

*A Path Forward*

WESTBOUND I-70 MOUNTAIN CORRIDOR CONCEPT DEVELOPMENT

WELCOME



COLORADO  
Department of Transportation

# HOW DID WE GET HERE?



## BIG IMPACT FROM POPULATION BOOM

Colorado has become the second fastest growing state.\* The total current population is over 5.5 million, with 91,726 new residents in 2016.



### Traffic Congestion

This rapid growth has caused major road congestion issues. During the 2016 winter and summer seasons, a combined 2.1 million vehicles traveled the I-70 Mountain Corridor.

\*

*According to the Dec. 20, 2016 U.S. Census Bureau report*

# HOW DID WE GET HERE?



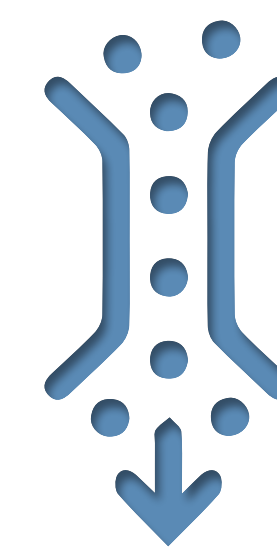
## PLANNING PROCESS IS UNDERWAY

Recognizing the need for westbound improvements, CDOT and Clear Creek County have begun a planning process for the top of Floyd Hill to Empire Junction.



### Programmatic Environmental Impact Statement (EIS)

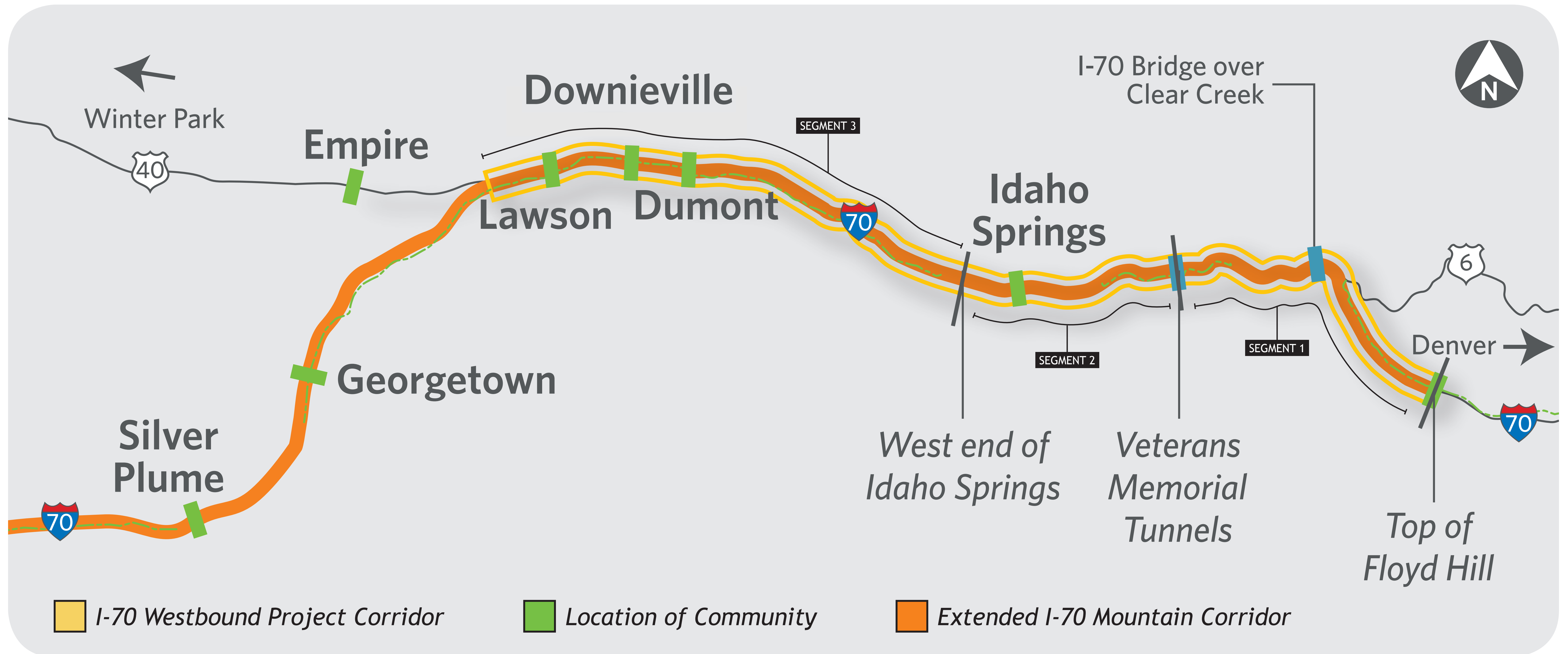
Process ended in 2011 and resulted in an official Record of Decision (ROD) that identified list of selected improvements.



