

Meeting Summary

Date: August 6, 2025; **Revised August 22, 2025**

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

Meeting Name: TAC Meeting #15: CDOT Follow-up

Meeting Date: July 28, 2025

Invitees:

Invitee	Organization	Attended?	Invitee	Organization	Attended?
Kevin King	Mesa County	X	John Dibble	FHU	X (virtual)
Scott Mai	Mesa County	X	Cady Dawson	FHU	X (virtual)
Trent Prall	Grand Junction	X	Alex Pulley	FHU	X
Eric Mocko	Grand Junction	X	Amanda Cushing	FHU	X
Mark Bunnell	CDOT	X	Paul Brown	FHU	X
Zane Znamenacek	CDOT	X	Daniel Larkin	Mesa County	X
Jason Smith	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.

Meeting Goal

Reach Consensus on Operational Elements Included in Build (Base)

Agenda

Quick Project Updates



Meeting Summary

- ▶ I-70 V/C Ratios
- ▶ I-70 Operations
- ▶ 2050 Volumes
- ▶ Safety

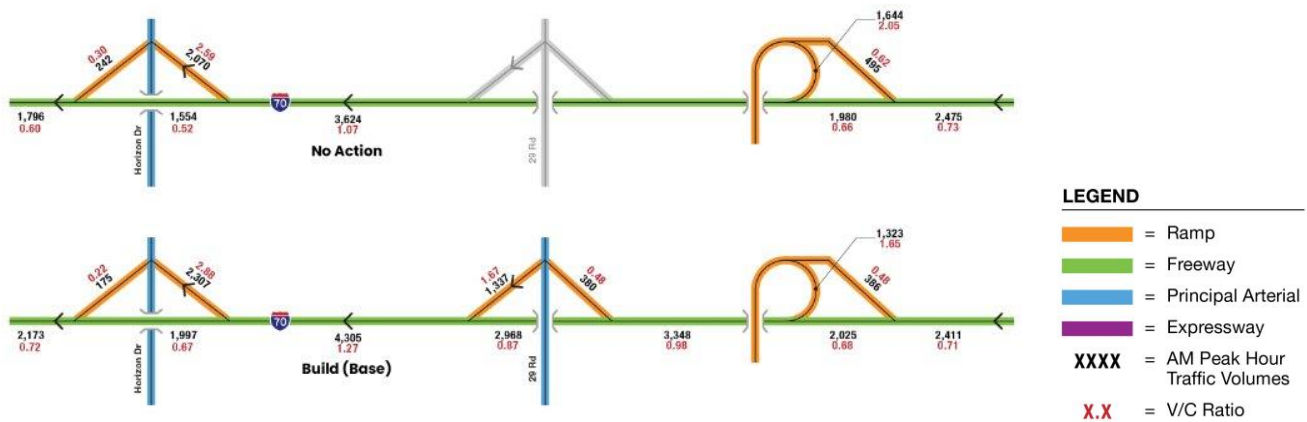
Discussion

Next Steps

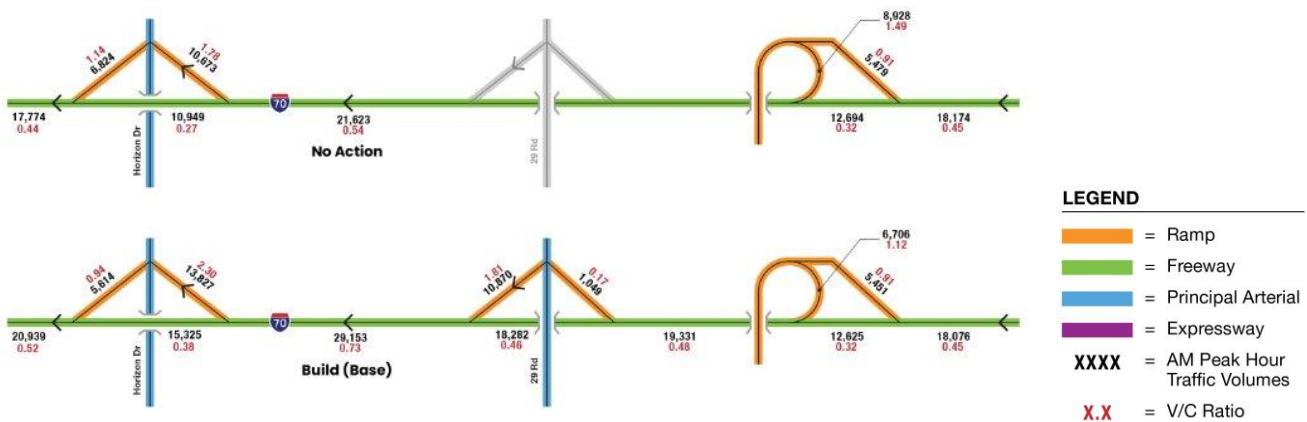
Quick Project Update

I-70 v/c ratios

AM Peak Hour V/C Ratios



Daily V/C Ratios



Meeting Summary

Summary

- ▶ V/C ratios show similar patterns
- ▶ No Action Horizon Drive off-ramp has a high v/c ratio
- ▶ AM Peak Hour v/c ratio over 2.5
- ▶ Daily v/c ratio over 1.7

No questions.

Ramp Queueing

Rodel Analysis Output



- ▶ 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
- ▶ Deceleration length is separate and requires around 1100 to 1200 feet for this ramp.

Meeting Summary

- ▶ Post Meeting follow-up – the calculated deceleration length value for this ramp is 1,215 feet.

No questions.

Safety

KABCO 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 with Slip Lane	59.9	146.4	2.5	7.1	16.1	34.5	146.4

FI: Fatal and Injury; PDO: Property Damage Only; K = fatality, A = incapacitating injury, B = non-disabling injury, C = possible injury, and O = no apparent injury.

Summary

- ▶ Highway Safety Software (HSS) used to predict future crashes for the year 2045
- ▶ Historic KABCO percentages applied to HSS outputs
- ▶ Applying the KABCO breakdown shows between 2 and 3 predicted fatalities in the forecast year

No questions.

Year 2045 model versus year 2050 model comparisons

Daily Volume Comparisons

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%



Meeting Summary

Summary

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

No questions.

AM Volume Comparisons

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%

Summary

- ▶ 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

No questions.

