WB I-70 Peak Period Shoulder Lane Project

Technical Team Meeting #10

January 10, 2018

CDOT I-70 Mountain Corridor

COLORADO
Department of Transportation

AGENDA

1. INTRODUCTIONS AND OVERVIEW

2. PROJECT TT CHARTER

3. RESPONSES TO TECHNICAL TEAM ISSUES
   - Safety Tool Box

4. OUTCOMES FROM ISSUE TASK FORCE MEETINGS

5. OUTREACH SUMMARY

6. FOLLOW UP

7. DISCUSS PROPOSED SOLUTIONS
   - Focus Area 1- Safety Tool Box Design Options
   - Focus Area 1 – Matrix
   - Focus Area 2 – Map Review

8. OUTSTANDING ISSUES

9. DEVELOP CRITERIA FOR:

10. NEXT STEPS
    - Parking Lot

INTRODUCTIONS AND OVERVIEW

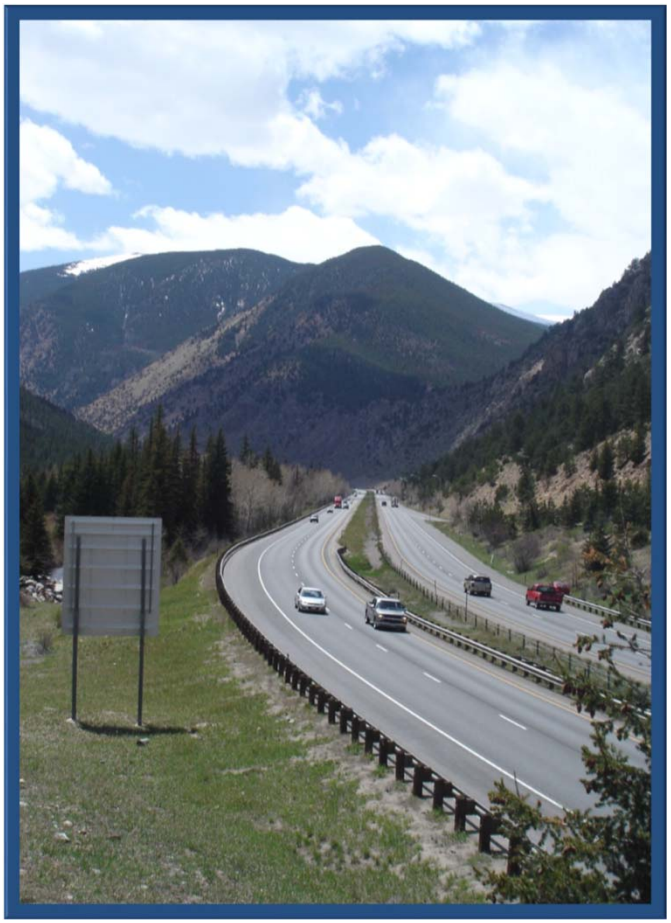
OUTCOMES FROM TECHNICAL TEAM MEETING

Outcomes/Process to date:

- Developed Evaluation and Issue Specific Criteria
- Reviewed Engineering 101
- Reviewed Corridor long foot-by-foot Context
- Reviewed Focus Area 1
- Reviewed Safety Tool Box
- Direction from TT to develop design options using the safety tools

PROJECT UPDATES

- Floyd Hill
- Region 3 Vail Pass
- Idaho Springs Transit Center
- Colorado Boulevard Reconstruction
- Clear Creek Greenway
- Fall River Road Bridge
- Smart 70 / RoadX
- Geohazard Mitigation Program
- INFRA Grant – Results Spring, 2018
- Circulation Partnership Symposium
- Variable Speed Limit Concept of Operations