### Goals of the Concept Development

- + Identify concepts for the roadway to be advanced into the National Environmental Policy Act (NEPA) Process.
- + The work will examine context of the communities and landscapes through which I-70 travels while identifying any fatal flaws with concepts.

# PROJECT CORRIDOR



# IDENTIFIED SOLUTIONS

FROM THE 2011 RECORD OF DECISION



## I-70 MOUNTAIN CORRIDOR IMPROVEMENT PROJECTS



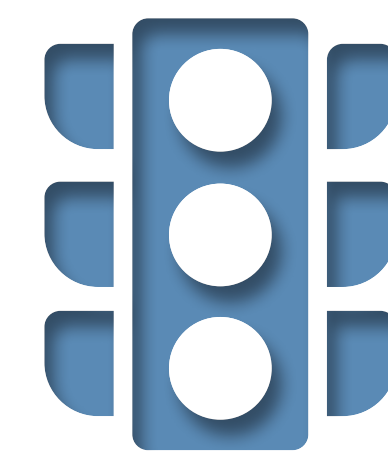
### Additional Capacity

- + Six lane capacity from Floyd Hill through the Veterans Memorial Tunnels, previously known as the Twin Tunnels
- + Frontage road from Idaho Springs to US 6



### Interchange Efficiency

- + Empire Junction interchange improvements



### Safety Improvements

- + **PARTIALLY COMPLETED:** Eastbound acceleration lane from the Eisenhower-Johnson Memorial Tunnels to Herman Gulch
- + Westbound acceleration lane from Bakerville to Eisenhower-Johnson Memorial Tunnels



### Multimodal Improvement

- + **PARTIALLY COMPLETED:** Bike trail from Idaho Springs to US 6

# IDENTIFIED SOLUTIONS

FROM THE 2011 RECORD OF DECISION



## ADVANCED GUIDEWAY SYSTEM (AGS)

CDOT'S Advanced Guideway System feasibility study was completed in 2014. It came to the following conclusions:

- + 4.6 to 6.2 million annual riders
- + \$13.3 to \$16.5 billion in capital costs
- + \$114 to \$157 million in annual operating revenue
- + Technically feasible
- + Not currently financial feasible without local, state, or federal funding sources that can cover capital costs
- + Westbound concepts will not stop future Advanced Guideway System



## OTHER IMPROVEMENTS IDENTIFIED

- + Truck operations improvement in non specified locations
- + Interchange improvements at Georgetown, Downieville, Fall River Road, and base of Floyd Hill
- + Non-infrastructure strategies such as: Expanding use of existing infrastructure, bus service, programs for improving truck movements, and traveler information

