 8' for two-way traffic, while 10 - 12' is desired.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Shared-use path – suburban	plan year 1 and evaluation year	30	109	87	53	21	2.0 – separated / protected lane or bike boulevard 1.5 – within mixed-use district or ½ mi of transit station or school
Shared-use path – rural			22	21	1	1	
"Complete Streets"[8] reconstruction - core urban			5448	440	2619	127	
"Complete Streets" reconstruction - urban	Miles of two-way facility built between baseline plan year 1 and evaluation year		2248	187	118	53	2.0 – separated / protected lane or bike boulevard 1.5 – within mixed-use district or ½ mi of transit station or school
"Complete Streets" reconstruction - suburban			520	4	21	1	
Bikeshare	Per 100 vehicles in service in evaluation year	1	184	154	96	42	
Scooter share			1816	143	86	42	

[8] Reconstruct streets to include or enhance bicycle and pedestrian facilities as well as transit priority treatments if appropriate.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Transit							
New/increased fixed-route transit service[9] -electric	Per 1,000 additional vehicle revenue-hours[10] in evaluation year	1	3127	253	151	74	
New/increased fixed-route transit service -electric/diesel fleet average			107	2018	151	74	
New/increased fixed-route transit service - intercity[11] fleet average bus	Per 1,000 vehicle revenue-miles	1	2	2	1	1	
New/increased fixed-route transit service - intercity electric bus			3	3	1	1	
Waive transit fares 25%	Per million annual trips current ridership base	1	6269	572	3324	169	
Waive transit fares 50%			124139	115104	6749	3219	

[9] Some new transit projects may yield higher GHG reductions if the agency supplies local specific data. CDOT and the MPOs may use the "Transit GHG Mitigation Measure User Input Tool" found on the CDOT GHG webpage as an alternative to the points in this table when evaluating the GHG reductions impact of new or expanded transit services.

[10] Expressing service expansion in vehicle-hours captures a wide range of specific actions including adding route-miles, reducing headways, and extending service hours or days. Ridership elasticities are available to relate to overall service metrics, but will be less available for more specific actions. Data to support ridership response to other improvements (e.g., bus stops and other amenities) will be less available.

[11] Intercity transit services that cross multiple regional and metropolitan areas, e.g. CDOT's Bustang. Intercity buses have a more efficient driving cycle due to use of the highway.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Waive transit fares 100%			~~247~~277	229~~208~~	133~~97~~	63~~37~~	
Implement bus priority treatments[12]	Per 1,000 vehicle revenue-miles per weekday of affected service in evaluation year	30	37~~34~~	2~~64~~	1~~30~~	~~64~~	
New/increased demand-response bus service	Per 1,000 new vehicle revenue hours	1	1	6	5	2	
Transportation Demand Management							
Trip Reduction program[13] - voluntary	Per 1,000 covered employees	1	~~96~~108	8~~91~~	52~~38~~	24~~14~~	

[12] Infrastructure and/or operational improvements to reduce run times and improve reliability. These may include transit signal priority, queue jump lanes, exclusive bus lanes, bulb-outs, and/or other treatments. Bus priority treatments will need to meet minimum standards, e.g., anticipated >+10% travel time reduction on high-frequency (<=20 min headway) routes.

[13] Minimum requirements for such programs include staff dedicated to performing outreach to employers to promote and provide information on travel options for employees; resources for employers to communicate travel options to employees (e.g., websites, flyers, social media, trip planning tools, model telework policies, vanpool support); guaranteed ride home program; ride matching platform; incentives for participation (e.g., prizes, recognition); and support for measuring and tracking performance (e.g., participation in alternative mode use) via apps or surveys.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Trip Reduction marketing	Per program $1,000 expenditure in evaluation year	1	~~2~~2	2	1	1	
Employer sponsored vanpool	Per new vanpool in evaluation year	1	~~1~~2	1	1	1	
Employer sponsored vanpool - electric	Per new vanpool in evaluation year		~~7~~8	~~7~~6	~~4~~3	~~2~~1	
Carshare program	# of cars provided in evaluation year		~~14~~15	1~~3~~2	~~7~~5	~~3~~2	3.0 for EVs
Telework	Per 100 employees teleworking additional 1 day/week		~~22~~25	20~~18~~	12~~9~~	~~6~~3	
Broadband Expansion	Per 100 new households served	30	~~40~~45	3~~7~~4	21~~16~~	10~~6~~	

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Traffic Operations[14]							
Retime/optimize arterial signals	Per 10,000 AADT per signal optimized within five years prior to evaluation year	5	5355	4547	3128	2219	
Replace signalized intersection with roundabout	Per 10,000 AADT per roundabout	30	243243	208206	106121	3750	
Parking Management							
Reduce or eliminate commercial parking minimums and set maximum levels - Non-Central Business District, max 2.5 spaces/1,000 sq. ft. minimum commercial parking requirements to "smart growth" levels and set maximum levels no more than 125% of "smart growth" levels[15]	Per 10,000 sq. ft. of gross floor area of commercial capacitycommercial space that can be built in the area subject to the parking requirements between baseline plan year	30	6483	3546	1254	1-97	

[14] The Rule requires that any operational GHG Mitigation Measure take into consideration induced demand. Table 6 in the Appendix demonstrates how the points for retiming/optimizing arterial signals were calculated with an induced demand factor. At this time, there is no conclusive evidence that roundabouts offer any travel time savings to drivers, thus induced demand is not a factor in this strategy.

[15] "Smart growth" parking levels are defined as minimum requirements of less than 2 spaces per 1,000 sq. ft. of commercial floor area, and maximum requirements of no more than 2.5 spaces per 1,000 sq. ft. of commercial floor area.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
	1~~current year~~ and evaluation year						
Reduce or eliminate commercial parking minimums and set maximum levels - Non-Central Business District, max 2.0 spaces/1,000 sq. ft.		30	8	7	4	2	
Reduce or eliminate commercial parking minimums and set maximum levels - Central Business District, max 1.5 spaces/1,000 sq. ft			5	4	2	1	
Reduce or eliminate commercial parking minimums and set maximum levels - Central Business District, max 1.0 spaces/1,000 sq. ft			10	8	5	2	

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Eliminate residential parking minimums and set low maximum levels[16] - core urban	Per 1,000 DUs[17] that can be built in the area subject to the parking requirements between baseline plan year 1~~current year~~ and evaluation year	30	~~1,364~~1,535	1,265~~150~~	734~~534~~	347~~205~~	
Eliminate residential parking minimums and set low maximum levels – urban			~~1,425~~1,603	1,321~~201~~	766~~558~~	362~~214~~	
Eliminate residential parking minimums and set low maximum levels - suburban			~~1,637~~1,841	1,517~~380~~	880~~641~~	416~~246~~	
Reduce or eliminate residential parking minimums and set moderate maximum levels[18] - core urban			~~682~~767	632~~575~~	367~~267~~	173~~103~~	
Reduce or eliminate residential parking minimums and set moderate maximum levels - urban			~~712~~801	660~~601~~	383~~279~~	181~~107~~	

[16] Maximums: no more than 0.75 (1 bed/studio/efficiency), 1.0 (2 bed), and 1.25 (3+ bed).
[17] Dwelling units.
[18] Maximums: no more than1.0 (1 bed/studio/efficiency), 1.5 (2 bed), and 1.75 (3+ bed).

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Reduce or eliminate residential parking minimums and set moderate maximum levels - suburban			~~818~~921	759~~690~~	440~~321~~	208~~123~~	
Unbundle residential parking[19]	Per 1,000 parking spaces rented for at least $100 per month in evaluation year	1	~~160~~179	147~~34~~	85~~62~~	40~~25~~	
Additional tax or fee on public and/or private parking	Per 1,000 parking spaces per daily $1 fee in evaluation year	1	~~167~~188	155~~141~~	90~~65~~	42~~25~~	
Land Use							
Increase residential density	Per acre rezoned from <10 units/acre to at least 15-25 units/acre meeting "smart growth" criteria	30	~~24~~27	22~~20~~	13~~9~~	6~~4~~	

[19] This measure unbundles a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost. Unbundling may not be available to all residential developments, depending on funding sources.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Increase job density	Per acre rezoned from <0.5 FAR to at least 1.0 FAR meeting "smart growth" criteria	30	~~20~~22	1~~8~~6	11~~8~~	5~~3~~	
Mixed-use Transit-Oriented Development (TOD) - higher intensity	Per acre of area rezoned for mixed-use TOD accommodating at least 25 residential units/acre and 150 jobs/acre, within 1/2 mile of fixed-guideway transit station	30	~~53~~60	4~~9~~5	2~~8~~1	13~~8~~	

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Mixed-use TOD - moderate intensity	Per acres of area rezoned for mixed-use TOD accommodating at least 15 residential units/acre and 100 jobs/acre, within ½ miles of high-frequency bus transit or fixed guideway station	30	49	40	23	11	
MD/HD[20]							
Replace diesel transit buses with battery-electric buses	Number of new vehicles introduced between baseline~~between baseline~~ plan year 1~~ current year~~ and evaluation	12	92	85	-	-	
Replace diesel transit buses with hybrid diesel-electric buses			15	14	-	-	
Replace diesel transit buses with RNG bus			37	34	-	-	

[20] Strategies in this category will need to be recalibrated or reconsidered if an overlapping regulation is passed at the state level, such as the Advanced Clean Trucking rule.

Project Type	Metric	Project Lifetime (Years)[1]	Points/ Metric[2] Now-2025[3]	Points/ Metric 2026-2030	Points/ Metric 2031-2040	Points/ Metric 2041-2050	Additional Multipliers
Replace diesel school buses with electric buses	year	12	12	11	10	10	
Build medium duty truck charger	Number of chargers		19	17	15	15	
Build heavy duty truck charger			32	30	27	27	
Replace medium duty truck	Number of new electric trucks / trucks introduced between baseline plan year 1~~current year~~ and evaluation year		19	17	15	15	
Replace heavy duty truck			32	30	27	27	
Support hydrogen refueling infrastructure	Number of refueling stations	30	45	250	420	420	Use 2040 values if hydrogen is produced from renewables
Clean Construction							
Strategies in this category will be added in 2023.							

Legend for Calculation Methodologies Table

output (points)
future years copied from base year
User input

Table 2. GHG Point Estimate Calculation Methodologies - Pedestrian and Bicycle Strategies

PEDESTRIAN AND BICYCLE STRATEGIES						
		Value				
Ref	**Parameter**	**2025**	**2030**	**2040**	**2050**	**Source/Calculation**
Parameters Common Across Strategies						
A	grams CO2 per vehicle-mile (auto)	341	~~256~~281	~~119~~163	~~46~~77	CDOT (2021) - high EV scenario
Prior drive mode share of new bikers/walkers						
B1	Owned bikes	60%				Transportation Investment Strategy Tool, Table A.4
B2	Shared bikes and scooters	40%				Buehler et al (2019), Mobility Lab (2019), NABSA (2020), Ramboll (2020), MacArthur et al (2018)
B3	Walkers	40%				
Average trip length (mi)						
C1	Bike	2.3				2009 National Household Travel Survey
C2	Walk	0.7				2009 National Household Travel Survey
C3	Shared bike	1.4				PBOT (2020) and NABSA (2020)
C4	Scooter	1.1				PBOT (2020) and NABSA (2020)
D	Annualization factor	365				

Per New Facility-Mile:	New Bicyclists (Daily)	New Walkers (Daily)	Displaced Auto Miles/yr		
Bike lane/facility - core urban	150		75,555		New users: Transportation Investment Strategy Tool documentation, Table A.4
Bike lane/facility - urban	80		40,296		Displaced auto miles: New users * C1 * B1 * D
Bike lane/facility – suburban	25		12,593		
Bike lane/facility – rural	5		2,519		
Sidewalk/ pedestrian facility - core urban	327	798	81,556		New users: Transportation Investment Strategy Tool documentation, Table 4.11
Sidewalk/ pedestrian facility - urban	174	247	25,243		Displaced auto miles: New users * C1 * B1 * D
Sidewalk/ pedestrian facility - suburban	55	13	1,329		
Sidewalk/ pedestrian facility – rural	11	2	204		
Shared-use path - core urban	327	798	246,266		New bicyclists: Transportation Investment Strategy Tool documentation, Table A.4
Shared-use path - urban	174	247	113,089		New walkers: Same as sidewalk/pedestrian facility
Shared-use path – suburban	55	13	28,780		Displaced auto miles: New users * C1 * B1 * D
Shared-use path – rural	11	2	5,695		
"Complete Streets" reconstruction - core urban	150	798	157,111		= Sum of value for bike lane + pedestrian improvements
"Complete Streets" reconstruction - urban	80	247	65,539		
"Complete Streets" reconstruction – suburban	25	13	13,921		

Per New Shared Vehicle:	Trips per Day	Annual Person-Miles	Displaced Auto Miles		
Shared bike	2.6	1329	531		Trips per day: PBOT (2020) and NABSA (2020)
Scooter	3.2	1285	514		Annual person-miles: Trips per day * [C3 or C4]* 365
					Displaced auto miles: Annual person-miles * B2
Change in tons CO2 per new facility-mile (annual):	**2025**	**2030**	**2040**	**2050**	
Bike lane/facility - core urban	(25.8)	(~~19.3~~21.2)	(~~9.0~~12.3)	(~~3.5~~5.8)	= Displaced auto miles * A / 1000000
Bike lane/facility - urban	(13.7)	(11.3~~10.3~~)	(6.6~~4.8~~)	(~~1.9~~3.1)	
Bike lane/facility – suburban	(4.3)	(3.5~~2~~)	(2.1~~1.5~~)	(~~0.6~~1.0)	
Bike lane/facility – rural	(0.9)	(0.~~7~~6)	(0.~~3~~4)~~)~~	(0.2~~1~~)	
Sidewalk/ pedestrian facility - core urban	(27.8)	(2~~0~~20.9)	(~~9.7~~13.3)	(~~3.8~~6.3)	
Sidewalk/ pedestrian facility - urban	(8.6)	(~~6.5~~7.1)	(~~3.0~~4.1)	(1.~~2~~9)	
Sidewalk/ pedestrian facility - suburban	(0.5)	(0.~~4~~3)	(0.2)	(0.1)	
Sidewalk/ pedestrian facility – rural	(0.1)	(0.1)	(0.0)	(0.0)	
Shared-use path - core urban	(84.0)	(~~63.0~~69.2)	(~~29.3~~40.1)	(~~11.3~~19.0)	
Shared-use path - urban	(38.6)	(~~29.0~~31.8)	(~~13.5~~18.4)	(~~5.2~~8.7)	

Shared-use path – suburban	(9.8)	(~~7.4~~8.1)	(~~3.4~~4.7)	(~~1.3~~2.2)	
Shared-use path – rural	(1.9)	(1.~~65~~)	(0.~~97~~)	(0.~~43~~)	
"Complete Streets" reconstruction - core urban	(53.6)	(~~40.2~~44.1)	(~~18.7~~25.6)	(~~7.2~~1 2.1)	
"Complete Streets" reconstruction - urban	(22.3)	(~~16.8~~18.4)	(~~7.8~~10.7)	(5~~3~~.0)	
"Complete Streets" reconstruction – suburban	(4.7)	(~~3.6~~3.9)	(~~1.7~~2.3)	(~~0.~~1.1 ~~6~~)	
Change in tons CO2 per 100 new shared vehicles (annual):	**2025**	**2030**	**2040**	**2050**	**Source/Calculation**
Shared bike	(18.1)	(14.9~~13.6~~)	(~~6.3~~8.7)	(~~2.4~~4.1)	= Displaced auto miles * A / 1000000
Scooter	(17.5)	(~~13.2~~14.4)	(~~6.1~~8.4)	(~~2.4~~4.0)	
Points per new facility-mile:	**2025**	**2030**	**2040**	**2050**	
Bike lane/facility - core urban	26	~~19~~21	~~9~~12	~~36~~	Providing a minimum of 1 point, with the expectation to improve these values as more Colorado specific data becomes available.
Bike lane/facility - urban	14	~~10~~11	~~5~~7	~~23~~	
Bike lane/facility – suburban	4	~~3~~4	~~1~~2	~~1~~1	
Bike lane/facility – rural	1	1	1	1	
Sidewalk/ pedestrian facility - core urban	28	2~~3~~1	1~~3~~0	~~4~~6	

	Sidewalk/ pedestrian facility - urban	9	7~~6~~	~~3~~4	2~~1~~
	Sidewalk/ pedestrian facility - suburban	1	1	1	1
	Sidewalk/ pedestrian facility – rural	1 ~~1~~	1	1	1
	Shared-use path - core urban	84	6~~93~~	~~29~~40	1~~91~~
	Shared-use path - urban	39	32~~29~~	1~~83~~	~~9~~5
	Shared-use path – suburban	10	~~7~~8	~~3~~5	~~1~~2
	Shared-use path – rural	2	2~~1~~	1	1
	"Complete Streets" reconstruction - core urban	54	4~~0~~0	26~~19~~	~~7~~12
	"Complete Streets" reconstruction - urban	22	1~~7~~7	11~~8~~	~~5~~3
	"Complete Streets" reconstruction – suburban	5	4	2	1
	Points per 100 new shared vehicles:	**2025**	**2030**	**2040**	**2050**
	Shared bike	22	1~~5~~4	~~9~~6	~~4~~2
	Scooter	21	1~~3~~4	~~6~~8	~~2~~4

Table 3. GHG Point Estimate Calculation Methodologies - Transit Strategies

TRANSIT STRATEGIES

Ref	Parameter	Value 2025	2030	2040	2050	Metric; Source/Calculation
Parameters Common Across Strategies						
	Vehicle revenue-miles per revenue-hour					
A1	Fixed-route bus	13.0	13.0	13.0	13.0	NTD (2019), Colorado agencies
A2	Demand-response bus	13.7	13.7	13.7	13.7	NTD (2019), Colorado agencies
	Passenger-miles per vehicle-mile					
B1	Fixed-route bus	11.5	11.5	11.5	11.5	NTD (2019), Colorado agencies - Rapid Bus (RB) service
B2	Demand-response bus	3.5	3.5	3.5	3.5	NTD (2019), Colorado agencies
	grams CO2 per vehicle-mile					
C1	Fixed-route bus	1,555	399	-	-	CDOT (2021) - high bus electrification (100% electric by 2033)
C2	Demand-response bus	619	159	-	-	2019 based on medium truck MPG from AEO, future years adjusted proportional to fixed-route bus
C3	Auto	~~303~~341	~~256~~281	~~119~~163	~~46~~77	~~CDOT (2021) - high bus electrification~~ CDOT (2021) - high EV scenario
C4	Intercity bus	778	200	-	-	CDOT (2021) - high bus electrification
	grams CO2 per vehicle-hour					
D~~C4~~	Fixed-route bus	3,966	1,018	-	-	CS (2021), scaled by g/mi from CBA analysis for future years
D1	Prior drive mode share of new riders	60%	60%	60%	60%	CS (2021)
D2	Prior drive mode share of new riders (intercity)	80%	80%	80%	80%	
	Average trip length (mi) - unlinked					
F1	Fixed-route bus	4.5	4.5	4.5	4.5	FHWA CMAQ Calculator Toolkit
F2	Demand-response bus	4.5	4.59	4.5	4.5	Assumed same as fixed-route
G	Annualization factor	300	300	300	300	

	New/increased fixed-route bus service ~~- urban/suburban~~				**1,000 new vehicle revenue-hours**
	Tons CO2 per new VRH				
	Displaced auto	(36.7)	(~~23.0~~25.2)	(~~10.7~~14.6)	(~~4.1~~6.9)	= 1000 * A1 * B1 * C3 * D / 1000000
	New bus (fleet average)	20.2	5.2	-	-	= 1000 * C1 * A1 * / 1000000
	New bus (electric)	- ~~-~~	-	-	-	
	Net (fleet average bus)	(16.5)	(~~17.8~~200)	(~~10.7~~14.6)	(~~4.1~~6.9)	= new bus + displaced auto
	Net (electric bus)	(36.7)	(~~23.0~~25.2)	(~~10.7~~14.6)	(~~4.1~~6.9)	
	Points per new 1,000 VRH (fleet average bus)	16	~~18~~20	1~~1~~5	~~4~~7	
	Points per new 1,000 VRH (electric bus)	37	2~~3~~5	1~~5~~1	74	
	New/increased fixed-route bus service - intercity				1,000 new vehicle revenue-miles
	Change in auto VMT	(9,200)	(9,200)	(9,200)	(9,200)	= 1000 * B1 * D2
	Tons CO2 per new VRM				
	Displaced auto	(3.1) ~~(2.8)~~	(2.6)	(1.5)	(0.7)	= 1000 * B1 * C3 * D / 1000000
	New bus (fleet average)	0.8 ~~0.8~~	0.2	-	-	= 1000 * C4 / 1000000
	New bus (electric)	-	-	-	-	

		-				
	Net (fleet average bus)	(2.4) ~~(2.0)~~	(2.4)	(1.5)	(0.7)	= new bus + displaced auto
	Net (electric bus)	(3.1) ~~(2.9)~~	(2.6)	(1.5)	(0.7)	
	Points per 1,000 new VRM (fleet average bus)	2	2	1	-	
	Points per 1,000 new VRM (electric bus)	3	3	1	-	
	New/increased demand-response bus service - urban/suburban					**1,000 new vehicle revenue-hours**
	Tons CO2 per new VRH					Calculation from above data:
	New bus	8.5	2.2	-	-	= C2 * A2 / 1000
	Displaced auto	(9.8)	(8.1 ~~7.4~~)	(~~3.~~4.7)	(2.2 ~~1.3~~)	= A1 * B1 * C3 * D / 1000
	Net	(1.3)	(5.9 ~~5.2~~)	(4.7 ~~3.4~~)	(2.2 ~~1.3~~)	= new bus + displaced auto
	Points per new 1,000 VRH	1 -	~~6~~5	~~3~~5	~~1~~2	
	Reduce transit fares					**1 million base annual trips**
	Fare elasticity	-0.3	-0.3	-0.3	-0.3	TCRP Report 95, Chapter 12; CAPCOA (2021)
	Effects per million annual trip base @ 100% fare reduction (annual)					
	New trips	300,000	300,000	300,000	300,000	= 1000 * -(fare elasticity)

	Change in auto VMT	(813,600)	(813,600)	(813,600)	(813,600)	= new riders * F1 * D
	Change in tons CO2	(277.4)	(~~207.9~~228.6)	(~~96.6~~132.6)	(~~37.1~~62.6)	= change in auto VMT * C3 / 1000000
	Points per million trips - free fares	277	~~208~~229	~~97~~133	~~37~~63	
	Points per million trips - 50% fare reduction	139	~~104~~115	~~49~~67	~~19~~32	
	Points per million trips - 25% fare reduction	69	~~52~~57	~~24~~33	~~9~~16	
	Implement bus priority treatments					**Affected 1,000 VRM per weekday**
	Bus travel time elasticity	-0.4	-0.4	-0.4	-0.4	TCRP Report 95, Chapter 12
	Typical travel time change (%)	-10%	-10%	-10%	-10%	CAPCOA (2021)
	Effects per 1,000 affected VRM (annual)					
	New bus passenger-miles	138,000	138,000	138,000	138,000	= B1 * elasticity * travel time change * G * 1000
	Change in auto VMT	(82,800)	(82,800)	(82,800)	(82,800)	= new passenger-mi * D
	Change in auto emissions (t CO2)	(28)	(2~~3~~1)	(1~~3~~0)	(6~~4~~)	= change in auto VMT * C3 / 1000000
	Change in bus idle emissions (t CO2)	(9)(~~9~~)	(2)	-	-	
	Change in tons CO2	(37)	(2~~6~~4)	(1~~3~~0)	(6~~4~~)	
	Points per 1,000 affected weekday VRM	37	~~24~~26	~~10~~13	~~4~~6	
	User-input method for new transit					

	service					
	Planned new annual vehicle revenue-miles					Agency service plan
	Anticipated new ridership (annual unlinked trips)					Agency estimate based on survey, model, or similar service
	Anticipated share of new riders who previously drove or used a taxi/TNC					Agency estimate based on rider surveys or local mode shares. Use 60% if no local data available.
	Average unlinked trip length of new riders (mi)					Agency estimate based on rider surveys, models, or data. Use 4.52 if no local data available.
	Transit vehicle size					Agency service plan
	Transit vehicle technology					Agency service plan
	Average load factor for new service	~~13.~~ 6	~~13.6~~	~~13.6~~	~~13.6~~	= new riders * trip length / new revenue-miles
	Change in annual auto VMT	~~(1,464,480~~)	~~(1,610,928~~)	~~(1,772,021~~)	~~(1,949,223)~~	= new riders * trip length * prior drive mode share
	Change in annual tons CO2					
	Displaced auto	~~(444)~~	~~(412)~~	~~(211)~~	~~(90)~~	= change in auto VMT * C3 / 1000000
	New bus service	~~280~~	~~79~~	-	-	= 1000 * C1 * A1 * / 1000000
	Net change	~~(164~~)	~~(333)~~	~~(211)~~	~~(90~~)	= new bus + displaced auto
	Points	~~164~~	~~333~~	~~211~~	~~90~~	

Table 4. GHG Point Estimate Calculation Methodologies - Parking Management Strategies

PARKING STRATEGIES						
		Value				
Ref	**Parameter**	**2025**	**2030**	**2040**	**2050**	**Metric; Source/Calculation**

	Parameters Common Across Strategies					
A	grams CO2 per vehicle-mile (auto)	341	~~256~~281	~~119~~163	~~46~~77	CDOT (2021) - high EV scenario
B	Average trip length (mi) - all purposes	10.5				FHWA (2018), Table 6b
C	Annualization factor	300				
	Annual miles driven					
D1	Per vehicle	10,450				CDOT (2021)
D2	Per household	19,642				FHWA (2018), based on 2017 NHTS
D3	Per worker (commuting)	6,400				2017 NHTS work trip length * 2 * 250
	Additional Fee on Parking					Per 1,000 covered spaces per daily dollar fee
	Elasticity of driving w/r/t fuel price	-0.12				Small and van Dender (2007)
	Price of gasoline ($/gal)	$ 3.11				AEO 2022 Reference case for 2021
	Average mpg	23.8				AEO 2020 Reference Case, Table 7
	$1 parking fee equivalent cost per mile	$ 0.10				$1.00 / B
	$1 parking fee equivalent cost per gallon	$ 2.27				= Cost per mile * miles per gallon
	Leakage factor (destination change)	0%				Placeholder for people to shift trip destination rather than paying fee. No good research.
	% VMT change for affected trips	-9%				= Fee cost per gallon / gas cost per gallon * elasticity
	Trips per covered space per day	2.0				Assumes 1 round trip to a workplace or home. For short-term parking, fee is prorated.
	Change in annual VMT per space per $	(551)	(551)	(551)	(551)	
	Change in annual tons CO2 per 100 spaces per $	(187.9)	~~(141.1)~~15 4.8	~~(65.6)~~89. 8	~~(25.3~~42.4)	= Change in VMT * 1000 * A / 1000000
	Points per 1,000 spaces per $ daily fee	188	15~~541~~	90~~66~~	~~25~~42	

	Unbundle Residential Parking					Per 1,000 covered spaces @ $100/mo
	Annual parking cost per space	$ 1,200				= $100 * 12
	Annual vehicle cost	$ 9,666				AAA (2021)
	Elasticity of vehicle ownership with respect to total vehicle cost	(0.4)				Litman (2021)
	Adjustment factor from vehicle ownership to VMT	1.01				FHWA (2017), as cited in CAPCOA (2021)
	Percent reduction in miles per vehicle	-5.0%				= (parking cost) / (vehicle cost) * elasticity * adjustment factor
	Change in annual VMT per space per $100/mo	(524)	(524)	(524)	(524)	= D1 * percent reduction
	Change in annual tons CO2 per 1,000 space per $	(178.7)	~~(134.2)~~(147.3)	~~(62.4)~~(85.4)	~~(24.1)~~(40.4)	= Change in VMT * 1000 * A / 1000000
	Points per 1,000 spaces per $100 monthly cost	179	~~134~~147	~~62~~85	~~24~~40	
	Eliminate minimum and set low maximum levels (residential)					Per 1,000 dwelling unit (DU)
	Change in annual VMT per DU for a 1-space reduction					
	Urban core	(4,500)				CS analysis using sample projects from the King County (WA) Right Size Parking Calculator (https://rightsizeparking.org/)
	Urban	(4,700)				assuming that typical parking is 2+ space/unit for 2+ bedroom
	Suburban	(5,400)				

	Change in annual tons CO2 per 1,000 DU					= Change in VMT * 1000 * A / 1000000
	Urban core	(1,535)	(1,265150)	(734534)	(347205)	
	Urban	(1,603)	(1,321201)	(766558)	(362214)	
	Suburban	(1,841)	(1,517380)	(880641)	(416246)	
	Points per 1,000 DU					
	Urban core	1,535	1,150265	534734	205347	
	Urban	1,603	1,201321	558766	214362	
	Suburban	1,841	1,380517	641880	246416	
	Eliminate minimum and set moderate maximum levels (residential)					Per 1,000 dwelling unit (DU)
	Change in annual VMT per DU for a 1-space reduction					
	Urban core	(2,250)				CS analysis using sample projects from the King County (WA) Right Size Parking Calculator (https://rightsizeparking.org/)
	Urban	(2,350)				assuming that typical parking is 2+ space/unit for 2+ bedroom
	Suburban	(2,700)				
	Change in annual tons CO2 per 1,000 DU					= Change in VMT * 1000 * A / 1000000
	Urban core	(767)	(575632)	(267367)	(103173)	

	Urban	(801)	(~~601~~660)	(~~279~~383)	(~~107~~181)	
	Suburban	(921)	(~~690~~759)	(~~321~~440)	(~~123~~208)	
	Points per 1,000 DU					
	Urban core	767	~~575~~632	~~267~~367	~~103~~173	
	Urban	801	~~601~~660	~~279~~383	~~107~~181	
	Suburban	921	~~690~~759	~~321~~440	~~123~~208	
	Reduce or eliminate minimum and set maximum levels (commercial)					**Per 10,000 sq. ft. gross floor area of commercial capacity**
	Square feet per worker	300				Average for multiple employment categories; see CAPCOA (2021), p. 74
	Workers per 10,000 sq. ft.	33				= 10,000 / sq. ft. per worker
	% change in auto mode share per 0.1 space parking reduction per 1,000 sq. ft.	-1.4%				Estimates based on Morrall & Bolger (1996) and Lund, Cervero, & Willson (2004)
	Annual VMT change per 0.1 space reduction	(2,987)				= % change in auto mode share * workers per 10,000 sq. ft. * D3
	Baseline parking level (spaces per 1,000 sq. ft. general office or commercial) for existing mode share (no reduction)					
	Non-CBD area	2.8				Institute of Transportation Engineers, as cited in TCRP Report 95 Chapter 18
	CBD area	2.0				Estimate

% change in auto mode share vs. baseline for maximum parking ratio for general office or commercial floor area:					= (Baseline parking ratio - new parking ratio) * % change in auto mode share per 0.1 space reduction * 10
Non-CBD, max 2.5 spaces/1,000 sq. ft.	-4.2%				
Non-CBD, max 2.0 spaces/1,000 sq. ft.	-11.2%				
CBD, max 1.5 spaces/1,000 sq. ft.	-7.0%				
CBD, max 1.0 spaces/1,000 sq. ft.	-14.0%				
Annual VMT change per 10,000 sq. ft. revised parking ratios:					= % change in auto mode share * workers per 10,000 sq. ft. * D3
Non-CBD, max 2.5 spaces/1,000 sq. ft.	(8,960)				
Non-CBD, max 2.0 spaces/1,000 sq. ft.	(23,893)				
CBD, max 1.5 spaces/1,000 sq. ft.	(14,933)				
CBD, max 1.0 spaces/1,000 sq. ft.	(29,867)				
Change in annual tons CO2					= Change in VMT * A / 1000000
Non-CBD, max 2.5 spaces/1,000 sq. ft.	(3.1)	(2.5)	(1.5)	(0.7)	
Non-CBD, max 2.0 spaces/1,000 sq. ft.	(8.1)	(6.7)	(3.9)	(1.8)	
CBD, max 1.5 spaces/1,000 sq. ft.	(5.1)	(4.2)	(2.4)	(1.1)	
CBD, max 1.0 spaces/1,000 sq. ft.	(10.2)	(8.4)	(4.9)	(2.3)	
Points per 10,000 sq. ft. gross floor area of commercial capacity:					
Non-CBD, max 2.5 spaces/1,000 sq. ft.	3	3	1	1	
Non-CBD, max 2.0 spaces/1,000 sq. ft.	8	7	4	2	

	CBD, max 1.5 spaces/1,000 sq. ft.	5	4	2	1	
	CBD, max 1.0 spaces/1,000 sq. ft.	10	8	5	2	
	~~Eliminate minimum commercial parking requirements and set maximum levels~~					~~Per 1,000 sq. ft. of commercial space~~
	~~% change in commute driving for workers with limited parking (<1 space/unit)~~	~~-37%~~				~~Chatman (2013), as cited in CAPCOA (2021)~~
	~~% of vehicle-travel that is commute travel~~	~~29%~~				~~FHWA (2018)~~
	~~% change in vehicle-travel from limited parking~~	~~-11%~~				~~= % change in commute driving * % travel that is commute travel~~
	~~Change in annual VMT per DU~~	~~(2,136)~~	~~(2,136)~~	~~(2,136)~~	~~(2,136)~~	~~= D2 * percent reduction~~
	~~Change in annual tons CO2 per 1,000 DU~~	~~(647.3)~~	~~(546.9)~~	~~(254.2)~~	~~(98.3)~~	~~= Change in VMT * 1000 * A/1000000~~
	~~Points per 1,000 DU~~	~~647~~	~~547~~	~~254~~	~~98~~	

Table 5. GHG Point Estimate Calculation Methodologies - Travel Demand Management Strategies

TRAVEL DEMAND MANAGEMENT STRATEGIES						
		Value				
Ref	Parameter	2025	2030	2040	2050	Metric; Source/Calculation
	Parameters Common Across Strategies					
	grams CO2 per vehicle-mile					
A1	Auto	341	~~256~~281	~~119~~163	~~46~~77	CDOT (2021) - high EV scenario
A2	Vanpool	758	~~639~~703	~~250~~366	~~38~~90	Base year assumed 10 mpg, future year efficiency/electrification adjustments proportional to auto