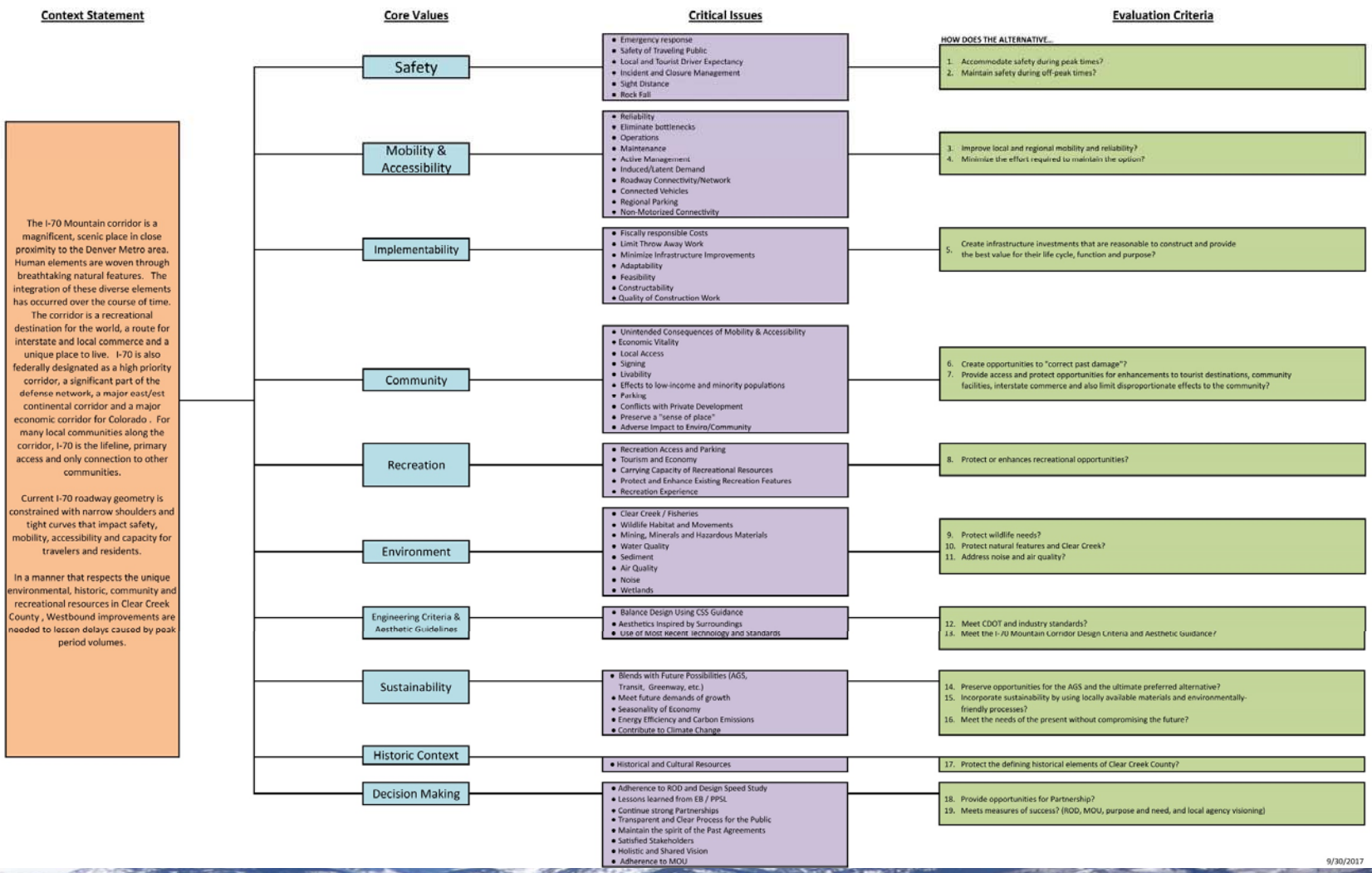


CSS PROCESS

DEPARTMENT OF TRANSPORTATION
Region 1 I-70 Mountain Corridor
425A Corporate Circle, Golden
Ph: 720.497.6900 Fax: 720.497.6901