I-70 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



Meeting Summary

- ▶▶ Reductions projected to improve operations to LOS D/E or better
- ▶ Conclusion
 - ▶▶ LOS E/F conditions may never be experienced

No questions.

Options Previously Considered

- ▶ Build (Base)
- ▶ Auxiliary Lanes (EB and WB)
- ▶ 6-Lane I-70
- ▶ C-D Road
- ▶ Braided Ramps
- ▶ Braided Ramps with Slip Lane

Options to Discuss

- ▶ Extend Acceleration / Deceleration Lanes
- ▶ Metered 29 Road On-ramp
- ▶ Speed Harmonization (Clifton to 22 Road)
- ▶ F½ Road Connection
- ▶ Others??

Discussion

Acceleration / Deceleration Lane Extension

- ▶ The acceleration lane should not be too long otherwise people will think that it is an extra lane.
- ▶ Regarding the westbound Horizon Drive deceleration lane, a good reference length would be near the middle of the northward curve. The eastbound Silverthorne off-ramp is a good example of length.

Meeting Summary

Ramp Metering

- ▶ Include infrastructure for ramp metering and identify the threshold to activate when operations reach LOS D.
- ▶ The City/County would pay for the ramp metering infrastructure as part of the IGA with CDOT. –OR–
- ▶ The City/County will utilize the funds associated with the Ramp Metering to apply to a similar sized safety project in the corridor. CDOT will be responsible for implementing the Ramp Metering when the threshold has been met. This will be identified in the SLS and the exact safety project will be identified later and specified in the IGA. Edit: The other safety project (to replace Ramp Metering and/or Speed Harmonization) must be identified before CDOT will accept the SLS.

Speed Harmonization

Speed harmonization includes real time adjustments of speed limits based on operations. I-25 in Douglas County (the “Gap” area), I-70 through Glenwood Canyon, and Dowd Canyon have these features. Edit: Speed harmonization at I-70 through Glenwood Canyon and Dowd Canyon were installed as a safety feature during inclement weather, not for congestion mitigation.

For Dowd Canyon, the cost was approximately \$6 million for 3 miles, which may have been elevated due to the terrain.

Boundary options could include:

- ▶ Between I-70B/Clifton and I-70B/US 50
- ▶ Between 29 Road and Horizon Drive
- ▶ Between 29 Road and 22 Road
- ▶ Milepost 31 to Milepost 37

Question: Could we determine the approximate cost of an “ITS solution” and apply it as a safety solution (widening the inside curve, etc.) and build as part of the project?



