

Meeting Summary

Date: September 30, 2025

29 Road Interchange at I-70, NEPA/1601 Project

Meeting Name: TAC Meeting #16

Meeting Date: August 20, 2025

Invitees:

Invitee	Organization	Attended?	Invitee	Organization	Attended?
Daniel Larkin	Mesa County	X	Melanie Bishop	FHU	X (virtual)
Scott Mai	Mesa County	X	Paul Brown	FHU	X (virtual)
Lindsay Edgar	FHWA	X (virtual)	John Dibble	FHU	X (virtual)
Andrew Wilson	FHWA	X (virtual)	Cady Dawson	FHU	X
Julian Gonzalez	FHWA	X (virtual)	Alex Pulley	FHU	X
Trent Prall	Grand Junction	X	Amanda Cushing	FHU	X
Eric Mocko	Grand Junction	X	Jason Huddle	CDOT	X (virtual)
Rachel Peterson	RTPO	X	Mark Bunnell	CDOT	X
Dana Brosig	RTPO	X	Dave Cesark	CDOT	X (virtual)
Dean Bressler	RTPO	X (virtual)	Rob Beck	CDOT	X (virtual)
Zane Znamenacek	CDOT	X			

Note: Not all details that were included in the presentation are shown in this summary, but comments and discussion brought up during the presentation are included; discussion is denoted as **blue** text. Data that was received following the meeting is denoted in **pink** text. Meeting materials can be found at the end of this meeting summary. **Additionally, the summary was created using Artificial Intelligence with supplementing text by a human.**



Meeting Summary

Meeting Goal

Confirm Elements Included in Build (Base) for System Level Study.

Agenda

- ▶ Welcome
- ▶ Project Updates
 - ▶▶ WB Horizon Off Ramp Queuing
 - ▶▶ I-70 Operations
 - ▶▶ 2050 Volumes
 - ▶▶ Safety
- ▶ Operational Mitigation Measure Discussion
- ▶ TDM Updates
- ▶ Next Steps

Discussion

TAC #15 Requests

2045 v/c ratios

- ▶ Reviewed 2045 model results showing volume over capacity (V/C) ratios Horizon Drive off-ramp (2.88 in Build (Base) compared to 2.59 in No Action).
- ▶ 2050 model shows reduced projected volumes (~25% lower on I-70 between 29 Road and Horizon Drive, ~21% lower on 29 Road itself).

Further breakdown of predicted crash data

- ▶ Initial crash analysis conducted using Vision Zero Suite data.
- ▶ Predicted and expected crash modeling ongoing; inconsistencies with HSS software noted.



Meeting Summary

- ▶ Fatal and serious crash projections show little difference between scenarios; roundabouts are shown to result in increased PDO crashes.

Compare 2045 and 2050 travel demand model outputs

- ▶ Discussion: use 2045 (conservative, consistent with Methods and Assumptions document) vs. 2050 (more current, lower volumes).

Question: What is a normal number and why is 2.88 alarming?

Response: These are the volume over capacity ratios. In other words, V/C is the volume of projected vehicles divided by the capacity of the roadway segment which essentially means that there are more vehicles on the roadway than can effectively be handled. As that number approaches 3, that is saying it is 2.8 times over capacity.

Question: Where is the data coming from?

Response: The data comes from the 2045 RTPO model.

Question: How is it collected?

Response: It is collected through CDOT counters and local traffic counters. Freeway (via CDOT) counters are likely more accurate. Population comes from the state demographer and land use comes from planning departments.

Question: It is mainly traffic counts?

Response: Yes

Comment: The project is primarily an access interchange.

No other questions/comments.

Operational Mitigation Measure Discussion

- ▶ Ramp metering at the westbound I-70 on-ramp (from 29 Road) may be considered as the most effective targeted solution.
- ▶ Variable speed harmonization was not carried forward due to the limited direct impact.