COLORADO Department of Transportation

West Bound - Peak Period Shoulder Lane
DRAFT

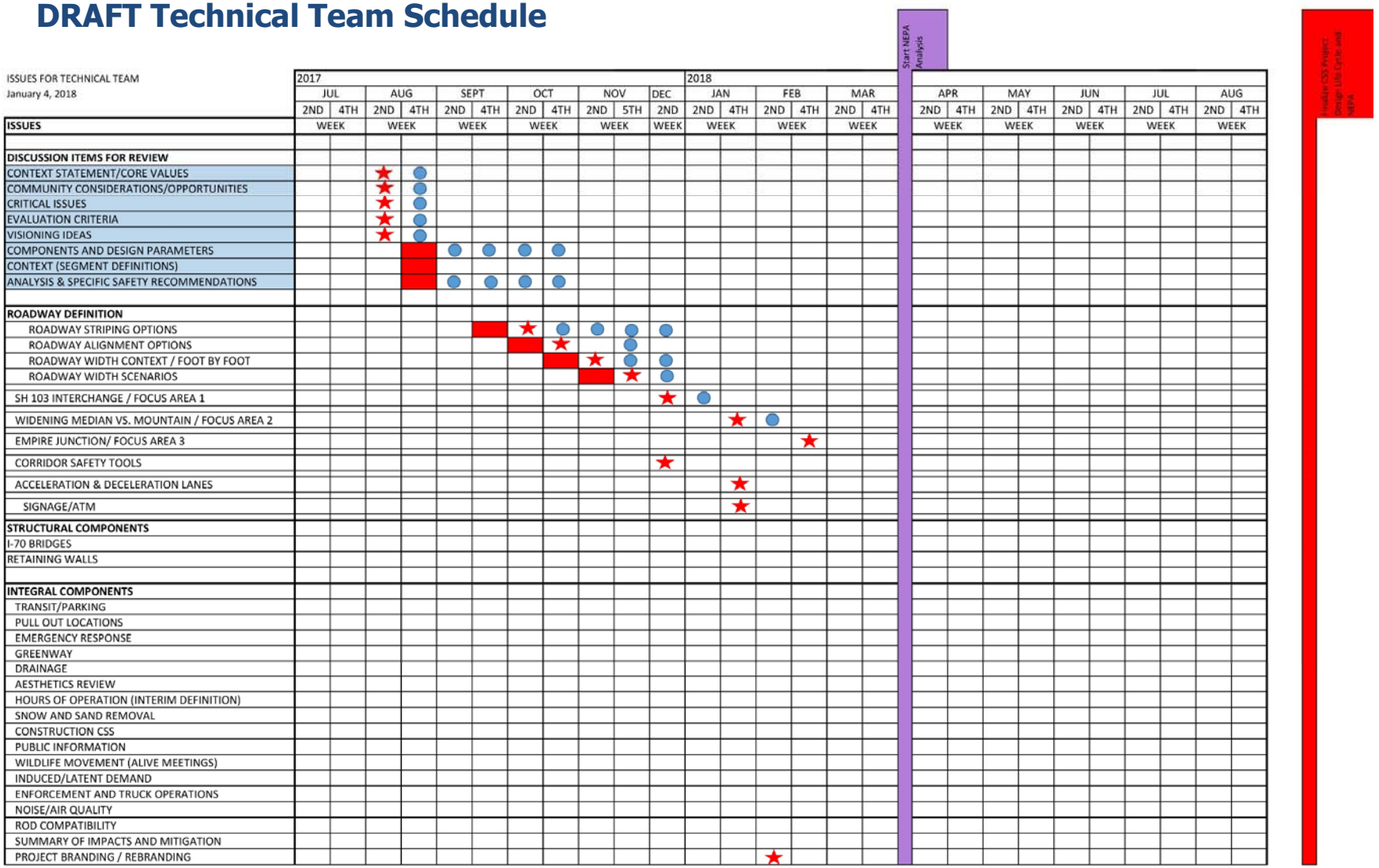


9/30/2017

CSS TRACKING SCHEDULE

I-70 MOUNTAIN CORRIDOR - WEST BOUND PEAK PERIOD SHOULDER LANE

DRAFT Technical Team Schedule



RESPONSES TO TECHNICAL TEAM ISSUES

REPONSES TO TECHNICAL TEAM ISSUSES

Safety Tool Box

Physical

- Widths: Lanes, Shoulders, Buffers, Shy Distance
- Lighting
- Pullouts
- Rumble Strips and Striping
- Bridge Treatments
- Clear Zones/Unpaved hardened shoulder
- ITS: VMS, DSRC, Ramp Meters
- Acceleration and Deceleration Lengths
- Ramp Terminal Designs
- Vehicle-Wildlife collision mitigation
- Signage (balance need with aesthetics)
- Technology (Road X)

Operational

- Variable Speed Limits
- Enforcement – Speed, Lane and Traction Violations
- Winter Operations Plan:
  - Plowing
  - Courtesy Patrol
  - Traffic Incident Mgmt
  - Other
- Speed Harmonization
- Maintenance
- Education