	Average work trip length (mi)					
B1	Auto	12.7	12.7	12.7	12.7	FHWA (2018), Table 26
B2	Vanpool	25	25	25	25	TCRP Report 95, Chapter 5. Typical average length is close to 25 miles (p. 5-13, Table 5-5)
C	Annualization factor	250	250	250	250	TCRP Report 95, Chapter 5, Table 5-6
	Trip Reduction Program - Voluntary					**Per Program $1,000**
	~~Change in annual VMT per program $~~% change in work trip VMT for covered employees	~~-100~~-5%	-5%	-5%	-5%	USDOT (2010), p. 5-75, 5% reduction in SOV mode share; Boarnet (2014) as cited in CAPCOA (2021), 4-6% VMT reduction~~MWCOG (2009), as analyzed by CS for Colorado DOT (2010) and updated 2022~~
	~~Change in annual tons CO2 per $1,000~~VMT change per 1,000 covered employees (annual)	(317,500)~~-30.3~~	(317,500)~~-25.6~~	(317,500)~~-11.9~~	(317,500)~~-4.6~~	~~= =~ % VMT Change * B1 * 2 * C * 1000~~~~Change in VMT * 1000 * A1 / 1000000~~
	~~Points per program $1,000~~Change in annual tons CO2 per $	(108.3)~~30~~	~~26~~(89.2)	~~12~~(51.8)	~~5~~(24.4)	= Change in VMT * A1 / 1000000
	Points per 1,000 covered employees	108	89	52	24	
	Trip Reduction Program - Marketing					**Per Program $1,000**
	Annual VMT reduced per program $	7	7	7	7	MWCOG (2009), as analyzed by CS for Colorado DOT (2010) and updated 2022
	Change in annual tons CO2 per $	~~-2.1~~(2)	~~-1.8~~(2)	~~-0.8~~(1)	~~-0.3~~(1)	= Change in VMT * 1000 * A1 / 1000000

	Points per program $1,000	22	2	1	1-	
	Employer Sponsored Vanpool					**Per New Vanpool**
	Average vanpool occupancy	5.8	5.8	5.8	5.8	CDOT (2019), total participants / total vans
	Prior drive mode share of new vanpoolers	65%	65%	65%	65%	TCRP Report 95, Chapter 5, p. 5-34. Total prior auto drivers, counting in carpool drivers, are in the 45 to over 65% range
	Vanpool circuity factor	1.2	1.2	1.2	1.2	Estimate
	Annual VMT change per new vanpool					
	Auto	-(23,563)	-(23,563)	-(23,563)	-(23,563)	= occupancy * prior drive mode share * B1 * C
	Vanpool	7,500	7,500	7,500	7,500	= circuity factor * B1 * C
	Change in annual tons CO2 per new vanpool					
	Auto	(8.0)-7.1	(-6.06)	(3-2.8)	(-1.8)1	= Change in auto VMT * A1 / 1000000
	Vanpool, fleet average	6.4 5.7	5.34.8	2.71.9	0.73	= Change in vanpool VMT * A2 / 1000000
	Vanpool, electric	-	-	-	-	= Change in vanpool VMT *A3 / 1000000
	Net, fleet average vanpool	(1.6)	(1.4)	(1.1)	(1.1)	= Sum of auto and vanpool change
	Net, electric vanpool	(8.0)	(6.6)	(3.8)	(1.8)	= Sum of auto and vanpool change

	Points per new vanpool (fleet average)~~Net~~	2 ~~1.5~~	~~1.2~~1	~~0.9~~1	~~0.8~~1	= Sum of auto and vanpool change
	Points per new vanpool (electric)	8 ~~1~~	7~~1~~	~~1~~4	~~1~~2	
	Carshare					**Per # cars provided**
	Households served per car	15				Litman (2018) - typically 10-20 members per vehicle
	Annual VMT reduction per HH served	3,000				Litman (2018) - carshare HHs are typically lower mileage HHs who reduce travel 50% (6,000 to 3,000 annual miles)
	Change in annual CO2 per car (tons)	(15)	(-13)~~2~~	(7) ~~5~~	(3) ~~2~~	
	Points per new carshare vehicle	15	13~~2~~	7~~5~~	3~~2~~	
	Telework					**Per 100 employees teleworking additional 1 day/week**
	Daily work trip VMT change per new teleworker	-25.4				= B1 * 2
	Rebound effect (additional non-work travel as % of reduced work travel)	41%				"Overall rebound effect" for a telecommuter on a telecommuter day, based on analysis of 2012-2013 California Household Travel Survey (CS, 2019)
	Annual VMT change per 100 new teleworkers per additional day per week	(719)				= Daily VMT change * (1 - rebound effect) * 48 weeks/year

	Change in annual CO2 per 100 new teleworkers per additional day per week (tons)	(25)	(20)	(12)	(6)	= Change in VMT * A1 * 100 / 1000000
	Points per 100 new teleworkers per additional day per week	25	20	12	6	

Broadband					**Per 100 new households served**
% VMT for "personal business"	32%				FHWA (2018), Table 6a
Change in personal business VMT due to tele-travel	-10%				Assumption
% VMT for work	29%				FHWA (2018), Table 6a
Change in work travel due to work-from-home	-12%				Colorado DOT
Annual household VMT change per new broadband service point	(1,317)				= [Land Use-D2] * (% VMT * VMT reduction for personal business + % VMT * VMT reduction for work)
Change in annual CO2 per 100 new households served with broadband (tons)	(45)	(37)	(21)	(10)	= Change in VMT * A1 * 100 / 1000000
Points per 100 new households served with broadband	45	37	21	10	

Table 6. GHG Point Estimate Calculation Methodologies - Traffic Operation Strategies

TRAFFIC OPERATION STRATEGIES						
		Value				

Ref	Parameter	2025	2030	2040	2050	Metric; Source/Calculation
	Parameters Common Across Strategies					
	grams CO2 per vehicle-mile (auto)	341~~303~~	~~256~~281	~~119~~163	~~467~~7	CDOT (2021) - high EV scenario
	grams CO2 per vehicle-mile (heavy truck)	1,307	1,199	1,074	1,074	Based on AEO forecast mpg (no electrification)
	CO2 fraction from heavy vehicles (2019)	21%				National average based on AEO data
	kg CO2 per hour of delay (all traffic)	3.5	2.9	1.7	1.0	2019 based on TTI (2021), future years adjusted by relative efficiency improvement of autos and heavy trucks
	Retime/optimize arterial signals					**Per 10,000 AADT per signal**
	Sample corridor length (mi)	1.0				Assumption
	Signals per mile	2.0				Assumption
	Baseline corridor travel speed (mph)	20.0				Assumption
	Corridor travel time change (%)	-12%				USDOT (2010), p. 4-24: travel time reductions of 8-25% possible for preset signals, or 8-41% for actuated signals
	New corridor travel speed (mph)	22.7				Calculation
	Average daily arterial traffic volume at signal	10,000				Assumption
	Change in travel time per vehicle (hours)	-0.006				Calculation
	Daily total delay reduction (hours)	(60)				Calculation
	Induced travel elasticity (% change in VMT with respect to % change in travel time)	-0.3				[U.K.] Highways Agency (1997), recommended value of -0.20 to -0.33 for "urban areas with low modal competition, or interurban"; Barr (2000), -0.3 to -0.5

	New volume	10,360				= Volume + [Volume * % travel time change * elasticity]
	Annual change in tons CO2 per signal					
	From delay reduction	(75.7)(~~76.7~~)	(~~63.5~~68.2)	(~~37.0~~44.2)	(27.8~~2.4~~)	= Delay reduction * CO2/hour * 365 / 1000
	From VMT increase	22.4 ~~19.9~~	~~16.8~~18.5	~~7.8~~10.7	~~3.0~~5.1	= Volume change * miles/signal * g/mi [auto] * 365 / 1000000
	Net CO2 change	(53.3)(~~56.7~~)	(~~49.7~~46.7 45.4)	(31.~~52~~9.2)	(21.5~~2.71~~ ~~9.4~~)	
	Points per signal per 10,000 AADT	53 ~~57~~	~~47~~45	~~29~~32	~~19~~22	
	Roundabout					**Per 10,000 AADT per roundabout**
	CO2 change, kg/vehicle	(0.07)				Calculated from data in Hu et al (2014), adjusted for ratio of 2025 to 2012 emissions based on AEO data
	Annual vehicles	3,650,000				= 10,000 * 365
	CO2 change, tons/year/10,000 AADT	(243)(~~243~~)	(206~~00~~)	(121~~02~~)	(~~34~~50)	= Vehicles * kg/vehicle / 1000
	Points per roundabout per 10,000 AADT	243 ~~243~~	206~~00~~	121~~02~~	50~~34~~	

Table 7. GHG Point Estimate Calculation Methodologies - Land Use Strategies

LAND USE STRATEGIES						
		Value				
Ref	**Parameter**	**2025**	**2030**	**2040**	**2050**	**Metric; Source/Calculation**

	Parameters Common Across Strategies					
A	grams CO2 per vehicle-mile (auto)	341 ~~303~~	28~~156~~	16~~319~~	77~~46~~	CDOT (2021) - high EV scenario
B	Average trip length (mi) - all purposes	10.5				2017 NHTS Trends, Table 6b
C	Annualization factor	300				
	Annual miles driven					
D1	Per vehicle	10,450				CDOT (2021)
D2	Per household	19,642				FHWA (2018), based on 2017 NHTS
D3	Per worker (commuting)	6,400				2017 NHTS work trip length * 2 * 250
	Increase Residential Density					Per acre rezoned from <10 units/acre to at least 15-25 units/acre meeting "smart growth" criteria
	Elasticity of VMT with respect to residential density	(0.22)				Stevens (2016), as cited in CAPCOA (2021)
	Change in annual VMT per residential unit	(4,321)				= D2 * elasticity * 100% density increase (assumes typical density 9 units/ac per CAPCOA is doubled to 18 units/ac)
	Change in annual CO2 (tons) per rezoned acre	-26.5 ~~-23.6~~	(21.9) ~~-19.9~~	(12.7) ~~-9.3~~	(~~-3.~~6)	= Change in VMT/unit * A * 18 / 1000000
	Points per rezoned acre	27 ~~24~~	2~~0~~	~~9~~13	~~4~~6	
	Increase Job Density					Per acre rezoned from <0.5 FAR to at least 1.0 FAR meeting "smart growth" criteria
	Elasticity of VMT with respect to job density	(0.07)				Stevens (2016), as cited in CAPCOA (2021)
	Square feet of building space per employee	300				CAPCOA (2021)

	Employees per acre at 1.0 FAR	145				43,560 / square feet/employee
	Annual work trip VMT per employee					
	Baseline	6,350				= TDM-B1 * TDM-C * 2
	Change from rezoning	(445)				= Baseline VMT * elasticity * 100% density increase
	Change in annual CO2 (tons) per rezoned acre	(22)~~-19.6~~	~~-16.5~~(18.1)	~~-7.7~~(10.5)	~~-3.0~~(5)	= Change in VMT/employee * employees/acre * A / 1000000
	Points per rezoned acre	22 ~~20~~	1~~87~~	11~~8~~	~~35~~	
	Mixed-use Transit-Oriented Development (higher intensity)					**Per acre of area rezoned for mixed-use TOD accommodating at least 25 residential units/acre and 150 jobs/acre, within 1/2 mile of fixed-guideway transit station**
	Change in annual VMT per rezoned acre	(174,706)				= Change in VMT/unit * 25 + change in VMT/employee * 150
	Change in annual CO2 (tons) per rezoned acre	(-59.6)~~-52.9~~	(49.1)~~-44.7~~	~~-20.8~~(28.5)	~~-8.0~~(13.5)	= Change in VMT/acre * A / 1000000
	Points per rezoned acre	60 ~~53~~	4~~59~~	28~~1~~	13~~8~~	
	Mixed-use Transit-Oriented Development (moderate intensity)					**Per acre of area rezoned for mixed-use TOD accommodating at least 15 residential units/acre and 100 jobs/acre, within 1/2 mile of high-frequency bus transit or fixed-guideway station**
	Change in annual VMT per rezoned acre	(109,269)				= Change in VMT/unit * 15 + change in VMT/employee * 100

	Change in annual CO2 (tons) per rezoned acre	(48.5)~~-43.1~~	~~-36.4~~(~~-40~~)	~~-16.9~~(23.2)	~~-6.5~~(11)	= Combined effect for increasing residential density + increasing job density
	Points per rezoned acre	~~43~~ 49	~~36~~40	~~17~~23	11~~7~~	

Table 8. GHG Point Estimate Calculation Methodologies - MD/HD Strategies

MD/HD STRATEGIES						
		Value				
Ref	**Parameter**	**2025**	**2030**	**2040**	**2050**	**Metric; Source/Calculation**
	grams CO2 per vehicle-mile					
	Transit bus - diesel	2,945	2,698	2,405	2,347	CDOT (2021)
	Transit bus - hybrid-electric	2,454	2,248	2,004	1,956	20% efficiency improvement
	Transit bus - RNG	1,774	1,626	1,449	1,414	Calculated based on 0.60 ratio of CNG to diesel direct CO2 emissions per unit energy
	Transit bus - electric	-	-	-	-	Excluding electricity sector emissions
	School bus - diesel	1,243	1,150	1,007	1,007	AFDC school bus mpg for 2017, future year adjustments for Federal MHDV rule, 10.15 kg CO2/gal
	School bus - electric	-	-	-	-	Excluding electricity sector emissions
	Medium truck - diesel	1,011	936	809	809	AEO medium truck mpg for base year, future year adjustments for Federal MHDV rule, 10.15 kg CO2/gal
	Medium truck - electric	-	-	-	-	Excluding electricity sector emissions
	Heavy truck - diesel	1,286	1,199	1,074	1,074	AEO heavy truck mpg for base year, future year adjustments for Federal MHDV rule, 10.15 kg CO2/gal
	Heavy truck - electric	-	-	-	-	Excluding electricity sector emissions
	Heavy truck - H2 fuel cell	-	-	-	-	Excluding electricity sector emissions
	Miles per vehicle per year					

	Auto	10,450				CDOT (2021)
	Transit bus	31,396				CDOT (2021)
	School bus	9,939				U.S. EPA (2016): 9,939 mi/year, from the 1997 School Bus Fleet Fact Book
	Medium truck	18,387				Computed from Argonne National Lab - VISION model (2019) data
	Heavy truck (electric)	25,185				69 miles per day for class 7 delivery truck (Gao et al. 2017) - local food delivery
	Heavy truck (H2 FC)	41,628				Argonne VISION model, computed average for Class 7/8 truck
	CO2 change per vehicle (tons/year)					
	Transit bus hybrid	(15.4)	(14.1)	(12.6)	(12.3)	= miles per year * (g/mi[hybrid] - g/mi[diesel])
	Transit bus CNG	(36.8)	(33.7)	(30.0)	(29.3)	= miles per year * (g/mi[CNG] - g/mi[diesel])
	Transit bus all-electric	(92.5)	(84.7)	(75.5)	(73.7)	= miles per year * (g/mi[electric] - g/mi[diesel])
	School bus electric	(12.4)	(11.4)	(10.0)	(10.0)	= miles per year * (g/mi[electric] - g/mi[diesel])
	Medium truck electric	(18.6)	(17.2)	(14.9)	(14.9)	= miles per year * (g/mi[electric] - g/mi[diesel])
	Heavy truck electric	(32.4)	(30.2)	(27.0)	(27.0)	= miles per year * (g/mi[electric] - g/mi[diesel])
	Points per new vehicle					Per vehicle replacing a diesel vehicle
	Transit bus hybrid	15	14	13	12	
	Transit bus CNG	37	34	30	29	
	Transit bus all-electric	92	85	76	74	
	School bus electric	12	11	10	10	
	Medium truck electric	19	17	15	15	
	Heavy truck electric	32	30	27	27	
	Hydrogen Refueling Stations					Per station

	Utilization rate	10%	30%	30%	30%	RMI (2020): 10% in 5-year term, 30% long-term for DCFC, assumed same for H2
	Time to refuel (hrs)	0.17	0.17	0.17	0.17	
	Daily service time (hrs)	16	16	16	16	RMI (2020): most DCFC demand between 6 am and 10 pm, assumed same for H2
	Number of vehicles served per station per day	9.6	28.8	28.8	28.8	= Service time / time to refuel * utilization rate
	H2 % renewable (vs. natural gas)	10%	40%	100%	100%	Assumption
	H2 carbon intensity, g CO2/MJ					
	Compressed, central NG reform	115.6	115.6	115.6	115.6	CARB (2015) value of 152.5 life-cycle, deflated based on ratio of direct to life-cycle for diesel
	Compressed, on-site renewable	62.1	62.1	62.1	62.1	CARB (2015) value of 62.1 life-cycle, deflated based on ratio of direct to life-cycle for diesel
	Weighted average	110.3	94.2	62.1	62.1	Calculated
	H2 carbon intensity, g CO2/GDE	14,994	12,811	8,446	8,446	= g CO2/MJ * 136 MJ/GDE [GDE = gallon diesel equivalent]
	Heavy truck diesel mi/gallon	6.8	7.5	8.4	8.5	AEO, 2019 Reference Case
	H2/diesel energy efficiency ratio (EER)	2.0	2.0	2.0	2.0	GREET model, v.2020
	Heavy truck H2 g CO2/mi	1,103	854	503	497	= g CO2/GDE / mi/gal / EER
	CO2 change (tons/year):					
	per H2 truck served	(4.6)	(8.7)	(14.4)	(14.5)	= Miles/year/vehicle * g/mile / 1000000
	per H2 station	(44.4)	(250.2)	(414.4)	(418.7)	= CO2 change/truck * trucks/charger
	Points per new station	44	250	414	419	

Table 9. GHG Point Estimate Calculation Methodologies - Sources

Short Name	Citation	Web Link

AAA (2021)	AAA (2021). Your Driving Costs.	https://newsroom.aaa.com/wp-content/uploads/2021/08/2021-YDC-Brochure-Live.pdf
AEO	U.S. Department of Energy, Annual Energy Outlook Reference Case, 2019 or 2022	https://www.eia.gov/outlooks/aeo/
AFDC	Alternative Fuels Data Center	https://afdc.energy.gov/
Barr (2000)	Barr, L.C. (2000). "Testing for the significance of induced highway travel demand in metropolitan areas", Transportation Research Record: Journal of the Transportation Research Board, vol. 1706.	https://journals.sagepub.com/doi/10.3141/1706-01
Buehler (2012)	Buehler, R., and J. Pucher (2012). "Cycling to Work in 90 Large American Cities: New Evidence on the Role of Bike Paths and Lanes." Transportation 39:409–432.	https://www.saferoutespartnership.org/resources/journal-article/cycling-work-90-large-american-cities
CAPCOA (2021)	California Air Pollution Control Officers Association (2021). Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity.	https://www.airquality.org/ClimateChange/Documents/Handbook%20Public%20Draft_2021-Aug.pdf
CARB (2015)	California Air Resources Board (2015). Staff Report: Calculating Life Cycle Carbon Intensity Value of Transportation Fuels in California.	https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/peerreview/050515staffreport_ca-greet.pdf
CDOT (2019)	Colorado Department of Transportation (2019). Statewide Transportation Demand Management Plan. Phase 1 Report: Colorado Transportation Options. Prepared by Wilson & Company, Inc.	https://www.codot.gov/programs/innovativemobility/mobility-services/tdm/links.html
CDOT (2021)	Colorado DOT (2021). Cost-Benefit Analysis for Rules Governing Statewide Transportation Planning. August 31, 2021.	https://www.codot.gov/business/rules/documents/cdot-cost-benefit-analysis-for-ghg-rule-sept-2021.pdf
CS (2010)	Cambridge Systematics and Sprinkle Consulting (2010). Transportation Demand Management Project Evaluation and	http://www3.drcog.org/documents/archive/_CODOT_TDM_COMPLETE%20-%20FINAL%202%2011%2010.pdf

	Funding Methods in the Denver Region. Prepared for Colorado DOT.	
CS (2019)	Cambridge Systematics (2019). "The Future of the Workplace: How Will Economic and Technological Changes Affect Work Travel and Emissions?" Presented to Southern California Association of Governments.	
CS (2021)	Cambridge Systematics (2021). Transportation Investment Strategy Tool Documentation, 2021. Prepared for Georgetown Climate Center.	https://www.georgetownclimate.org/files/report/GCC_Investment_Tool.pdf
FHWA (2018)	McGuckin, N. and A. Fucci (2018). Summary of Travel Trends: 2017 National Household Travel Survey. U.S. Department of Transportation, Federal Highway Administration, FHWA-PL-18-019.	https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf
Hu et al (2014)	Hu, W.; A.T. McCartt, J.S. Jermakian, S. Mandavilli (2014). Public Opinion, Traffic Performance, the Environment, and Safety After Construction of Double-Lane Roundabouts. Transportation Research Record no. 2402.	https://journals.sagepub.com/doi/abs/10.3141/2402-06
ITF (2020)	International Transport Forum (ITF). (2020). “Good to Go? Assessing the Environmental Performance of New Mobility.”	https://www.itf-oecd.org/good-go-assessing-environmental-performance-new-mobility
King County (2022)	King County Multi-Family Residential Parking Calculator	https://rightsizeparking.org/
Litman (2018)	Litman, T. (2018). TDM Encyclopedia: Carsharing. Victoria Transport Policy Institute.	https://www.vtpi.org/tdm/
Litman (2021)	Litman, T. (2021). TDM Encyclopedia: Parking Requirement Impacts on Housing Affordability. Victoria Transport Policy Institute.	https://www.vtpi.org/tdm/

Lund, Cervero, and Willson (2003)	Lund, H. M., Cervero, R., and Willson, R. W. (2004). Travel Characteristics of Transit-Oriented Development in California. Prepared by Project Team Members from Cal Poly Pomona, UC Berkeley, and San Francisco Bay Area Rapid Transit under a Caltrans "Statewide Planning Studies" Transportation Grant, Sacramento, CA. Cited in TCRP Report 95 Chapter 17.	
MacArthur (2018)	MacArthur, J., C. Cherry, M. Harpool and D. Scheppke. (2018). A North American Survey of Electric Bicycle Owners. NITC-RR-1041. Portland, OR: Transportation Research and Education Center (TREC). https://dx.doi.org/10.15760/ trec.197	https://pdxscholar.library.pdx.edu/trec_reports/161/
Mobility Lab (2019)	Mobility Lab, Arlington County Commuter Services (ACCS). (2019). Arlington County Shared Mobility (SMD) Pilot Evaluation Report.	https://mobilitylab.org/research-document/arlington-county-shared-mobility-devices-smd-pilot-evaluation-report/
Morrall and Bolger (1996)	Morrall, J., and Bolger, D. (1996). "The Relationship Between Downtown Parking Supply and Transit Use." ITE Journal Vol. 66, No. 2 (February, 1996).	
MWCOG (2009)	LDA Consulting et al for Metro Washington Council of Governments (2009). Transportation Emission Reduction Analysis Report, FY 2006–2008.	https://www.mwcog.org/documents/2020/11/17/commuter-connections-transportation-emission-reduction-measure-term-analysis-report--carsharing-commuter-connections-commuting/
NABSA (2020)	North American Bikeshare Association (NABSA). (2020). 1st Annual Micromobility State of the Industry Report.	https://doi.org/10.7922/G2057D6B
NACTO (2018)	National Association of City Transportation Officials (NACTO). (2018). Shared Micromobility in the U.S.: 2018.	https://nacto.org/shared-micromobility-2018/
NTD (2019)	2019 National Transit Database (data analysis by Cambridge Systematics)	https://www.transit.dot.gov/ntd
PBOT (2020)	Portland Bureau of Transportation (2020). E-Scooter Findings Report.	https://www.portlandoregon.gov/transportation/article/709719

Ramboll (2020)	Ramboll. (2020). Achieving Sustainable Micro-mobility. <https://ramboll.com/-/media/files/rgr/documents/markets/transport/m/ramboll_micro-mobility_greenpaper_a4_0320_lowres_v.pdf?la=en>	
Rabi (2012)	Rabi, A. and A. de Nazelle (2012). "Benefits of Shift from Car to Active Transport." Transport Policy 19(1).	
RMI (2020)	Rocky Mountain Institute (2020). DCFC Rate Design Study. Prepared for Colorado Energy Office.	https://rmi.org/insight/dcfc-rate-design-study/
Small and van Dender (2007)	Small, K. and K. Van Dender (2007). Fuel Efficiency and Motor Vehicle Travel: The Declining Rebound Effect. The Energy Journal, 28:1.	
TCRP Report 95 Chapter 12	McCollom, B.E., and R. H. Pratt, et al (2004). TCRP Report 95, Traveler Response to Transportation System Changes. Chapter 12: Transit Pricing and Fares. Transportation Research Board, Washington, D.C.	https://www.trb.org/Publications/TCRPReport95.aspx
TCRP Report 95 Chapter 5	Evans, J.E., and R. H. Pratt, et al (2005). TCRP Report 95, Traveler Response to Transportation System Changes. Chapter 5: Vanpools and Buspools. Transportation Research Board, Washington, D.C.	https://www.trb.org/Publications/TCRPReport95.aspx
TCRP Report 95 Chapter 17	Evans, J., R. Pratt, A. Stryker, and J.R. Kuzmyak (2004). TCRP Report 95, Traveler Response to Transportation System Changes. Chapter 17: Transit-Oriented Development. Transportation Research Board, Washington, D.C.	https://www.trb.org/Publications/TCRPReport95.aspx
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TTI (2021)	Texas A&M Transportation Institute (2021). Urban Mobility Report. As analyzed in Cambridge Systematics (2021).	https://mobility.tamu.edu/umr/
[U.K.] Highways Agency (1997)	[U.K.] Highways Agency (1997). Design Manual for Roads and Bridges, Volume 12, Section 2, Part 2: Induced Traffic Appraisal.	
U.S. EPA (2016)	U.S. Environmental Protection Agency (EPA) (2016). Population and Activity of On-road Vehicles in MOVES2014. EPA-420-R-16-003.	https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=OTAQ&dirEntryId=309336
USDOT (2010)	U.S. Department of Transportation (2010). Transportation's Role in Reducing U.S. Greenhouse Gas Emissions.	http://www.reconnectingamerica.org/assets/Uploads/DOTClimateChangeReport-April2010-Volume1and2.pdf
WSCTRB (2017)	Washington State Commute Trip Reduction Board (2017). 2017 Report to the Legislature.	https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=2017CTR_Report_cc6e5f5a-b10f-44b7-8304-fd65ba28133f.pdf

Colorado Transportation Commission
Audit Review Committee Agenda
Wednesday, June 15, 2022 @ 4:00

Eula Adams, Chair	Karen Stuart	Terry Hart
District 3	District 4	District 10

All commissioners are invited to attend this Committee meeting

1.	Call to Order	Verbal
2.	Motion to Approve October 21, 2021 Minutes	p. 1
3.	Motion Regarding Release of Construction Project Oversight Audit Report	Verbal
4.	Audit Division Plan	Verbal
5.	FY 2022 Audit Division Results	Verbal
6.	Outstanding Recommendations Update	Verbal

THE AGENDA MAY BE ALTERED AT THE CHAIR'S DISCRETION

COLORADO
Department of Transportation
Region 1

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION (TC)

FROM: ANDREW STRATTON, REGION 1 DEPUTY DIRECTOR OF PROGRAM DELIVERY
ADAM PARKS, REGION 1 RESIDENT ENGINEER

DATE: JUNE 15, 2022

SUBJECT: TRANSPORTATION COMMISSION WORKSHOP - STAFF RECOMMENDATION REGARDING THE DELIVERY METHOD FOR THE I-270 CRITICAL BRIDGE REPLACEMENTS PROJECT

Purpose

The purpose of this TC memorandum is to outline the staff recommendation to deliver the I-270 Critical Bridge Replacements Project (Project) utilizing Construction Manager/General Contractor (CM/GC) as the Alternative Delivery Method.

Action

TC is asked to adopt a resolution that supports the staff recommendation.

Background

The I-270 corridor provides a vital connection from I-70 to I-25. Approximately 100,000 vehicles per day utilize this corridor to bypass the friction of downtown Denver to move goods, services, information, and people from the eastern edge of the city to north of the city. Within the I-270 corridor there are eight (8) structures within a one mile stretch between York Street and Vasquez Boulevard that have been the source of many challenges to the mission of this corridor. These structures have been in service for over 50 years and have been requiring frequent emergency repairs. Over 300 emergency repairs have been performed to the bridges along this corridor since 2006. These deck repairs always require significant lane closures affecting travel times in this corridor. This corridor lacks redundancy, and any detours during these emergency repairs require use of local roads or significant out-of-direction movements.

Bridge inspections have 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 Region 1 North Engineering and BTE recognize that any further investment into keeping these 8 bridges in service will have diminishing return, therefore the next step should be full replacement. CDOT Region 1 North Engineering has begun to advance the design phase to pursue replacement of these bridges as soon as possible. Full funding for the Critical Bridge Replacements project is available from sources including BTE and SB-267. A subsequent future project will complete the I-270 EA proposed action (to be determined) throughout the I-270 corridor.

CDOT Region 1 North Engineering convened a team of agency subject matter experts and project team members for an interactive workshop to discuss and evaluate various delivery methods for the I-270 Critical Bridges Replacement Project using CDOT’s Project Delivery Selection Matrix (PDSM). The workshop was held over the course of three days (February 9, 11, and 15, 2022) and approximately 9 hours total was spent in discussing the opportunities and obstacles each delivery method brought to the

table, and how those characteristics can be leveraged to pursue the goals of the I-270 Critical Bridges Scope.

The provided documents demonstrate that the project team has met the recommended practices for selecting an Alternative Delivery Method and adhering to CDOT's Transparency and Accountability commitments.

Next Steps

Upon adoption of resolution approving the staff recommendation, CDOT staff will commence the procurement process and release Requests for Proposals for CM/GC, design, construction management/Owner representative, and Independent Cost Estimate services. CDOT staff is committed to completing the remaining accountability and transparency steps as outlined in SB-260.