Meeting Summary

Potential ITS solutions:

- ▶ Ramp metering
- ▶ Speed harmonization (real-time speed limit signs)

Question: Are there other safety issues along I-70 that could be reviewed and potentially included in the current project? Other areas within the overall study area that would benefit from added cable rail and/or adjusted cable rail?

Question: Since the Base (Build) includes widening the inside shoulder on the westbound curve; what about looking at widening the inside shoulder on the eastbound inside curve (west of Horizon Drive)?

Question: What are the raw Base (Build) crash numbers (without the safety improvements)? CDOT would like to know the magnitude of the safety improvements. Please include the improvements within a footnote of the SLS.

Statement: It would be helpful if Jason reached out to FHWA, including the new FHWA Contact (Julian Gonzalez) to talk about the project. FHU will send the TAC meeting summary.

Statement: The interchange will be located at the revised eastern location.

Statement Regarding presenting the project to the Transportation Commission. Jason will determine if 30% and NEPA must be completed prior to TC presentation. The initial options for presenting the completed SLS to the TC are as follows:

- ▶ October – November
- ▶ November – December

If the project must have an update, October is likely the best option.

Revisions to the System Level Study/Conceptual Design

- ▶ Determine the approximate cost of an “ITS solution” such as ramp metering and speed harmonization (real-time speed limit signs)



Meeting Summary

- ▶ Include the raw Base (Build) crash numbers (without the safety improvements) within the SLS so CDOT understands the magnitude of the safety improvements. Please include the improvements within a footnote of the SLS.

Decisions Made

- ▶ The interchange will be located at the revised eastern location.
- ▶ The City/County will utilize the funds associated with the Ramp Meeting to apply to a similar sized safety project in the corridor. Edit: The project team needs to provide an analysis that shows that ramp metering will solve the forecasted congestion issue before CDOT accepts it.
- ▶ CDOT will be responsible for implementing the Ramp Metering when the threshold has been met. This will be identified in the SLS and the exact safety project will be identified later and specified in the IGA. Edit: The other safety project (to replace Ramp Metering and/or Speed Harmonization) must be identified before CDOT will accept the SLS.

Next Steps

- ▶ Set up the next TAC meeting for August 20 at Mesa County offices between 1:00 and 3:00 pm (FHU).
- ▶ Reach out to FHWA to talk about the project (Jason).
- ▶ Send the TAC meeting summary to Jason for reference (FHU).
- ▶ Reach out to CDOT Executive level to determine if 30% and NEPA must be completed prior to TC presentation (Jason).

I-70 Interchange in Grand Junction – FHWA & CDOT Mtg

July 28, 2025

Agenda

- ▶ Quick Project Updates
 - ▶ WB Horizon Off Ramp Queuing
 - ▶ I-70 Operations
 - ▶ 2050 Volumes
 - ▶ Safety
- ▶ Discussion
- ▶ Next Steps

Meeting Goal:

Reach Consensus on Operational Elements Included in Build (Base)

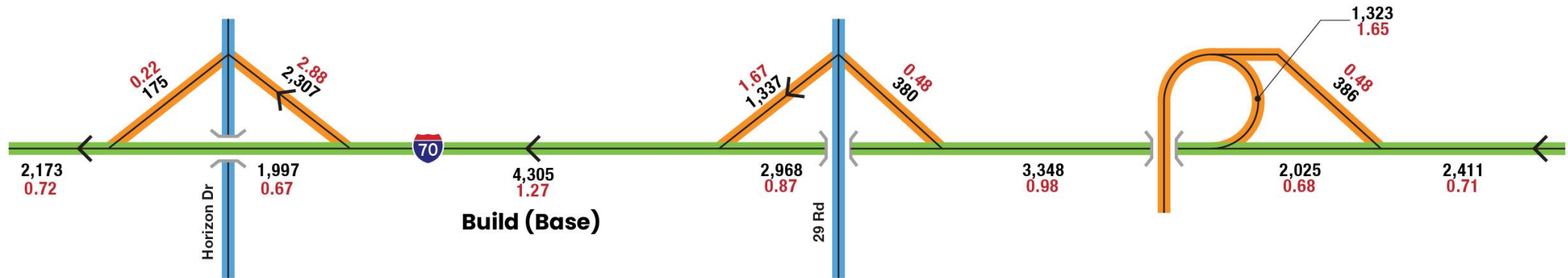
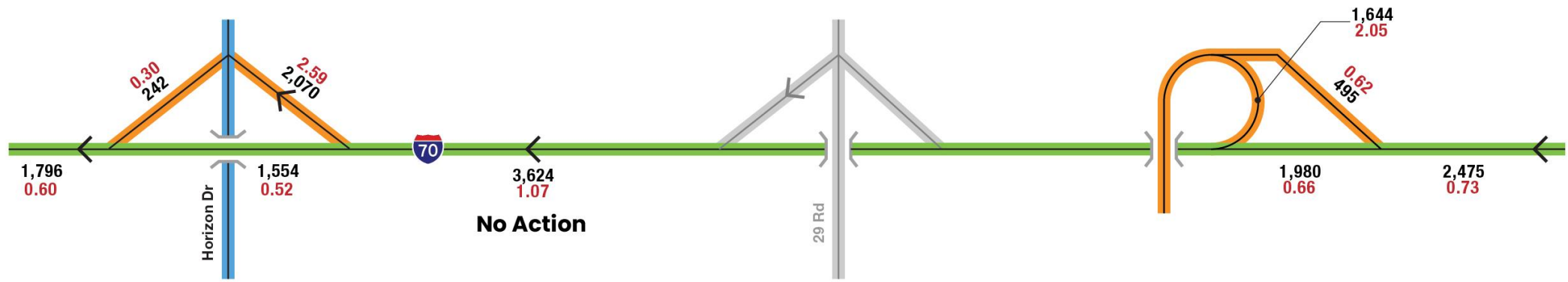
Quick Project Updates