DISCUSS PROPOSED SOLUTIONS

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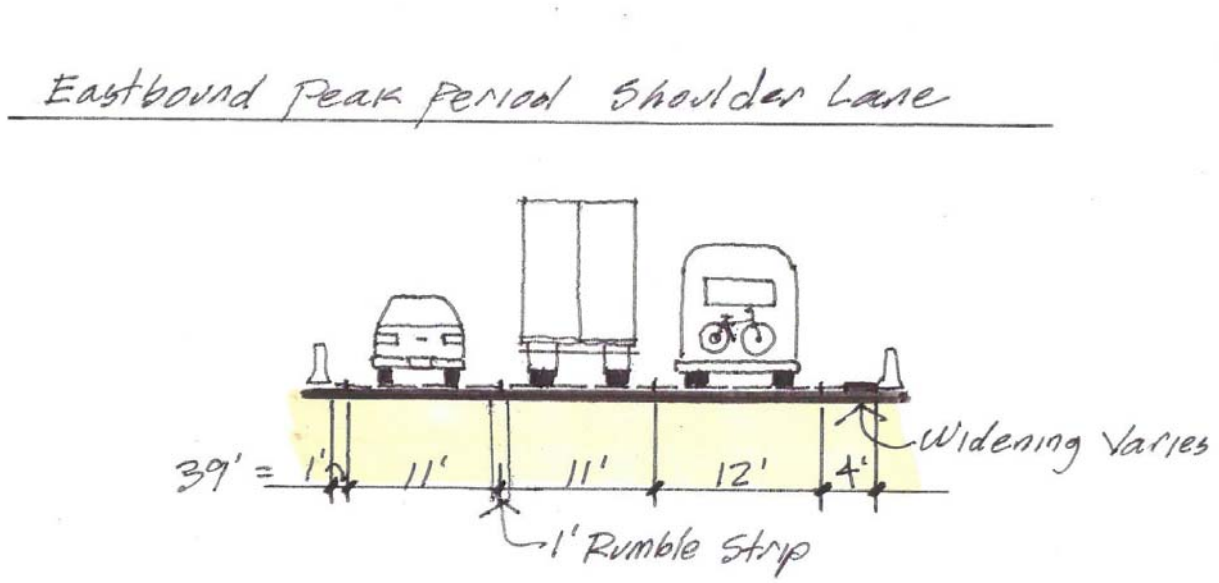
FOCUS AREA 1: SAFETY TOOL BOX DESIGN OPTIONS - SECTIONS



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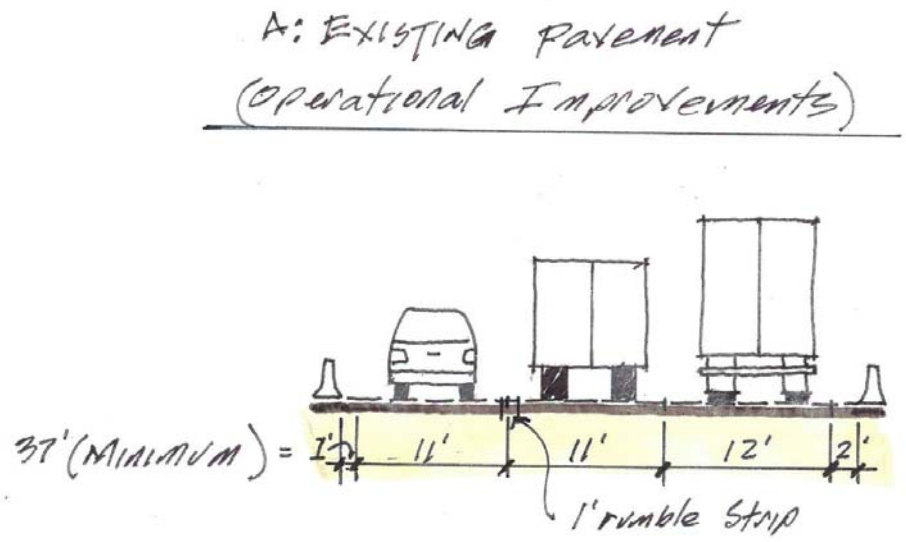