Attachments

1) TC Alternative Delivery Method Recommendation Presentation
2) I-270 Critical Bridge Replacements Alternative Delivery Public/Industry Meeting Summary
3) Chief Engineer CM/GC Concurrence Memorandum
4) I-270 Critical Bridge Replacements Project Final Project Delivery Section Matrix (PDSM)

COLORADO
Department of Transportation

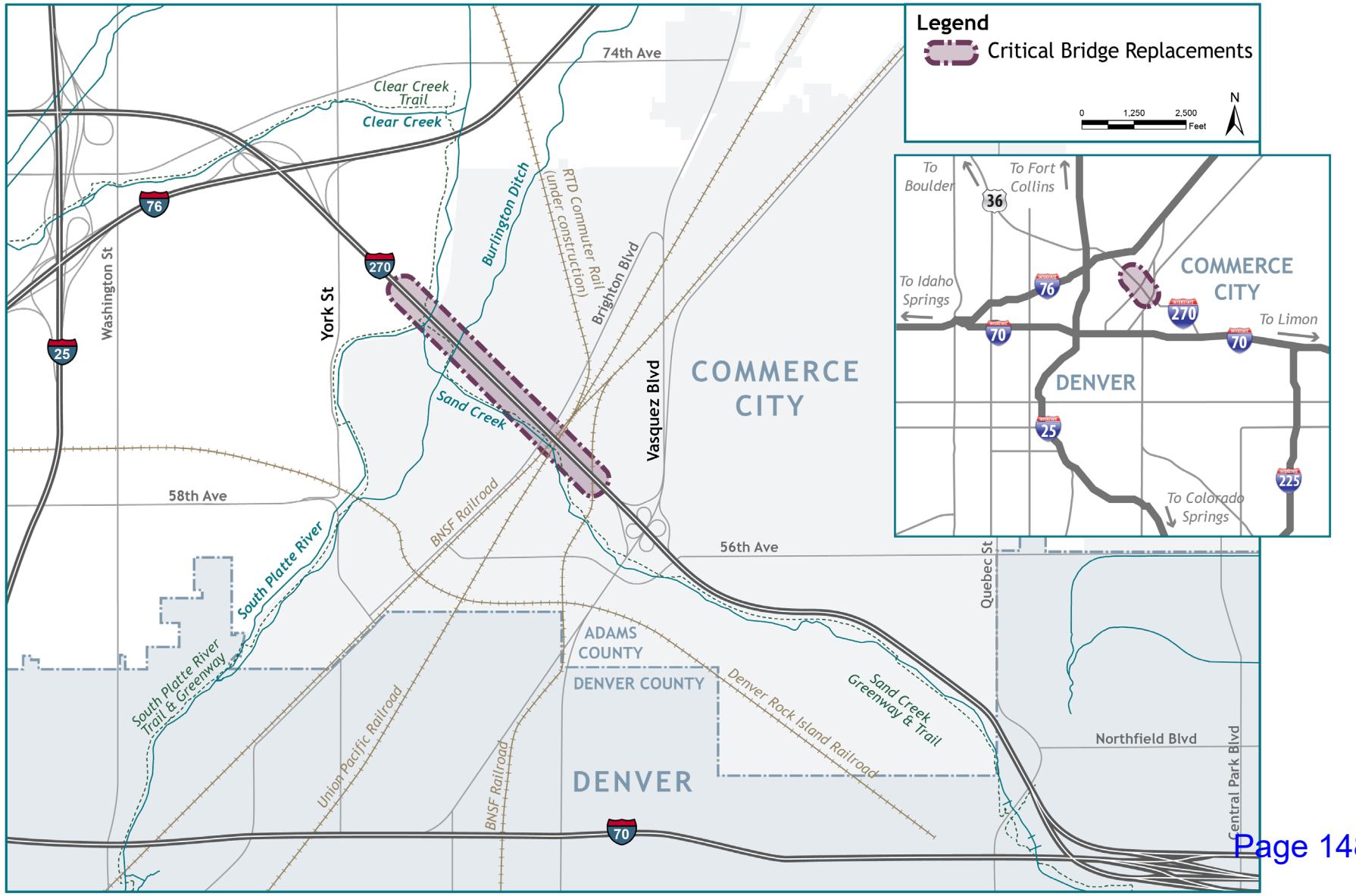
I-270 Critical Bridge Replacements Project

Transportation Commission
Alternative Delivery Method Recommendation
June 15, 2022

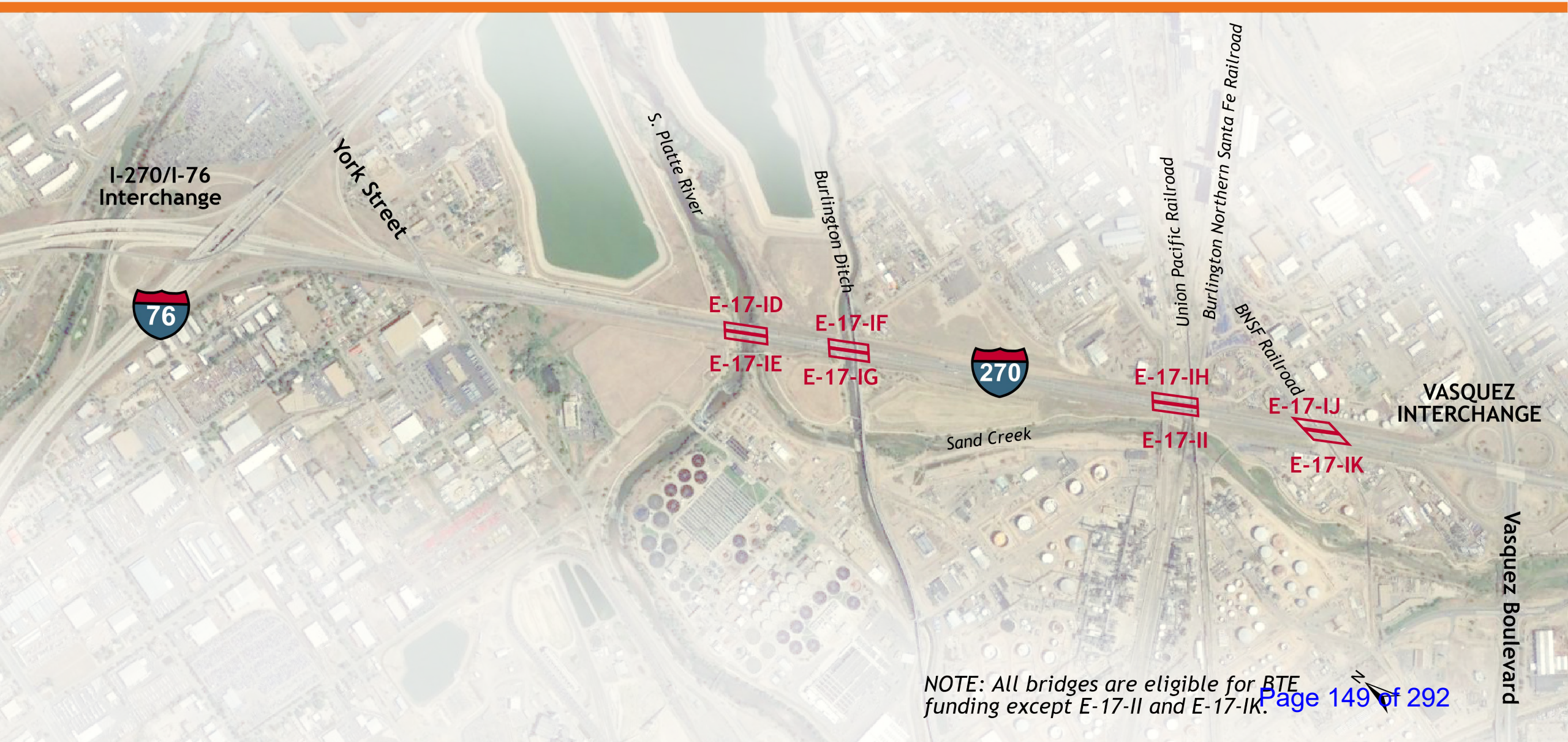
Workshop Agenda

1) I-270 Critical Bridge Replacements Project Scope
2) CDOT Alternative Delivery Method Selection Process
3) Recommended Alternative Delivery Method
4) Senate Bill 21-260 Alternative Delivery Commitments
5) Summary of Project Alternative Delivery Public Meeting with Industry and Public held on May 25, 2022
6) Discuss Next Steps

Project Location



Critical Bridge Locations on I-270



Key Project Elements

1) Replacement of 8 structures (4 pairs, most pairs to be replaced with a single bridge)
2) 6 structures are Bridge & Tunnel Enterprise (BTE) eligible noted by *)
3) Pavement: full reconstruction at bridge approaches
4) Retaining walls
5) ROW/Easements for construction access
6) Floodplain Management Coordination (MHFD/Adams County)
7) Project Funding = BTE & SB-267

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. 60th/BNSF Railroad	E-17-IJ*
EB	E. 60th/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

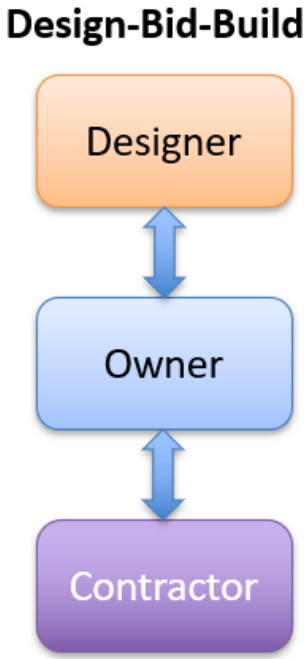
- Third party (Railroad, Ditch Company, etc.) reviews and approvals prior to construction
- Geotechnical engineering investigations (natural or artificial obstructions)
- Escalation of project costs due to labor and material market conditions

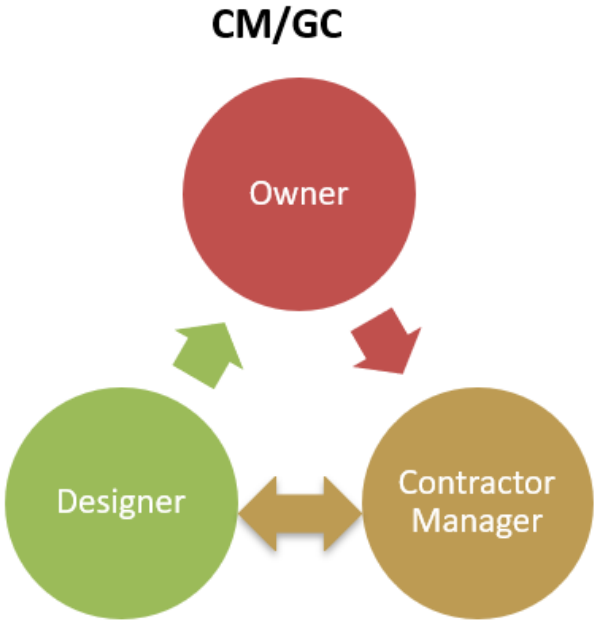
I-270 Environmental Assessment (EA) Comments and Future Outreach

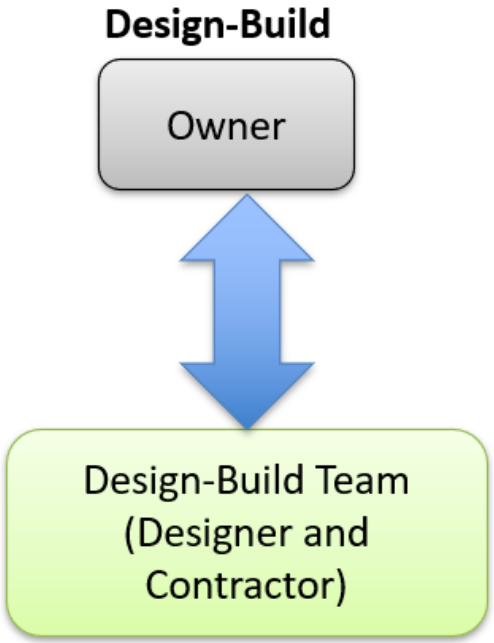
- The broader I-270 environmental study is making progress
- Stay engaged:
  - Visit www.codot.gov/projects/i270 and click on *Share Your Input*
  - Project Hotline: 303-512-4270
  - Send an email: cdot_i270@state.co.us
- Next EA public outreach event (virtual and in-person options) later this year

CDOT Alternative Delivery Methods

- Types of CDOT Project Delivery Methods
  - 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?

- Use of Project Delivery Selection Matrix (PDSM)
- CDOT developed the PDSM (collaborative process) to assist project teams in selecting the appropriate delivery method
- Workshop (typically between 4 & 8 hours) is held
- Goals and risk-based analysis tool to guide project teams through 5 primary Critical Discussions to determine opportunities and obstacles that each Delivery Method presents
- CDOT does not require the PDSM to be completed on all projects

PDSM Workshop

- I-270 Critical Bridge Replacements Project Delivery Selection Matrix (PDSM) Workshop
- 10 participants
- Representatives from:
  - CDOT
  - FHWA
- Started and finalized in February 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

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

SB-260 Accountability & Transparency

No.	Accountability and Transparency Item	Status
1	Hold public meetings with the construction industry and the general public to discuss the justification for selecting the alternative delivery method.	Completed
2	Obtain approval for the use of the selected alternative delivery method from the Transportation Commission	Current
3	Publish the justification for selecting the alternative delivery on the CDOT website	Future
4	During the procurement process, include the justification for selecting the alternative delivery method in any Request for Qualifications and in the Request for Proposals	Future
5	CDOT shall not exclude a participating entity from a short list, prepared and announced by CDOT of responding participating entities that have been determined to be most qualified to receive a Request for Proposals for an alternative delivery contract for a public project based solely on the participating entity's lack of experience in delivering a project in the State of Colorado by the alternative delivery method used for the public project	Future
6	Following the award of the alternative delivery contract to a participating entity, if CDOT awards a contract, CDOT shall publish on the CDOT website the evaluation scores for each step of the solicitation phase for all solicitations received and evaluated	Future
7	From the time the alternative delivery contract is executed until CDOT's final acceptance of the completed public project, provide, maintain, and update on CDOT's website a transparency platform such as a dashboard that indicates the ongoing status of the public project	Future

Alternative Delivery Method Industry/Public Meeting

- Meeting held May 25, 2022
- Registered guests: 194
- Guests attended: 142
- Questions received: 19
- Comments received: 8

COLORADO
Department of Transportation
Region 1

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

When: Wednesday, May 25, 2022 from 5:30 p.m.- 6:50 p.m.

Where: Virtual (interactive online meeting using Zoom)

CDOT invites you to join us for an update on the upcoming I-270 Critical Bridge Replacements Project. 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 always 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.

This meeting will exclusively focus on the I-270 Critical Bridge Replacements Project and will include a presentation beginning at 5:30 p.m. on the project alternative delivery method selection process and alternative delivery method recommendation followed by a question and answer (Q&A) session with a panel of CDOT project team members.

To participate in this virtual meeting, you must register in advance using the following link:

https://us06web.zoom.us/webinar/register/WN_0A-tKM4_SJORkv2gqNYe3Q

After registering, you will receive a confirmation email containing information about joining the meeting. All participants will be automatically muted during the presentation, then the Q&A portion of the call will allow for questions and comments. We look forward to your participation.

For translation services, TDD Relay Services, and/or other special accommodation needs, please contact Joy Wasendorf at joy@cig-pr.com by Friday, May 20.

Next Steps

- Project team is recommending CM/GC as the Project Delivery Method
- Project team requests Approval of this recommendation from the Transportation Commission
- With Approval, project team will proceed with procurement phase
- Project team will develop and release Requests for Proposals (design, construction manager, ICE)

Questions/Discussion

COLORADO
Department of Transportation

I-270 Critical Bridge Replacements Alternative Delivery

Public/Industry Meeting (Virtual)
May 25, 2022 | 5:30 p.m. - 6:30 p.m.

EXECUTIVE SUMMARY

Introduction

On March 18, 2021, as part of CDOT's comprehensive transparency and accountability strategy, Executive Director Shoshana Lew and Chief Engineer Stephen Harelson issued a letter recommending best practices to provide transparency and accountability for alternative delivery methods. In compliance with these recommendations, CDOT Staff hosted a virtual Zoom webinar open to construction industry representatives and the public. The purpose of the Meeting was (1) to review the recommended alternative delivery method for the I-270 Critical Bridge Replacements Project, and (2) to collect industry and public feedback on the proposed project delivery method and respond to questions.

Meeting Advertisement to Public and Industry

The meeting notice was developed in English and Spanish translations and sent out via the project email address to a compiled list of contacts from; I-270 EA outreach, American Council of Engineering Companies (ACEC), Colorado Contractors Association (CCA). Notices were also posted to CDOT's webpage for contractors and consultants.

Meeting Approach

The meeting was held virtually via a Zoom webinar platform. CDOT Staff panelists presented a PowerPoint slide deck (attached). Participants provided comments and general feedback via a Google form and offered up questions in the Q&A feed. Responses to questions were provided by the CDOT panelists orally during the meeting and are documented below and will also be posted to CDOT's website.

Accessibility

All meeting promotion and outreach materials included an offer for live translation or to meet any other accessibility needs as requested by emailing a member of the CIG team. No requests were submitted. The meeting provided live closed captioning in English.

Meeting Staff

CDOT Panelists: Adam Parks, Matthew Pacheco, Keith Stefanik

Support: Joy Wasendorf and Sam Aspnes of CIG Communications

View meeting recording here.

COLORADO
Department of Transportation

Participants

Registration total: 194
Attendees total: 142
Questions received: 19
Comment form submissions: 8
(See Questions and Comments at the end of this document)

Information Presented

Presenters covered the following topics: (See attached slide deck for details)

- Meeting Purpose
- Project overview
- CDOT delivery method selection process
- Project delivery method recommendation
- Next steps
- I-270 EA comments and future outreach
- Collect comments
- Project Q&A session

Questions and Answers

The following are the questions submitted during the webinar, answered verbally except for the one question noted below**.

What is the time frame for this project? The full schedule will be determined based on the Colorado Transportations commission's approval. Generally, we will need roughly a year of design and a couple of years of construction to complete these bridges. Pending approval, we do want to move quickly into the procurement phase which typically is a four-to-five-month process for this delivery method. -AP
If the highway is going to be widened is this going to happen before or at the same time? Adding capacity is not a goal of this critical bridge replacements project. There is simply a need to restore these bridges back to high functioning modern safety standards. It will include standard width shoulders, but the goal of this project is not to add capacity to the corridor at this time. We do not know exactly what the full scope of the width of the bridges or the road will be. Our focus right now is to replace these bridges in order to increase the safety of this corridor due to the failures of this bridge. Our focus is to get a designer on board, a construction manager, have them help us with the phasing of these bridges, the width of these bridges, what kind of approaches we need. We're not looking to add capacity with the critical bridges project, we're here to address the structural inefficient bridges on this corridor. - AP
** **Can you define what a "Fatal Flaw" is in regards to the Delivery Selection Matrix?** This written answer was provided after the meeting: A good example of a Fatal Flaw would be if a project has funding that has milestone constraints that a certain delivery method could not meet because of typical progression of that delivery model, then that delivery method would be considered fatally flawed. - MP

You mentioned that a Geotechnical Investigation is currently in-progress and will continue. Is this a baseline investigation, or a complete investigation that will support final design and construction? Will a single geotechnical firm complete geotechnical investigations for all bridges, or will there be multiple geotechnical contracts? Will the geotechnical contracts be separate from the design team, or should geotechnical firms seek teaming opportunities with design teams?

We have done preliminary geotechnical investigation for understanding of the entire corridor. It's likely not sufficient for what we need for final design. It will be detailed in the RFP when it is developed and comes out how we would be precuring the support to complete that geotechnical work. The final geotechnical investigation will be a part of the design contract on the CNDC portion. We will begin to team with potential designers when this alternative delivery method is approved by the transportation commission. We're hoping to move forward with that in the next few months. -AP

Two lanes are required to be maintained open in both directions. Existing bridges appear to be two 12' lanes with 4' and 8' shoulders. What is the anticipated minimum lane and shoulder width during construction? Are new Bridges anticipated to be wider and accommodate future expansion? How many future lanes anticipated in each direction? Are any re-alignments anticipated on I-270 to accommodate new bridge construction and minimize phases?

The environmental assessment has not been completed so we don't know the proposed action at this time. We still need to go through more public outreach and comment on that. What we like to do is procure the designer for this project and during that design phase, as we approach 30% design, we hope to have answers which will be towards the end of this year. We hope to have some answers that would influence the design at that time. At this time, the answer is we don't know the width of those bridges, it really depends a lot on even how the phasing would work on those bridges. A lot of times you have to overbuild bridges for the sake of maintenance of traffic, those are things that will be determined. -AP

What is the timeline for the Critical Bridge Replacements project, and how is it anticipated to overlap with the timeline for the proposed expansion? What is the timeline for the EA?

Right now, we can't say there is any overlap because we are currently finishing the EA and looking for full-funding of that project. At the moment we are just proceeding with construction of the bridges and then the EA schedule is being firmed up throughout the rest of this year. -AP

What is the schedule for advertisement of Engineering services for the CM/GC?

We hope to have an RFP out soon after TC approval and soon it depends upon on a lot of factors. Just be watching this summer, we will definitely have notifications out to the industry to kind of get some preview of when we think that will be coming out. -AP

Are there plans to do improvements to the rest of I-270?

I think everyone is aware that the corridor is overwhelmed and needs modernization and some improvements for everyone. So yes, there are improvements there being studied through the ongoing environmental assessment, which is for the entire 6 mile corridor and there were some links in the slides earlier that can guide you to the website that talks about the process were going for and studying what those improvements will be which some of the elements include lots of multimodal connections, all kinds of improvements throughout the entire corridor. -AP

What are the retaining walls going to entail? This project is specific to bridges only, any plans to include adding more lanes on 270 to alleviate volume?

There is an ongoing study to address some of those larger problems related to the corridor, but this project is simply bridge replacements. This scope would be limited to removal and replacement of the bridges. Retaining walls occasionally come up against the abutments, which is sort of the ends of the bridges occasionally need to have walls attached to them to make things fit, that would be where the retaining walls would be. -AP

Will DBE goals be set as part of this project/process or will all subs be given a fair opportunity to participate?

At this time we are taking a look at DBE goals. DBE goals are associated with federal funding, at this time there is no federal funding within the critical bridge's projects, the funding sources right now are bridge and tunnel enterprise and senate bill 267 which is state money. If it remains state funded only, we may explore an ESB program and not necessarily a federal DBE program which we can't comply with, with lack of federal funds. It's something that we are going to look into the next few months, with that said, we do anticipate opportunities from small businesses on both design and construction side throughout the project. It's a matter of how we set which goal and how we determine those and move forward. -KS

Did you consider deck replacements and rehabs as opposed to full replacements?

These structures are not only over 50 years old but the shoulders are substandard for emergency vehicles, there are lots of reasons to not putting more money into these. It's kind of a poor investment to invest into these bridges at their age. -AP

Have you considered fixing the alignment of 60th Ave that is in the flood plain of Sand Creek and the 9' clearance bridges? This roadway will be significantly impacted during construction.

At the moment, especially with these bridge replacement projects, we are not talking about any change to the railroads themselves, were not touching their rail lines or railroad bridges in the current scope. However, we know we need to consider ways we can protect those low clearance bridges, so our construction doesn't disturb them. 60th Ave is not itself anticipated to be reconstructed as part of this bridge replacements project up above on the overpasses. We can expect these new overpasses to probably have fewer spans then what there is today which modern bridges tend to have longer spans which would be fewer spans, but we will see how the design comes out. -AP

Are there any design disciplines CDOT is planning to self-perform?

I don't believe so at this time. CDOT does really look for opportunities to do blended design, but I think we will we looking at, giving the size, scope, challenges, and speed were looking for, I haven't heard anything CDOT would design when it comes to the bridges. Occasionally we do our own specialty work and it will be detailed in the RFP. -AP

Does the outcome of this package pre-determine the delivery method for the capacity improvements in the future? In other words, will CDOT complete a PDSM for the larger project or continue to utilize CM/GC?

It would be a restart, the corridor if and when we go into a reconstruction of a larger corridor project would not be connected to the PDSM that we did here VIA new process, new exercise. -AP

Can you describe the level of coordination and cooperation by the railroads to-date, and any concerns from that coordination thus far?

We did coordination at the conceptional level with railroads and so far there haven't been any red flags. As many of you know, it's never a green light until your get through the final round of reviews with the railroads. It's just okay to proceed is what we have at this time. -AP

Is the preliminary design well enough along and has CDOT itself analyzed any of the bridges for ABC compatible constructability?

We're early and CDOT has very conceptional level. I don't think anything has been determined or predetermined, were looking for some expertise to look at the full scope of options, the ways we can do this project best. -AP

Might seem like a simple question, but what are you most excited about for this project?

Just making some improvements the corridor will really benefit from. It would be one problem just to have a bridge that needed repairs, but we have a whole set of them in close proximity and that really odds of trouble when you have that many failing structures in a row, is really high. Looking forward to making improvements on the corridor and making it more reliable for its use. From a holistic perspective from CDOT, were really having some issues with these bridges, every time we have to shut down lanes, make repairs to the potholes or deck holes that are forming in these bridges, it impacts traffic. We have seen some tremendous impacts up and down this corridor over the past several years, one of the things we need to do is get those structural inefficient bridges off of our system. Get those repaired, limit the closures on I-270. I-270 is already congested as it is, so when we do take a lane or two it causes

impacts to the 270 corridors. Were excited to get these bridges off our system and replaced and deliver a more reliable corridor to the public. -AP, KS
Will the geotechnical firm completing the preliminary investigation be precluded from pursuing the design RFP? They will not be. -KS

Comment Form Report

The comment form remained open until 5 p.m. Friday, May 27. Questions and answers provided by CDOT are listed below:

Will the EA team continue with the design for CM/GC?	The design team for the CM/GC project will be determined through an RFP and competitive selection process.
How will selection of CM/GC for this portion of project impact delivery of overall project?	The future full corridor reconstruction project scope is being developed as part of the I-270 Corridor Environmental Assessment and will eventually require completion of a new and separate PDSM Workshop to determine the most appropriate delivery method for the future project(s).
CDOT owns some Acrow modular bridging. Will detour temporary bridges be considered?	These design details are uncertain at this time and will be addressed during the design phase.
Thank you for this information. Can you do the bridge replacement and widening at the same time?	Widening I-270 for additional lanes is being studied in the EA and would be implemented as part of a future project.
Can I get the presentation, sorry, I missed the beginning. Thank you	The presentation will be distributed to all attendees.
What would be the expected construction cost? Just rough number is fine.	Construction cost is uncertain at this time and will be described in more detail within a future RFP.
As for the shoring walls any idea as to if they would be soil nail or tie back shoring or is it to early still to know?	It is still too early to know these design details which will be addressed during the design phase.

Meeting Follow-up

The Meeting Summary and public/industry meeting notice were posted to CDOT's Alternative Delivery Program website and all meeting registrants were directed to this website for this information.

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

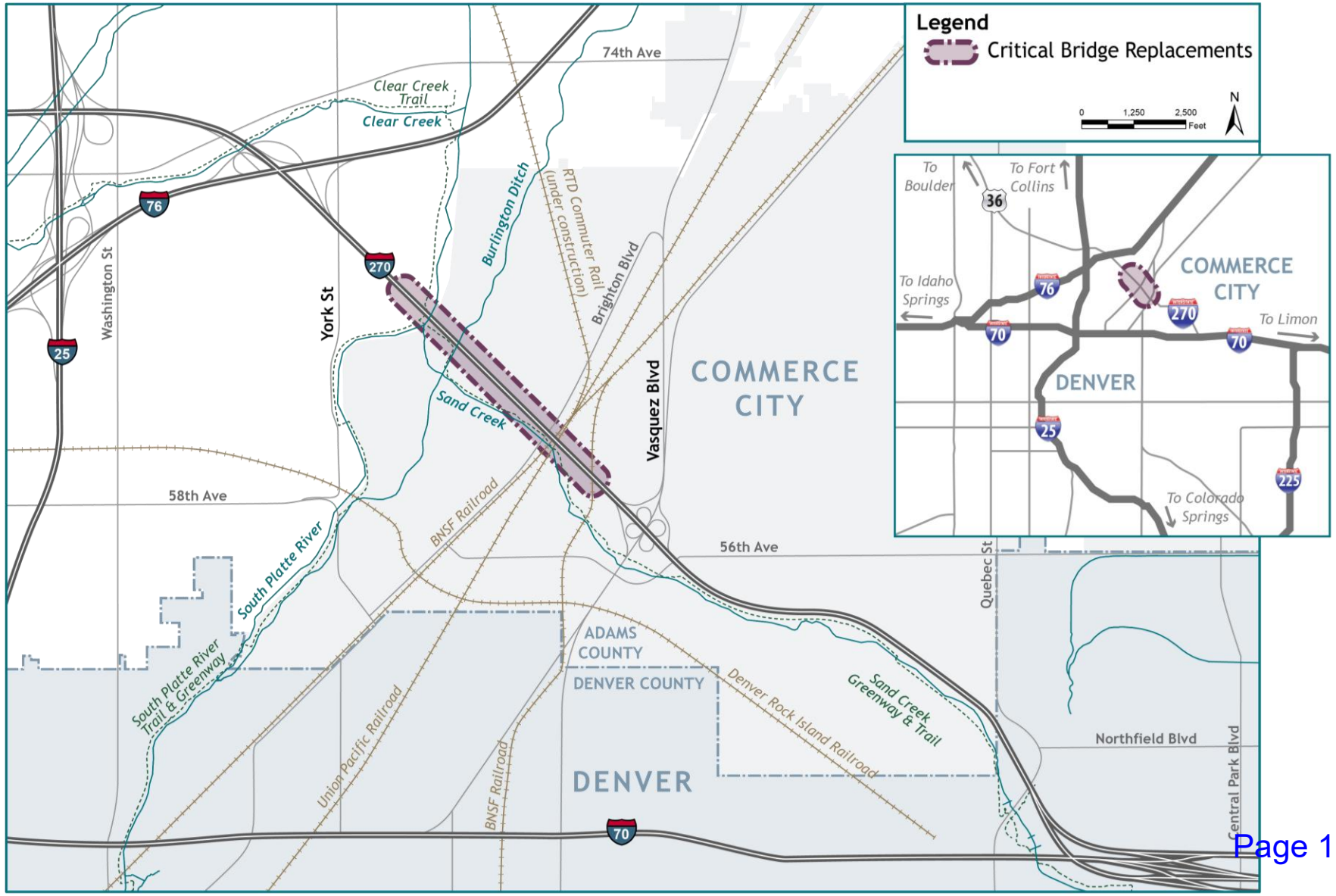
Purpose of Meeting

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

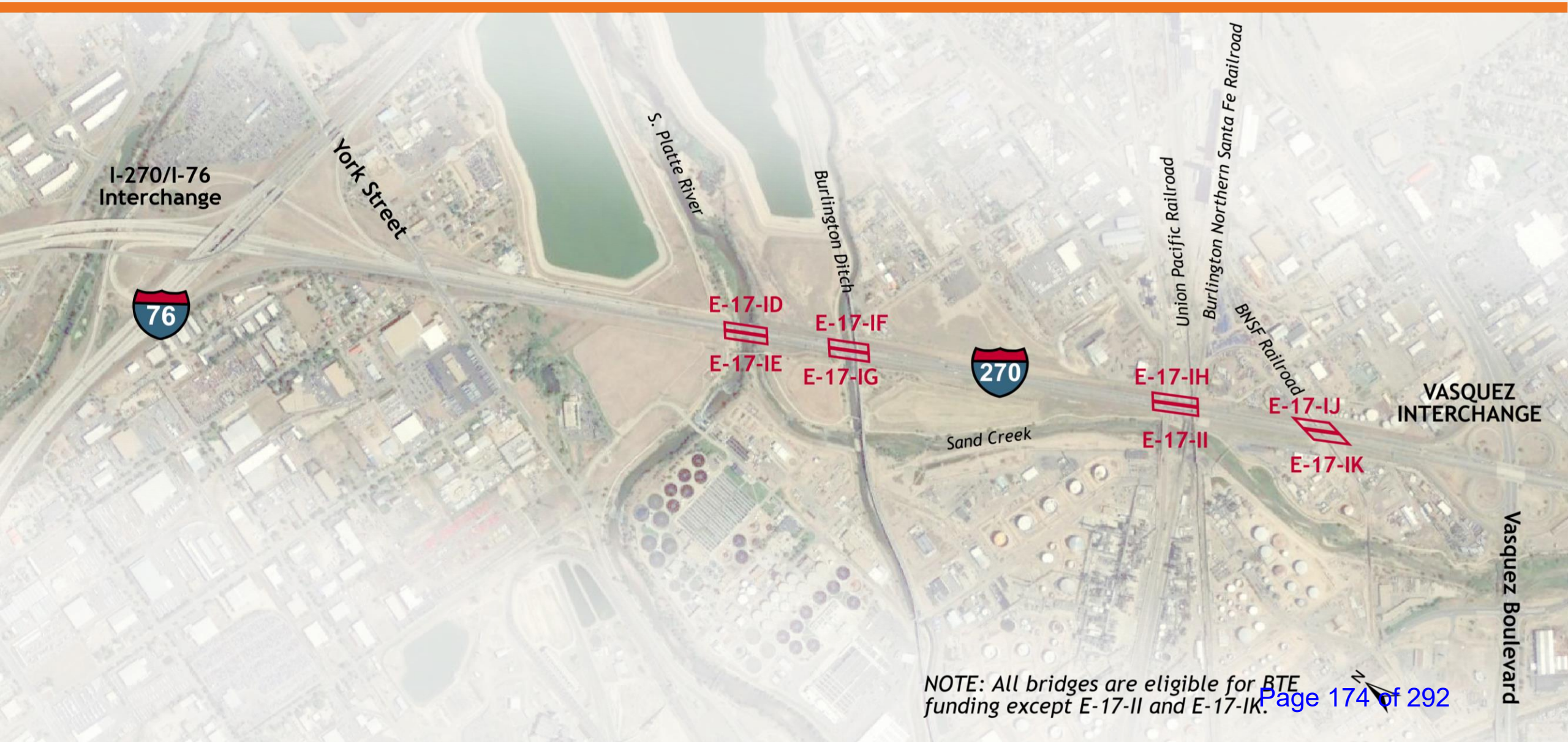
Project Background and Need

- 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
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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

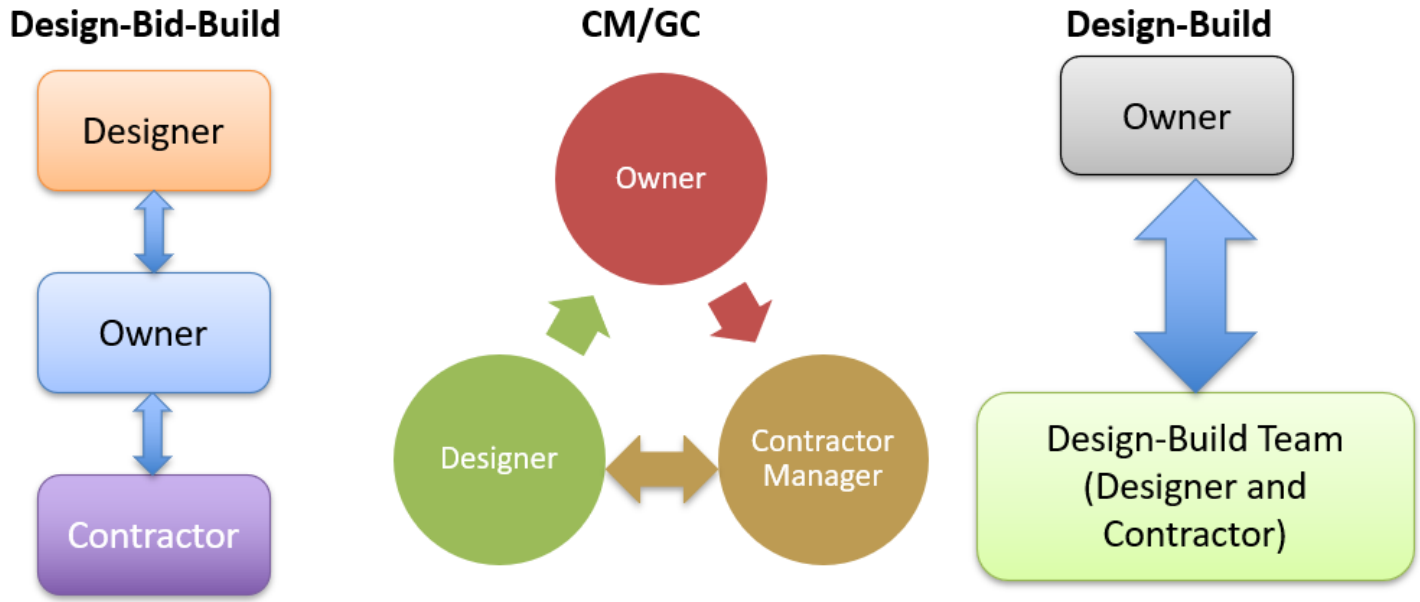
Key Project Risks

- 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



- 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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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

CM/GC Delivery Primary Differentiators

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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
- + Appropriate delivery method
- - 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

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.

COLORADO
Department of Transportation

Questions & Answers

COLORADO
Department of Transportation

CDOT Region 1 North Engineering
4670 Holly St., Denver, CO 80216

DATE: May 26, 2022

TO: Stephen Harelson, P.E. Chief Engineer
Matthew Pacheco, P.E. Alternative Delivery Program Manager

FROM: Adam Parks, P.E. Resident Engineer, Region 1 North Program

SUBJECT: Design Decision, Alternate Project Delivery Method Recommendation
Project No. FBR 2706-044 (24947/24527), I-270 Critical Bridge Replacements

BACKGROUND:

The I-270 corridor provides a vital connection from I-70 to I-25. Approximately 100,000 vehicles per day utilize this corridor to bypass the friction of downtown Denver to move goods, services, information, and people from the eastern edge of the city to north of the city. On the I-270 corridor, there are eight (8) structures within a one mile stretch between York St. and Vasquez Blvd. that have been the source of many challenges to the mission of this corridor. These structures have been in service for over 50 years and have been requiring frequent emergency repairs. Over 300 emergency repairs have been performed to the bridges along this corridor since 2006. These deck repairs always require significant lane closures affecting trip reliability within this corridor. This corridor lacks redundancy, and any detours during these emergency repairs require use of local roads or significant out-of-direction movements.

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 and BTE recognize that any further investment into keeping these 8 bridges in service will have diminishing return, therefore the next step should be full replacement. CDOT Region 1 North Engineering has begun to advance the design phase to pursue replacement of these bridges as soon as possible. Full funding for the Critical Bridge Replacements project is available from sources including BTE and Senate Bill 17-267. A subsequent future project will complete the I-270 EA proposed action (to be determined) throughout the I-270 corridor.

CDOT Region 1 North Engineering convened a team of agency subject matter experts, and project team members for an interactive workshop to discuss and evaluate various delivery methods for the "I-270 Critical Bridges Replacement Project" using CDOT's Project Delivery Selection Matrix (PDSM). The workshop was held over the course of three days (February 9, 11, and 15, 2022), and approximately 9 hours total was spent discussing the opportunities and obstacles each delivery method brought to the table, and how those characteristics can be leveraged to pursue the goals of the I-270 Critical Bridges Scope.