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

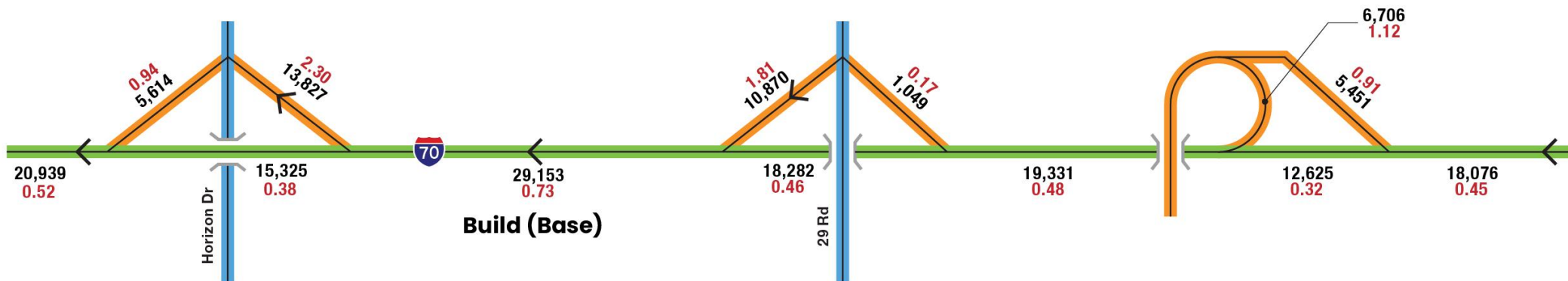
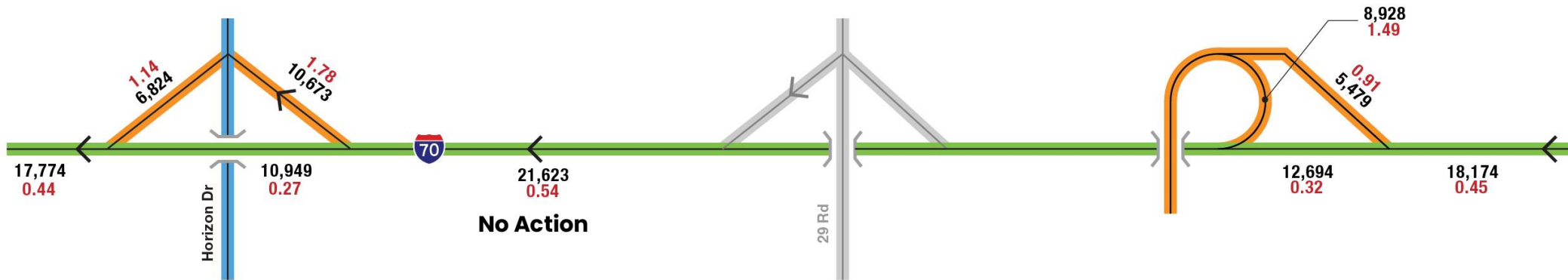
X.X = V/C Ratio