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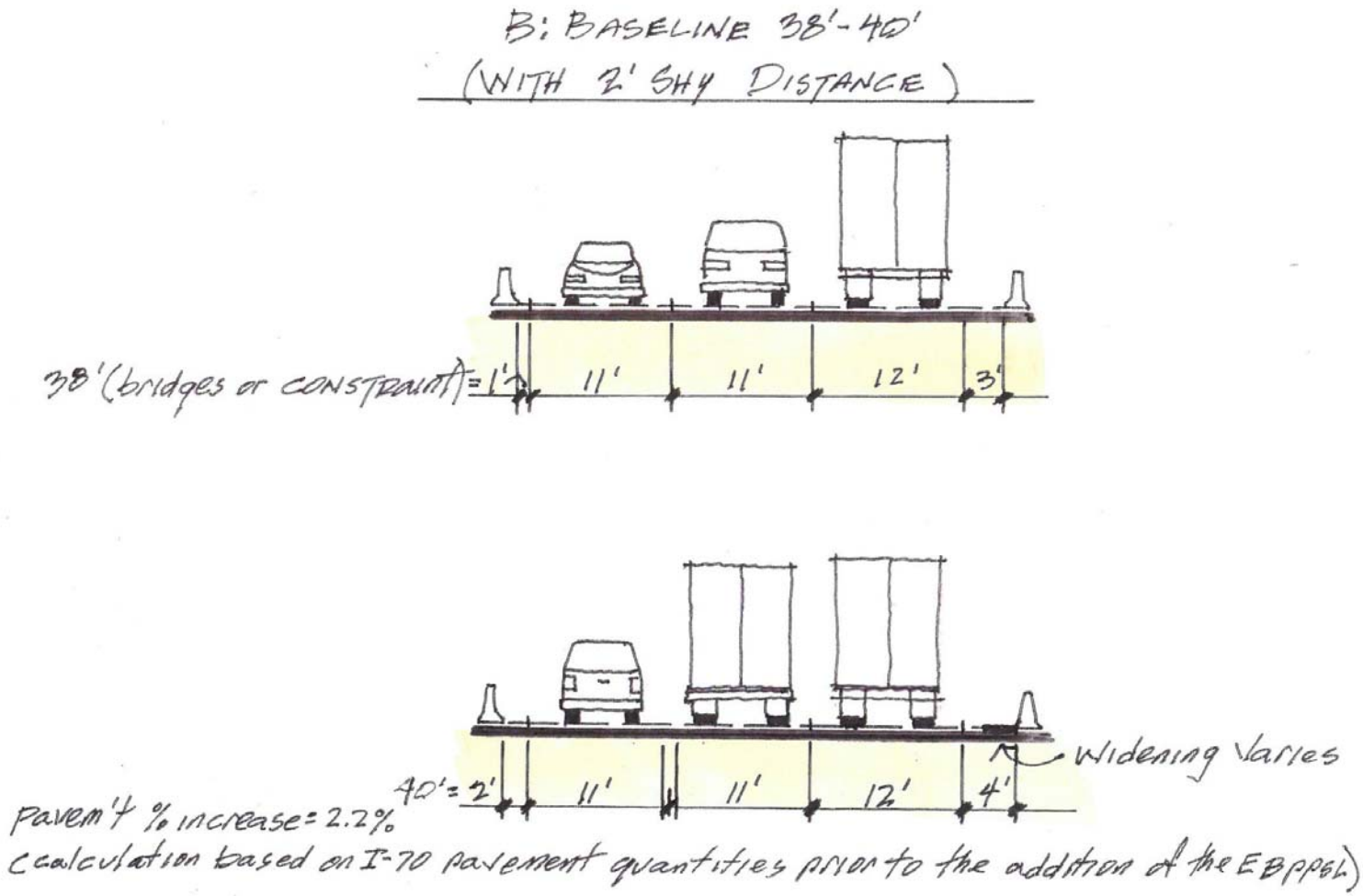
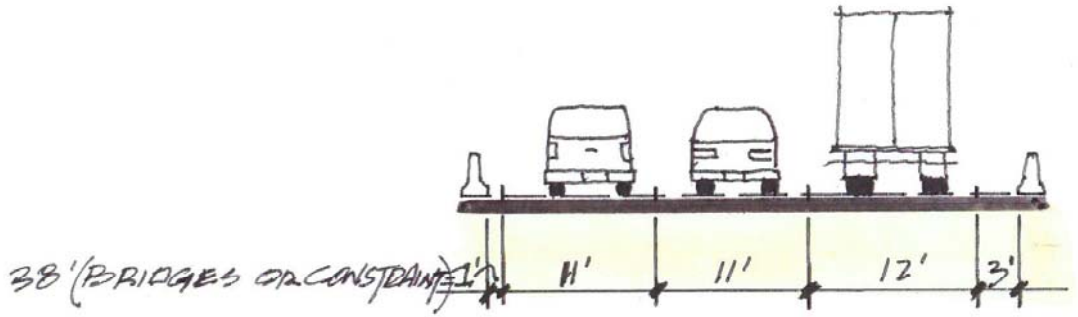
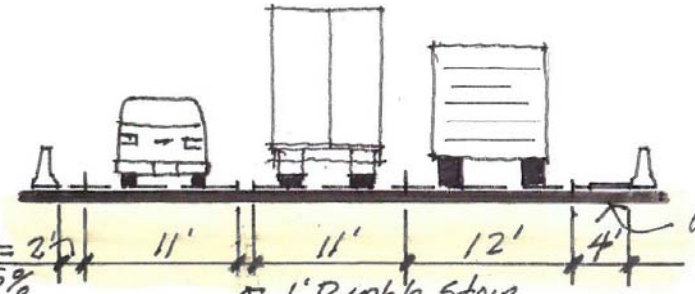