ANALYSIS:

The Project Team first discussed the project attributes, goals, constraints, and risks. Design-Bid-Build (DBB), Design-Build (DB), and Construction Manager/General Contractor (CM/GC) methods were then discussed in

detail. Each participant provided input as the opportunities and obstacles of each delivery method and those were documented in the PDSM.

It should be noted that the Progressive Design Build (PDB) delivery method was not evaluated in the workshop but was discussed separately by members of the project team. This delivery method would be a new type of contracting at CDOT requiring coordination and approval from the office of the Attorney General and the State Controller. The resulting schedule uncertainty and risk would not meet project delivery goals. After all comments were recorded, the project team collectively assigned a rating to each method for the primary factors listed in the PDSM. The summary table was then populated with the ratings for comparison and selection of the most appropriate delivery method for this project. Please refer to the attached I-270 PDSM for the summary table and detailed matrix evaluations.

The project faces scope and schedule risks due to the features underneath bridges requiring "third-party" agreements. Four of the eight bridges to be replaced span over Class 1 Railroads (BNSF Railway and Union Pacific Railroad) which will require complicated, lengthy design approval processes and negotiated clearances. Two bridges spanning over the historic Farmers Reservoir and Irrigation Company (FRICO) Burlington Ditch will also require similar design approvals and clearance. Two bridges span over the S. Platte River and adjacent Greenway Trail which must remain open to users throughout construction using its existing alignment, a temporary detour, or the future trail alignment. Maintenance of traffic must be optimized during all phases of bridge replacement with a goal of reducing the number of full freeway closures required.

The project team recognized several advantages offered by alternative delivery methods when compared to traditional Design-Bid-Build (DBB). An alternative delivery method with an accelerated design schedule can accommodate an earlier construction start date reducing the number of emergency repairs required over the remaining service life of the existing bridges. Alternative contracting also results in contractor input and consultation during the design phase reducing the risk of post-design scope changes and schedule delays stemming from contractor site access, phasing considerations and general constructability issues.

Key advantages typically offered by the Design-Build (D-B) delivery method were diminished by the prevalence of third-party agreement requirements controlling most of the project scope (Railroads and the FRICO Ditch Company). The project schedule critical path includes railroad and ditch review and approval at 30% design, final design, and construction. If final bridge designs for approvals are advanced in parallel to a lengthy Design-Build procurement process, the innovation advantages typically offered by D-B competition would be diminished for all but a small remaining portion of the project scope. If overpass design changes are then proposed by the selected Design-Build team after procurement, the lengthy overpass design and approval processes may need to restart with significant delays to the schedule.

The CM/GC delivery method provides CDOT the earliest opportunity to secure a qualified designer and construction manager with the needed expertise for the Project and provides early and continuous collaboration between the owner, designer, construction manager, 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.

RECOMMENDATION:

The project team recommends the CM/GC Project Delivery Method. The expected opportunities offered by CM/GC can be leveraged to meet the unique challenges of this project. CM/GC allows CDOT to manage and mitigate risk using shared risk pools and the influence of an integrated project team that includes participation from CDOT, the designer and the construction manager. CDOT can negotiate and coordinate risk elements by assigning risk to the party best suited to manage the risk during design and construction.

Justification includes:

- Advantage of early construction manager 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
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In accordance with the accountability and transparency requirements within Senate Bill 21-260, a Public/Industry Meeting was held on May 25, 2022, to discuss the recommendation of CM/GC for this project. A summary of the I-270 Critical Bridge Replacements Project Alternative Delivery Public/Industry Meeting is attached to this memorandum.

I concur:

Matthew Pacheco

Matthew Pacheco, P.E. Alternative Delivery Program Manager

Stephen Harelson

Stephen Harelson (May 31, 2022 17:11 MDT)

Stephen Harelson, P.E. Chief Engineer

Attachments:

1) I-270 Critical Bridge Replacements Project Delivery Selection Matrix (PDSM Workshop)
2) Summary of the I-270 Critical Bridge Replacements Alternative Delivery Public/Industry Meeting

Cc: Jessica Myklebust, Region 1 Transportation Director
Patrick Holinda, P.E. Bridge and Tunnel Enterprise Program Manager
Andrew Stratton, P.E. Region 1 Deputy Director of Program Delivery
Jan Chang, P.E. Region 1 Acting North Program Engineer

I-270 Project Delivery Selection Workshop Summary

Workshop Summary	
Project Name:	24947/24527 I-270 Critical Bridges Replacement Project
Workshop Dates:	February 9, 11, and 15, 2022
Workshop Location:	Virtual via Google Meet
Facilitator:	Matthew Pacheco
Delivery Method Selected:	CM/GC

Workshop Participants	
Name	**Email**
Adam Parks, R1 North Resident Engineer	adam.parks@state.co.us
Andy Stratton, R1 North Program Engineer	andrew.stratton@state.co.us
Basil Ryer, R1 Environmental Manager	basil.ryer@state.co.us
Chris Horn, FHWA Senior Area Engineer	chris.horn@dot.gov
Greg Marcuson, R1 Staff Bridge	greg.marcuson@state.co.us
Matthew Pacheco, Alternative Delivery Program Manager	matthew.pacheco@state.co.us
Patrick Holinda, Bridge Enterprise Program Manager	patrick.holinda@state.co.us
Sina Khavaray, Alternative Delivery	sina.khavary@state.co.us
Tristan Siegel, R1 Staff Bridge PE II	tristan.siegel@state.co.us
Tony Meneghetti, R1 North Resident Engineer	anthony.meneghetti@state.co.us

Project Delivery Description

Project Attributes
Project Name: I-270 Critical Bridges Replacement Project
Location: I-270 in Adams County (Commerce City)
Estimate: Scoping level estimate: $175M (includes Preconstruction costs, Construction Engineering (CE) costs, CDOT Indirect costs and projected inflation
Estimated Project Delivery Period: Design starting in Fall 2022, Construction starting in Summer 2023, completion in early 2026
Required Delivery Date (if applicable): The deteriorating bridges were built over 50 years ago and have reached the end of their service life. The need to eliminate safety concerns related to frequent emergency bridge repairs which impact the traveling public, railroad operations, and maintenance staff makes this project an urgent priority.
Source(s) of Project Funding: Colorado Bridge & Tunnel Enterprise funds for 6 eligible structures, SB267 funds for remainder of scope
Project Corridor: I-270
Major Features of Work: -Remove and replace eight (8) aging, deteriorated bridges and roadway approaches as required. -ROW: partial acquisitions and/or temporary/permanent easements will most likely be required in locations TBD (no relocations anticipated). Roadside retaining walls may be used to reduce ROW impacts. -Standard shoulder widths and acceleration/deceleration lanes to/from the adjacent interchange ramps at York Street and Vasquez Blvd. -No additional through-lane capacity
Major Schedule Milestones: Public/industry alternative delivery meeting, Transportation Commission delivery method recommendation meeting, RFP for design services, NEPA clearance
Major Project Stakeholders: FHWA, Adams County, Commerce City, BNSF Railroad, UPRR, RTD, Farmers Reservoir and Irrigation Co.
Major General Obstacles: Class 1 railroads (BNSF and UPRR) require lengthy approval process for highway overpass bridge designs (initial design concept review has been initiated with the railroads)
Major Obstacles with Right of Way, Utilities, and/or Environmental Approvals: -ROW acquisition and or easements may be required to facilitate access and start of certain construction activities. -Utility Engineering (SUE) is complete and shows various perpendicular underground utilities in the vicinity of the bridges.
Major Obstacles during Construction Phase: Four (4) bridges over active railroads will require flagging for construction activities. Known landfill material at roadway approaches will require ground stabilization methods.
Safety Issues: Bridge construction involves numerous safety critical work items. Bridge construction over railroads involves additional safety critical work submittals and construction techniques approved by a stakeholder/third party.
Sustainable Design and Construction Requirements: Environmental Management documentation and potential low-emission equipment requirements for contractor

Project Delivery Goals

Project-Specific Goals
Goal #1: Remove and replace eight (8) aging, deteriorated bridges as soon as reasonably possible to eliminate frequent emergency repairs which cause lengthy and costly travel delays and detours for the traveling public and freight industry.
Goal #2: Anticipate and meet environmental requirements before, during and after construction.
Goal #3: Limit impacts to the traveling public during construction and minimize the number of required full-freeway closures
Goal #4: Portion of the project may utilize SB-267 funds which have a drawdown goal of 80% by June 30, 2025

Project Delivery Constraints

Constraints
Class 1 Railroads (BNSF Railway, Union Pacific Railroad) require lengthy approval processes for highway overpass bridge designs before construction can begin
Farmers Reservoir and Irrigation Company approval prior to construction
Project Financing
Does your project have any funding gaps that would require Financing*? **NO**

Project Risks

Identified Project Risks
3rd party (Railroad, Ditch Company) reviews and approvals.
Utilities present in the area may require Utility Relocation Agreements (Adams County Fiber/Storm, AT&T, CenturyLink, CCD, Comcast, Denver Water, Magellan, Metro Wastewater Reclamation District, Sprint, Suncor, Verizon, Xcel, Zayo)
Underground geotechnical conditions, especially at the existing landfill (cir.1960) near Suncor, were investigated for the I-270 NEPA Environmental (EA). Further geotechnical investigation may be warranted to reduce risk of unforeseen conditions.
Inflation of preconstruction and construction costs due to labor and material market conditions.

Project Delivery Selection Summary

Rating Key	
++	Most appropriate delivery method
+	Appropriate delivery method
–	Least appropriate delivery method
X	Fatal Flaw (discontinue evaluation of this method)
NA	Factor not applicable or not relevant to the selection

I-270 CRITICAL BRIDGES REPLACEMENT PROJECT
DELIVERY METHOD OPPORTUNITY/OBSTACLE SUMMARY

	DBB	CM/GC	DB
Primary Selection Factors			
1. Project Complexity & Innovation	+	++	+
2. Project Delivery Schedule	+	++	+
3. Project Cost Considerations	-	+	+
4. Level of Design	+	++	-
5. Risk Assessment	-	+	+

Secondary Selection Factors			
6. Staff Experience/Availability (Agency)	n/a	**Pass**	n/a
7.Level of Oversight and Control	n/a	**Pass**	n/a
8. Competition and Contractor Experience	n/a	**Pass**	n/a

Project Delivery Selection Summary Conclusions and Comments

BACKGROUND:

The I-270 corridor provides a vital connection from I-70 to I-25. Approximately 100,000 vehicles per day utilize this corridor to bypass the friction of downtown Denver to move goods, services, information, and people from the eastern edge of the city to north of the city. Within the I-270 corridor there are eight (8) structures within a one mile stretch between York St. and Vasquez Blvd. that have been the source of many challenges to the mission of this corridor. These structures have been in service for over 50 years and have been requiring frequent emergency repairs. Over 300 emergency repairs have been performed to the bridges along this corridor since 2006. These deck repairs always require significant lane closures affecting travel times in this corridor. This corridor lacks redundancy, and any detours during these emergency repairs require use of local roads or significant out-of-direction movements.

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ANALYSIS:

The Project Team first discussed the project attributes, goals, constraints, and risks. Design-Bid-Build (DBB), Design-Build (DB), and Construction Manager/General Contractor (CM/GC) methods were then discussed. Each participant provided input as the opportunities and obstacles of each delivery method were discussed. It should be noted that the Progressive Design Build (PDB) delivery method was not evaluated in the workshop but was discussed separately by members of the Project Team. This delivery method would be a new type of contracting at CDOT requiring coordination and approval from the office of the Attorney General and the State Controller. The resulting schedule uncertainty and risk would not meet project delivery goals. After all comments were recorded, the Project Team collectively assigned a rating to each method for the primary factors listed in the Project Delivery Selection Matrix. The summary table was then populated with the ratings for the sake of comparison and selection of the most appropriate delivery method for this project. Please refer to the I-270 Project Delivery Selection Matrix (PDSM) for the summary table and detailed matrix evaluations.

The project faces scope and schedule risks due to the features underneath bridges requiring "third-party" agreements. Four of the eight bridges to be replaced span over Class 1 Railroads (BNSF Railway and Union Pacific Railroad) which will require complicated, lengthy design approval processes and negotiated clearances. Two bridges spanning over the historic Farmers Reservoir and Irrigation Company (FRICO) Burlington Ditch will also require similar design approvals and clearance. Two bridges span over the S. Platte River and adjacent Greenway Trail which must remain open to users throughout construction using its existing alignment, a temporary detour, or the future trail alignment. Maintenance of traffic must be optimized during all phases of bridge replacement with a goal of reducing the number of full freeway closures required.

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RECOMMENDATION:

The Project Team recommends a CM/GC Project Delivery Method. The expected opportunities offered by the CM/GC method can be leveraged to meet the unique challenges of this project. CM/GC allows CDOT to manage and mitigate risk using shared risk pools and the influence of an integrated project team that includes participation from CDOT, the Designer and the Contractor. CDOT can negotiate and coordinate risk elements by assigning risk to the party best suited to manage the risk during design and construction.

Justification includes:

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Project Delivery Selection Matrix *Primary* Evaluation Factors

1) Project Complexity and Innovation

Project complexity and innovation is the potential applicability of new designs or processes to resolve complex technical issues.

DESIGN-BID-BUILD - Allows Agency to fully resolve complex design issues and qualitatively evaluate designs before procurement of the general contractor. Innovation is provided by Agency/Consultant expertise and through traditional agency directed processes such as VE studies and contractor bid alternatives.

Opportunities	Obstacles	Rating
Railroad agreements must be obtained prior to overpass reconstruction	Project construction advertisement could be delayed by lack of Railroad Agreements	+
Owner has most control over design prior to advertisement	CDOT responsible for all change management cost impacts (e.g. errors & omissions)	
Value Engineering (VE) process as required by FHWA for large projects ($50M+)	Constructability reviews by independent parties rather than active contractor (lower incentive to provide innovation)	
Owner designed traffic control (MOT) plans	MOT redesigns may be required via change order due to contractor input during construction	
Owner controlled defined scope of existing landfill under highway and proposed mitigation plan	Low bid selection does not consider necessary and beneficial experience for high-risk projects	
CDOT inspection and Quality Assurance (QA) during construction	Contractor input limited to post construction advertisement	

CMGC - Allows independent selection of designer and contractor based on qualifications and other factors to jointly address complex innovative designs through three party collaboration of Agency, designer and Contractor. Allows for a qualitative (non-price oriented) design but requires agreement on CAP.

Opportunities	Obstacles	Rating
Early and continuous input of contractor expertise throughout design process. Specific project scope includes landfill material west of Brighton Blvd, Accelerated Bridge Construction input.	Potential for scope creep due to contractor and designer influence. Requires owner input and focus on key project goals.	++
With Railroad approval being a critical path item for the project schedule, early Contractor input on overpass phasing constructability and design helps streamline the Railroad approval process.		
Shared risk pool reduces the burden of risk traditionally held by the owner (CDOT)		
Early identification of errors & omissions is motivated by the shared risk pool		
Qualification-based selection for contractors that demonstrate understanding of project context	Contractor innovation may be limited by lack of competition when compared to Design-Build	
Early construction packages can be issued prior to entire project being 100% designed.	Construction Package scopes will need to remain independent and severable, but proximity of several bridges close together may pose a risk	
Collaboration between Owner/Designer/Contractor encourages “Project First” culture	Developing Skills to effectively negotiate the CAP.	
Less project management process adjustment when compared with Design-Build		
Moderate project management process adjustment from traditional DBB, including the CAP negotiation process		

DESIGN-BUILD - Incorporates design-builder input into design process through best value selection and contractor proposed Alternate Technical Concepts (ATCs) – which are a cost-oriented approach to providing complex and innovative designs. Requires that desired solutions to complex projects be well defined through contract requirements.		
Opportunities	**Obstacles**	**Rating**
Qualifications based contractor short list based on innovation and experience	Less Owner control over Design.	+
Design is pushed towards Lean solutions for cost savings (added value)	Poorly defined technical requirements can be exploited	
Lowered risk for Owner (e.g. errors & omissions)	Least control over design process and construction product but this can be mitigated by quality Technical Requirements	
CDOT goals and values are met with competitive/innovative proposals	Owner shift from inspection focus to oversight and audit focus with reliance on Contractor IQC program	
More collaborative construction team structure than traditional DBB (Requires a more intensive level of Project Partnering and change in perspective)	Non-traditional CDOT project management process with less staff experience (100% project-focused staff required across several disciplines)	
ATCs (Alternative Technical Concepts) encourages competitive innovation and a menu of improvement options	Intense pace of project requires a large dedicated full-time project staff on Owner side.	
AREs (Additional Requested Elements), when appropriate, can provide opportunity to maximize investment in the corridor	Third Party review times can be challenging to coordinate and manage according to contract requirements.	
Procurement process provides best value as defined by the Owner.		
Constructability and Value Engineering are inherent to the DB process. Separate VE study not required.		

2) Delivery Schedule

Delivery schedule is the overall project schedule from scoping through design, construction and opening to the public. Assess time considerations for starting the project or receiving dedicated funding and assess project completion importance.

DESIGN-BID-BUILD - Requires time to perform sequential design and procurement, but if design time is available has the shortest procurement time after the design is complete.		
Opportunities	**Obstacles**	**Rating**
Procurement method (Advertisement for competitive bids) is reliable and usually efficient	Design phase has a lower sense of urgency without proper Project Management	+
Agreements and clearances before construction advertisement can reduce risk of delays after award	Sequential design followed by construction advertisement	
Familiar standard process with more predictable schedule for project team	Construction duration difficult to accelerate	
	Unable to validate low-bid contractor schedule and approach during construction advertisement period	
	Least flexible for management of change conditions in construction as the contractor is not motivated to minimize change condition impact	
	Least opportunity to compress schedule as the design and construction phases do not overlap	
	Design and construction schedules can be unrealistic due to lack construction industry input	
	Unable to procure long-lead-time items before start of construction phase.	

CMGC - Quickly gets contractor under contract and under construction to meet funding obligations before completing design. Parallel process of development of contract requirements, design, procurements, and construction can accelerate project schedule. However, schedule can be slowed down by coordinating design-related issues between the CM and designer and by the process of reaching a reasonable CAP.

Opportunities	Obstacles	Rating
Relatively moderate procurement period (10-16 weeks)		++
Quickest from NEPA to construction. CM input can begin in NEPA phase	Less control over completion date when compared with a typical Design-Build.	
Procurement of long-lead-time items before construction phase		
Design and construction packages can occur in parallel for schedule compression	Fixed or promised 'road opening' dates can create conflicts within the CM/GC negotiation process and should be set with caution.	
Some construction activities can commence prior to execution of Railroad Agreements	A contractor change in a later phase of work would result in re-design and coordination challenges	
Contractor input/innovations for schedule efficiencies		
Lower learning curve (than Design-Build) for Owner Project Managers	Owner Project Manager must plan and manage multiple parallel packages for overall schedule savings to be realized	
Schedule development is collaborative between Owner, Designer and Contractor, resulting in a more reliable schedule, based on actual contractor production rates rather than a forecast of historical data.	Failed Construction Agreed Price (CAP) negotiations can add significant time (3-6 mo.)	
Qualification-based selection can evaluate based on scheduling plan and approach		

DESIGN-BUILD - Ability to get project under construction before completing design. Parallel process of design and construction can accelerate project delivery schedule; however, procurement time can be lengthy due to the time necessary to develop an adequate RFP, evaluate proposals and provide for a fair, transparent selection process.

Opportunities	Obstacles	Rating
Completion Date contract can specify construction end date, resulting in high motivation for rapid completion	The fast-paced nature of the contract encourages minimal schedule contingencies and higher potential for conflicts over schedule	+
Schedule certainty comes earlier in the project development process	Completion date contract schedules are not immune to risk, as Owner input or Third-Party agreements can impact critical path	
Schedule risk is owned by the contractor	Additional approximate 5 months for procurement phase vs.CM/GC	
Owner-assigned value on schedule creates competition amongst proposers and results in aggressive schedules	Need for advanced design for Railroad overpass approvals minimizes innovation opportunity	
Fastest average delivery method from planning to completion of construction.	Highest level of project workload intensity, can overwhelm an Owner	
Construction RFC packages can be flexible to improve overall schedule		
Quicker from NEPA to construction than DBB. Procurement process can occur prior to NEPA. Design Notice-to-Proceed (NTP 1) can be issued upon completion of NEPA.		

3) Project Cost Considerations

Project cost is the financial process related to meeting budget restrictions, early and precise cost estimation, and control of project costs.

DESIGN-BID-BUILD - Competitive bidding provides a low cost construction for a fully defined scope of work. Costs accuracy limited until design is completed. More likelihood of cost change orders due to contractor having no design responsibility.

Opportunities	Obstacles	Rating
Lowest initial cost and market pricing (low-bid) on scope per the Advertisement Package.	CDOT at risk for all errors & omissions change management cost impacts.	-
Value Engineering mandatory for large projects – gain value prior to Advertisement.	Limited Contractor input results in less opportunities for cost reduction through innovation.	
	Cost Estimate is based on Historical Data, not current market pricing.	
	Cost certainty is not achieved until construction is completed.	
	Value Engineering Change Proposals savings – only 50% to the owner	

CMGC - Agency/designer/contractor collaboration to reduce risk pricing can provide a low cost project however, non-competitive negotiated CAP introduces price risk. Good flexibility to design to a budget.

Opportunities	Obstacles	Rating
Collaboration helps manage project risk resulting in more accurate project scope and project cost.	Negotiated bid rather than market low bid. May not lead to lowest possible project cost.	+
Owner achieves 100% of Value Engineering (VE). VE is inherent to the process and contributes to a more reliable project cost.	Construction Manager (CM) cost for the pre-construction phase is an additional project cost	
Contractor input results in more opportunities than DBB for cost reduction through innovation.	Negotiation experience of the Owner can be different than the Contractor and could potentially put the owner at a disadvantage in Construction Agreed Price (CAP) negotiations	
Quantified risk contingency is carried in a risk pool. This incentivizes mitigation of risk.	Cost certainty not known until the last package.	
Achieve cost certainty sooner than DBB.	Cost of Independent Cost Estimating consultant adds to project cost.	

DESIGN-BUILD - Designer-builder collaboration and ATCs can provide a cost-efficient response to project goals. Costs are determined with design-build proposal, early in design process. Allows a variable scope bid to match a fixed budget. Poor risk allocation can result in high contingencies.

Opportunities	Obstacles	Rating
Guaranteed Maximum Price (GMP) puts the risk of cost escalation with the contractor over the life of the project	Reliance on performance specs and technical requirements can introduce cost risk.	+
Provides earliest cost certainty of all methods	Proposers will include larger contingencies to compensate for market volatility, eroding potential savings (less value for the investment).	
Alternative Technical Concept (ATC) among proposers promotes cost efficiency and maximized scope under the GMP	Cost of preparing the RFP is time and resource intensive.	
Contractor is the most capable party to mitigate volatility of cost due to market conditions.	Contractor or designer capabilities or limitations may affect cost	
DB team must warrant against error and omissions – shifts risk from the Owner to the DB team.	Owner will pay a stipend for ATCs of unsuccessful proposers	

4) Level of Design

Level of design is the percentage of design completion at the time of the project delivery procurement.

DESIGN-BID-BUILD - 100% design by Agency or contracted design team, with Agency having complete control over the design.

Opportunities	Obstacles	Rating
Agency has control over the entire design phase	Misinterpretation of the Work, as well as errors and omissions in the plans and specifications, can result in disputes and claims.	+
Completion of the design phase includes management of RR coordination and approvals before advertisement	Changes to the design due to contractor inputs on constructability and access after award can restart the design and RR approval processes.	

CMGC - Can utilize a lower level of design prior to procurement of the CMGC and then joint collaboration of Agency, designer, and CMGC in the further development of the design. Iterative nature of design process risks extending the project schedule.

Opportunities	Obstacles	Rating
Procurement of contractor for input and expertise can occur at the current level of design (conceptual) vs. a higher level of design required before DB procurement can occur.		++
Contractor provides constructability means and methods input starting at the current level of design, reducing risk of future design changes		
Packaging can allow for construction start for certain project elements during final design of other project scope items		

DESIGN-BUILD - Design advanced by Agency to the level necessary to precisely define contract requirements and properly allocate risk (typically 30% or less).

Opportunities	Obstacles	Rating
	If final designs for railroad and ditch overpass approvals proceed in parallel to the lengthy DB procurement process, the innovation advantages typically offered by DESIGN-BUILD competition would be eliminated for all but a small portion of the remaining project scope.	-
	If design changes are proposed after procurement, the lengthy railroad overpass design and approval process may need to restart.	

5) Risk Assessment of Delivery Methods

Risk is an uncertain event or condition that, if it occurs, has an effect on a project's objectives. Risk allocation is the assignment of unknown events or conditions to the party that can best manage them. An initial assessment of project risks is important to ensure the selection of the delivery method that can properly address them. An approach that focuses on a fair allocation of risk will be most successful.

DESIGN-BID-BUILD - Risk allocation for design-bid-build best is understood by the industry, but requires that most design-related risks and third party risks be resolved prior to procurement to avoid costly contractor contingency pricing, change orders, and potential claims.

Opportunities	Obstacles	Rating
Risk allocation is well understood by industry	Owner holds greatest share of the risk	-
Most-defined scope going into construction	Design changes from errors/omissions	
Utility agreements and relocations pre-construction	Design changes from differing site conditions	
Railroad agreements/approvals before construction	Ad date is subject to RR agreements	
Owner control over design phase protects owner intent	Low-bid winner may not be the best-suited to perform the specific work based on the project risk profile	
	Low-bid winner may misinterpret the "WORK"	
	Least opportunity for contractor input before award	
	Change order risks (schedule, cost)	
	Public input responsiveness depends upon specs and change orders rather than proposals	

CMGC - Provides opportunity for Agency, designer, and contractor to collectively identify and minimize project risks, and allocate risk to appropriate party. Has potential to minimize contractor contingency pricing of risk, but can lose the element of competition in pricing.

Opportunities	Obstacles	Rating
Early input from a well-qualified contractor during design phase can reduce risk of future design changes and revisions to 3rd party agreements	Non-essential scope can be introduced in the absence of thorough oversight from the Owner project management team	+
Early identification of construction risks, e.g. retaining walls, ground stabilization, etc.	Construction finish date is less certain vs. DB	
Shared risk pool reduces the burden of risk traditionally held by the owner (CDOT)	CAP negotiation introduces cost and schedule risk	

DESIGN-BUILD - Provides opportunity to properly allocate risks to the party best able to manage them, but requires risks allocated to design-builder to be well defined to minimize contractor contingency pricing of risks.

Opportunities	Obstacles	Rating
Performance-based specifications transfer risk to D-B team	3rd party agreements are high-pressure and have the potential to delay the project if they are on the critical path	+
Provides the owner with the opportunity to allocate risks to the party best-suited to manage the risk	Designer is not selected or managed individually by the Owner	
Qualifications-based selection to find the best suited team to mitigate the project risk profile	QA team is not selected by owner	
Lowest risk of cost escalation	Poorly defined risks add cost	
Early risk identification by proposers promotes effective mitigation		

Project Delivery Selection Matrix *Secondary* Factors

6) Staff Experience and Availability

Agency staff experience and availability as it relates to the project delivery methods in question.

DESIGN-BID-BUILD - Technical and management resources necessary to perform the design and plan development. Resource needs can be more spread out.

Opportunities	Obstacles	Rating
		n/a

CMGC - Strong, committed Agency project management resources are important for success of the CMGC process. Resource needs are similar to DBB except Agency must coordinate CM's input with the project designer and be prepared for CAP negotiations.

Opportunities	Obstacles	Rating
The CDOT North Program has administered several CM/GC contracts over the past several years.	Additional training will be required, and new positions filled with experienced and dedicated staff	PASS
CDOT is one of States in the US with the most fully developed program and experience with CM/GC.		
CDOT Region 1 North Program has created project-specific positions to manage this project through its lifecycle		

DESIGN-BUILD - Technical and management resources and expertise necessary to develop the RFQ and RFP and administrate the procurement. Concurrent need for both design and construction resources to oversee the implementation.

Opportunities	Obstacles	Rating
		n/a

7) Level of Oversight and Control

Level of oversight involves the amount of agency staff required to monitor the design or construction, and amount of agency control over the delivery process

DESIGN-BID-BUILD - Full control over a linear design and construction process.		
Opportunities	**Obstacles**	**Rating**
		n/a

CMGC - Most control by Agency over both the design, and construction, and control over a collaborative agency/designer/contractor project team		
Opportunities	**Obstacles**	**Rating**
Owner control over design and construction packaging continues after procurement	Higher level of cost oversight required (ICE, scope creep)	PASS
Owner control to assist with negotiating 3rd party agreements, phasing, constructability, and stakeholder concerns.		
Owner maintains opportunity to influence design and construction throughout project development		

DESIGN-BUILD - Less control over the design (design desires must be written into the RFP contract requirements). Generally less control over the construction process (design-builder often has QA responsibilities).		
Opportunities	**Obstacles**	**Rating**
		n/a

8) Competition and Contractor Experience

Competition and availability refers to the level of competition, experience and availability in the market place and its capacity for the project.

DESIGN-BID-BUILD - High level of competition, but GC selection is based solely on low price. High level of marketplace experience.

Opportunities	Obstacles	Rating
		n/a

CMGC - Allows for the selection of the single most qualified contractor, but CAP can limit price competition. Low level of marketplace experience.

Opportunities	Obstacles	Rating
The size and scope of this bridge replacement project offers a competitive entry point for contractors to gain experience with this delivery method.	low bid has largest pool of candidates.	PASS
Industry has responded with strong interest surrounding the release of this project, generating competition.		

DESIGN-BUILD - Allows for a balance of price and non-price factors in the selection process. Medium level of marketplace experience.

Opportunities	Obstacles	Rating
		n/a

Transportation Commission (TC) Meeting Minutes

Workshops – Wednesday, May 18, 2022, 1:00 pm – 5:50 pm, Virtual via Zoom Meeting
Recording link: https://youtu.be/5bHkq_SvKBI

Call to Order, Roll Call
All eleven Commissioners were present: Commissioners Kathy Hall (TC Chair), Don Stanton (TC Vice Chair), Karen Stuart, Gary Beedy, Kathleen Bracke, Mark Garcia, Lisa Tormoen Hickey, Barbara Vasquez, and Eula Adams, Yessica Holguin, and Terry Hart.

1. **Right of Way Workshop (Steve Harelson) – 00:00:00**

   Purpose & Action: To approve condemnation authorization for Project # 22831, I-25 Express Lanes SH 7 to SH 1, Section 6 for four parcels.

   Discussion Summary:
   - No additional discussion

2. **Budget Workshop (Jeff Sudmeier and Bethany Nicholas) – 00:10:31**
   Purpose & Action: The Budget Workshop focused on two topics, subject to separate memorandums and resolutions: (1) Cash defeasance of a portion of the outstanding Series 2017 Certificates of Participation (COPs) to include the Greeley HQ Property in the collateral for the Series 2022 COPs; and (2) Advancement of an additional "Year 4" SB 267 project. As a result, CDOT staff sought approval of Proposed Resolution #9 – COP Series 2017 Defeasance and Proposed Resolution #7 – Advancing Year 4 Funding I-25 New Pueblo Freeway.

   Discussion Summary:
   - The State Treasurer's Office has determined on Monday this week that the State has adequate collateral for the COPs and therefore the Greeley HQ Property consideration is no longer needed.

3. **Floyd Hill Project Update (Joint TC/Bridge and Tunnel Enterprise (BTE) Board Workshop) – 00:15:28**

   Purpose & Action: The Floyd Hill Project Team & Chief Financial Officer prepared this joint workshop to provide a project update for the TC and the Bridge and Tunnel Enterprise (BTE) Board of Directors (Board). This update provided an overview of project progress and funding status. Staff requested Board approval of Proposed Resolution BTE#03: FY2022 Multimodal Project Discretionary Grant Opportunity. This resolution commits $260 million of BTE funds to the project in principle, which will be allocated if a grant is awarded.

   Discussion Summary:
   - The Environmental Assessment (EA) Preferred Alternative is currently expected to be ready for adoption this fall.
   - In addition to three other proposed projects, CDOT will be applying for a grant to close the $240 million project shortfall through the Federal Multimodal Project Discretionary Grant Program, which is a consolidation of three existing grants programs, for each of which this project is eligible and is expected to be a strong candidate. If CDOT is not successful in getting the full requested amount, CDOT will look at a lesser scope project, to increase the

Colorado Transportation Investment Office (CTIO) funding amount, other sources of funding or to consider additional 10-year commitments.
- Although building the full EA alternative right now would likely cost more than the current budget, CDOT can and will continue adjusting the various discretionary elements of the projects in order to keep the base project on track for completion with that budget.
- The project is currently expected to get underway in early 2024.

4. **Bustang Expansion Program (Amber Blake)** – **01:22:04**

Purpose & Action: The purpose of this workshop was to provide the TC with an update on Bustang and planned service expansion as the result of SB 180 and dedicated state funding for State Transit Operations and Maintenance independent of the 10 Year Plan. Therefore, CDOT staff is sought TC approval of the proposed phased approach to expanding Bustang Services in the I-25 and I-70 corridors.

Discussion Summary:
- Commission expressed support for use of the remaining State MMOF Program funds, which do not affect the current Local MMOF funding allocated to TPRs, to support Bustang Operations.
- These funds will support operational needs through FY26, after which CDOT will need to identify other long-term funding sources for ongoing Bustang operations.
- No fare increases are proposed through Phase 1 of this expansion, but CDOT will continue to examine and consider increases if needed. Commissioners expressed support for keeping the service fares low to ensure accessibility to greatest number of riders and for fare-reduction strategies for low-income riders.
- CDOT is in the process of analyzing the potential for electric bus implementation in the Bustang system, which will be considered when looking at future bus replacements.

5. **GHG Mitigation Measures Policy Directive Workshop (Rebecca White and Theresa Takushi)** – **02:01:07**

Purpose & Action: This workshop provided an update on the development and content of the greenhouse gas (GHG) Mitigation Measures Policy Directive (PD 1610) which is provided on the May TC agenda for adoption. The requested action was to adopt PD-1610 via Commission resolution.

Discussion Summary:
- While considerable outreach and broad stakeholder contribution has been achieved in the PD development, in the long-term CDOT expects even more contributions, perhaps from academia or other national/international expertise. However, the Commission and staff emphasized the importance today of limiting that involvement to the key requisite stakeholders that have been involved to-date so as to adopt this policy on its strict timeline and critical needs.
- Commissioners discussed clarifying “free” transit fares as cited in the policy to clarify they are made by way of additional subsidies.