Meeting Summary

- ▶ Ramp lengthening shows one letter grade improvement in level of service (LOS).
- ▶ Cost for ramp metering ≈ \$700k; widening inside shoulder west of Horizon Drive estimated \$820k–\$2.5M.
- ▶ Concern that the IAJR must reflect current projections; sensitivity analysis suggested.
- ▶ Discussion that IAJR data must reflect model 20 years out from construction start (i.e., 2050); sensitivity analysis suggested
- ▶ Agreement that 2045-based SLS can move forward, but 2050 sensitivity should be documented.

Comment: It is difficult to have future projects that must meet parameters. It requires folks to be around and to remember the parameters and what the plan consisted of. FHWA decision is based on what is shown in the IAJR.

Question: When was the Methods and Assumptions (M&A) document approved for this interchange?

Response: Early quarter 1 or quarter 2 of 2022 and FHWA was involved at that point too. This was confirmed; the date was March 29, 2022.

Comment: We should stay consistent with the M&A document and the 2045 model numbers.

Comment: FHWA requirements are that the design year traffic for a federally funded project should be 20 years out from when construction begins. Depending on how quickly this gets going, the 2045 traffic forecasts may not meet this requirement.

Response: We're at least three years out assuming that the City goes to ballot in November 2026. The City has received a congressionally directed spending authorization that will help fund the final design as soon as we can settle on what that final scope is going to be. And then, if we can get on the ballot, we'd be under construction in about 3 years. Based on what you said, we're looking at having to rewrite this based on 2050.



Meeting Summary

Response: I think at least portions; however, that is not definitive in this meeting that this is the way it must be done. FHWA didn't realize that the traffic projections are less than 20 years out by the time we are ready to go to construction. It is definitely something that we can talk through and what that means for the IAJR, but FHWA would like to ensure that the team is aware that it is a consideration that FHWA will be reviewing.

Question: Is CDOT on board with the Preferred Alternative moving forward?

Response: Yes.

Action Item: FHU to review crash data in project study area and to evaluate additional feasible alternative safety improvements.

Action Item: FHU to meet with Andy Wilson et al. to get him up to speed and discuss potential options related to the 2045 and 2050 sensitivity analysis.

Action Item: FHU to provide sensitivity analysis using 2050 model (spot checks on critical segments, especially AM westbound) and coordinate with CDOT and FHWA on the 2045 vs. the 2050 traffic requirements.

No other questions/comments.

TDM Updates

- ▶ Updated trip-reduction measures per CDOT comments.
- ▶ Current reduction estimate: 140 trips/day (90 trip shortfall from target).
- ▶ Strategies: TMA/TMO formation, regional rideshare/carpool app, mobility hub/park & rides, bike infrastructure expansion.
- ▶ Discussion of schoolpool pilot vs. regional schoolpool program.
- ▶ CDOT requested a local support letter (City/County/RTPO); a draft in circulation will be finalized ahead of the Transportation Commission (TC) meeting.

Action Item: FHU to finalize draft support letter.



Meeting Summary

Action Item: FHU to refine TDM trip reduction estimates; emphasize regional rideshare benefit.

No questions.

Schedule

- ▶ Complete Conceptual Design and NEPA Impact Analysis
 - ▶▶ Early Fall 2025
- ▶ Complete NEPA Decision Document and Preliminary Design
 - ▶▶ Spring 2026
- ▶ Submit System Level Study to CDOT Transportation Commission
 - ▶▶ Winter 2025
- ▶ CDOT Transportation Commission Presentation/Vote
 - ▶▶ Winter 2025
- ▶ Initiate Interstate Access Justification Report
 - ▶▶ Late Winter 2026

Decisions Made

- ▶ 2045 model remains baseline for SLS; 2050 sensitivity analysis will be proposed and, if approved by FHWA and CDOT, completed.
- ▶ Ramp metering is considered most effective; shoulder widening is acknowledged but costly.
- ▶ Existing study area crash data valid; additional review will confirm mitigation sufficiency.
- ▶ Regarding TDM: A regional rideshare program will be proposed as well as the Independence Academy schoolpool pilot program that could be expanded regionwide.