DISCUSS PROPOSED SOLUTIONS

FOCUS AREA 1: SAFETY TOOL BOX DESIGN OPTIONS - SECTIONS

C: 38' - 41'
(With 2' SHY DISTANCE & 1' RUMBLE STRIP BUFFER)



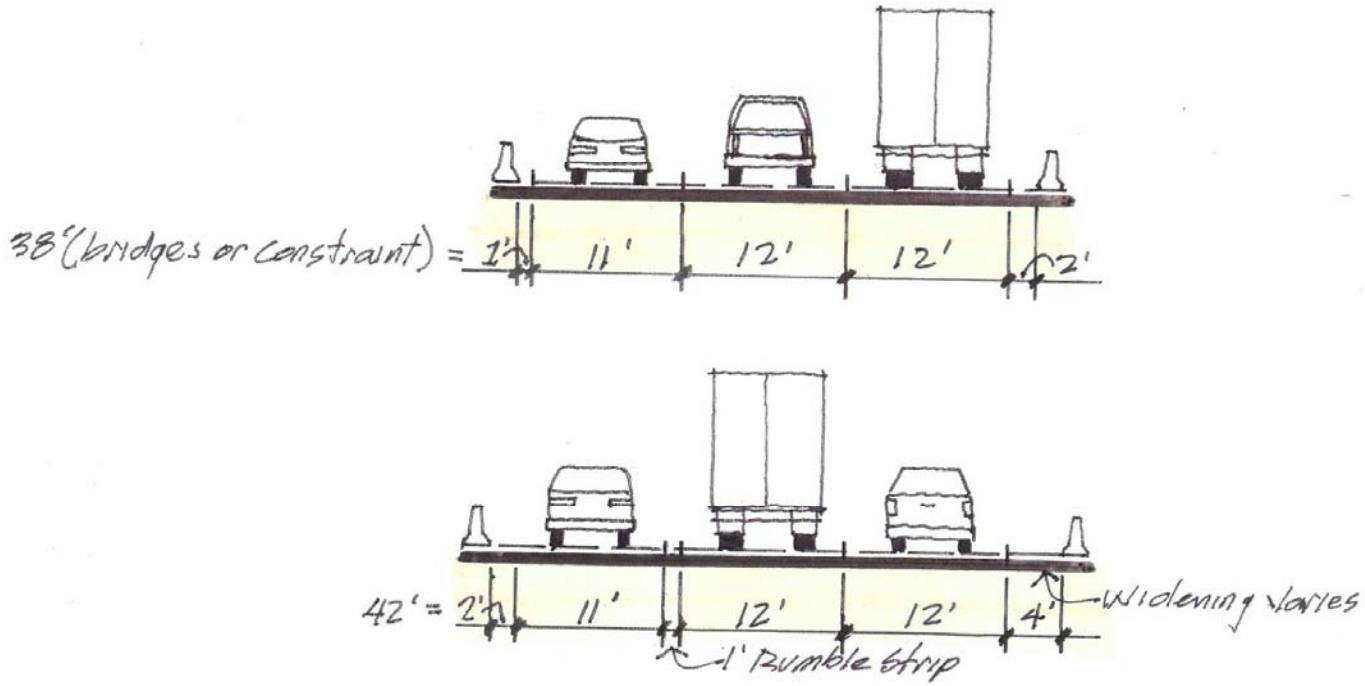


Pavem't % increase = 2.5%
(calculation based on I-70 pavem't quantities prior to the addition of the EB APSL)