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

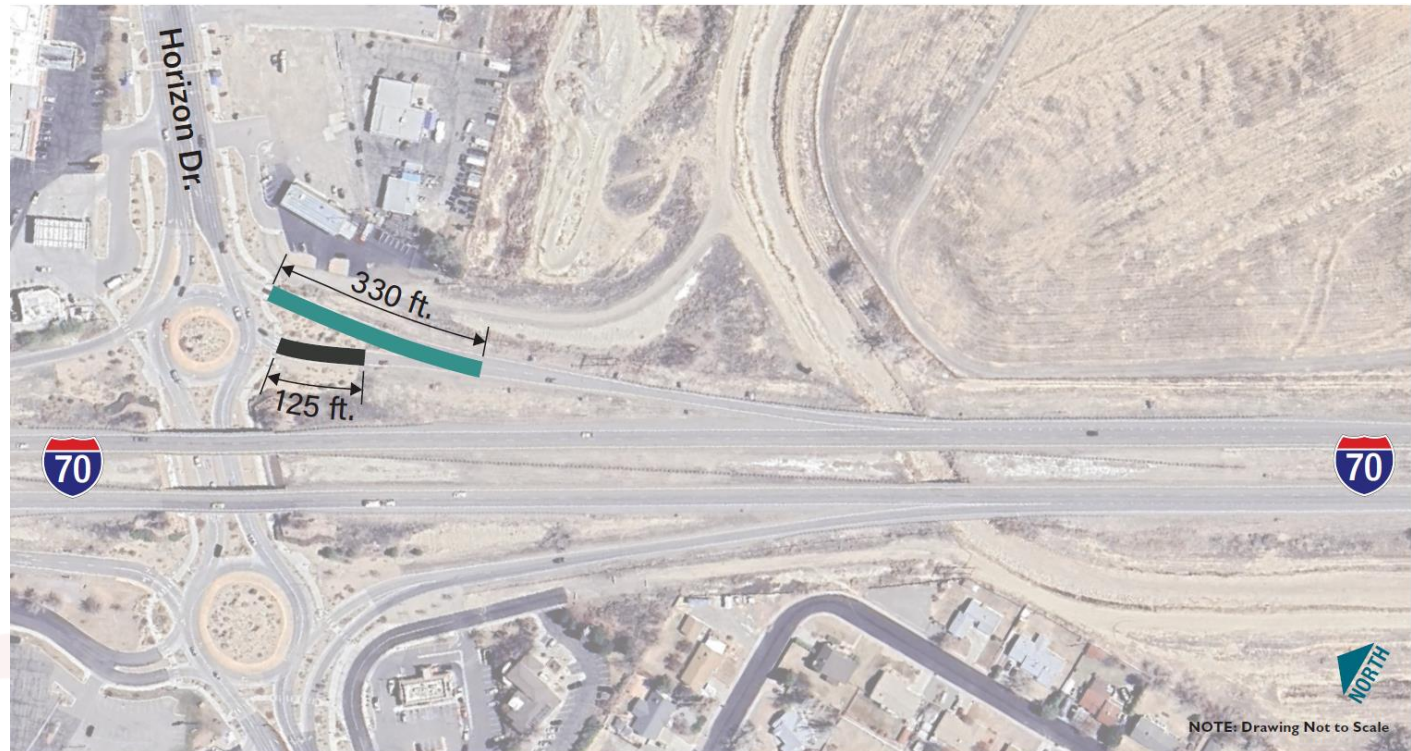
NORTH NOTE: Drawing Not to Scale

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
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KABCO Predicted Crashes

- ▶ Highway Safety Software (HSS) used to predict future crashes
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- ▶ 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 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
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2045 versus 2050 Volumes