Meeting Summary

Next Steps

- ▶ Move SLS forward to TC while refining mitigation allocation and incorporating FHWA feedback on 2050 analysis.
- ▶ Meet with FHWA to bring them up to speed.
- ▶ Review crash data with the City/County to develop alternative safety improvements in the study area.

I-70 Interchange in Grand Junction – TAC Mtg #16

August 20, 2025

Agenda

- ▶ Project Updates
 - ▶ WB Horizon Off Ramp Queuing
 - ▶ I-70 Operations
 - ▶ 2050 Volumes
 - ▶ Safety
- ▶ Operational Mitigation Measure Discussion
- ▶ TDM Updates
- ▶ Next Steps

Meeting Goal:

Confirm Elements Included in Build (Base) for System Level Study

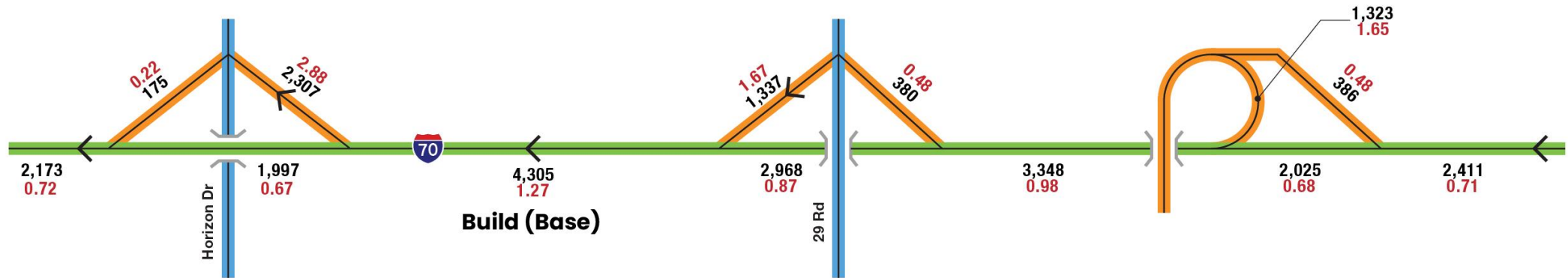
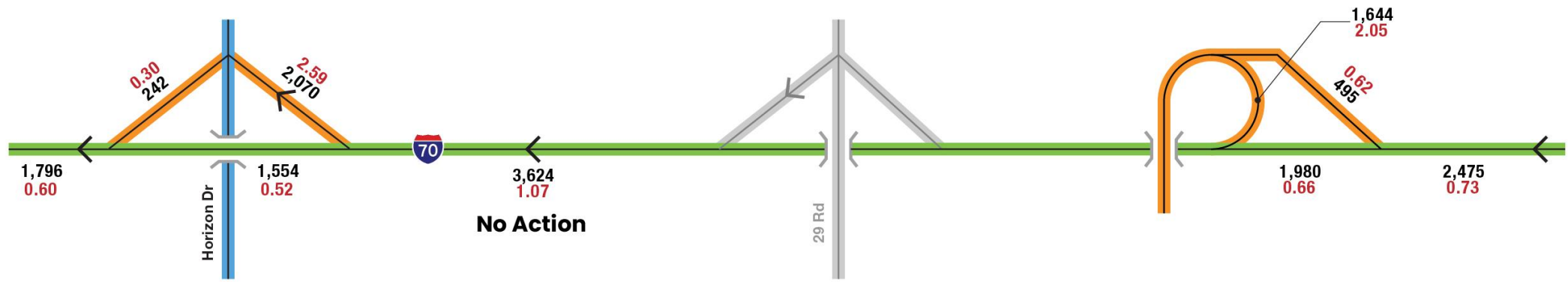
Project Updates