DISCUSS PROPOSED SOLUTIONS

FOCUS AREA 1: SAFETY TOOL BOX DESIGN OPTIONS - SECTIONS

D: 38'-42'
(WITH 2' SHY DISTANCE, 1' RUMBLE STRIP BUFFER & 12' CENTER LANE)

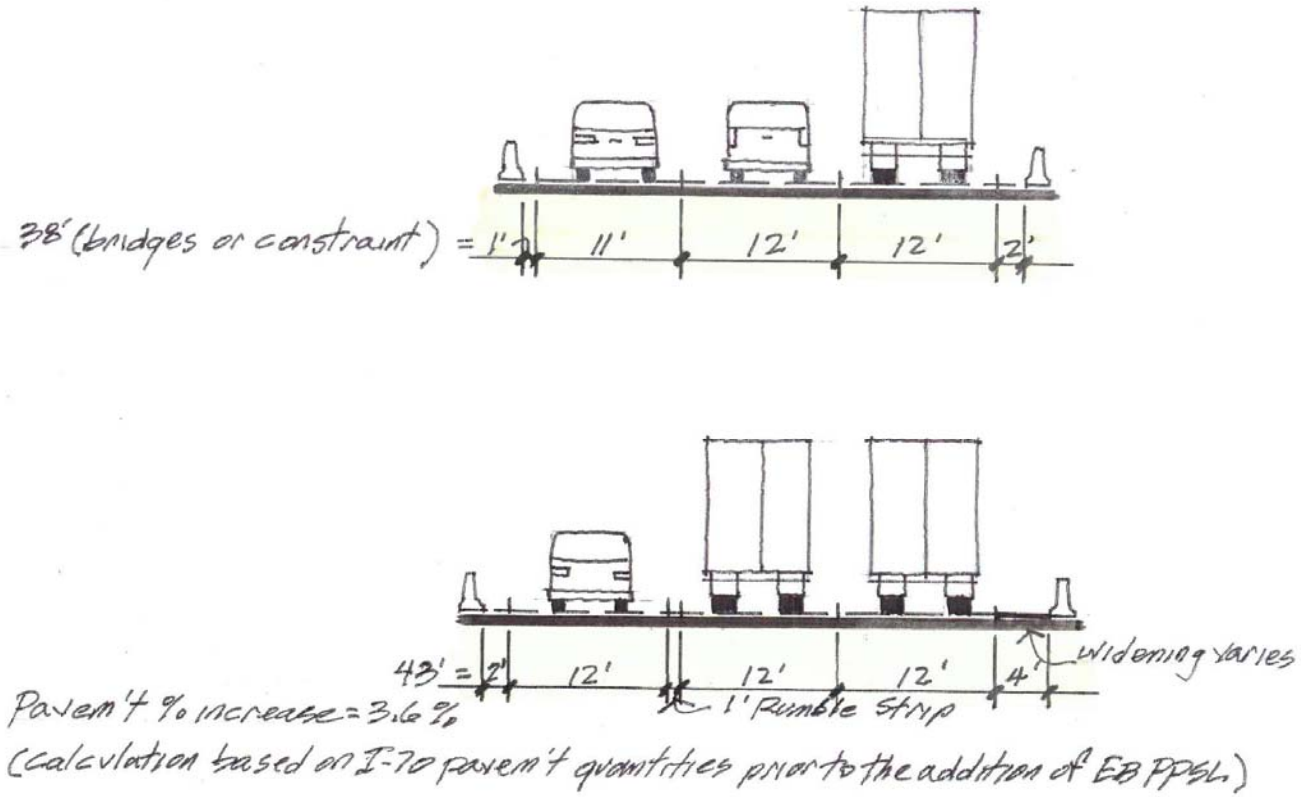


Pavement % increase = 2.9%
(calculation based on I-70 pavement quantities prior to the addition of EB PPSL)