6. **Bridge and Tunnel Enterprise Workshop (Jared Esquibel and Patrick Holinda)** – **03:02:21**

Purpose & Action: Staff prepared this workshop to provide the Bridge and Tunnel Enterprise (BTE or Enterprise) Board of Directors (Board) an overview of and obtain input on proposed

revisions to Policy Directive (PD) BE16.0 "Oversight of Funding for State Bridges and Tunnels", the bridge and tunnel impact fee and bridge and tunnel retail delivery fee (bridge and tunnel fees) authorized by SB21-260, and program participation in the CDOT 10-year Vision Plan (10-year plan). No approval action is being requested this month.

Discussion Summary:

- Commission and staff acknowledge the new road impact fee, which is based on gas usage, will likely plateau and then decline as the number of electric vehicles (EV) on the road increases.
- Considering the numerous new fees created in SB260 and the four separate enterprises and their separate 10 Year Plans, Commission expressed a need to provide public information so that voters and users understand the connection between the new fees people will be seeing and which plan of investments are related, and common denominator in the CDOT 10-Year Plan.

7. **Office of Innovative Mobility (OIM) Committee Meeting – Electrification and Energy Project Updates (Kay Kelly and Mike King)** – **03:47:39**

Purpose & Action: This workshop provided an overview of the content to be covered in the quarterly Innovative Mobility committee meeting. Informational briefing only. No action required.

Discussion Summary:

- While grant programs for public EV charging require the site owner and applicant maintain operability of the charging facilities, the effective legal enforcement of that requirement does not exist. In light of this, CDOT is working on efforts to bolster workforce development to ensure the skills necessary for equipment maintenance are available statewide.
- When combined with the Community Access Enterprise created by SB260 and existing EV Charging grant programs, there is no part of the state that is not eligible to access grant funding for public EV investments.
- Future discussions will be considered to explore equity concerns and effects of the Clean Truck Strategy implementation.
- The TC stressed the importance of communicating directly with the actual users of trucks throughout the state to inform this plan's implementation. CDOT is working with the Colorado Department of Health and Environment (CDPHE) under a grant from the US Environmental Protection Agency (EPA) to host community conversations to target populations that have not been involved thus far in GHG Roadmap and related studies and efforts.
- Current mandates related to this effort are to require vehicle manufacturers to provide clean truck options, but no mandates require fleet users to adopt their use.

Regular Meeting - Thursday, May 19, 2022, 9:00 am to 10:30 am

Recording Link: https://www.youtube.com/watch?v=D9KMA6BShBo

1. **Call to Order, Roll Call** – **Video link 00:00:00**
Eleven Commissioners were present: Commissioners Kathy Hall (TC Chair), Don Stanton (TC Vice Chair), Karen Stuart, Terry Hart, Yessica Holguin, Gary Beedy, Kathleen Bracke, Mark Garcia, Lisa Tormoen Hickey, Eula Adams, and Barbara Vasquez

2. **Open Public Hearing for FY 23-26 STIP (Rebecca White and Jamie Collins)**

3. **Public Comments – Video link 00:01:18**

Provided to the Commission in writing prior to the meeting:

- Austin Ward, Broomfield City Council, thanked Commissioners for passing the GHG rule and urged strong mitigation measure scoring that prioritize shifts to alternate modes.
- Dan Shore, Mayor of the City of Salida, urged adoption of the GHG Policy Directive on mitigation measures, and asked that the scoring matrix only reward VMT reducing strategies and inclusion of land use measures.
- Jean Sanson, Boulder Senior Transportation Planner, urged adoption of strong mitigation measure scoring in the GHG Policy Directive. Asked that the scoring matrix scored vehicle miles traveled (VMT) reducing measures higher and to eliminate measures that don't reduce VMT such as operational projects.
- Martha Roskowski, Natural Resources Defense Council (NRDC), urged adoption of the Policy Directive on mitigation measures, but also commented on the need to address the rising fatality rate. Relying on education as a safety strategy doesn't work, investing in transit, biking and walking will improve safety.
- Rachel Hultin, of Bicycle Colorado, urged adoption of the Policy Directive on mitigation measures, but also asked for recalibration of the 10 Year Plan to include flexible program dollars in Region 1 and 4 for regionwide arterial transit improvements, regionwide trail grade separations and vision zero priority improvements. Next, they asked for strategies and formulas that reduce driving. Third, she asked for measures that prioritize better standards for bike lanes, and lastly asked the CDOT doesn't forget about co-benefits of these improvements.
- Jenny Gaeng, Conservation Colorado, advocated for inclusion of measures in the Policy Directive on mitigation measures that better directs investments that will have tangible impacts in disproportionately Impacted communities in the mitigation measure scoring.
- Matt Frommer, Southwest Energy Efficiency Project (SWEEP), urged adoption of the proposed policy directive, but also pointed out areas where it could be improved including the need to eliminate operations measures and other strategies that don't reduce VMT. Thanked CDOT for tripling Bustang service, but pointed out that funding for local service is declining dramatically threatening to sabotage any potential benefits from the Bustang expansion.
- All written comments submitted including from Pitkin County, Eagle County, the City of Golden, and Gilpin County, Town of Ridgway, Broomfield were entered into the records.

4. **Comments of the Chair and Individual Commissioners – Video link 00:25:45**

- Commissioners thanked staff for their hard work on the GHG Policy Directive, and thanked community for their engagement and comments on the GHG Policy Directives. Commissioners also reported on project progress in their districts and involvement with newly established enterprise boards, and raised safety concerns and the importance of bringing greater focus on measures to meet Vision Zero safety goals. Commissioners called attention to how inflation may impact project delivery.

5. **Chief Engineer's Report (Steve Harelson) – Video link 54:44**

- Chief Engineer Harelson thanked Alvaro Duran, who retired, for his years of outstanding service to CDOT, reported on current CDOT initiatives and the Chief Engineer's book club book of the month.

6. **Executive Director's Management Report (Shoshana Lew):**
   - No report

7. **Colorado Transportation Investment Office (CTIO) (Formerly HPTE) Director's Report (Nick Farber) – Video link: 1:03:49**
   - Reported on yesterday's Board meeting highlights including annual toll rate review, which will be moving for adoption on new rates next month, the FY21-23 tolling and maintenance agreement, and gave CTIO project updates on I70 Westbound Mountain Express lanes, RFP processes, and a detailed ROADIS proposal that was received.

8. **FHWA Division Administrator's Report (John Cater) – Video link: 1:09:10**
   - Bridge inspection standard updates are underway and looking at a risk-based approach.
   - Final project related to the 2013 Flood Emergency ribbon-cutting event
   - Remarked on CDOT's particularly collaborative National Environmental Policy Act (NEPA) process
   - Infrastructure Investment and Jobs Act (IIJA) changes are getting rolled out gradually, and is a main focus at the moment.

9. **Statewide Transportation Advisory Committee (STAC) Report (Vince Rogalski) – Video link: 1:13:27**
   - Reported on highlights from the May STAC meeting including approved changes to the STAC calendar, and feedback from STAC on the Bustang expansion plan and GHG Policy Directive.

10. **Legislative Report (Andy Karsian) – Video link: 1:21:33**
    - Reported on highlights from the 2022 Legislative session including passage of SB22-180 providing funding for expanded state transit service.

11. **Discuss and Act on Consent Agenda – Video link: 1:33:00**

A Motion by Commissioner Beedy to approve, and seconded by Commissioner Bracke, passed unanimously.

a) Proposed Resolution #1: Approve the Regular Meeting Minutes of April 20, 2022 (Herman Stockinger)

b) Proposed Resolution #2: IGA Approval >$750,000 (Steve Harelson)

c) Proposed Resolution #3: Parcel 46-EX and 47-EX Property Disposal (Jessica Myklebust)

d) Proposed Resolution #4: Parcel 5Rev-EX Property Disposal (Jessica Myklebust)

e) Proposed Resolution #5: Former Boyero Maintenance Site Property Disposal

f) Proposed Resolution #6: SH 52 Parcels 10-EX and 11-EX Property Disposal

12. **Discuss and Act on Proposed Resolution #7: Advancing Year 4 funding for ROW acquisitions for I-25 through Pueblo New Freeway Project from the 10-Year Plan (Rebecca White) – Video link: 1:34:01**
    A Motion by Commissioner Hart to approve, and seconded by Commissioner Hickey, passed unanimously.

13. **Discuss and Act on Proposed Resolution #8: 8th Budget Supplement of FY 2022 (Jeff Sudmeier and Bethany Nicholas) – Video link: 1:36:28**
    A Motion by Commissioner Beedy to approve, and seconded by Commissioner Holguin, passed unanimously.

14. **Discuss and Act on Proposed Resolution #9: Greeley HQ COP Defeasance – Collateral Release for SB 267 COPS (Jeff Sudmeier) – Video link: 1:37:20**
    A Motion by Commissioner Beedy to approve, and seconded by Commissioner Holguin, passed unanimously.

15. **Discuss and Act on Proposed Resolution #10: Bustang Expansion Program (Amber Blake) – Video link: 01:39:20**
    A Motion by Commissioner Bracke to approve, and seconded by Commissioner Garcia, passed unanimously.

16. **Discuss and Act on Proposed Resolution #11: Adopt FY 2023-2026 STIP (Rebecca White and Jamie Collins) – Video link: 1:41:01**
    A Motion by Commissioner Beedy to approve, and seconded by Commissioner Hart, passed unanimously.

17. **Discuss and Act on Proposed Resolution #12: FY 2022/23 Tolling Operations and Maintenance Intra-Agency Agreement between CDOT and CTIO (Piper Darlington) – Video link: 1:42:49**
    A Motion by Commissioner Stuart to approve, and seconded by Commissioner Stanton, passed unanimously.

18. **Discuss and Act on Proposed Resolution #13: GHG Mitigation Measures Policy Directive (Rebecca White and Theresa Takushi) – Video link: 1:47:19**
    A Motion by Commissioner Hickey to approve, and seconded by Commissioner Vasquez, passed unanimously.

19. **Discuss and Act on Proposed Resolution #14: Condemnation Authorization (Steve Harelson) – Video link: 1:50:59**
    A Motion by Commissioner Bracke to approve, and seconded by Commissioner Hart, passed unanimously.

20. **Discuss and Act on Proposed Resolution #15: Reiterate Resolutions #TC-2021-02-09 and Resolution #TC-2021-04-06 Due to Changes to ROW Plans and Access Location on Project 22831, I-25 Express Lanes SH 7 to SH 1 (Steve Harelson) –** This Resolution was not presented to the TC for approval, it appears it was combined with, and is related to Resolution 14.

21. **Other Matters – Video link: 1:52:52**

Chair Hall appointed a Nominating Committee for Chair, Vice Chair, and Secretary – Nominating Committee members are Commissioners Karen Stuart (Chair), Mark Garcia, and Terry Hart.

Meeting Adjourned: 11:00 am

COLORADO
Department of Transportation
Office of the Chief Engineer

Engineering Contracts
2829 W. Howard Place, Ste. 339
Denver, CO 80204-2305

Memorandum

TO: **Transportation Commission**

FROM: **Marci Gray & Lauren Cabot**

DATE: **June 3, 2022**

SUBJECT: **Intergovernmental Agreements over $750,000.00**

Purpose Compliance with CRS §43-1-110(4) which requires intergovernmental agreements involving more than $750,000 must have approval of the Commission to become effective. In order stay in compliance with Colorado laws, approval is being sought for all intergovernmental agencies agreements over $750,000 going forward.

Action CDOT seeks Commission approval for all IGAs contracts identified in the attached IGA Approved Projects List each of which are greater than $750,000. CDOT seeks to have this approval extend to all contributing agencies, all contracts, amendments and option letters that stem from the original project except where there are substantial changes to the project and/or funding of the project.

Background CRS §43-1-110(4) was enacted in 1991 giving the Chief Engineer the authority to negotiate with local governmental entities for intergovernmental agreements conditional on agreements over $750,000 are only effective with the approval of the commission.

Most contracts entered into with intergovernmental agencies involve pass through funds from the federal government often with matching local funds and infrequently state money. Currently, CDOT seeks to comply with the Colorado Revised Statutes and develop a process to streamline the process.

Next Steps Commision approval of the projects identified on the IGA Project List including all documents necessary to further these projects except where there are substanial changes to the project and/or funding which will need reapproval. Additionally, CDOT will present to the Commission on the Consent Agenda every month listing all of the known projects identifying the region, owner of the project, project number, total cost of the project, including a breakdown of the funding source and a brief description of the project for their approval. CDOT will also present any IGA Contracts which have already been executed if there has been any substantial changes to the project and/or funding.

Attachments IGA Approved Project List

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: STEPHEN HARELSON, P.E. CHIEF ENGINEER
DATE: JUNE 16, 2022
SUBJECT: DISPOSAL OF US 24 (I-70 BUSINESS) & CO 71 PARCEL 5-EX, LIMON, CO

Purpose
CDOT Region 4 is proposing to dispose of Parcel 5-EX comprising 4,860 sq. ft. (0.111 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Action
CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of 4,860 sq. ft. (0.111 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Background
Parcel 5-EX was originally acquired in 1956 as part of US 24 Projects BF 005-5(5) and F 005(6). It is believed the site was originally used for signage at the intersection of US 24 and CO 71. This intersection has since moved farther to the west on US 24 (I-70 Business). The owners of the adjacent property to the north have expressed a desire to purchase the property for fair market value.

Next Steps
Upon approval of the Transportation Commission, CDOT will sell Parcel 5-EX in exchange for fair market value in accordance with C.R.S. 43-1-210 and 23 CFR 710.403. The revenue from the sale of the parcel will be dispersed in accordance with CDORT ROW Manual Chapter 7.2.16

Attachments
Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204


Limon Disposal Request
approximate parcel size
Legend
Disposal Request
Dollar General
Feature 1
Feature 2
Path Measure limon disposal request
Limon Bible Chapel
4th St
Area of Excess Request
SH 24 (I-70 Business)
Main St
Disposal Request
Dollar General
Google Earth
200 ft
N

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: STEPHEN HARELSON, P.E. CHIEF ENGINEER
DATE: JUNE 16, 2022
SUBJECT: DISPOSAL OF PARCEL 43-EX, SH 85, GREELEY, CO - REGION 4

Purpose
CDOT Region 4 is proposing to dispose of Parcel 43-EX, comprising 22,005 sq. ft. (0.505 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Action
CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of 22,005 sq. ft. (0.505 acres) of right of way that is no longer needed for transportation or maintenance purposes.

Background
Parcel 43-EX was originally acquired in 1951 as part of SH 85 Project F006-1(6). No highway or road improvements have been built on the site, which lies east of the highway. The owners of an adjacent property have held a landscaping permit from CDOT since 2003. They have installed irrigation and maintained the site since that time, and they have expressed a desire to purchase the property for fair market value.

Next Steps
Upon approval of the Transportation Commission, CDOT will sell Parcel 43-EX in exchange for fair market value in accordance with C.R.S. 43-1-210 and 23 CFR 710.403. The revenue from the sale of the parcel will be dispersed in accordance with CDOT ROW Manual Chapter 7.2.16.

Attachments
Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204


Approximate are of requested Disposal
605 25th St
17
85
7th Ave
25th St


HIGHWAY 85 BUSINESS SB
HWAY 85 BUSINESS NB
7TH AVE
2432
2427
605
605
605
454
701
715
ST
Approximate are of
requested Disposal
6TH AVE
2501
2503
2505
618
614
7TH AVE
2514

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: STEPHEN HARELSON, P.E. CHIEF ENGINEER
DATE: JUNE 16, 2022
SUBJECT: DISPOSAL – FORMER STERLING MAINTENANCE SITE - REGION 4

Purpose

CDOT Region 4 is proposing to dispose of the former Sterling Maintenance Site (Parcel 999914500), which is approximately 38,995 sq. ft. (0.8952 acres). The property has not be used as a maintenance site for some time, and it is no longer needed for transportation or maintenance purposes.

Action

CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of the 38,995 sq. ft. (0.8952 acres) that is no longer needed for transportation or maintenance purposes.

Background

Parcel 999914500, located at 1619 S. 6th Ave, Sterling, CO, was originally acquired in the 1950s and was used as a maintenance site for some time. CDOT vacated the property, and Northeastern Colorado Association of Local Government (NECALG) has been using the property as a bus barn for approximately the last 40 years. CDOT does not have a need to maintain this site, and NECALG has expressed the desire to purchase the property from CDOT for fair market value.

Next Steps

Upon approval of the Transportation Commission, CDOT will sell the parcel in accordance with C.R.S. 43-1-210(5). CDOT will execute a quitclaim deed to convey the subject property in exchange for fair market value. The deed will be recorded in the office of the Logan County Clerk and Recorder. Funds from the disposal shall be disbursed in accordance with Section 7.2.16 of the CDOT Right of Way Manual.

Attachments

Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204


Iris Dr
Iris Dr
Gandee Automotive
& Diesel Repair
Major Liquors
Liquor store
S 6th Ave
1619 S 6th Ave
Disposal Request
Jonquil St
Jay Dr
S 6th Ave
J Tab Rentals
Kochia Way
Kochia Way
Grand Army of the Republic Hwy
I-76 Business
76

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: STEPHEN HARELSON, P.E. CHIEF ENGINEER
DATE: JUNE 16, 2022
SUBJECT: DISPOSAL – FORMER STERLING MAINTENANCE SITE - REGION 4

Purpose

CDOT Region 4 is proposing to dispose of the former Sterling Maintenance Site (Parcel 999914500), which is approximately 38,995 sq. ft. (0.8952 acres). The property has not be used as a maintenance site for some time, and it is no longer needed for transportation or maintenance purposes.

Action

CDOT Region 4 is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of the 38,995 sq. ft. (0.8952 acres) that is no longer needed for transportation or maintenance purposes.

Background

Parcel 999914500, located at 1619 S. 6th Ave, Sterling, CO, was originally acquired in the 1950s and was used as a maintenance site for some time. CDOT vacated the property, and Northeastern Colorado Association of Local Government (NECALG) has been using the property as a bus barn for approximately the last 40 years. CDOT does not have a need to maintain this site, and NECALG has expressed the desire to purchase the property from CDOT for fair market value.

Next Steps

Upon approval of the Transportation Commission, CDOT will sell the parcel in accordance with C.R.S. 43-1-210(5). CDOT will execute a quitclaim deed to convey the subject property in exchange for fair market value. The deed will be recorded in the office of the Logan County Clerk and Recorder. Funds from the disposal shall be disbursed in accordance with Section 7.2.16 of the CDOT Right of Way Manual.

Attachments

Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204


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Disposal Request
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Jay Dr
S 6th Ave
J Tab Rentals
Kochia Way
Kochia Way
Grand Army of the Republic Hwy
I-76 Business
76

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: STEPHEN HARELSON, P.E. CHIEF ENGINEER
DATE: MAY 31, 2022
SUBJECT: DISPOSAL OF CAMP GEORGE WEST BUILDINGS TO COLORADO STATE PATROL

Purpose
CDOT HQ is proposing to dispose of 11 buildings on the Camp George West Campus located at 15285 S. Golden Road in Golden, CO.

Action
CDOT HQ is requesting a resolution, in accordance with C.R.S. 43-1-210, approving the disposal of 11 buildings that are no longer needed for transportation or maintenance purposes.

Background
The land associated with 15285 South Golden Road is owned by the Department of Personnel and Administration (DPA). Several agencies, including CDOT and Colorado Department of Public Safety, State Patrol (CSP), own buildings on the property and pay DPA a small annual rental fee for the underlying property. The CDOT owned buildings on the site have served many functions over the years; office space, training classrooms and dormitories to name a few. Subsequent to the construction of the new HQR1 building in 2018 CDOT has made a concerted effort to consolidate office space. The last CDOT staff vacated the Camp George West Campus in late 2021. CSP has moved into the buildings CDOT vacated. CDOT and CSP now desire to formalize the transfer of ownership. The transfer of ownership will absolve CDOT of future rent payments for the DPA land lease and any future building maintenance costs.

Next Steps
Upon approval of the Transportation Commission, CDOT will convey 11 buildings to CSP via quitclaim deeds. The deeds will have clause in them that states that if the properties cease to be used by CSP for their intended purpose, ownership will revert to CDOT.

Attachments
Exhibits Depicting the Disposal Property

2829 West Howard Place 5th Floor, Denver, CO 80204

COLORADO
Department of Transportation
Division of Maintenance & Operations
425C Corporate Circle
Golden, CO 80401

TRANSPORTATION COMMISSION REQUEST

TO: Transportation Commission
FROM: John Lorme, Director of Maintenance & Operations
CC: Herman Stockinger, Deputy Director and Director of Policy

DATE: JUNE 6, 2022
SUBJECT: FY 23 Maintenance Project List

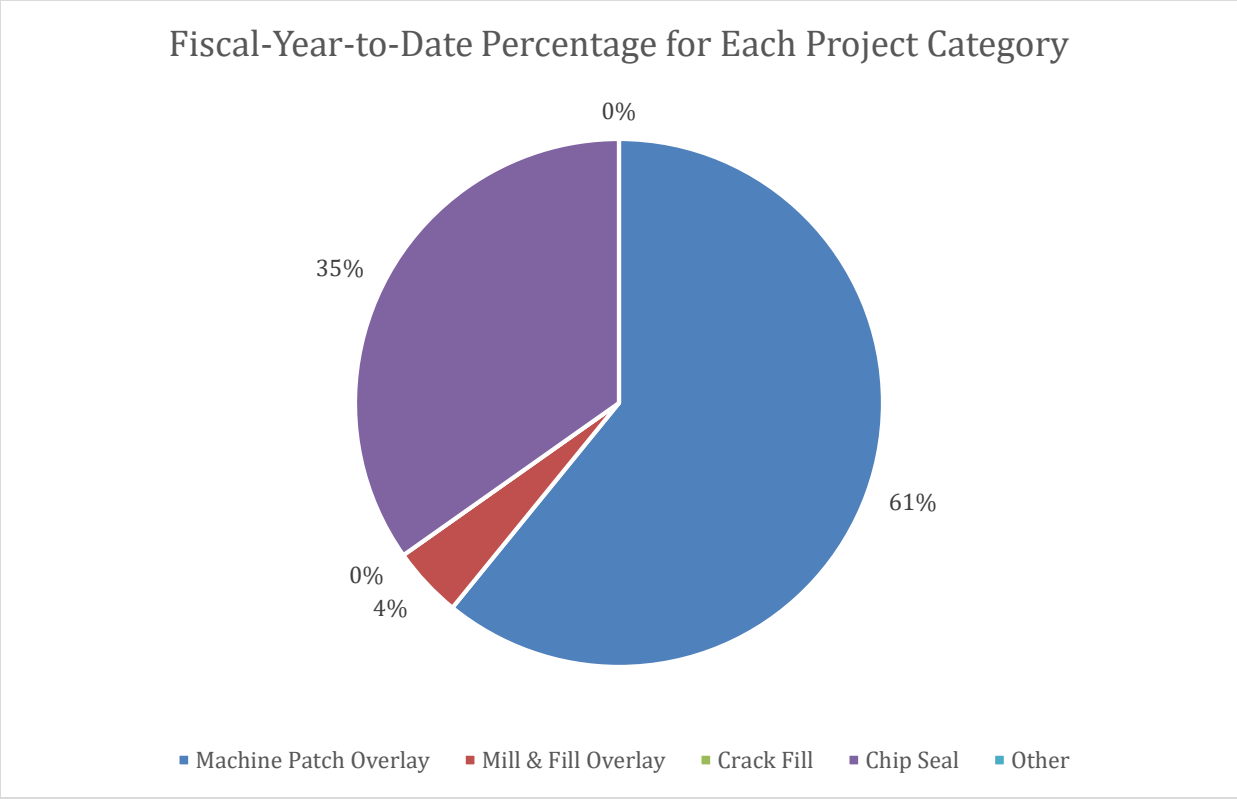
Purpose
The Maintenance Sections have identified 1 project valued at between $150,000 and $250,000 for construction in FY 23. The resolution details additions to project locations, type, and dollar value.

Action Requested
Per CRS 24-92-109, and PD 703.0 require CDOT to prepare estimates of proposed work exceeding $150,000 up to $250,000 for Transportation Commission approval prior to undertaking the work.

Background
The program allows the Maintenance Sections the flexibility to react to current needs by treating individual segments of highways showing distress.

Sufficient funds exist within the appropriate MPA's to pursue these projects. The projects are in accordance with the directive and all other requirements. The Division of Maintenance & Operations recommends approval of the FY 23 over $150,000 project list.

Key Benefits
Approval of these projects will allow the Maintenance forces to proceed with these projects ensuring the safety and mobility of the traveling public and enabling the continuation of commerce along the state highway system.



Next Steps

Upon approval, the Maintenance forces will proceed with construction of these projects in FY 23.

Attachments

Resolution for Transportation Commission Approval – Includes Project List

COLORADO
Department of Transportation
Division of Accounting and Finance

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
BETHANY NICHOLAS, BUDGET DIRECTOR
DATE: JUNE 16, 2022
SUBJECT: TWELFTH BUDGET SUPPLEMENT - FY 2021-2022

Division of Transportation Development

$350,000 – **National Highway Freight-** *EJMT Hazmat Study* - The Division of Transportation Development requests approval to use unallocated Freight program funds to continue a study on the transport of hazardous materials through the Eisenhower Johnson Memorial Tunnel (EJMT). An initial study identified next steps and recommendations for additional investigation, of which this funding will be used for.

For additional information see attached memo from the Division of Transportation Development and Freight Mobility and Safety Branch.

Per Policy Directive 703.0, this project is being included in the Budget Supplement as the project was not previously part of the Freight Investment Plan.

Attachment
A) NHFP Budget Request for EJMT Hazmat Study Continuation

Transportation Commission Contingency Reserve Fund Reconciliation
Twelfth Supplement FY 2022 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-21	*Balance 12S21*		**$48,025,918**	
July-21	*Balance 1S22*		**$48,043,920**	
August-21	*Balance 2S22*		**$31,971,890**	
September-21	*Balance 3S22*		**$31,971,890**	
October-21	*Balance 4S22*		**$31,971,890**	
November-21	*Balance 5S22*		**$31,973,906**	
December-21	*Balance 6S22*		**$31,900,607**	
January-22	*Balance 7S22*		**$31,879,892**	
February-22	*Balance 8S22*		**$36,681,542**	
March-22	*Balance 9S22*		**$36,780,008**	
April-22	*Balance 10S22*		**$33,005,416**	
May-22	*Balance 11S22*		**$33,005,416**	
	No Requests This Month			
June-22	*Pending Balance 12S22*		**$33,005,416**	

Transportation Commission Contingency COVID Reserve Fund Reconciliation
Twelfth Supplement FY 2022 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-21	*Balance 12S21*		**$1,000,000**	
July-21	*Balance 1S22*		**$1,000,000**	
August-21	*Balance 2S22*		**$1,000,000**	
September-21	*Balance 3S22*		**$1,000,000**	
October-21	*Balance 4S22*		**$1,000,000**	
November-21	*Balance 5S22*		**$1,000,000**	
December-21	*Balance 6S22*		**$1,000,000**	
January-22	*Balance 7S22*		**$1,000,000**	
February-22	*Balance 8S22*		**$1,000,000**	
March-22	*Balance 9S22*		**$1,000,000**	
April-22	*Balance 10S22*		**$1,000,000**	
May-22	*Balance 11S22*		**$1,000,000**	
June-22	*Pending Balance 12S22*		**$1,000,000**	

Transportation Commission Program Reserve Fund Reconciliation
Twelfth Supplement FY 2022 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-21	*Balance 12S21*		**$17,558,266**	
July-21	*Balance 1S22*		**$17,199,014**	
August-21	*Balance 2S22*		**$16,199,014**	
September-21	*Balance 3S22*		**$16,199,014**	
October-21	*Balance 4S22*		**$46,692,784**	
November-21	*Balance 5S22*		**$46,692,784**	
December-21	*Balance 6S22*		**$45,992,784**	
January-22	*Balance 7S22*		**$45,992,784**	
February-22	*Balance 8S22*		**$44,992,784**	
March-22	*Balance 9S22*		**$44,843,734**	
April-22	*Balance 10S22*		**$45,008,409**	
May-22	*Balance 11S22*		**$45,008,409**	
	No Requests This Month			
June-22	*Pending Balance 12S22*		**$45,008,409**	

Transportation Commission Maintenance Reserve Reconciliation
Twelfth Supplement FY 2022 Budget

Transaction Date	Transaction Description	Amount	Balance	Reference Document
June-21	*Balance 12S21*		**$13,863,597**	
July-21	*Balance 1S22*		**$13,863,597**	
August-21	*Balance 2S22*		**$13,863,597**	
September-21	*Balance 3S22*		**$13,863,597**	
October-21	*Balance 4S22*		**$13,863,597**	
November-21	*Balance 5S22*		**$13,863,597**	
December-21	*Balance 6S22*		**$13,863,597**	
January-22	*Balance 7S22*		**$13,863,597**	
February-22	*Balance 8S22*		**$13,863,597**	
March-22	*Balance 9S22*		**$13,863,597**	
April-22	*Balance 10S22*		**$10,690,597**	
May-22	*Balance 11S22*		**$6,993,697**	
	No Requests This Month			
June-22	*Pending Balance 12S22*		**$6,993,697**	

Transportation Commission Contingency Reserve Fund

Emergency and Permanent Repairs-Nonparticipating costs and state match

No Activity

FY 2021-2022 Contingency Reserve Fund Balance Projection		
May TC Contingency Balance (Emergencies)	$34,005,417	
Pending Requests:		
No Pending Requests	$0	
Pending June TC Contingency Reserve Balance	$34,005,417	
Projected Outflow:	Low Estimate	High Estimate
State Match for Emergency Relief/Permanent Recovery	($2,000,000)	($5,000,000)
Projected Inflow:	Low Estimate	High Estimate
I-70 Glenwood Canyon Slides Repayment	$0	$14,250,000
Projected FY 2021-2022 YE Contingency Balance	$32,005,417	$43,255,417
TCCRF Surplus (Deficit) to Reach $25M Balance July 1, 2022	***$7,005,417***	***$18,255,417***

FY 2021-2022 Program Reserve Fund Balance Projection		
May TC Program Reserve Balance	$45,008,409	
Pending Requests:		
No Pending Requests	$0	
Pending June TC Program Reserve Fund Balance	$45,008,409	
Projected Outflow:	Low Estimate	High Estimate
	$0	$0
Projected Inflow:	Low Estimate	High Estimate
Reimbursment for US85 Settlement Loan Region 4	$18,060,000	$18,060,000
FRPR Loan Repayment	$1,620,000	$1,620,000
Projected FY 2021-2022 YE Program Reserve Balance	$64,688,409	$64,688,409

FY 2021-2022 Maintenance Reserve Fund Balance Projection		
May TC Maintenance Reserve Balance	$6,993,697	
Pending Requests:		
No Pending Requests	$0	
Pending June TC Maintenance Reserve Fund Balance	$6,993,697	
Projected Outflow:	Low Estimate	High Estimate
	$0	$0
Projected Inflow:	Low Estimate	High Estimate
	$0	$0
Projected FY 2021-2022 YE Maintenance Reserve Balance	$6,993,697	$6,993,697

COLORADO
Department of Transportation

Division of Transportation Development
2829 W. Howard Place
Denver, CO 80204-2305

TO: The Freight Regional and Interstate Mobility Committee of the Transportation Commission

FROM: Rebecca White, Director, Division of Transportation Development
Craig Hurst, Manager, Freight Mobility and Safety Branch
Kathleen Collins, Transportation Planning Analyst, Freight Mobility and Safety Branch

DATE: June 15, 2022

RE: NHFP Budget Request for EJMT Hazmat Study Continuation

Purpose: CDOT staff is requesting $350,000 of National Highway Freight Program (NHFP) funds for the project to continue to work with the subcommittees to investigate the next steps to mitigate risk and improve the safety of transporting hazmat on this portion of I-70/US 6.

Action: Seeking Transportation Commission (TC) approval of a June 2022 budget supplement to commit $350,000 of NHFP funds to the EJMT Hazmat Study Continuation project.

Background: Senate Bill (SB) 19-032 required CDOT to conduct a study assessing the feasibility of allowing the transportation of hazardous materials through EJMT and to prepare a report that includes the findings and recommendations as to whether and under what conditions the transportation of hazmat through the EJMT could be allowed. CDOT obtained the services of Stantec Consulting Services Inc. risk assessment team to conduct the study as to whether and under what circumstances hazmat should be allowed in EJMT and to compare the risks of these vehicles traveling over Loveland Pass.

On December 2020, the required study (i.e., Transportation of Hazardous Materials through Eisenhower-Edwin C Johnson Memorial Tunnel - Study) was completed in cooperation with the US DOT, FHWA, CSP and stakeholders listed in SB 19-032. In early 2021, to continue the discussion of next steps, the study participants and stakeholders joined a working group to identify areas of focus for next steps. The working group consisted of stakeholders from the communities near the tunnel, CDPS Fire, CSP Hazmat and Motor Carrier Safety, CDOT Engineering, operations, maintenance, freight, and government affairs. The working group was organized in subcommittees of Hazmat Routing, Tunnel Infrastructure, Roadway Infrastructure, and Operations Safety. These subcommittees identified 17 items to further study and investigate, and this next effort will be to address six of those items.

CDOT staff is requesting $350,000 of NHFP funds for the project to continue to work with the subcommittees to investigate the next steps to mitigate risk and improve the safety of transporting hazmat on this portion of I-70/US 6.

Details:
In current practice, hazardous materials (hazmat) trucks, such as gasoline tankers, are not allowed to pass through EJMT and are routed over Loveland Pass via US Highway 6 (US 6). Loveland Pass is a difficult route, with tight switchbacks and steep grades. Snow events in the area create even more hazardous driving conditions and avalanche danger along US 6, often requiring road closures. When US 6 is closed, portal attendants close EJMT to normal traffic and allow hazmat vehicles to enter EJMT once per hour.

The transport of hazmat using US 6 and I-70 via the EJMT is complicated by balancing the low probabilities of some of the events that concern CDOT and the public (such as major fires, explosions, and environmental catastrophes) with the daily need for the safe transport of people, energy, and chemicals that facilitate Colorado's economy.

The project complies with the SB 19-032 to study and recommend under what circumstances hazmat should be allowed in EJMT. Study stakeholders expressed hazmat transport concerns including driver and community safety, tunnel and roadway resiliency, economic loss, and impacts to sensitive environmental resources. All stakeholders identified the relationship between speed-related hazmat incidents, as well as extended tunnel closure due to damage, as the primary risks that need to be mitigated. The study provides a variety of options that the team believes merit further investigation and consideration by decision makers when evaluating changes to the transportation of hazardous materials through EJMT.

Key Benefits:
With these additional funds to continue the study, the further analysis requested by stakeholders will be able to be conducted. This work will help to ensure that all practical risk-reducing options, and strategies are considered, and that study recommendations are well-informed, reasonable, and that the study was a good use of taxpayer dollars.