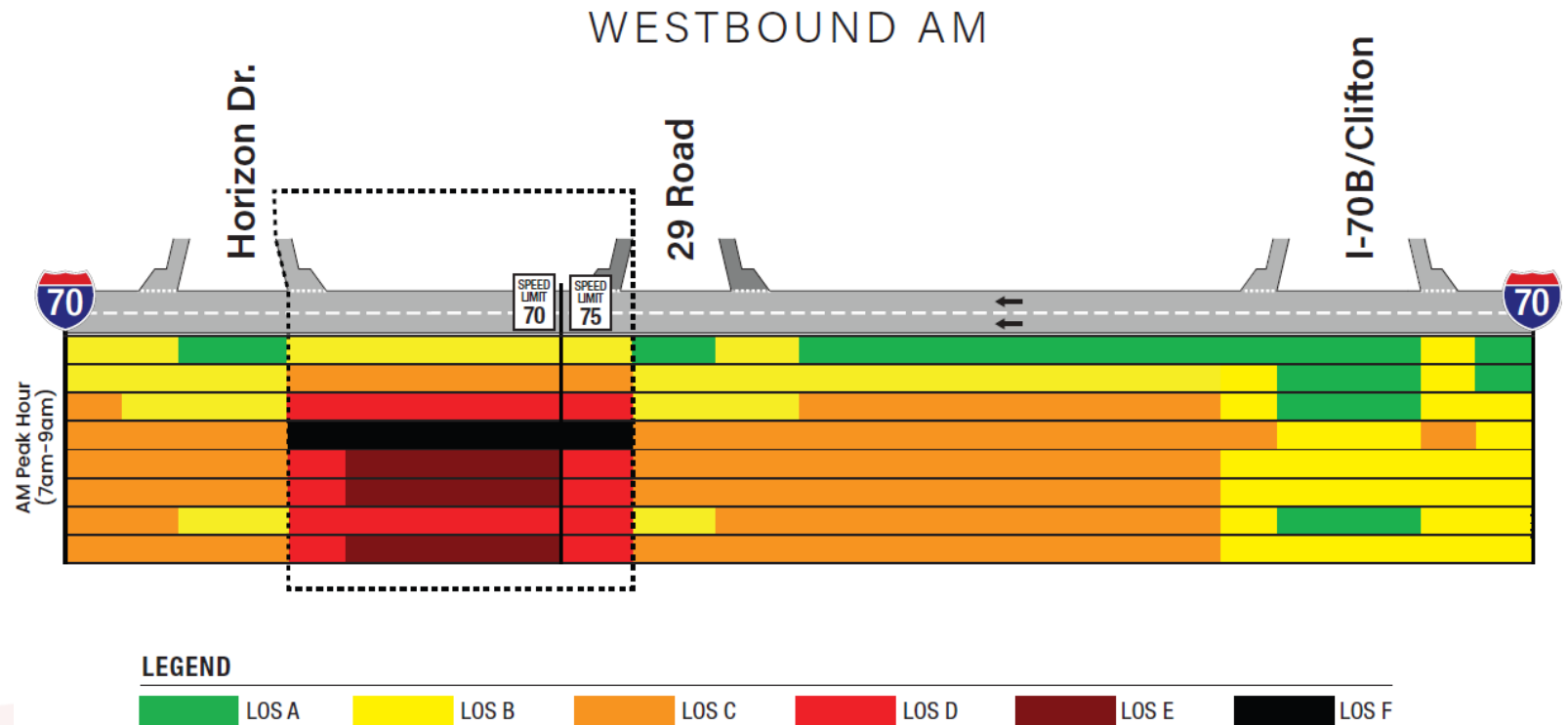
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I-70 Congestion Summary

- ▶ Conclusion:

- ▶ Lengthening merge and/or diverge areas will not show a decrease in HCS congestion



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
 - ▶ LOS E/F conditions may never be experienced

Freeway Capacity Options

- ▶ CDOT Comment:
 - ▶ Have we considered all capacity improvements?
- ▶ Action Item:
 - ▶ Review / summarize capacity options
- ▶ Options Considered:
 - ▶ Build (base)
 - ▶ Auxiliary Lanes (EB and WB)
 - ▶ 6-Lane I-70
 - ▶ C-D Road
 - ▶ Braided Ramps
 - ▶ Braided Ramps with Slip Lane
- ▶ Options to Discuss
 - ▶ Extend Acceleration / Deceleration Lanes
 - ▶ Metered 29 Road On-ramp Tolling
 - ▶ Speed Harmonization (Clifton to 22 Road)
 - ▶ F½ Road Connection
 - ▶ Others??

Options to Discuss

- ▶ Extend acceleration / deceleration lanes
 - ▶ Provide more space for merging and diverging
 - ▶ Would not change HCS operational results
- ▶ Metered 29 Road On-Ramp Tolling
 - ▶ Discourage local trips on I-70 through tolling
 - ▶ Would require significant ITS investment
- ▶ Speed Harmonization (Clifton to 22 Road)
 - ▶ Encourage peak spreading through speed management
 - ▶ Would require significant ITS investment
- ▶ F½ Road Connection
 - ▶ Would not significantly reduce trips on I-70
 - ▶ Does not meet Purpose and Need

Thanks!