DISCUSS PROPOSED SOLUTIONS

FOCUS AREA 1: SAFETY TOOL BOX DESIGN OPTIONS - SECTIONS

E: 38'-43'
(WITH 2' SHY DISTANCE, 1' RUMBLE STRIP BUFFER & THREE 12' LANES)



DISCUSS PROPOSED SOLUTIONS

FOCUS AREA 1 MATRIX

- Review and understand criteria
- Identify issue specific criteria
- Begin to populate matrix

DISCUSS PROPOSED SOLUTIONS

FOCUS AREA 2 MAP REVIEW

NEXT STEPS

NEXT STEPS

- **REFINE DRAFT FOCUS AREA 1 MATRIX**
- **FOCUS AREA 2**
  - Identify safety tool box design options decisions
  - Issue specific criteria
  - Evaluation

NEXT STEPS

PARKING LOT ISSUES

- Better define CSS during construction
  - Improved communication
  - Improved traffic control
  - Improved safety
  - School District issues during construction
- Public Health issues
- Modeling projections vs actual impacts (i.e., air quality, noise, vehicular trips)
- Residential Historic District in Idaho Springs
- Project Branding / Rebranding (i.e., express vs. peak period shoulder lane) – February Meeting
- Broadband
- Variable Speed Limits
- Weigh Station Access

FUTURE MEETINGS

FUTURE TT MEETINGS

- 2nd and 4th WEDNESDAY of the month
- 9 am to noon
- CDOT Golden
- NEXT MEETING: January 24, 2018

GLOSSARY OF TERMS

Acceleration Lane	A lane adjacent to the primary travel lane that allows drivers to accelerate before merging into traffic on the main road
Active Traffic Management	A method of increasing peak capacity and smoothing traffic flows on busy major highways. Techniques include variable speed limits, hard-shoulder running, ramp-metering and may be controlled by overhead variable message signs .
Auxiliary Lane	Along a highway an auxiliary lane connects entrance and exit ramps, with the entrance ramp or acceleration lane from one interchange leading to the exit ramp or deceleration lane of the next.
Breakdown Lane	A strip of ground with a hard surface beside a major road where vehicles can stop in an emergency.
Deceleration Lane	A lane adjacent to the primary travel lane that allows drivers to pull off the main road and decelerate safely in order to turn or exit without slowing the traffic behind.
Dynamic Toll	A toll per vehicle that increases or decreases depending on the level of congestion in order to maintain the smooth flow of traffic.
EOP	Edge of pavement.
General Purpose Lane	A traffic lane that does not have any restrictions, such as time of day or type of vehicle that may use the lane.
Interim Solution	An improvement on a roadway that will not be a permanent solution.
Managed Lane	In this case, the managed lane operates during a peak period and traffic utilizing that lane will be required to pay a toll.
Median	The central area between divided highway lanes with traffic traveling in opposite directions.
Peak Period Shoulder Lane	This is a lane of traffic that may function either as a shoulder and a managed lane or a shoulder and a general purpose lane, depending on left versus right.
RoadX	Using technology beyond infrastructure improvements to solve mobility and safety issues
Rumble Strips	A series of raised strips across a road or along its edge that make a loud noise when a vehicle drives over them in order to warn the driver to go slower or that he or she is too close to the edge of the road.
Shy Distance	The distance from the edge of the traveled way to a roadside object that is comfortable enough so the driver will not swerve out of their lane or slow down.
Side Buffer	The space between the general purpose lanes and Peak Period Shoulder Lane
Sight Distance	The distance it takes for a driver to see a hazard in the road, react, and come to a stop.
ROD	Record of Decision (ROD) for the NEPA process
Traffic Management Operations	A coordinated approach to road traffic management where ITS traffic data is utilized to provide traffic information across various platforms to allow for more effective incident management and more efficient management of traffic. This could include continual monitoring of video feed from the corridor.
Sustainability	The organizing principle for meeting human development goals, while at the same time sustaining the ability of natural, economic and social systems to provide the natural resources and ecosystem services upon with the economy, society and environment depends.