Next Steps:
TC requested to approve June Budget Supplement

Attachment A: NHFP Request for EJMT Hazmat Study Continuation Presentation.

COLORADO
Department of Transportation

MEMORANDUM

TO: **THE TRANSPORTATION COMMISSION**
FROM: **JEFF SUDMEIER, CDOT CHIEF FINANCIAL OFFICER**
DATE: **JUNE 16, 2022**
SUBJECT: **STATE INFRASTRUCTURE BANK (SIB) INTEREST RATE RECOMMENDATION FOR THE FIRST HALF OF FISCAL YEAR 2022-23**

Purpose

The purpose of this memorandum is to outline the proposed State Infrastructure Bank (SIB) interest rate for loans originating in the first half of State Fiscal Year 2022-23 and the origination fee schedule for Fiscal Year 2022-23.

Action

The Division of Accounting and Finance (DAF) recommends that the Transportation Commission (TC) increase the current SIB interest rate to 3.00% for loans originating in Fiscal Year 2022-23 Q1/Q2, and maintain the recommended origination fee schedule detailed in the memorandum.

Background

SIB Loan Rates: The SIB, established in 43-1-113.5(3) CRS. Rule V. Article 2 of 2CCR 605-1, requires that the TC set bi-annual interest rates for SIB Loans. Established rates over the past 18 months have been:

FY 2020-21 Q3/Q4: 2.00%	FY 2021-22 Q1/Q2: 2.00%	FY 2021-22 Q3/Q4: 2.00%

Origination Fee Schedule: Rule V, Article 3 of 2 CCR 605-1 outlines the following origination fee schedule to be maintained for the current fiscal year as adopted by the TC. The TC may at their discretion apply the fee, the maximum of:

- 1.00% for loan proceeds up to $1 million
- 0.75% on the loan proceeds over $1 million up to $2.5 million
- 0.50% on the loan proceeds over $2.5 million up to $5 million
- 0.25% on the loan proceeds over $5 million

Rate Recommendations/Interest Rate Outlook for US Treasury Market

The current U.S. Treasury market and Federal Funds Rate, as well as the Department's Financial Advisor's projections for the US Treasury market and Federal Funds Rate are used to determine the SIB interest rate. Current interest rates (Taxable and Tax-Exempt) are over 100 basis points higher than at the beginning of 2022. The market consensus projections have interest rates continuing to increase over the next year. The Fed is likely to implement yet another 50 basis point rate hike at their June meeting, and potentially another at their July meeting, bringing the Fed Funds Rate to 2.00% by July. Notably, the 10-year US Treasury yield, which serves as the benchmark for the SIB interest rate, is projected to rise above 3.00% by the end of the year. Accordingly, DAF staff proposes that the TC raise the interest rate to 3.00% for all State Infrastructure Bank loans originating in the first half of Fiscal Year 2022-23. This minimum interest rate will apply when projected interest rates are below 3.00%.

This recommendation is based on the following:

- Interest rates have seen increased volatility over the last several months. The 10-year treasury alone has risen over 1.00% since the beginning of the 2022.
- As the economy continues to recover from the COVID-19 pandemic, inflation has continued to rise as a result of the additional Federal Stimulus packages, which has put upward pressure on interest rates.
- The Fed is likely to implement another 50 basis point rate hike at their June meeting, and potentially another at their July meeting, bringing the Fed Funds Rate to 2.00% by July.

Market Consensus Interest Rate Forecast					
	Current Rate	2022Q2	2022Q3	2022Q4	2023Q1
Fed Funds Rate	1.00	1.50	2.25	2.65	2.95
US 2-Year	2.57	2.80	2.96	3.01	3.11
US 10-Year	2.87	3.01	3.10	3.09	3.17
US 30-Year	3.07	3.06	3.16	3.19	3.24

Source: Bloomberg (6/3/2021)

Options and Recommendation

1. **Staff Recommendation:** Increase the interest rate to 3.00% for all SIB loans originating in Fiscal Year 2022-23 Q1/Q2, and maintain the recommended origination fee schedule for all loans during the same period.
2. Adopt a new interest rate determined by the Transportation Commission.
3. Deny the recommended SIB loan interest rate, request additional staff analysis, and/or delay approval consideration for a future month.

Next Steps

If approved as recommended, Department staff will apply the approved interest rate and origination fee schedule to all SIB loans originating in the first half of Fiscal Year 2022-23.

Attachments:

Attachment A: Proposed SIB Rate Resolution

FIRST AMENDMENT TO THE FLOYD HILL REVENUE GAP STUDY INTRA-AGENCY AGREEMENT

THIS FIRST AMENDMENT TO THE FLOYD HILL REVENUE STUDY INTRA-AGENCY AGREEMENT (the "Agreement") is made this ___ day of _____, 2022 by and between the COLORADO DEPARTMENT OF TRANSPORTATION ("CDOT" or the "Department"), an executive agency of the State of Colorado ("State"), and the COLORADO HIGH-PERFORMANCE TRANSPORTATION ENTERPRISE, a government-owned business and a division of CDOT ("HPTE"). CDOT and HPTE are hereinafter referred to individually as a "Party" and collectively as the "Parties."

RECITALS

A. CDOT is an agency of the State authorized pursuant to C.R.S. § 43-1-105, to plan, develop, construct, coordinate, and promote an integrated transportation system in cooperation with federal, regional, local, and other state agencies.

B. Pursuant to C.R.S. § 43-1-110 the executive director of CDOT is authorized to execute certain agreements on behalf of CDOT.

C. HPTE was created pursuant to C.R.S. § 43-4-806(2) and operates as a government-owned business within CDOT.

D. The business purpose of HPTE, as provided for in C.R.S. § 43-4-806(2)(c), is to pursue public-private partnerships and other innovative and efficient means of completing surface transportation infrastructure projects, which HPTE may agree to complete for CDOT under agreements entered into with the Department in accordance with C.R.S. § 43-4-806(6)(f).

E. Pursuant to C.R.S. § 43-4-806(6)(g) HPTE is empowered to prepare, or cause to be prepared, detailed plans, specifications, or estimates for any surface transportation infrastructure project within the state.

F. HPTE is further empowered, pursuant to C.R.S. § 43-4-806(6)(h) to make and enter into all other contracts and agreements, including intergovernmental agreements under C.R.S. § 29-1-103 that are necessary or incidental to the exercise of its powers and performance of its duties.

G. CDOT acknowledges that HPTE possesses the expertise and legal powers unavailable to CDOT, which enable it to accelerate the development and delivery of critical surface transportation infrastructure projects.

H. CDOT has identified Floyd Hill as a high-priority project (the "Floyd Hill Project") to address the operational and infrastructure issues that hamper travel time reliability, safety, and mobility on the I-70 Mountain Corridor.

I. As part of CDOT's development plan and in conjunction with the Environmental Assessment on Floyd Hill, CDOT desires for HPTE to pursue a TIFIA Loan for the Floyd Hill Project. To accomplish that HPTE will contract with consultants to provide, among other things, the following: (1) an investment-grade traffic and revenue study; (2) financial advisory services; and (3) and legal services for the drafting of legal documents related to the procurement (collectively, the "Floyd Hill TIFIA Loan").

J. Previously, HPTE has selected and consultants and procured TIFIA loans for several of CDOT's corridors, including, but not limited to, the US 36 Express Lanes Project, the C-470 Express Lanes Project, and the I-25 North Express Lanes Project.

K. Recognizing the usefulness of HPTE's expertise and legal powers unavailable to CDOT, as well as HPTE's experience in procuring and administering traffic and revenue studies as well as financial services, CDOT desires to provide funding to HPTE for the development of the Floyd Hill TIFIA Loan.

L. The Parties further desire to enter into this Agreement to define their respective roles and responsibilities with respect to the Floyd Hill Revenue TIFIA Loan, specifically related to funding the loan procurement process to allocate the costs related thereto.

M. HPTE has prepared a scope of work describing the services it intends to provide during the TIFIA Loan (the "Loan Procurement Services"), which is attached hereto and incorporated herein as **Exhibit A** (the "Scope of Work").

N. To further the efficient completion of surface transportation infrastructure projects necessary to CDOT's development of an integrated transportation system, CDOT desires that HPTE utilize its expertise to provide the TIFIA Loan procurement, in exchange for which CDOT agrees to compensate HPTE in the amounts set forth in the Scope of Work.

O. Both CDOT and HPTE are authorized under law to execute this Agreement.

NOW, THEREFORE, IN CONSIDERATION OF THE FOREGOING RECITALS, THE PARTIES TO THIS AGREEMENT HEREBY AGREE AS FOLLOWS:

1. Scope of Work and Responsibilities.

a. HPTE shall provide the Study Services set forth in Exhibit A.

b. The Parties may agree to modify the specific tasks set forth in the Scope of Work to be undertaken by HPTE during the term of this Agreement, provided that such modifications do not result in an increase or decrease in the overall maximum dollar CDOT contribution of the Study Services to be provided under this Agreement. Any modifications to the Scope of Work resulting in an increase or decrease in the overall maximum dollar amount of the Study Services shall not be undertaken unless agreed to in writing by the Parties in an amendment to this Agreement.

2. Payment Amount and Procedures.

a. The Parties agree that CDOT shall contribute payment of no more than Two Million Four Hundred Thousand Dollars ($2,400,000.00) to HPTE for the provision of the Loan Procurement Services in the fiscal year 2023 under this Agreement (the "Maximum Payment Amount").

b. The Loan Procurement Services to be provided, and the Maximum Payment Amount thereof, may be amended from time to time. The Loan Procurement Services provided by HPTE shall be compensated as part of the Maximum Payment Amount provided for herein.

c. HPTE shall initiate payment requests by invoice to CDOT, in a form and manner approved by the Parties. CDOT shall pay each invoice within 45 days following CDOT's receipt of that invoice.

3. Availability of Funds. Payment pursuant to this agreement is subject to and contingent upon the continuing availability of funds appropriated for the purposes hereof. If any of said funds become unavailable, as determined by CDOT, either Party may immediately terminate or seek to amend this Agreement.

4. Record Keeping Requirements. HPTE shall maintain a complete file of all books, records, papers, accounting records, and other documents pertaining to its execution of the Scope of Work under this Agreement, and shall make such materials available to CDOT upon request for a period of three years.

5. Right to Audit. HPTE shall permit CDOT, the State Auditor and/or their designee(s) to inspect all records of HPTE and audit all activities that are or have been undertaken pursuant to this Agreement.

6. Consideration; Exchange Transaction. The Parties acknowledge that the mutual promise and covenants contained herein, and other good and valuable consideration, are sufficient and adequate to support this Agreement. The Parties further acknowledge that, for accounting purposes, this Agreement represents an exchange transaction for CDOT's purchase of specific services provided by HPTE at the market value of such services.

7. Dispute Resolution. Any dispute concerning the performance of this Agreement shall be referred to the CDOT Chief Engineer and the HPTE Director. Failing resolution by such officers, the dispute shall be submitted in writing by both parties to the State Controller, whose decision on the dispute shall be final.

8. Default; Termination. Any failure of either Party to perform in accordance with the terms of this Agreement shall constitute a breach of the Agreement. CDOT reserves the right to terminate this Agreement upon thirty (30) days written notice to HPTE of its nonperformance of the Study Services; provided, however that HPTE shall not be in default under this Agreement if it has promptly commenced a cure of such nonperformance and is diligently pursuing the same.

Any finding of nonperformance and failure to cure under this Section shall be referred for dispute resolution as provided for in Section 7 prior to any termination becoming effective. In the event of termination, HPTE shall be required to reimburse CDOT for the value of the Study Services not yet completed as of the date of termination.

9. Delegation. Except as identified or otherwise implied in the Scope of Work, the duties and obligations of HPTE with respect to the provision of the Study Services under this Agreement shall not be assigned, delegated or subcontracted without the prior consent of CDOT. All subcontractors will be subject to the requirements of this Agreement.

10. Modification. This Agreement is subject to such modifications as may be required by changes in federal or state law, or their implementing regulations. Any such required modification shall automatically be incorporated into and be part of this Agreement on the effective date of such change as if fully set forth herein.

11. Severability. To the extent that this Agreement may be executed and performance of the obligations of the Parties may be accomplished within the intent of the Agreement, the terms of this Agreement are severable, and should any term or provision hereof be declared invalid or become inoperative for any reason, such invalidity or failure shall not affect the validity of any other term or provision hereof.

12. Waiver. The waiver of any breach of a term, provision, or requirement of this Agreement shall not be construed or deemed as a waiver of any subsequent breach of such term, provision, or requirement, or of any other term, provision or requirement, or the same term, provision or requirement upon subsequent breach.

13. No Third Party Beneficiaries. This agreement shall inure to the benefit of and be binding only upon the Parties hereto and their respective successors and assigns. No third party beneficiary rights or benefits of any kind are expressly or impliedly provided herein. It is expressly understood and agreed that the enforcement of the terms and conditions of this Agreement and all rights of action relating to such enforcement, shall be strictly reserved to CDOT and HPTE. Nothing contained in this Agreement shall give or allow any claim or right of action whatsoever by any other third person. It is the express intention of CDOT and HPTE that any such person or entity, other than CDOT or HPTE, receiving services or benefits under this Agreement, shall be deemed an incidental beneficiary only.

14. Entire Understanding. This Agreement is intended as the complete integration of all understandings between the Parties. No prior or contemporaneous addition, deletion, or other amendment hereto shall have any force or affect whatsoever. Except as otherwise provided in this Agreement, no subsequent renewal, addition, deletion, or other amendment hereto shall have any force or effect unless embodied in a writing executed and approved by the Parties.

15. Governmental Immunity. No term or condition of this Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, of the Colorado Governmental Immunity Act, C.R.S. § 24-10-

101 *et seq.*, or the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b) and 2671 *et seq.*, as applicable now or hereafter amended.

16. Adherence to Laws. At all times during the performance of this Agreement, HPTE shall strictly adhere to all applicable federal and state laws, rules, and regulations that have been or may hereafter be established, including, but not limited to state and federal laws respecting discrimination and unfair employment practices.

17. Legal Authority. The Parties each warrant that they possess the legal authority to enter into this Agreement and that each has taken all actions required by its procedures, by-laws, and/or applicable law to exercise that authority, and to lawfully authorize its undersigned signatory to execute this Agreement and to bind CDOT or HPTE, as applicable, to its terms. The persons executing this Agreement on behalf of CDOT and HPTE each warrant that they have full authorization to execute this Agreement.

18. Notices. All communications relating to the day-to-day activities for the work shall be exchanged between representatives of CDOT and HPTE. All communication, notices, and correspondence shall be addressed to the individuals identified below. Either Party may, from time to time, designate in writing new or substitute representatives.

If to CDOT:	If to HPTE:
Region 1 Regional Transportation Director Colorado Department of Transportation 2829 W. Howard Place, 2nd floor Denver, CO 80204	Nicholas Farber, Director HPTE Colorado Department of Transportation 2829 W. Howard Place, 5th floor Denver, CO 80204 Email: nicholas.farber@state.co.us

19. Controller's Approval. This agreement shall not be deemed valid until it has been approved by the State Controller or such assistant as he or she may designate.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

STATE OF COLORADO
Jared S. Polis, Governor

By: _____
SHOSHANA LEW
EXECUTIVE DIRECTOR
DEPARTMENT OF TRANSPORTATION

COLORADO HIGH PERFORMANCE
TRANSPORTATION ENTERPRISE

By: _____
NICHOLAS J. FARBER
HPTE DIRECTOR

APPROVED:

Philip J. Weiser
ATTORNEY GENERAL

By: _____
ASSISTANT ATTORNEY GENERAL

ALL CONTRACTS REQUIRE APPROVAL BY THE STATE CONTROLLER

§ 24-30-202, C.R.S. requires the State Controller to approve all State Contracts. This Agreement is not valid until signed and dated below by the State Controller or delegate of the State of Colorado.

STATE CONTROLLER
Robert Jaros, CPA, MBA, JD

By:_____

Date:_____

EXHIBIT A
Scope of Work for Floyd Hill TIFIA Loan Services

(Attached)

EXHIBIT A, STATEMENT OF WORK AND BUDGET

STATEMENT OF WORK

The Colorado Transportation Investment Office ("CTIO") will utilize the services of the Contractor to conduct an investment-grade T&R study and financial advisory services for the I-70 Floyd Hill Project, including support for rating agencies and TIFIA. This will include an analysis of the Floyd Hill segment of I-70 (the Project) along with other existing and proposed express lanes along the I-70 Mountain Corridor.

The proposed scope of work in this Proposal is comprised of two sections. The first scope is to conduct an investment-grade T&R study, resulting in the production of an investment-grade T&R study report followed by associated financing support. The second scope is to provide Financial Advisory Services. Separate sets of tasks, schedules, and budgets are provided for each scope.

SCOPE OF SERVICES

Investment-grade Traffic and Revenue Study

The Traffic and Revenue (T&R) analysis will be performed at an investment-grade level of detail, making it suitable for financing, and sufficient to meet the detailed requirements of the Build America Bureau's TIFIA Credit Program.

Proposed Scope of Work

The proposed scope of work for the Floyd Hill investment-grade T&R study is outlined below and consists of 12 tasks.

Task 1 – Project Management

This task includes activities that will occur throughout the duration of the project:

- Mobilization and kick-off meeting
- Development of a project management plan (PMP)
- Regular and ad hoc meetings with CTIO
- Day-to-day project management and administration of the contract
- All other project management activities

Task 2 – Data Collection and Analysis

This task includes comprehensive data analysis consistent with investment-grade standards:

- Updating T&R performance data to cover recent data from operation tolled express lanes in the I-70 corridor (MEXL and, if available, WB PPSL)
- Detailed updates of available traffic count data in the corridor for non-tolled lanes and segments
- Detailed analysis of travel patterns including origin-destination data and ramp movements

- Updates of other key performance data including speeds and congestion
- C&M will collect data and conduct analyses sufficient to enhance the travel demand model to reflect summer peak-season weekend travel, winter weekend travel, as well as weekday travel. The enhancements will also allow analysis of dynamic pricing strategies. The data collected and analyses conducted will include:
    - Traffic profiles that reflect the average peak season conditions
    - Detailed traffic analysis at 15-minute intervals, or more frequent, to better reflect dynamic pricing
    - Analysis to better predict the variation in traffic throughout the year
- Obtain independent socioeconomic forecasts from commercial providers, such as Woods & Poole and Moody's Analytics

Task 3 – Socioeconomic Growth Analysis

This task includes detailed documentation of historical and forecast information, methodologies, and assumptions:

- Detailed review of historical drivers of socioeconomic factors, such as population, households, and employment
- Review official demographic/socioeconomic forecasts for the area
- Define an appropriate Study Area that could differ from the less-detailed previous studies. The Study Area will receive a higher level of scrutiny and more detailed reporting than other submarkets.
- Analyze historical socioeconomic trends in relevant areas. Specific attention will be given to population and employment data, regional GSP, national GDP, and income levels.
- Conduct a high-level land use assumption review. The C&M team will compare model forecasts to commercial and publicly-available socioeconomic forecasts for the region—including the U.S. Census Bureau, the Bureau of Labor Statistics, the Bureau of Economic Analysis, Woods & Poole Economics, Moody's Analytics, and others—to better understand existing and future prospects for the Project area and surrounding region.
- C&M will adjust the travel demand model trip matrices, as necessary to incorporate any variations in assumptions compared to original socioeconomic projections
- Review of the short and long term impacts of COVID on socio-economic measures, including the possible impact on latent demand and trip making

Task 4 – Travel Demand Modeling

This task includes:

- Development of an investment-grade travel demand model – this will be more detailed than previous study models including additional time periods and directions. We expect that the model will developed as an average peak season (winter and summer) and in both directions covering Saturday and Sunday in each case.
- Once the TDM is received, C&M will adopt the model and conduct an extensive review of the following items:
    - Base year network coding and attribute consistency.
    - Traffic Analysis Zone (TAZ) and external station structure.
    - Geometry of relevant structures and interchanges.
    - Base year socioeconomic data will be revised per the socioeconomic review in Task 3.

    - Base year model, which will be calibrated against traffic volumes, origin-destination (OD) data, and traffic speeds for passenger car and truck trip tables.
    - Future year network coding, which will be compared to long-range transportation plans. Network attributes will then be reviewed for consistency.
    - Future year socioeconomic data, which will be revised per Task 3.

- Model to reflect the CTIO dynamic tolling algorithm. This will be a routine within the macro model rather than an external model.
- The macro model will interface with micro model to ensure accurate representation of speed-delay conditions as in Task 5.

Task 5 – Micro Model Analysis

This task includes:

- Use of the existing C&M Floyd Hill corridor micro model to estimate traffic and revenue of the study corridor express lanes within the updated macro toll diversion model and employ the microsimulation model to:
    1. address operational elements in the interaction between the express lanes and other network elements, and
    2. to evaluate proposed changes to the traffic operation of the study corridor's intersections and ramps

Task 6 – Value of Time and Forecast Factor Analysis/Toll Diversion

This task will include:

- Advanced use of Resource Systems Group, Inc. (RSG)'s stated preference surveys in 2020 and 2021 including the value of time (VOT) by user groups and season.
- Detailed documentation of methodology and how the parameters from RSG's estimates are to be incorporated in the C&M toll diversion models.
- Validation of RSG's estimated VOTs against income statistics for the Floyd Hill influence area, and comparable projects.
- Toll diversion will be estimated using C&M's proprietary toll diversion algorithms, which have already been embedded in the TransCAD platform for similar projects.
- Development of post-processing factors based on the underlying data sources, including a detailed review of annualization factors based on relationship between the modeled data and annual demand. It is likely revenue factors will vary significantly from traffic factors given the variation of traffic and dynamic tolling.

Task 7 – Toll Sensitivity Analysis

C&M's toll sensitivity analysis will consist of plotting the relationship between toll rates and T&R by time of day and by facility. The toll sensitivity analysis accounts for variations in toll rates to achieve a certain tolling strategy. Through this analysis, corresponding toll rates for a blend of "maximum throughput" and/or "maximum revenue" can be identified and used to inform CTIO before final T&R projections are produced. The objective will be to develop an optimal tolling strategy that balances maximizing revenues and managing traffic according to CTIO's objectives.

Task 8 – Traffic and Revenue Analysis

This task includes:

- Establishment of assumptions and documentation of a detailed assumptions list for all key assumptions including ramp-up factors, annualization factors, and length of forecast horizon
- Perform a base case T&R analysis for opening year and two future years
- Detailed review of, and incorporation of, latent demand factors
- Review of CTIO's P&L revenue waterfall to determine appropriate assumptions for leakage and collectable revenues. Discuss with CTIO any future improvements in collection
- Detailed review of operation days for WB PPSL and EB MEXL, i.e., which 100 or 125 days, and implications for revenue. It is assumed Floyd Hill will be operation 24/7.
- *Task 9 - Sensitivity Testing*

This task includes:

- A series of up to 5 sensitivity tests will be conducted to test the revenue impact of varying key inputs and assumptions, such as value of time, socioeconomic growth rates, or other key factors. This does not include any sensitivity tests requested during the TIFIA review.

Task 10 – QA/QC

This task includes:

- A thorough QA/QC approach suitable for investment-grade studies
- Undertaken at key stages in the study such as model calibration, future model development and assumptions, and review of T&R estimates
- Sensibility reviews
- Performed by qualified staff not otherwise involved in the technical analysis of the study

Task 11 - Documentation

C&M will produce a comprehensive T&R report, which will include the following sections:

- Executive Summary
- Project description and toll regime
- Current traffic conditions and historical growth of screenlines, including information on travel patterns and journey times
- Description of road network, recent improvements, and capacity-improvement plans (this section will include network maps by model year detailing future network improvements)
- Socioeconomic review—historical and forecasted—and information on special generators in the area
- Model development and forecasting methodology, including a summary of the model calibration process and model validation statistics
- Value of time and forecast factor analysis
- Final transaction and revenue forecasts for the required forecast horizon with a detailed assumptions table
- Sensitivity analysis methodology and results

Other deliverables will include spreadsheets with T&R results.

C&M will provide a Draft Report detailing the results of its T&R study and the components described above. After review by CTIO, C&M will respond to comments, revise the report as needed, and provide a Final Report.

Task 12 – Additional Support, Rating Agencies and TIFIA

C&M is readily available to support CTIO in its interaction with rating agencies, USDOT, and others through the financial close of the Project. This will include presentations, responses to questions, meetings, and other support functions including additional analyses, for example as requested by TIFIA.

Schedule – Traffic and Revenue

T&R tasks, through Task 11 up to the delivery of the T&R forecasts and report, are assumed to be finalized by February 1, 2023. C&M will then be available to support to CTIO through September 2023. A consolidated T&R and Financial Advisory schedule providing additional detail is provided at the end of this proposal.

Budget – Traffic and Revenue

The cost associated with the T&R Tasks 1-12 is not to exceed $689,000, assuming a timeline for rating agency and TIFIA support extending no later than September 2023.

In its experience, C&M's support through similar processes has varied greatly based on project characteristics, financing structure, specific parties involved, and other unforeseen circumstances. For this reason, C&M has proposed to perform support functions for the above budget for a period through September 2023, including a budget of $70,800 for Task 12.

An allowance for data purchases of $28,500 (StreetLight and socioeconomic data). Travel expenses following the Colorado State Controller Fiscal Rule for Travel will be reimbursed.

Financial Advisory Services

Objectives

CTIO has requested that KPMG LLP ("KPMG") provide financial and commercial advisory services related to its entering into a TIFIA loan with the USDOT's Build America Bureau ("BAB"). KPMG will be a sub-consultant to prime consultant C&M who will lead the engagement and will also provide CTIO with technical advisory services including those related to traffic and revenue analysis. KPMG will provide the following workstreams with input, analysis and data provided by CTIO and C&M throughout the duration of the task order as indicated below.
Workstreams in this Task Order are anticipated to include:

Task 1: Development of Financial Model

<u>Scope of Work:</u>

Develop and update, based on assumptions provided by C&M and CTIO, a fully working

financial cash flow model ("Financial Model") for the Project. The Financial Model will incorporate the following:

- Construction costs and other assumptions (e.g. spend curves) for construction of facility based on data provided by CTIO
- Projected revenues, operating costs, life cycle and major maintenance costs, and debt service
- Capital structure, including (i) State Funding (BE Funds, SB267, SB1, etc.); and (ii) proceeds from the TIFIA loan
- Key debt metrics
- Scenario development incorporating different assumption profiles
- Sensitivity analysis for lenders and rating agencies
- Up to 15 different sensitivity scenarios

Additionally, KPMG will work with USDOT's independent model auditor to address any issues raised in their audit of the financial model and revise the Financial Model as appropriate (up to 3 revisions)

Deliverables:

Financial Model

Assumptions:
- CTIO will provide data related to construction, operating and maintenance costs
- Indicative data from investment-grade T&R available two months before completion

Task 2: Credit Rating Support:

Scope of Work:

KPMG Shall:
- Provide support for securing credit ratings for financing, including:
  i. Indicative ratings to complete the credit review process with TIFIA, and
  ii. Final ratings prior to Financial Close
- Help CTIO to understand the credit rating criteria of various agencies to determine those agencies are most likely to provide the best outcome for client/project
- Assist in preparing due diligence/presentations to be shared with rating agencies to facilitate the rating process; coordinate with CTIO's other advisors (e.g., legal, technical)

Deliverables:
- Presentation materials for credit rating agencies

Assumptions:
- CTIO will contract directly with ratings agencies
- Indicative rating process begins two months before investment-grade T&R completed
- Indicative rating process ends one month after investment-grade T&R completed

Task 3: Preparation of Submittal Materials:

Scope of Work:

KPMG shall support CTIO throughout the various phases of the TIFIA application process, including:

Phase 1: Initial Outreach (assumed time frame: 5 months)
- Draft and assist in submitting a Letter of Interest ("LOI")
- Support the Kick-Off Meeting with BAB

Phase 2: Creditworthiness review: (assumed time frame: 6 months)
- Support in preparing due diligence/presentations (e.g., project background, construction, operations, revenue/cashflow profile, financing structure/terms, credit highlights, risk mitigation) and answering questions during the creditworthiness review
- Assist CTIO with the development of presentations
- Support term sheet negotiation

Phase 3: Support for Financial Close (assumed time frame: 1 month)
- Assist CTIO with finalizing loan agreement
- Support financial close activities

Deliverables:
- Draft Letter of Interest
- Draft oral presentations
- Due diligence presentations (project background, financing summaries, etc.)

Assumptions:

- LOI process is completed two months before an investment-grade T&R report is available
- Creditworthiness review begins one month after investment-grade T&R report completed
- Application process begins one month prior to completion of creditworthiness review
- BAB takes one month to review the application
- KPMG will not be providing legal services as part of this engagement

Schedule – Financial Advisory Services

All workstreams associated with this task order are assumed to be finalized by September 30, 2023.

Budget – Financial Advisory Services

The cost associated with this task is not to exceed $700,000. Travel expenses following the Colorado State Controller Fiscal Rule for Travel will be reimbursed.

COLORADO
Department of Transportation
Statewide Bridge and Tunnel Enterprise

MEMORANDUM

TO: **THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS**
FROM: **JEFF SUDMEIER, CHIEF FINANCIAL OFFICER**
DATE: **JUNE 16, 2022**
SUBJECT: **TENTH SUPPLEMENT TO THE FISCAL YEAR 2021-22 BRIDGE AND TUNNEL ENTERPRISE BUDGET**

Purpose

This month the Bridge Tunnel Enterprise (BTE) Board of Directors (Board) is being asked to approve a budget supplement request for three projects located in Region 1, Region 2 and Region 3:

1) Region 1: To establish the construction phase budget for E-16-LU and E-16-LT Scour Mitigation Project (I-76 over Clear Creek) in Adams County.

2) Region 2: To establish the construction phase budget for L-22-LL approach slab and drainage repair project (SH 71 over the Arkansas River) in Otero County.

3) Region 3: To establish the construction phase budget for F-12-AT (I-70 westbound over Polk Creek) in Eagle County as part of the Vail Pass Safety and Operations Improvement Project.

Action

Staff is requesting Board approval of Proposed Resolution #BTE-3, the tenth budget supplement to the Fiscal Year 2021-22 BTE budget.

Background

Region 1: To establish the construction phase budget for E-16-LU and E-16-LT Scour Mitigation Project.

Request to establish the construction phase budget for the scour mitigation project to address BTE eligible structures E-16-LU and E-16-LT (I-76 over Clear Creek). Structural repairs for these two bridges were completed through a BTE rehabilitation project (PCN#: 22391) in FY 2020-21. This rehabilitation project addressed fatigue cracks that had developed at numerous locations in the superstructure and several other structural defects. Both bridges were top tier structures in the BTE Bridge Prioritization Plan at the time of programming.

Addressing the superstructure fatigue cracks and the scour in one combined project was explored but it was determined that delivery of the project in two contracts was needed due to the extended timeline of regulatory approvals associated with the installation of drop-structures (small structures to reduce water flow velocity) to address scour at the bridge substructure units. The scour mitigation project will install three drop structures in Clear Creek that will mitigate erosion of the stream bed and protect the substructure units of E-16-LU and E-16-LT. This project, in conjunction with the previously completed repairs, will

provide a minimum of a 30-year extension in the anticipated service life of the structure in accordance with program goals for bridge rehabilitation projects.

The budgeting of these funds in FY2021-22 will be contingent on the project obtaining all required clearances and meeting the planned July 14, 2022 advertisement date. If the planned advertisement date is not met, the project will be budgeted in FY 2022-23 and advertised in calendar year 2023 due to seasonal work restrictions for Clear Creek.

I-76 WB and EB over Clear Creek Scour Mitigation in Adams County
(E-16-LU, E-16-LT) (New NA) (SAP Project # 23444/1000…)
Budget Components by Phase, Funding Program, Fiscal Year

Phase of Work	Funding Program	Current Budget	BE Supplement Action				Revised Budget	Expended To-Date
			Year of Budget			Total Request		
			FY 2022	FY 2023	FY 2024			
Utilities	*FASTER Bridge Funds*	$ 5,040	$ -	$ -	$ -	$ -	$ 5,040	$ -
	Total Utilities	**$ 5,040**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 5,040**	**$ -**
Design	*FASTER Bridge Funds*	$ 401,050		$ -	$ -	$ -	$ 401,050	$ 395,133
	Total Design	**$ 401,050**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 401,050**	**$ 395,133**
Construction	*FASTER Bridge Funds*	$ -	$ 3,429,200	$ -	$ -	$ 3,429,200	$ 3,429,200	$ -
	Total Construction	**$ -**	**$ 3,429,200**	**$ -**	**$ -**	**$ 3,429,200**	**$ 3,429,200**	**$ -**
Total Project Budget & Expenditure		**$ 406,090**	**$ 3,429,200**	**$ -**	**$ -**	**$ 3,429,200**	**$ 3,835,290**	**$ 395,133**

Year of Expenditure			Total Request
FY 2022	FY 2023	FY 2024	
$ -	$ 3,412,720	$ 16,480	**$ 3,429,200**

Region 2: To establish the construction phase budget for the L-22-LL approach slab and drainage repair project.

Request to establish the construction phase budget for a project to perform repairs to a BTE-owned bridge, L-22-LL (SH71 over the Arkansas River). This project is being advanced to address approach slab settlement and various drainage issues that were discovered after the construction of this new bridge was completed. L-22-LL was approved for construction funding by the Board on August 16, 2018 and completed construction on December 2, 2019. The bridge does not appear on the January 2022 BTE Bridge Prioritization Plan since the bridge was recently replaced and is currently rated in the good condition.

After the bridge replacement project was closed, CDOT performed unplanned maintenance on the structure due to settlement of the approach slabs. Roadway lift/patching was added to both the north and south approach slabs adjacent to the bridge joints so that the public could continue traveling over the bridge safely. Under this project, the approach slab will be raised to the correct elevation. Damage to the bridge joints caused by slab movement will also be addressed by replacing the joints to keep them watertight. Additionally, various site drainage improvements will be installed to address runoff from the structure which has been bypassing the bridge drains and has causing additional erosion around the abutments. Per existing maintenance agreements between CDOT and BTE, BTE is responsible for maintenance and repair of BTE-owned assets on the state highway network.