TAC #15 Requests

- ▶ 2045 v/c ratios
 - ▶ Further breakdown of predicted crash data
 - ▶ Compare 2045 and 2050 travel demand model outputs
- 

v/c Ratio Updates

- ▶ Figures updated to add Clifton/I-70B Interchange
- ▶ No-Action data added to graphic
 - ▶ v/c ratios show similar patterns
 - ▶ No-Action Horizon Drive off-ramp v/c ratio high
 - ▶ AM Peak Hour v/c ratio over 2.5
 - ▶ Daily v/c ratio over 1.7



LEGEND

- = Ramp
- = Freeway
- = Principal Arterial
- = Expressway

XXXX = AM Peak Hour Traffic Volumes

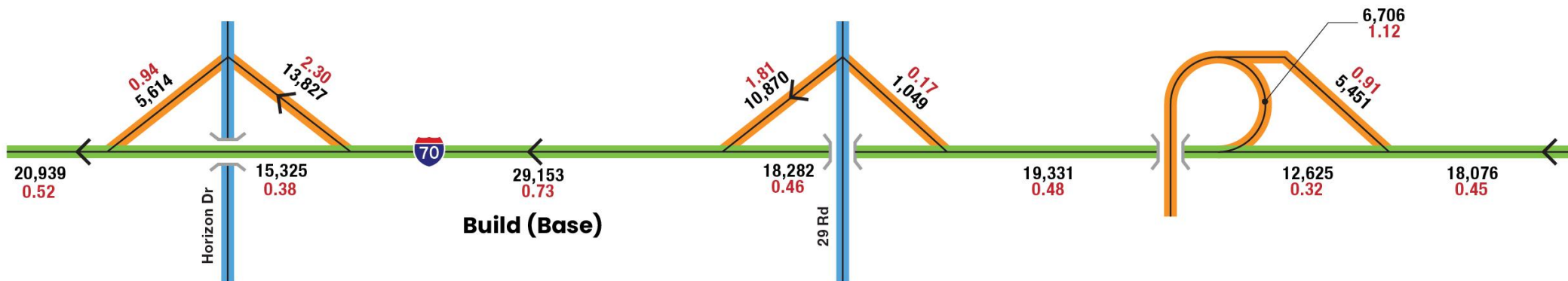
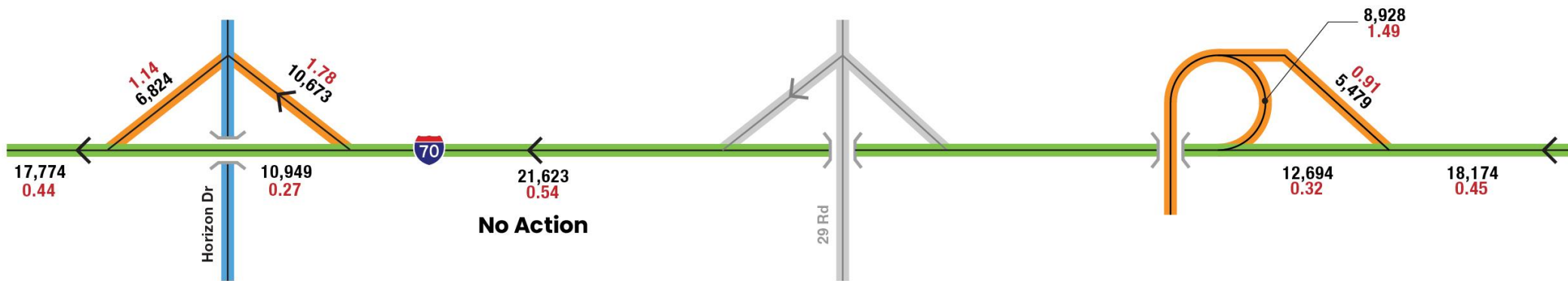
X.X = V/C Ratio



NOTE: Drawing Not to Scale

AM Peak Hour V/C Ratios

NOTE: This scenario represents the braid as expressway segments, which have higher capacities than ramp segments. The change in V/C ratios departing 29 Road and the approaching Horizon Drive reflect these differences.