SH 71 over Arkansas River Approach Slab in Otero County
(L-22-LL) (New NA) (SAP Project # 24738/1000…)
Budget Components by Phase, Funding Program, Fiscal Year

Phase of Work	Funding Program	Current Budget	BE Supplement Action				Revised Budget	Expended To-Date
			Year of Budget			Total Request		
			FY 2022	FY 2023	FY 2024			
Design	*FASTER Bridge Funds*	$ 38,700	$ -	$ -	$ -	$ -	$ 38,700	$ -
	Total Design	**$ 38,700**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 38,700**	**$ -**
Construction	*FASTER Bridge Funds*	$ -	**$ 583,800**	$ -	$ -	**$ 583,800**	**$ 583,800**	$ -
	Total Construction	**$ -**	**$ 583,800**	**$ -**	**$ -**	**$ 583,800**	**$ 583,800**	**$ -**
Total Project Budget & Expenditure		**$ 38,700**	**$ 583,800**	**$ -**	**$ -**	**$ 583,800**	**$ 622,500**	**$ -**

Year of Expenditure			Total Request
FY 2022	FY 2023	FY 2024	
$ -	$ 583,800	$ -	**$ 583,800**

Region 3: To establish the construction phase budget for F-12-AT as part of the I-70 Vail Pass Safety and Operations Improvement Project

Request to establish the construction phase budget for I-70 WB over Polk Creek (F-12-AT). This structure will be replaced through Construction Package #3 of the larger Vail Pass Operations and Safety Improvement Project which is being delivered using construction manager/general contractor (CM/GC) contracting. F-12-AT is a top tier structure in the January 2022 BTE Bridge Prioritization Plan.

This structure has developed numerous fatigue cracks at diaphragm connection plates and lateral bracing gusset plate connections which has resulted in an overall bridge rating of "poor" and eligibility for BTE funding. Based on findings from the last several bridge inspections, the frequency and severity of planned and unplanned (emergency) repairs to address the fatigue cracking are likely to increase over time if the structure is not addressed. Additionally, the existing structure is located in an area of I-70 with substandard geometry and a significant history of accident data. This project will significantly improve safety for the traveling public by improving the geometry of the bridge and adjacent roadway to meet current standards. In total, the project is forecast to reduce crashes up to 40% in the areas where work is being completed.

I-70 ML West Bound over Polk Creek in Eagle County
(Old F-12-AT) (New F-12-ATA) (SAP Project # 24894/1000…)
Budget Components by Phase, Funding Program, Fiscal Year

Phase of Work	Funding Program	Current Budget	BE Supplement Action Year of Budget FY 2022	FY 2023	FY 2024	Total Request	Revised Budget	Expended To-Date
Design	*FASTER Bridge Funds*	$ -	$ -	$ 24,337,260	$ -	$ 24,337,260	$ 24,337,260	$ -
	Total Construction	$ -	$ -	$ 24,337,260	$ -	$ 24,337,260	$ 24,337,260	$ -
	SB22-260	$ -	$ -	$ 8,280,000	$ 16,877,340	$ 25,157,340	$ 25,157,340	$ -
	Total Construction	$ -	$ -	$ 8,280,000	$ 16,877,340	$ 25,157,340	$ 25,157,340	$ -
Total Project Budget & Expenditure		$ -	$ -	$ 32,617,260	$ 16,877,340	$ 49,494,600	$ 49,494,600	$ -
			Year of Expenditure FY 2022	FY 2023	FY 2024	Total Request		
			$ -	$ 24,879,313	$ 24,615,287	$ 49,494,600		

Next Steps

1) Approval of the budget supplement and Proposed Resolution #BTE-3 will provide the necessary budget to allow E-16-LU and E-16-LT to proceed to advertisement. Budgeting of the project in FY2021-22 is contingent upon the project obtaining all required clearances and meeting the planned advertisement date. If the planned advertisement date is not met, the project will be budgeted in FY 2022-23 and advertised in calendar year 2023 due to seasonal work restrictions for Clear Creek.

2) Approval of the budget supplement and Proposed Resolution #BTE-3 will provide the necessary budget to allow L-22-LL to proceed to advertisement.

3) Approval of the budget supplement and Proposed Resolution #BTE-3 will provide the necessary budget to allow Vail Pass Safety and Operations Improvement Project Construction Package #3, including F-12-AT, to proceed to the construction agreed price (CAP) negotiations.

COLORADO
Department of Transportation
Statewide Bridge Enterprise

MEMORANDUM

TO: THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS
FROM: JERAD ESQUIBEL, DIRECTOR OF PROJECT SUPPORT
DATE: JUNE 16, 2022
SUBJECT: ASSET OWNERSHIP OF BRIDGE AND TUNNEL ENTERPRISE FUNDED AND COMPLETED STRUCTURES

Purpose

This memorandum is to inform the Bridge and Tunnel Enterprise Board of Directors (Board) of bridges that have become new assets of the Bridge and Tunnel Enterprise (BTE) in Fiscal Year (FY) 2021-22.

Action

This month the Board is being asked to approve Proposed Resolution # BTE-4, Acknowledgment of New Bridge Assets Funded by BTE and Completed in Fiscal Year 2021-22, that will formally acknowledge and accept new BTE assets and apply the proper accounting treatment to new structures completed in FY 2021-22.

Background

On an annual basis, the Board is asked to formally acknowledge structures that have become assets of the BTE in the current fiscal year. Under the current accounting policy, CDOT no longer transfers the existing bridge to BTE, except when the structure is scheduled for rehabilitation. This process is consistent with BTE Guidance Document (2011 Number 11; dated November 17, 2011) Asset Transfer / Ownership Policy for Replacement of an Existing Bridge. The six bridges being recognized as BTE assets this fiscal year are tabulated below.

Region	New Structure	Facility Carried over Featured Intersection	Date New Structure Open to Traffic
2	M-22-NA	SH 71 ML over Highline Canal	05/14/21
2	024G331948BL	US 24 over Draw	10/20/21
2	M-24-AA	SH 101 over Draw	05/20/21
2	M-24-IA	SH 101 over Draw	05/20/21
4	D-27-H	US 34 ML over North Fork Republican River	11/19/20
4	D-28-V	US 34 ML over Republican River	11/19/20

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For document record keeping purposes, BTE needs to formally acknowledge asset ownership of the replacement structures based upon the following criteria:

- The Board approved the allocation of BTE funding to replace the structures via the monthly budget supplement process.
- The project was completed, and structures were open for traffic by FY 2021-22.

Next Steps

1) BTE staff will coordinate with the Staff Bridge Branch, the Enterprise Controller and CDOT accounting staff to ensure the structures approved in the attached resolution are properly accounted for during the year-end process.
2) BTE staff will present another asset recognition resolution to the Board in June 2023 for acknowledgement and acceptance of the structures completed in FY 2022-23.

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Department of Transportation
Statewide Bridge and Tunnel Enterprise

MEMORANDUM

TO: **THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS**
FROM: **JEFF SUDMEIER, CHIEF FINANCIAL OFFICER**
DATE: **JUNE 16, 2022**
SUBJECT: **BTE FUNDING COMMITMENT FOR PLANNED EJMT PROJECTS**

Purpose

This month the Bridge and Tunnel Enterprise Board of Directors (Board) is being asked to approve a resolution to commit $100M in Bridge and Tunnel Enterprise (BTE) funding to the planned CDOT 10-Year Plan projects which will address the outstanding repair and maintenance backlog at the Eisenhower Johnson Memorial Tunnel (EJMT) facility.

Action

Staff are requesting Board approval of Proposed Resolution #BTE-5 to allow CDOT and BTE to continue advancing planned CDOT 10-year plan projects to address the remaining $100M unfunded maintenance and repair backlog at EJMT.

Background

As discussed with the Board in January and April workshops, the total cost to address the current existing maintenance and repair backlog at EJMT is estimated at $150M. The passage of SB21-260 provided a one-time funding allocation of $50M to accelerate the highest priority EJMT projects, leaving a $100M funding gap. Staff have recommended that $100M in revenue from the bridge and tunnel impact fee and the bridge and tunnel retail delivery fee (bridge and tunnel fees) created by SB21-260 is allocated to EJMT to address these critical CDOT 10-Year Plan projects. This proposed funding allocation represents under 20% of the estimated total of $522M in forecast bridge and tunnel fee revenue over the next 10 years (FY2022-23 – FY2032-33).

Details

Below is a detailed list of unfunded project needs at the EJMT that are expected to be addressed with the $100M BTE funding commitment. This planning-level project list has been modified since it was last presented to the Board to reflect changes to scope and cost and to pair projects with the most appropriate funding source (SB21-260, BTE, or Tunnel Asset Management funds) based on project scope, schedule, and budget.

- Generator Upgrade/Fan Motor Rewind (est. cost: $8,000,000) – Replace aging generator and rewind fan motors to improve motor efficiency.

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- South Tunnel Motor Upgrades (est. cost: $5,000,000) - Upgrade motors to variable frequency drive as recommended by the recent Hazmat Study by converting to direct drive motors.

- Service Areas Repair and Upgrades (est. cost: $5,000,000) - Upgrade tunnel sensors and systems for safety enhancements and perform repairs, including:
    - Replace LiDar over-height sensors
    - Install thermal imaging for over-heated engines
    - Install new automated portal de-icing system
    - Replace fire extinguisher cabinets
    - Repair of guardrail, surface drainage, asphalt pavement markings, and tunnel portal brick

- LED Lighting Upgrade (est. cost: $40,000,000) - Replace all interior lights with high efficiency LED lighting.

- East Berm Culvert Repair (est. cost: $10,000,000) - Repair and/or line the culvert that diverts Clear Creek to reduce water infiltration in the tunnel.

- EJMT Wastewater Treatment Plant (est. cost: $5,000,000) - Modernize plant to increase resiliency, fix leaking lines, and increase capacity.

- EJMT Foaming System (est. cost: $2,000,000) - Incorporate foaming system into the fixed fire suppression system as recommended by the recent Hazmat Study.

- EJMT Ceiling Fireproofing and Repair ($25,000,000) - Repair to failing tiles in the North Tunnel. Fireproofing was also recommended by the recent Hazmat study.

Options and Recommendations

1) Approve Resolution #BTE-5 to commit up to $100M to planned EJMT projects – **STAFF RECOMMENDATION**
2) Request additional information

Next Steps

1) Staff will continue planning activities for EJMT projects, including the refinement of the scope, schedule, and budget for each project.
2) As individual projects advance to the design and construction phases, staff will continue to bring budget requests to the Board for consideration as part of the monthly budget supplement process.

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COLORADO
Department of Transportation
Statewide Bridge and Tunnel Enterprise

MEMORANDUM

TO: THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS
FROM: JEFF SUDMEIER, CHIEF FINANCIAL OFFICER
DATE: JUNE 16, 2022
SUBJECT: RESOLUTION TO IMPOSE THE BRIDGE AND TUNNEL IMPACT FEE AND BRIDGE AND TUNNEL RETAIL DELIVERY FEE PER SB21-260 REQUIREMENTS

Purpose

The Bridge and Tunnel Enterprise Board of Directors (Board) is being asked to approve a resolution to impose a bridge and tunnel impact fee and a bridge and tunnel retail delivery fee (bridge and tunnel fees) to fund the Bridge and Tunnel Enterprise's business purpose in accordance with SB21-260.

Action

Staff request Board approval of Proposed Resolution #BTE-6 to impose the bridge and tunnel impact fee and the bridge and tunnel retail delivery fee authorized by SB21-260.

Background

In June 2021, Governor Polis signed SB21-260 - Sustainability of the Transportation System in Colorado into law, expanding the legacy Bridge Enterprise (BE) program to include both designated bridge projects and surface transportation infrastructure projects for tunnels, and renaming the expanded enterprise the Statewide Bridge and Tunnel Enterprise (BTE or Enterprise). The business purpose of the expanded Enterprise is "to finance, repair, reconstruct, and replace any designated bridge in the state and complete tunnel projects and, as agreed upon by the enterprise and the commission, or the department to the extent authorized by the commission, to maintain the bridges it finances, repairs, reconstructs, and replaces."

Pursuant to C.R.S. § 43-4-805(5)(g.5) and C.R.S. § 43-4-805(5)(g.7), the Enterprise is authorized to impose a bridge and tunnel impact fee and a bridge and tunnel retail delivery fee, respectively, to fund its business purpose. The approval of Proposed Resolution #BTE-6 will allow the Department of Revenue to begin collections of the bridge and tunnel fees on July 1, 2022 at the rates imposed by the Board. The bridge and tunnel fee revenues are forecast to generate approximately $522M over the 10-year phase in period (ref: Attachment A – Forecast Revenues for New SB21-260 BTE Fees) at the maximum rates established by the Colorado General Assembly (ref: Attachment B – Fee Schedules). The existing bridge safety surcharge, which was imposed through Resolution BE#-1 dated June 18, 2009 and has historically served as the program's primary source of revenue, was not impacted by the passage of SB21-260.

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Pursuant to § 43-4-805(b)(II), the bridge and tunnel fees are to be imposed at rates reasonably calculated to defray the costs of completing designated bridge project and tunnel projects. Additionally, pursuant to C.R.S. § 43-4-217(1)(g)(I), the bridge and tunnel impact fee is to be imposed for the sole purpose of funding the construction, maintenance, and supervision of the transportation system, with a priority placed on projects that are designated as ten-year vision plan projects on the Department's ten-year vision project list (10-year plan). The BTE eligible 10-year plan project scope includes 64 designated bridges and several critical projects at the EJMT facility (ref: Attachment C – BTE Eligible CDOT 10-Year Vision Plan Projects). If imposed, the bridge and tunnel fees will be primarily allocated to these strategic projects, fulfilling the legislative mandates for the use of these funding sources.

The total cost estimate for the BTE eligible scope included in these projects is nearly $1.2B. To date, the BTE Board has committed $135M to BTE eligible 10-year plan projects, leaving over $1.0B in remaining unfunded BTE eligible 10-year plan scope. The completion of these projects will remove approximately 675,000 square feet and nearly 50% of the BTE eligible (poor-rated) bridge deck area from the current statewide bridge inventory. Additionally, the deferred maintenance and repair backlog at EJMT will be addressed, which will improve safety for the traveling public and reduce the frequency of planned and unplanned emergency repairs at this critical facility. The new funding will also allow for the modernization of aging and obsolete tunnel systems at EJMT.

As discussed in the May 2022 BTE workshop, staff recommend that the bridge and tunnel fees are imposed at the maximum rates established by the Colorado General Assembly due to magnitude of the program's outstanding funding liability, the Enterprise's role as a strategic funding partner for the 10-year plan, and the increasing age and deteriorating condition of CDOT's statewide inventory of bridges and tunnels,

Options and Recommendation

1) Approve Proposed Resolution #BTE-6 to impose the bridge and tunnel impact fee and a bridge and tunnel retail delivery fee at the maximum rates established by the Colorado General Assembly – **STAFF RECOMMENDATION**
2) Modify the proposed resolution to authorize the imposition of a bridge and tunnel impact fee and a bridge and tunnel retail delivery at the rate below the maximum established by the Colorado General Assembly
3) Request additional information from Staff

Next Steps

1) Staff will return to the Board with a four-year (FY2022-23 to FY2025-26) funding plan following TC approval of the 10-year plan and completion of key milestones for several 10-year plan projects.
2) Staff will continue to bring budget requests for individual projects to the Board for consideration as part of the monthly budget supplement process.

Attachments

Attachment A: Forecast Revenues for New SB21-260 BTE Fees
Attachment B: Fee Schedules
Attachment C: BTE Eligible CDOT 10-Year Vision Plan Projects

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Forecast Revenues for New SB21-260 BTE Fees

SB21-260 authorizes the BTE Board to impose two new bridge and tunnel fees:

Bridge and tunnel impact fee

- Imposed on each gallon of "special fuel" acquired, sold, offered, for sale, or used in the state
- "Special fuel" means diesel engine fuel, kerosene, liquefied petroleum gas, and natural gas used for the generation of power to propel a motor vehicle on the highways of this state.
- "Special fuel" does not include gasoline

Bridge and tunnel retail delivery fee

- Imposed on retail deliveries of tangible personal property (Amazon, FedEx, Grubhub, etc.)

With Board approval of Resolution #BTE-6, DOR will begin collection of the new fees in July 2022

Bridge and Tunnel Enterprise
SB21-260 Bridge and Tunnel Fee Revenue Forecast
FY2022-23 through FY2031-32
($ in Millions)

Fiscal Year	Bridge and Tunnel Impact Fee	Bridge and Tunnel Retail Delivery Fee	Total Fee Revenues
FY 2022-23	$12.7	$7.5	$20.2
FY 2023-24	$19.3	$8.2	$27.5
FY 2024-25	$26.0	$8.9	$34.9
FY 2025-26	$33.0	$10.0	$43.0
FY 2026-27	$40.1	$11.1	$51.2
FY 2027-28	$47.3	$12.3	$59.6
FY 2028-29	$54.7	$13.2	$67.9
FY 2029-30	$55.4	$15.0	$70.4
FY 2030-31	$56.1	$16.7	$72.8
FY 2031-32	$56.8	$18.5	$75.3
10-Year Total	**$401.4 M**	**$121.4 M**	**$522.8 M**

Attachment B: Fee Schedule

Table 1: Bridge and Tunnel Impact Fee Schedule

Fiscal Year	Fee Amount (per gallon)
2022-23	$0.02
2023-24	$0.03
2024-25	$0.04
2025-26	$0.05
2026-27	$0.06
2027-28	$0.07
2028-29 through 2031-32*	$0.08

Table 2: Bridge and Tunnel Retail Delivery Fee Schedule

Fiscal Year	Fee Amount (per gallon)
2022-23*	$0.027

* Fees are indexed to inflation in each subsequent fiscal year

Attachment C: BTE Eligible 10-Year Plan Project Summary

Planning Project	Original Bridge Number	Facility Carried over Featured Intersection	Region	County	Original Deck Area (sq. ft.)	Parent Project	BTE Funding Allocated
0001	H-17-CH	I 25 ML NBND over COUNTY ROAD	1	DOUGLAS	3,927	I-25 South Gap	Construction
0001	H-17-CI	I 25 ML SBND over COUNTY ROAD	1	DOUGLAS	3,927	I-25 South Gap	Construction
0001	H-17-CF	COUNTY ROAD 404 over I 25 ML	1	EL PASO	7,147	I-25 South Gap	Construction
0002	E-17-AT	SH 6 ML over SAND CREEK	1	ADAMS	44,186	I-270 Improvements and Congestion Relief from I-76 to I-70	
0002	E-17-IC	YORK STREET over I 270 ML	1	ADAMS	17,390	I-270 Improvements and Congestion Relief from I-76 to I-70	
0002	E-17-ID	I 270 ML WBND over SOUTH PLATTE RIVER	1	ADAMS	12,518	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0002	E-17-IE	I 270 ML EBND over SOUTH PLATTE RIVER	1	ADAMS	12,518	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0002	E-17-IF	I 270 ML WBND over DITCH RD,BURLINGTON CANAL	1	ADAMS	8,869	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0002	E-17-IG	I 270 ML EBND over DITCH RD, BURLINGTON CANAL	1	ADAMS	8,869	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0002	E-17-IH	I 270 ML WBND over SH 265 ML,UP RR,BNSF RR	1	ADAMS	14,951	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0002	E-17-IJ	I 270 ML WBND over SERVICE RD, BNSF RR	1	ADAMS	13,692	I-270 Improvements and Congestion Relief from I-76 to I-70	Design
0004	F-15-BL	I 70 ML WBND over US 6, CLEAR CREEK	1	CLEAR CREEK	18,428	I-70 West: Floyd Hill	Design
0004	F-15-BM	RAMP TO US 6 ML over CLEAR CREEK	1	CLEAR CREEK	5,488	I-70 West: Floyd Hill	Design
0008	H-13-A	US 285 ML over MIDDLE FK S.PLATTE RVR	2	PARK	2,077	US 285/CO 9 Intersection Improvement with Bridge Widening	Construction
0014	K-18-J	US 50 ML over I 25 ML	2	PUEBLO	12,360	I-25 through Pueblo New Freeway	
0014	K-18-L	US 50 ML over FOUNTAIN CREEK	2	PUEBLO	27,469	I-25 through Pueblo New Freeway	
0015	I-17-GQ	I 25 ML NBND over ACADEMY BLVD	2	EL PASO	13,584	I-25 and CO 94 Safety and Mobility Improvements	Construction
0015	I-17-GR	I 25 ML SBND over ACADEMY BLVD	2	EL PASO	13,584	I-25 and CO 94 Safety and Mobility Improvements	Construction
0018	J-17-X	SH 115 ML over ROCK CREEK	2	EL PASO	1,463	CO 115 Safety and Paving Improvements	
0042	F-12-AS	I 70 ML EBND over POLK CREEK	3	EAGLE	30,742	I-70 West: Vail Pass Safety Improvements – Phase 1	Design
0042	F-12-AT	I 70 ML WBND over POLK CREEK	3	EAGLE	30,763	I-70 West: Vail Pass Safety Improvements – Phase 1	Design
0058	B-16-AM	PROSPECT ROAD over I 25 ML	4	LARIMER	6,723	I-25 North Express Lanes: Segment 7 & 8 (CO 402 to CO 14)	Construction
0058	C-17-EL	I 25 ML over DRAW	4	LARIMER	1,596	I-25 North Express Lanes: Segment 7 & 8 (CO 402 to CO 14)	Construction
0086	E-16-FZ	I 70 ML over HARLAN STREET	1	JEFFERSON	16,619	I-70/Harlan Bridge Replacement	
0087	E-16-JL	I 70 ML WBND over SH 72 ML	1	JEFFERSON	9,591	I-70 Corridor-West Metro Bridges (Ward Rd)	
1161	F-11-AO	I 70 ML EBND over TIMBER CREEK	3	EAGLE	9,505	I-70 West Vail Pass Auxiliary Lanes	
1161	F-11-AP	I 70 ML WBND over TIMBER CREEK	3	EAGLE	13,261	I-70 West Vail Pass Auxiliary Lanes	
1161	F-11-AT	I 70 ML WBND over BLACK GORE CREEK	3	EAGLE	14,876	I-70 West Vail Pass Auxiliary Lanes	
1334	P-05-B	US 160 ML over FLORIDA RIVER	5	LA PLATA	3,541	US 160 Elmore's Corner East	
1430	C-22-AY	I 76 ML WBND over BNSF RR, BEAVER CREEK	4	MORGAN	20,710	I-76 Reconstruction from Fort Morgan to Brush	
1430	C-22-BG	I 76 ML EBND over US 34 SPUR	4	MORGAN	8,277	I-76 Reconstruction from Fort Morgan to Brush	
2575	E-16-EO	SPEER BLVD SBND over I 25 ML	1	DENVER	12,002	I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue	Design
2575	E-16-EW	SPEER BLVD NBND over I 25 ML	1	DENVER	11,991	I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue	Design
2575	F-16-DA	23RD AVENUE over I 25 ML	1	DENVER	11,345	I-25 Interchange Reconstruction at Speer Boulevard and 23rd Avenue	Design
2578	F-16-O	US 6 ML over SH 121 ML	1	JEFFERSON	21,065	US 6 and Wadsworth Boulevard Interchange	
2580	E-16-GX	I 70 ML WBND over SH 391 ML	1	JEFFERSON	7,965	I-70 and Kipling Street Interchange Right-of-Way	
2580	E-16-GY	I 70 ML EBND over SH 391 ML	1	JEFFERSON	7,955	I-70 and Kipling Street Interchange Right-of-Way	
2583	F-13-X	Johnson Tunnel (EBND)	1	SUMMIT	N/A	Eisenhower-Johnson Memorial Tunnel Maintenance	
2583	F-13-Y	Eisenhower Tunnel (WBND)	1	SUMMIT	N/A	Eisenhower-Johnson Memorial Tunnel Maintenance	
2695	C-18-AP	WB 34 RMP TO SB 85 over US 85 BUSS RT	4	WELD	10,258	US 85 and US 34 Interchange	
2695	C-18-AV	US 34 ML EBND over RAMP TO US 85 SBND	4	WELD	9,117	US 85 and US 34 Interchange	
2697	E-16-HE	I 70 ML EBND over WEST 32ND AVE	1	JEFFERSON	8,321	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	E-16-HF	I 70 ML WBND over WEST 32ND AVE	1	JEFFERSON	8,331	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	E-16-HS	SH 121 ML SBND over US 287 ML, RR SPUR	1	BROOMFIELD	19,902	Regionwide Bridge Rehabilitation and Maintenance	
2697	E-16-JJ	RAMP TO I 70 EBND over I 70 ML	1	JEFFERSON	10,893	Regionwide Bridge Rehabilitation and Maintenance	
2697	E-17-GV	I 76 ML WBND over YORK STREET	1	ADAMS	5,304	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	E-17-GW	I 76 ML EBND over YORK STREET	1	ADAMS	5,304	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	F-15-D	I 70 FRONTAGE RD over CLEAR CREEK	1	CLEAR CREEK	3,910	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-15-Q	US 40 ML over BEAVER BROOK	1	JEFFERSON	1,636	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-16-BC	SH 88 ML over BEAR CREEK	1	ARAPAHOE	7,567	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-16-HI	I 70 ML WBND over US 40 ML	1	JEFFERSON	20,333	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-16-HK	I 70 ML WBND over WEST 20TH AVE	1	JEFFERSON	7,728	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-17-AA	SH 177 ML over LITTLE DRY CREEK	1	ARAPAHOE	5,608	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-19-AF	COUNTY ROAD over I 70 ML	1	ADAMS	7,296	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-19-AJ	I 70 STRASBURG SPU over UP RR	1	ARAPAHOE	4,542	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-19-E	US 36 ML over DRAW	1	ARAPAHOE	2,542	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	F-19-F	US 36 ML over DRAW	1	ARAPAHOE	3,379	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-20-BA	I 70 ML EBND over US 40 FRONTAGE ROAD	1	ARAPAHOE	3,927	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-20-BB	I 70 ML WBND over US 40 FRONTAGE RD	1	ARAPAHOE	3,927	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-20-C	I 70 SERVICE RD over RATTLESNAKE CREEK	1	ARAPAHOE	7,567	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-20-F	US 40 ML over EAST BIJOU CREEK	1	ARAPAHOE	15,952	Regionwide Bridge Rehabilitation and Maintenance	
2697	F-20-J	US 40 ML over DRAW	1	ARAPAHOE	1,798	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	F-20-L	I 70 SERVICE RD over DRAW SR	1	ARAPAHOE	1,206	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	G-17-A	US 85 ML over SAND CREEK	1	DOUGLAS	4,833	Regionwide Bridge Rehabilitation and Maintenance	Construction
2697	G-17-AC	CR107 (Liggett RD) over I 25 ML	1	DOUGLAS	7,276	Regionwide Bridge Rehabilitation and Maintenance	
2697	G-17-AG	HAPPY CANYON ROAD over I 25 ML	1	DOUGLAS	5,414	Regionwide Bridge Rehabilitation and Maintenance	
			Total Sq.Ft. of Deck Area		**674,846**		

COLORADO
Department of Transportation
Statewide Bridge and Tunnel Enterprise

MEMORANDUM

TO: THE BRIDGE AND TUNNEL ENTERPRISE BOARD OF DIRECTORS
FROM: HERMAN STOCKINGER, DEPUTY DIRECTOR AND OPGR DIRECTOR
JERAD ESQUIBEL, DIRECTOR OF PROJECT SUPPORT
SARI WEICHBRODT, RULES, POLICIES, AND PROCEDURES ADVISOR
DATE: JUNE 16, 2022
SUBJECT: ADOPTION OF PROPOSED REVISIONS TO POLICY DIRECTIVE BE16.0

Purpose

Staff are requesting that the Bridge and Tunnel Enterprise Board of Directors (Board) adopt proposed revisions to Policy Directive BE16.0 which reflect the passage of the SB21-260 and the expanded scope of the Enterprise.

Action

Staff request Board approval of Proposed Resolution #BTE-7 to adopt proposed revisions to Policy Directive BE16.0.

Background

Policy Directive BE16.0 establishes Bridge and Tunnel Enterprise (BTE or Enterprise) program eligibility requirements and provides guidance to staff on project selection, project execution, and transparency. This directive was last updated and approved in March 2021, prior to passage of SB 21-260. In a May 2022 BTE workshop, Staff communicated the need to revise Policy Directive BE16.0 to reflect the following modifications that were made to the Enterprise through this legislation:

- Expanding the Enterprise's scope to include surface transportation infrastructure projects for tunnels and re-naming of the Enterprise to the Statewide Bridge and Tunnel Enterprise pursuant to C.R.S. § 43-4-805(2)(a)(I)
- Authorizing the Enterprise's Board to impose two additional fees to support its expanded scope:
  - Bridge and tunnel impact fee (C.R.S. § 43-4-805(5)(g.5))
  - Bridge and tunnel retail delivery fee (C.R.S. § 43-4-805(5)(g.7))
- Prioritizing CDOT 10-Year Plan projects (C.R.S. § 43-4-217(1)(g)(I))

The following key substantive revisions to Policy Directive BE16.0 were presented to the Board for review and comment at the May workshop:

- Updating references to applicable state and federal statutes.
- Establishing project eligibility criteria for tunnels using the FHWA tunnel definition to eliminate ambiguity and promote consistency in the effective use of available revenues.

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- Establishing that eligible tunnel projects are only authorized to receive funding through the bridge and tunnel impact fee and bridge and tunnel retail delivery fee.
- Establishing that eligible bridge projects are authorized to receive funding through the bridge safety surcharge, bridge and tunnel impact fee, and bridge and tunnel retail delivery fee.
- Establishing that a priority will be placed on funding CDOT 10-Year Plan projects when determining funding allocations for bridge and tunnel fee revenues in accordance with § 43-4-217(1)(g)(I), C.R.S.
- Establishing that the quantitative and qualitative analysis (as specified in Procedural Directive BE16.1) used to determine statewide bridge priorities for bridge safety surcharge funding allocations now includes the identification and prioritization of 10-Year Plan projects to further align the strategic direction of the Enterprise with CDOT.

Options and Recommendation

1) Approve Proposed Resolution #BTE-7 to adopt proposed revisions to Policy Directive BE16.0 – **STAFF RECOMMENDATION**
2) Request additional revisions to Policy Directive BE16.0
3) Request additional information

Next Steps

Staff will continue to manage and oversee the revenues utilized by the BTE program in accordance with Policy Directive BE16.0.

Attachments:

Attachment A: Redlined version of current Policy Directive BE16.0
Attachment B: Final proposed version of revised Policy Directive BE16.0

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Statewide Bridge and Tunnel Enterprise	X POLICY DIRECTIVE ☐ PROCEDURAL DIRECTIVE	
Subject **Oversight of ~~FASTER~~ Funding for State Bridges and Tunnels**		**Number** **BE16.0**
Effective **~~TBD~~06.16.22** **~~03.18.21~~**	**Supersedes** **~~01~~03.~~21~~18.~~16~~21**	**Originating Office** **Statewide Bridge and Tunnel Enterprise**

I. PURPOSE

Pursuant to § 43-4-805(2)(b), C.R.S., the business purpose of the Bridge Enterprise is to finance, repair, reconstruct, and replace any designated bridge in the state and complete tunnel projects and, as agreed upon by the Transportation Commission ("Commission"), or the Colorado Department of Transportation ("CDOT" or "Department") to the extent authorized by the Commission, to maintain the bridges it finances, repairs, reconstructs, and replaces.

Commented [HP1]: Confirmed that "Bridge Enterprise" is used in the statute

It is the intent of the Statewide Bridge and Tunnel Enterprise Board of Directors ("Board") to ensure that the State obtains the greatest benefit in increased bridge and tunnel safety per ~~FASTER~~ dollar of Statewide Bridge and Tunnel Enterprise Program ("BTE") ~~revenue~~funds spent by establishing and utilizing a documented process to strategically prioritize and program designated bridge projects and tunnel projects in a thorough and integrated manner.

The ~~Bridge Enterprise Board of Directors~~Board, through its oversight of the ~~Bridge Enterprise Program,~~BTE, will use ~~FASTER funding~~available BTE ~~revenues~~funds effectively and efficiently to facilitate the financing, repair, reconstruction, and replacement of designated bridges and completion of tunnel projects as promptly and efficiently as possible

II. AUTHORITY

Statewide Bridge and Tunnel Enterprise Board of Directors established pursuant to § 43-4-805(2), C.R.S.

Statewide Bridge and Tunnel Enterprise established pursuant to § 43-4-805(2), C.R.S.

~~§ 48-4-801 to~~ Statewide Bridge and Tunnel Enterprise powers and duties as defined in § 43-4-805, C.R.S. ~~"Funding Advancements for Surface Transportation and Economic Recovery Act of 2009" "FASTER Act"~~

23 CFR Part 650 – Bridges, Structures, and Hydraulics~~subpart C National Bridge Inspection Standards, December 14, 2014~~

Commented [HP2]: Updated to include both bridges and tunnels

Subject	Number
Oversight of ~~FASTER~~ Funding for State Bridges and Tunnels	**BE16.0**

Project closure and reporting requirements established pursuant to § 43-1-123, C.R.S.

~~Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, FHWA, Report No. FHWA-PD-96-001 https://www.fhwa.dot.gov/bridge/bripub.cfm~~

Commented [HP3]: Removed as this document is unrelated to the authority of the Enterprise or the Department. Appropriate references to coding for bridge inspections is included in the resolution referenced below.

III. APPLICABILITY

This Policy Directive shall apply to all Ddivisions, Rregions and Ooffices of the Colorado Department of Transportation.

IV. POLICY

A. Project Eligibility. The Board~~Bridge Enterprise Board of Directors shall~~ will make the most strategic use of available ~~FASTER funds~~BTE fund~~revenues~~ to address bridges and tunnels that are determined to be eligible for funding as follows:

1. A designated bridge, as defined by the~~using the~~ criteria established in Resolution #BE-18-06-02, will be eligible to receive funding through revenues from the bridge safety surcharge, bridge and tunnel impact fee, or bridge and tunnel retail delivery fee~~to determine which statewide bridges should be Designated Bridges and eligible to receive FASTER funds~~. These criteria qualify major structures on the state highway system with a National Bridge Inventory ~~(NBI)~~ item 58, 59, 60, or 62 (Deck, Superstructure, Substructure, or Culvert, respectively) rating of 4 or less using the National Bridge Inspection Standards (NBIS) rating scale as eligible. These ratings correlate to an overall bridge condition rating of "poor" and a classification of "structurally deficient" per the NBIS which qualifies the structure as a designated bridge per § 43-4-802, C.R.S..

Commented [HP4]: Through coordination with the AGs office, it was determined that designated bridges were eligible for all available revenue sources (bridge safety surcharge and bridge and tunnel fees) and tunnels were only eligible for bridge and tunnel fees. Language added to clarify this requirement.

Commented [HP5]: Added existing statutory requirement for clarity

Commented [HP6]: Reference added for clarity

2. A tunnel, as defined by the Department's interpretation of 23 CFR § 650.505, will be eligible to receive funding through revenues from the bridge and tunnel impact fee or bridge and tunnel retail delivery fee. Per 23 CFR § 650.505, the term "tunnel" means an enclosed roadway for motor vehicle traffic with vehicle access limited to portals, regardless of type of structure or method of construction, that requires, based on the owner's determination, special design considerations that may include lighting, ventilation, fire protection systems, and emergency egress capacity. The terms "tunnel" does not include bridges or culverts inspected under the National Bridge Inspection Standards (subpart C of this part).