- LEGEND**
- █ = Ramp
 - █ = Freeway
 - █ = Principal Arterial
 - █ = Expressway
 - XXXX** = Daily Traffic Volumes
 - X.X** = V/C Ratio

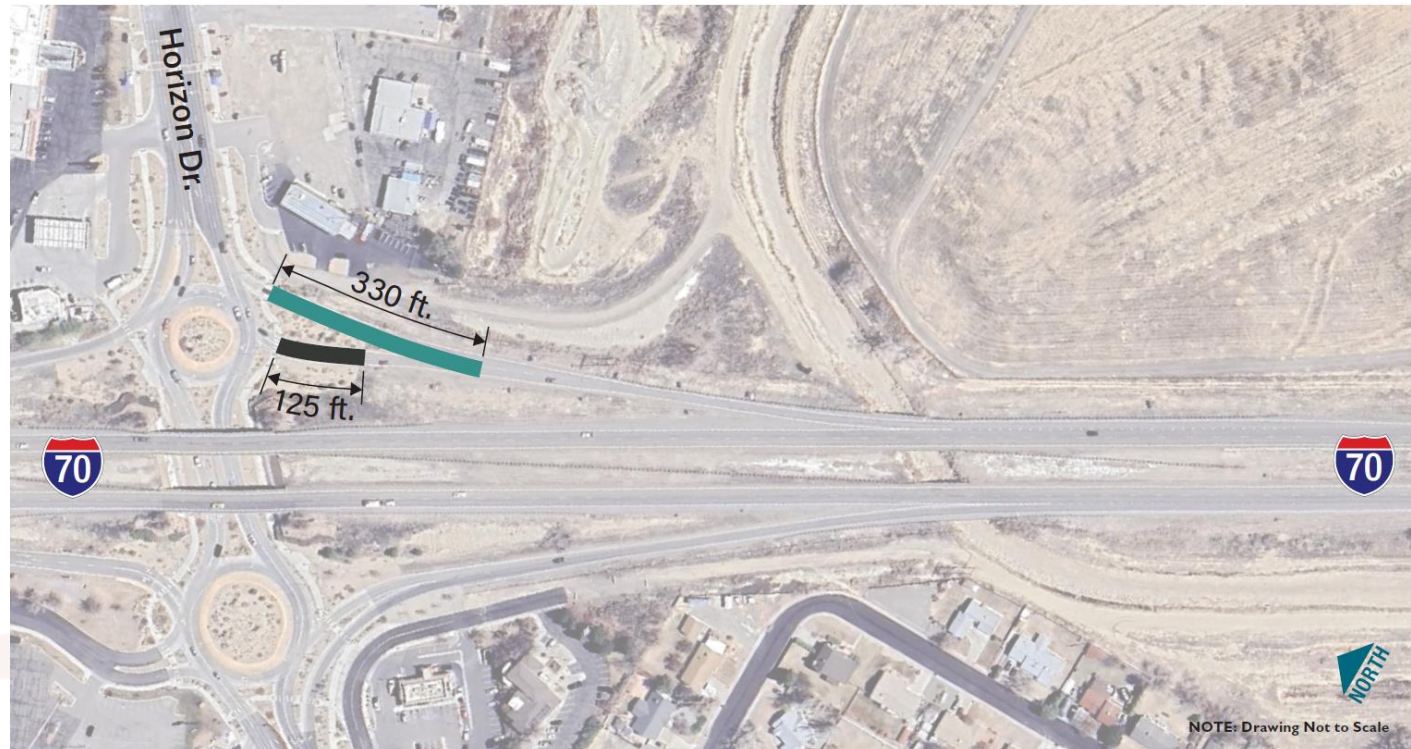
NORTH NOTE: Drawing Not to Scale

Daily v/c Ratios

NOTE: This scenario represents the braid as expressway segments, which have higher capacities than ramp segments. The change in V/C ratios departing 29 Road and the approaching Horizon Drive reflect these differences.

Rodel Output Ramp Queueing

- ▶ Ramp queueing is not v/c ratio
- ▶ Horizon Drive off-ramp provides 1,490 feet of storage
 - ▶ 95th Percentile ramp queues:
 - ▶ Bypass lane queue is 330 feet
 - ▶ Roundabout approach queue is 125 feet
- ▶ Neither queue reaches I-70



KABCO Predicted Crashes

- ▶ Highway Safety Software (HSS) used to predict future crashes
- ▶ Historic KABCO percentages applied to HSS outputs
 - ▶ Year 2045 predicted crashes

Scenario	FI	PDO	K	A	B	C	O
No Action	67.9	147.0	2.5	8.1	18.2	39.1	147.0
Build (Base)	66.2	159.5	2.4	7.9	17.8	38.1	159.5
Auxiliary Lane	67.1	159.8	2.5	8.0	18.0	38.6	159.8
Braided Ramp w/ Slip Lane	59.9	146.4	2.5	7.1	16.1	34.5	146.4

- ▶ Applying the KABCO breakdown shows between 2 and 3 predicted fatalities in the forecast year

2050 Model Setting

- ▶ RTPO provided 2050 travel demand model files
- ▶ Initial impressions
 - ▶ Model includes 29 Road interchange scenario
 - ▶ Model includes F½ Road connections
 - ▶ Through Matchett Park
 - ▶ Between 29½ Road and 30 Road
 - ▶ 30 Road Interchange, I-70 Frontage Road not active
 - ▶ Portions of 29 Road between Patterson Road and I-70 coded as a 2-lane collector
 - ▶ Project-specific centroid connector updates not included

2045 versus 2050 Volumes

- ▶ Daily Volume Comparisons
 - ▶ I-70 volume decreases by about 25 percent
 - ▶ 29 Road volumes decrease by about 21 percent

Location	2045 Daily Link Volume	2050 Daily Link Volume	Percent Change
I-70 between 29 Road and Horizon Drive	59,373	44,582	-25%
29 Road (north of Patterson Road)	23,149	18,374	-21%

2045 versus 2050 Volumes

- ▶ AM Volume Comparisons
 - ▶ Total I-70 volume decreases by about 23 percent
 - ▶ Eastbound volume increases by about 15 percent
 - ▶ Westbound volume decreases by about 32 percent
 - ▶ 29 Road volumes decrease by about 6 percent

Location		2045 AM Link Volume	2050 AM Link Volume	Percent Change
I-70 between 29 Road and Horizon Drive	Eastbound	1,021	1,170	15%
	Westbound	4,305	2,928	-32%
	Total	5,326	4,098	-23%
29 Road (north of Patterson Road)	Both Directions	1,973	1,861	-6%

Operations Review

- ▶ Year 2045 Operations for Build (Base)
 - ▶ LOS F for one 15-minute period in three segments
 - ▶ LOS E for three 15-minute periods in one segment
 - ▶ Peak spreading is likely and may alleviate poor operations
- ▶ High-level analysis of 2050 model forecasts are 15% to 25% lower
 - ▶ Reductions projected to improve operations to LOS D/E or better
- ▶ Conclusion
 - ▶ 2045 LOS E/F conditions may never be experienced

CDOT Workshop

- ▶ Met in July to determine potential operational elements that could be included in Build (Base)
- ▶ Shared data previously presented in this meeting
- ▶ Operational Elements to be evaluated:
 - ▶ Westbound AM Ramp Metering
 - ▶ Speed Harmonization (variable Speed Limit signage)
- ▶ Safety concerns have been addressed with:
 - ▶ Widen inside shoulder
 - ▶ Warning beacons
 - ▶ Reduced speed limits
 - ▶ Reflective backplates

Agreed Upon Approach

- ▶ HCS says congestion occurs post-2040
 - ▶ Installing technology now not appropriate
 - ▶ Future Technology
 - ▶ Maintaining un-necessary equipment
 - ▶ Use the costs of mitigation and apply to another safety project of similar size and include in the project
 - ▶ CDOT will construct the Ramp Metering/Speed Harmonization when volume threshold is achieved
 - ▶ Documented in the final IGA
- 