Commented [HP7]: The Department assesses each structure to determine whether it is most appropriate to include the structure on the National Tunnel Inventory, the National Bridge Inventory, or as a miscellaneous structure based on current FHWA guidance since by definition some structures qualify for more than one of these options. Hence, there is some degree of discretion by the Department.

Commented [HP8]: SB21-260 does not define a "tunnel" so it is recommended that the BTE Board adopt a "tunnel" definition to eliminate ambiguity and promote consistency in the effective use of available revenues to execute the Enterprise's business purpose.

B. Project Selection. BTE staff will follow Procedural Directive BE 16.1 (PD BE16.1) when evaluating and recommending projects for funding to the Board. The Board provides the following guidance regarding the application of PD BE16.1.

Formatted: Indent: Left: 0.56", No bullets or numbering

1. When determining allocations of bridge and tunnel impact fee and bridge and

tunnel retail delivery fee revenues, ~~a~~ priority will be placed on ~~-~~funding BTE eligible projects that are designated as CDOT Ten-Year Vision Plan projects in accordance with § 43-4-217(1)(g)(I), C.R.S.

2. When determining allocations of bridge safety surcharge revenues, strategic statewide bridge priorities are determined through a combination of both qualitative and quantitative analysis using the prioritization process outlined in PD BE16.1. As part of the qualitative analysis, BTE eligible CDOT Ten-Year Vision Plan projects will be identified and prioritized. The quantitative prioritization ~~plan~~ is not intended to be a rank order strategic priority list in which bridges should be funded.

~~1.~~3. ~~Designated Bridges are eligible for FASTER funding and will be evaluated by Bridge Enterprise program management staff (collectively the Bridge Enterprise Director (or designee(s)), the Bridge Enterprise Controller, the Bridge Enterprise Program Manager, and other Bridge Enterprise staff) on both a qualitative and quantitative basis. The quantitative prioritization plan is not intended to be a rank order strategic priority list in which Designated Bridges should be funded. Strategic bridge priorities are determined through a combination of both qualitative and quantitative analysis.~~ At the time of the funding request, supporting information documenting the project selection process, including a narrative describing the ~~bridge~~ structure's condition and the results of the qualitative and quantitative evaluation, will be provided to the ~~Bridge Enterprise~~ Board. ~~Bridge Enterprise program management staff will follow Procedural Directive BE 16.1 when evaluating and recommending projects for funding to the Bridge Enterprise Board.~~

C. Project Execution and Transparency. The ~~Bridge Enterprise~~ Board provides the following ~~additional~~ guidance to staff for the project execution and reporting stages.

~~2.~~1. Continue to provide guidelines to project engineers and seek other process improvements for the development of reasonable project contingency fund levels ~~in order to~~to make best use of the funds available.

~~3.~~2. ~~Bridge Enterprise program management~~BTE staff shall track compliance with § 43-1-123, C.R.S. and work with CDOT Region staff to review projects nearing completion and encourage the release of excess project budget. Available budget shall be reprogrammed to advance other priority projects.

~~4.~~3. Provide regular progress reports to the ~~Bridge Enterprise~~ Board at regular meetings and develop other methods to ensure transparency of ~~Bridge Enterprise~~BTE processes and progress.

V. IMPLEMENTATION PLAN

Commented [HP9]: Language added to reflect that SB21-260 stipulates that a priority be placed on funding CDOT 10-Year Plan projects with the new SB260 BTE revenues.

Commented [HP10]: Per direction from the BTE Executive Steering Committee, provides alignment between the strategic direction of CDOT and BTE.

Commented [HP11]: Redundant content removed. Prior guidance broken into two separate items for clarity.

This Policy Directive shall be effective immediately upon approval by the Board ~~of Directors~~.

VI. REVIEW DATE

This Policy D~~d~~irective shall be reviewed on or before ~~March~~ April 202~~7~~6.

_____ _____

Herman Stockinger Date of Approval

~~Transportation Commission~~Bridge and Tunnel Enterprise Secretary

Statewide Bridge and Tunnel Enterprise	X POLICY DIRECTIVE ☐ PROCEDURAL DIRECTIVE
Subject **Oversight of Funding for State Bridges and Tunnels**	**Number** **BE16.0**

Effective	Supersedes	Originating Office
06.16.22	**03.18.21**	**Statewide Bridge and Tunnel Enterprise**

I. PURPOSE

Pursuant to § 43-4-805(2)(b), C.R.S., the business purpose of the Bridge Enterprise is to finance, repair, reconstruct, and replace any designated bridge in the state and complete tunnel projects and, as agreed upon by the Transportation Commission ("Commission"), or the Colorado Department of Transportation ("CDOT" or "Department") to the extent authorized by the Commission, to maintain the bridges it finances, repairs, reconstructs, and replaces.

It is the intent of the Statewide Bridge and Tunnel Enterprise Board of Directors ("Board") to ensure that the State obtains the greatest benefit in increased bridge and tunnel safety per dollar of Statewide Bridge and Tunnel Enterprise Program ("BTE") funds spent by establishing and utilizing a documented process to strategically prioritize and program designated bridge projects and tunnel projects in a thorough and integrated manner.

The Board, through its oversight of the BTE, will use available BTE funds effectively and efficiently to facilitate the financing, repair, reconstruction, and replacement of designated bridges and completion of tunnel projects as promptly and efficiently as possible

II. AUTHORITY

Statewide Bridge and Tunnel Enterprise Board of Directors established pursuant to § 43-4-805(2), C.R.S.

Statewide Bridge and Tunnel Enterprise established pursuant to § 43-4-805(2), C.R.S.

Statewide Bridge and Tunnel Enterprise powers and duties as defined in § 43-4-805, C.R.S.

23 CFR Part 650 – Bridges, Structures, and Hydraulics

Project closure and reporting requirements established pursuant to § 43-1-123, C.R.S.

III. APPLICABILITY

This Policy Directive shall apply to all Divisions, Regions and Offices of the Colorado Department of Transportation.

IV. POLICY

A. Project Eligibility. The Board will make the most strategic use of available BTE funds to address bridges and tunnels that are determined to be eligible for funding as follows:

1. A designated bridge, as defined by the criteria established in Resolution #BE-18-06-02, will be eligible to receive funding through revenues from the bridge safety surcharge, bridge and tunnel impact fee, or bridge and tunnel retail delivery fee. These criteria qualify major structures on the state highway system with a National Bridge Inventory item 58, 59, 60, or 62 (Deck, Superstructure, Substructure, or Culvert, respectively) rating of 4 or less using the National Bridge Inspection Standards (NBIS) rating scale as eligible. These ratings correlate to an overall bridge condition rating of "poor" and a classification of "structurally deficient" per the NBIS which qualifies the structure as a designated bridge per § 43-4-802, C.R.S.

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B. Project Selection. BTE staff will follow Procedural Directive BE 16.1 (PD BE16.1) when evaluating and recommending projects for funding to the Board. The Board provides the following guidance regarding the application of PD BE16.1.

1. When determining allocations of bridge and tunnel impact fee and bridge and tunnel retail delivery fee revenues, priority will be placed on funding BTE eligible projects that are designated as CDOT Ten-Year Vision Plan projects in accordance with § 43-4-217(1)(g)(I), C.R.S.

2. When determining allocations of bridge safety surcharge revenues, strategic statewide bridge priorities are determined through a combination of both qualitative and quantitative analysis using the prioritization process outlined in PD BE16.1. As part of the qualitative analysis, BTE eligible CDOT Ten-Year Vision Plan projects will be identified and prioritized. The quantitative prioritization is not intended to be a rank order strategic priority list in which bridges should be funded.

3. At the time of the funding request, supporting information documenting the project selection process, including a narrative describing the structure's

condition and the results of the qualitative and quantitative evaluation, will be provided to the Board.

C. Project Execution and Transparency. The Board provides the following guidance to staff for the project execution and reporting stages.

1. Continue to provide guidelines to project engineers and seek other process improvements for the development of reasonable project contingency fund levels to make best use of the funds available.

2. BTE staff shall track compliance with § 43-1-123, C.R.S. and work with CDOT Region staff to review projects nearing completion and encourage the release of excess project budget. Available budget shall be reprogrammed to advance other priority projects.

3. Provide regular progress reports to the Board at regular meetings and develop other methods to ensure transparency of BTE processes and progress.

V. IMPLEMENTATION PLAN

This Policy Directive shall be effective immediately upon approval by the Board.

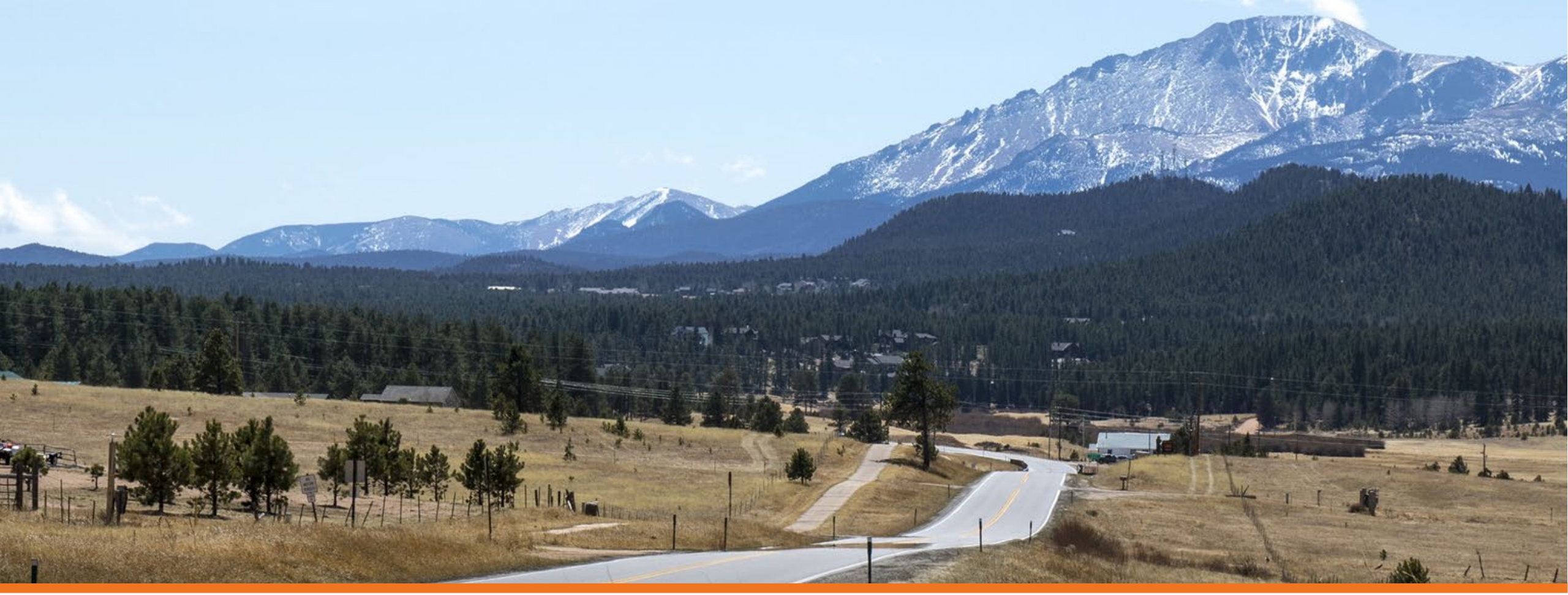
VI. REVIEW DATE

This Policy Directive shall be reviewed on or before April 2027.

_____ _____

Herman Stockinger
Bridge and Tunnel Enterprise Secretary

Date of Approval



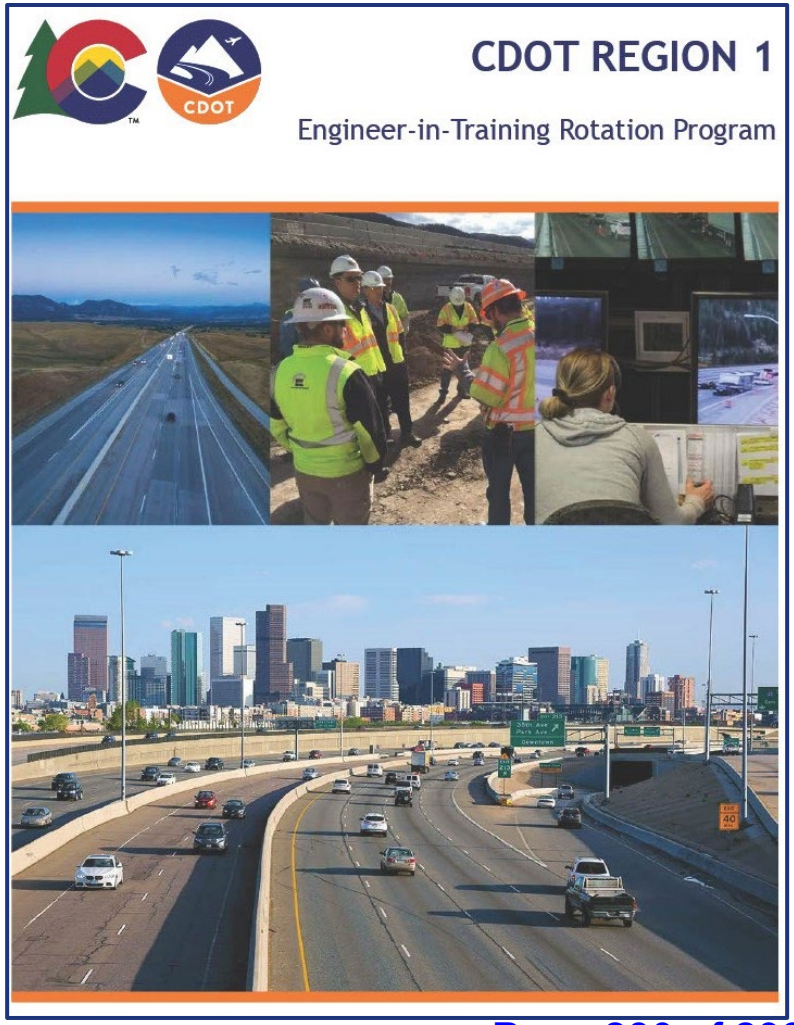
COLORADO
Department of Transportation

R1 Engineer-In-Training Rotation Program 2021 - 2022 End of Year Presentation to Transportation Commission

Program Description

"The Colorado Department of Transportation (CDOT) R1 Engineer-in-Training Rotation Program is a dynamic program that empowers trainees, integrates learning with job experiences, and provides a broad perspective of the organization to newly hired engineers."

- *EIT Rotation Program Manual*



Region 1 - RTP Goals

This program is intended to:

- Enhance comprehension and skills with hands-on learning
- Become acquainted with CDOT's organizational structure, policies, and procedures
- Explore various dimensions of transportation engineering by working on different aspects of project development and construction
- Develop skills that will help prepare future leaders at CDOT
- Develop networks and build relationships
- Share experiences & feedback with cohorts and of course, *have fun*!

Rotation Training Program

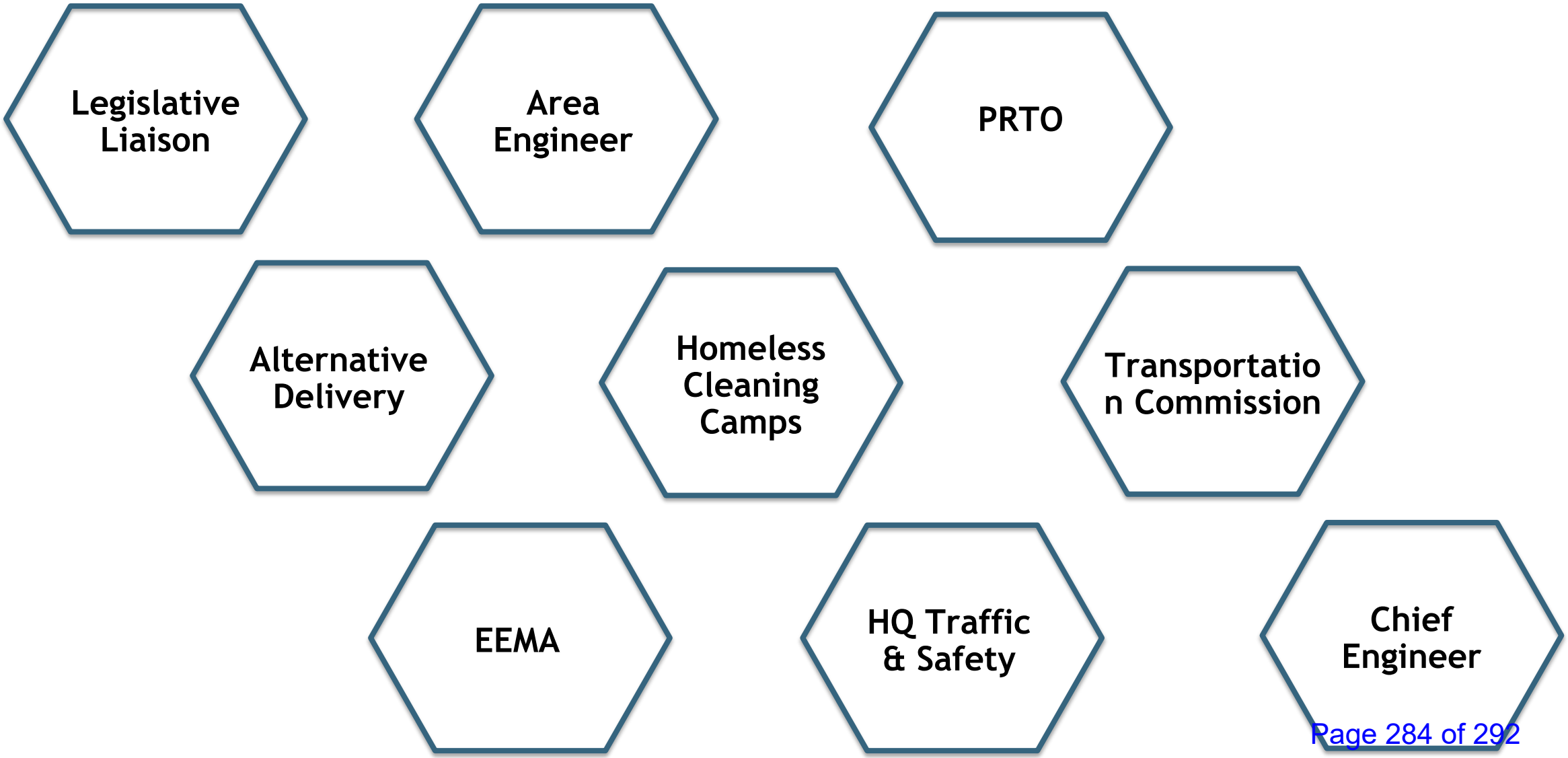
Your Role

- Develop your Rotation Assignment Plan
  - Contact the relative Specialty Managers to discuss a potential Rotation Assignment and activities
  - Discuss the schedule and work out the details with your supervisor
  - Complete the Master Rotation Assignment Schedule
- Execute your Rotation Assignment Plan
  - Complete Rotations - Meet people, learn what they do, try new things, expand your horizons, enjoy the journey
  - Complete daily diary and monthly reports
  - Update Rotation Plan and Master Schedule as needed
  - Share your insights with your cohorts
  - Provide a end-of-program presentation
- Provide feedback to help us improve the program

Rotation Experiences
Specialty Units

Specialty Unit Rotation Assignments	Rotation Assignment Mentors
Region 1 Utilities	Patricia McKinney-Clark
Region 1 Materials	James Chang
HQ Project Support	Hilary Hawthorne
Region 1 Hydraulics	John Ewy
Traffic & Safety	Alazar Tesfaye
Region 1 ROW & Survey	John Olson
Region 1 Environmental	Vanessa Halladay
Geotechnical Program	David Thomas
Staff Bridge	Michael Collins

Headquarters



Graduates of Rotation Program 2021 - 2022

Daylin Gray

EIT I

Lone Tree Residency

South Program

Koudouss Makara

EIT I

Platte Valley Residency

North Program

Karen Pasapera Calcina

EIT I

Cherry Creek Residency

South Program

Report out from Graduates: Program Benefits

EITs

- Experience-based learning opportunities
- Comprehensive understanding of CDOT
- Network opportunities and team building
- Mentorship opportunities

CDOT

- Cross Training
- Attracts early-career engineers
- Transfer of knowledge
- Assimilates new staff
- Investment opportunity
- Grows in-house capabilities


COLORADO
DEPARTMENT
OF
HIGHWAYS

COLORADO
Department of Transportation
Division of Accounting and Finance

MEMORANDUM

TO: THE TRANSPORTATION COMMISSION

FROM: JEFF SUDMEIER, CDOT CHIEF FINANCIAL OFFICER

DATE: JUNE 16, 2022

SUBJECT: MONTHLY CASH BALANCE UPDATE

Purpose

To provide an update on cash management, including forecasts of monthly revenues, expenditures, and cash balances in Fund 400, the State Highway Fund.

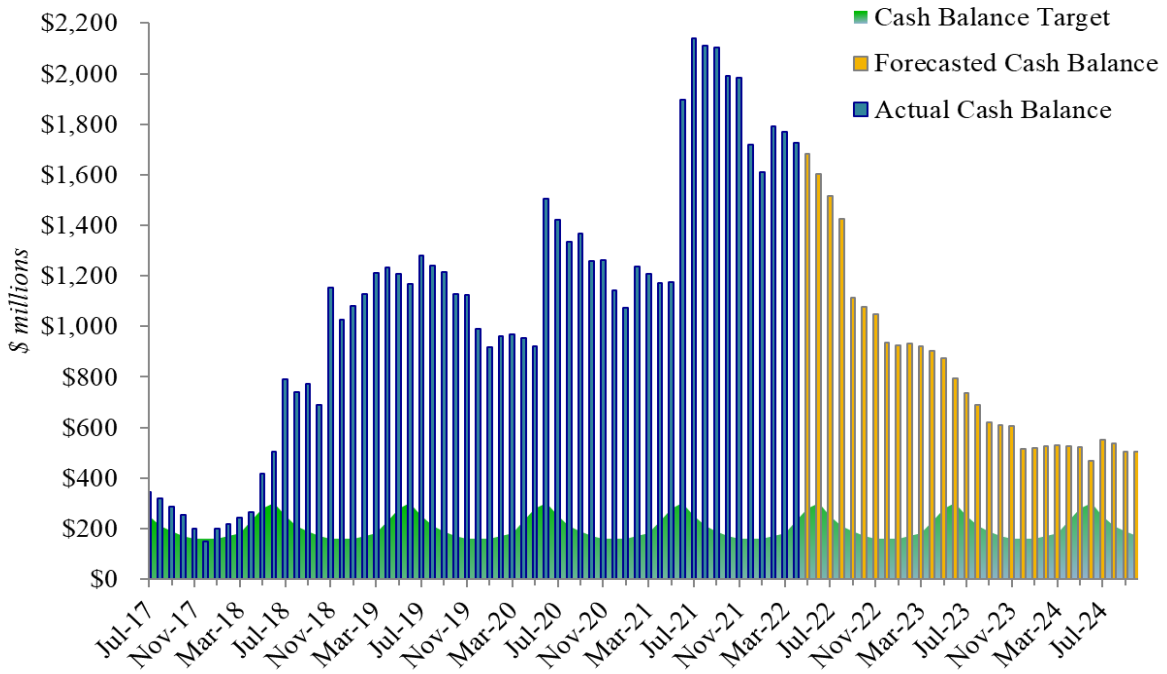
Action

No action is requested or required at this time.

Background

Figure 1 below depicts the forecast of the closing Fund 400 cash balance in each month, as compared to the targeted minimum cash balance for that month (green shaded area). The targeted minimum cash balances reflect the Transportation Commission's directive (Policy Directive #703) to limit the risk of a cash overdraft at the end of a month to, at most, a probability of 1/1,000 (1 month of 1,000 months ending with a cash overdraft).

Figure 1 – Fund 400 Cash Forecast



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Summary

Due to the events in response to the global COVID-19 pandemic, the Department anticipated a significant and immediate impact to revenue collections, followed by a longer downturn overall. The current forecast continues to assume a 2.5% reduction in pre-pandemic monthly gross gallons of gasoline consumed from July 2021 through June 2022. Staff will modify fuel sale assumptions as traffic patterns continue to adjust.

The actual closing cash balance for April 2022 was $1.73 billion; $1.50 billion above that month's cash balance target of $230 million. April's cash balance is comprised of $837 million in the State Highway Fund, and $890 million in the Senate Bill 267 trustee account. The April 2022 forecasted vs. actual cash balance was $35M higher, due to lower than expected FHWA reimbursements and lower than anticipated State revenue.

The large cash balance results from the additional revenues listed below.

Cash Revenues

The forecast of revenues and capital proceeds includes:

Senate Bill 17-267: $425 million in November 2018, $560 million in June 2020, $623 million in June 2021. The proceeds from the 4th tranche will be issued in June, and will be incorporated as projects are identified through the 10 Year Plan process.

Senate Bill 18-001: $346.5 million in July 2018, and $105 million in July 2019.

Senate Bill 19-262: $60 million in July 2019.

Senate Bill 21-110: $30 million in May 2021

Senate Bill 21-260: $182 million in June 2021, and $170 million in July 2021

Senate Bill 21-265: $124 million in July 2021

The forecast does not include $500 million of revenues in FY22 from SB 17-267 COP proceeds. The cash balance forecast continues to report on only projects and revenues related to the State Highway Fund, and does not include revenue and expenditures associated with any pre-existing or new enterprises created through SB 21-260, including:

- Statewide Bridge and Tunnel Enterprise
- Clean Transit Enterprise
- Nonattainment Area Air Pollution Mitigation Enterprise

Cash balances will be drawn down closer to the target balances over the course of fiscal years 2022, 2023, and 2024 as projects funded with SB 18-001, SB 17-267, and SB 19-262 progress through construction.

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COLORADO
Department of Transportation
Division of Accounting and Finance

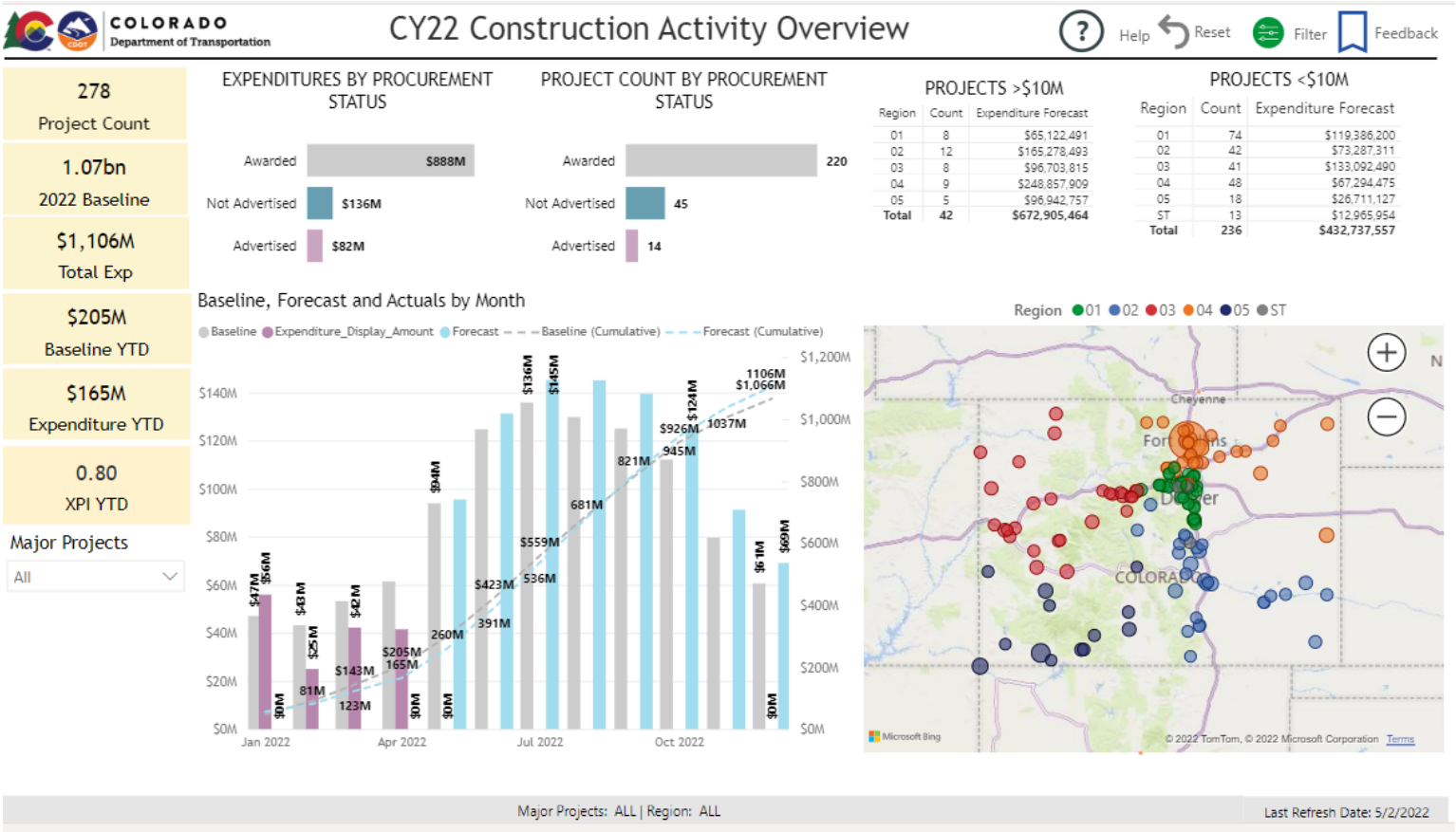
Cash Payments to Construction Contractors

The current forecast of payments to construction contractors under state contracts (grants paid out under inter-government agreements for construction are accounted for elsewhere in the expenditure forecast) from Fund 400 is shown in Figure 2 below.

Figure 2 – Forecasted Payments - Existing and New Construction Contracts

$ millions	*CY 2017 (actual)*	*CY 2018 (actual)*	*CY 2019 (actual)*	*CY 2020 (actual)*	*CY 2021 (actual)*	*CY 2022 (forecast)*	*CY 2023 (forecast)*	*CY 2024 (forecast)*
Expenditures	$642	$578	$669	$774	$615	$955	$704	$422

The graph below details CY22 baseline, forecast, and actual expenditures (based on April month end SAP data). Results to date correlate with an XPI of .80 (actual expenditures vs. baseline); listing of number of projects planned to incur construction expenditures in CY22; listing of CY22 baseline and project count by procurement status (awarded, not advertised and advertised); and count of projects by region that have CY22 forecast greater than $10 million dolla rs and less than $10 million dollars.



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COLORADO
Department of Transportation
Office of Policy and Government Relations

MEMORANDUM

TO: COLORADO TRANSPORTATION COMMISSION
FROM: HERMAN STOCKINGER, DEPUTY DIRECTOR AND DIRECTOR OF POLICY

DATE: JUNE 15TH, 2022
SUBJECT: UPDATE TO TRANSPORTATION COMMISSION ON RECENTLY SUBMITTED AND FORTHCOMING GRANT APPLICATIONS TO IIJA DISCRETIONARY PROGRAMS

Purpose
To share progress on submitted applications, and current and future coordination of proposals to anticipated programs under the Infrastructure Investment Jobs Act (IIJA).

Action
At this time, there is no action to be taken. As proposals are determined, similarly to previous applications, Bridge and Tunnel Enterprise (BTE) will be asked to support applicable bridge components with conditional funding commitments.

Background
The U.S. Department of Transportation (USDOT) recently released, or have announced a date of release, for the following discretionary grant programs:

1. NATIONAL SCENIC BYWAYS PROGRAM (NSBP)
2. TRANSIT-ORIENTED DEVELOPMENT PILOT PROGRAM (TOD)
3. SAFE STREETS AND ROADS FOR ALL (SS4A)
4. RECONNECTING COMMUNITIES PILOT PROGRAM (RCC)
5. THE BRIDGE INVESTMENT PROGRAM

The following discretionary grant programs for FY22 have already closed:

1. REBUILDING AMERICAN INFRASTRUCTURE with SUSTAINABILITY and EQUITY (RAISE): Two applications were submitted by CDOT, and a third was submitted with CDOT's strong support in April 2022.
2. MULTIMODAL PROJECTS DISCRETIONARY GRANT PROGRAM (MPDG): A combined solicitation for INFRA, Mega, and Rural Surface Transportation programs. Three applications were submitted by CDOT, and three more were submitted with CDOT's strong support in May 2022.
3. 5339(b) and 5339(c): A combined solicitation for the Low or No Emission Vehicle Program and the Bus and Bus Facilities Program. CASTA and FHU Consulting supported the coordination of 20 applications from 15 different entities; CDOT submitted all applications on behalf of individual agencies under the State DUNS/UEI in May 2022.

Details

1. NSBP grants will support projects related to the planning, design, development, construction, management, protection, and/or marketing of a State of Tribal scenic byway or scenic byway program. Local entities are being offered support by DTD to coordinate their own applications for CDOT to submit on their behalf. Currently, there are nine applications being developed for submission. These applications are due June 20th, 2022.
2. TOD grants will support projects that enhance economic development and ridership; facilitate multimodal connectivity and accessibility; increase access to transit hubs for pedestrian and bicycle traffic; enable mixed-use development; identify infrastructure needs; and include private sector participation.

3. SS4A grants will support initiatives to prevent roadway deaths and serious injuries. States are NOT ELIGIBLE to apply, but resource-sharing and collaboration with eligible entities (MPO's, local governments, transit agencies, tribal governments, or multijurisdictional groups) is encouraged.
4. RCC grants will support projects related to the planning, capital construction, and technical assistance to equitably and safely restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities that create barriers to mobility, access, or economic development. The RCC NOFO will be released in "Summer" 2022.
5. The Bridge Investment Program NOFO and details release was postponed from May to June 2022. It is anticipated this program will be a funding opportunity for large-scale projects to replace, rehabilitate, preserve or protect one or more bridges on the National Bridge Inventory.

Options and Recommendation

With the forthcoming Bridge Investment Program being a highly bridge-centric competitive program, BTE will be encouraged to engage with the proposal process and approve resolutions to commit BTE match funding to applicable projects.

Next Steps

The NSBP applications are due on June 20th, 2022
TOD applications are due on July 25th, 2022.
SS4A applications are due on Sept. 15th, 2022.