Operational Improvement Effectiveness

- ▶ Can meter ramps to improve LOS:
 - ▶ 29 Road on-ramp, westbound AM only
 - ▶ Could provide LOS D (acceptable) on I-70 ramp segments
 - ▶ Still LOS E on I-70 mainline
- ▶ Can extend ramps to improve LOS:
 - ▶ Horizon westbound off-ramp
 - ▶ 29 Road westbound on-ramp
 - ▶ Could improve LOS by one letter grade
- ▶ Based on 2050 model output, future volumes could be 25 percent lower
 - ▶ Ramp metering and ramp extensions are an unnecessary investment

Ramp Metering Costs

Plus Traffic Control, Construction Engineering, etc. = **\$700,000**

Project Construction Items	CDOT Item Code	Unit	Quantity	Unit Cost (\$)	Total Cost
Drilled Shaft (24 Inch)	503-00024	LF	20	\$600	\$12,000
Drilled Shaft (36 Inch)	503-00036	LF	19	\$700	\$13,300
2 Inch Electrical Conduit (Plastic)	613-01100	LF	1,200	\$30	\$36,000
Type Four Pull Box	613-07004	EA	6	\$3,600	\$21,600
Light Standard Steel (40 Foot)	613-32400	EA	1	\$6,000	\$6,000
Wiring	613-10000	LS	1	\$50,000	\$50,000
Sign Panel (Class I)	614-00011	SF	9	\$40	\$400
Traffic Signal Face (12-12)	614-70225	EA	2	\$950	\$1,900
Traffic Signal Face (12-12-12)	614-70336	EA	4	\$1,400	\$5,600
Communications Cabinet	614-72830	EA	2	\$30,000	\$60,000
Microwave Vehicle Radar Detector	614-72887	EA	1	\$14,000	\$14,000
Loop Detector Wire	614-75875	LF	1,000	\$20	\$20,000
Flashing Beacon	614-80000	EA	2	\$4,000	\$8,000
Traffic Signal Pole Steel (1 Mast Arm)	614-82010	EA	1	\$25,000	\$25,000
Traffic Signal Pedestal Pole Steel	614-84000	EA	2	\$4,000	\$8,000
Ramp Metering Controller	614-86250	EA	1	\$10,000	\$10,000
Fiber Optic Cable	614-87010	LF	2,000	\$10	\$20,000
Ethernet Switch	614-87690	EA	1	\$6,000	\$6,000

Appropriately Sized Safety Project

- ▶ Widen Inside Shoulder I-70 EB (west of Horizon Dr.)
 - ▶ Create 8 ft shoulder (widen by 4 ft) = \$820k to \$1.9M
 - ▶ Create 10 ft shoulder (widen by 6 ft) = \$1.2M to \$2.5M
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TDM Update

- ▶ Revised trip reduction calculation in response to CDOT and Agency comments
- ▶ Decreased ramp trips reductions from 243 to 140. Goal is 230.
- ▶ Maintaining TDM Strategies with more conservative calculations
 - ▶ TMA/TMO—Rideshare Program & Schoolpool
 - ▶ Mobility Hub/Park-and-Ride
 - ▶ Bicycle Infrastructure Improvements
- ▶ Current discussion regarding PD 1601.1
- ▶ Additional strategies to achieve reduction goal
 - ▶ Account for a portion Regional Rideshare for VMT/GHG Emissions Reduction Goals

IGA Items

- ▶ Identify if investments needed for subsequent safety project. No need to identify for SLS
- ▶ Identify volume threshold for CDOT to build Ramp Metering
- ▶ Commitment to TDM Measures

Next Steps

- ▶ Documentation in the revised SLS
- ▶ TAC Review of SLS
- ▶ Submittal to Transportation Commission in the Fall
- ▶ Interstate Access Justification Request (IAJR) preparation and review

Thanks!