# IDENTIFIED SOLUTIONS

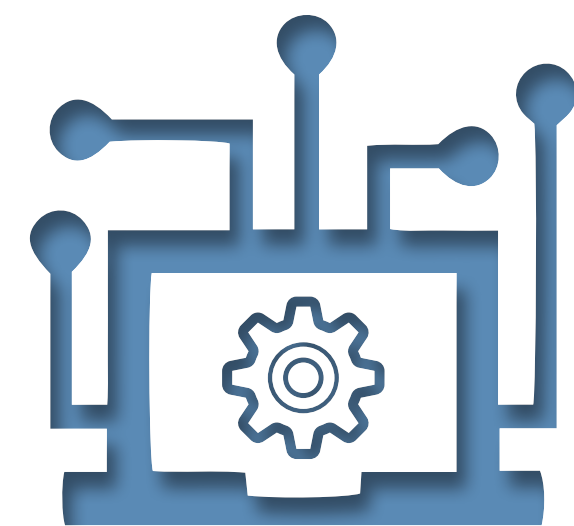
FROM THE 2011 RECORD OF DECISION



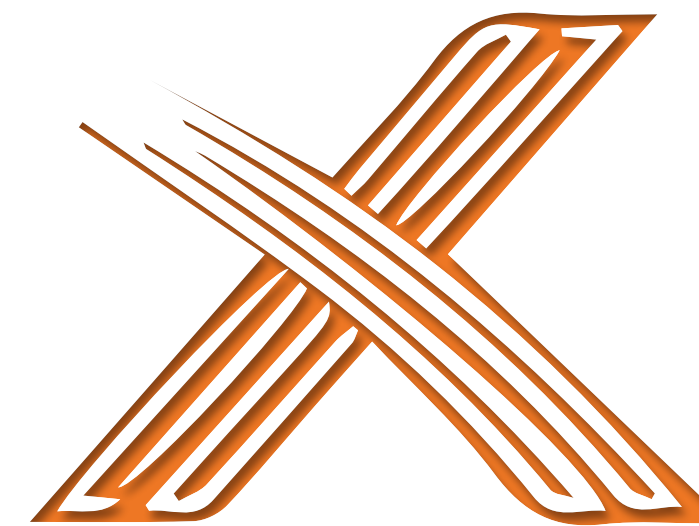
## ADVANCED TECHNOLOGY OPPORTUNITIES



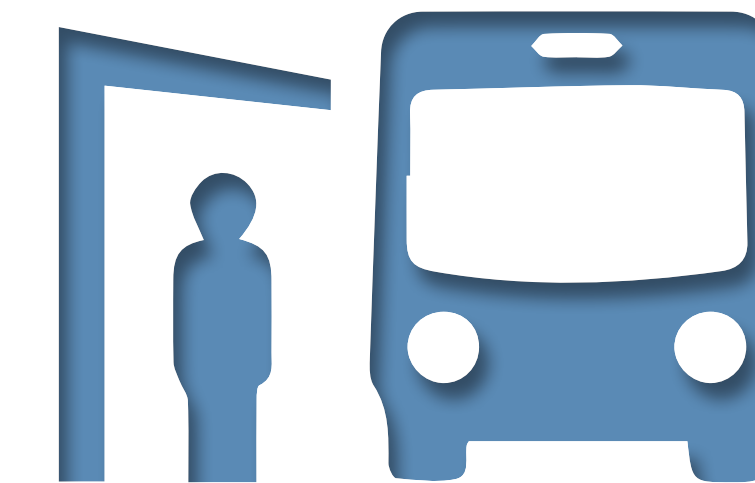
Autonomous  
and connected  
vehicles



Information  
technology  
systems



Technology  
advancements  
(RoadX)



Bus, van or  
shuttle services  
(supported by technology  
advancements)



Advanced  
Guideway  
System

### What is RoadX?





The RoadX vision is to transform Colorado's transportation system into one of the safest and most reliable in the nation by teaming up with public and industry partners to harness emerging technologies. Learn more: [cdot.gov/programs/roadx](http://cdot.gov/programs/roadx)

# IDENTIFIED SOLUTIONS

FROM THE 2011 RECORD OF DECISION



## ADAPTIVE MANAGEMENT PROCESS IS A VITAL COMPONENT

-  Maximum program of improvements (including 6 lane capacity in Clear Creek County) implemented only after evaluating the need for those improvements in 2020.
-  Recognizes that future travel demand and behavior are uncertain.
-  Recognizes that global, regional, or local trends or events have unexpected effects on travel needs, behavior and patterns.
-  May need to consider other improvements in response to unexpected trends or events.

### What is Adaptive Management?

It is a structured commitment to a deliberate style of repetitive decision making with an aim to revisit and analyze key questions at important project milestones.



# COMPLETED PROJECTS

FROM THE RECORD OF DECISION

## VETERANS MEMORIAL TUNNELS



- + Veterans Memorial Tunnels, previously known as the Twin Tunnels, were widened in both directions.

## I-70 MOUNTAIN EXPRESS LANES



- + The I-70 Mountain Express Lane Project was completed in Spring 2016. It extends eastbound from Empire Junction through the Veterans Memorial Tunnels.

## ACCELERATION LANE ADDITION



- + Eastbound acceleration lane addition just east of the Eisenhower Johnson Memorial Tunnel was partially completed.

# EASTBOUND IMPACT

## POSITIVE EFFECT OF RECENT CONSTRUCTION



Travel times for all lanes has improved 20 to 50 percent



Time to clear corridor back-ups has substantially improved



Express Lane has been well received by public and the media



Time to clear incidents has improved



Frontage Road congestion has been alleviated

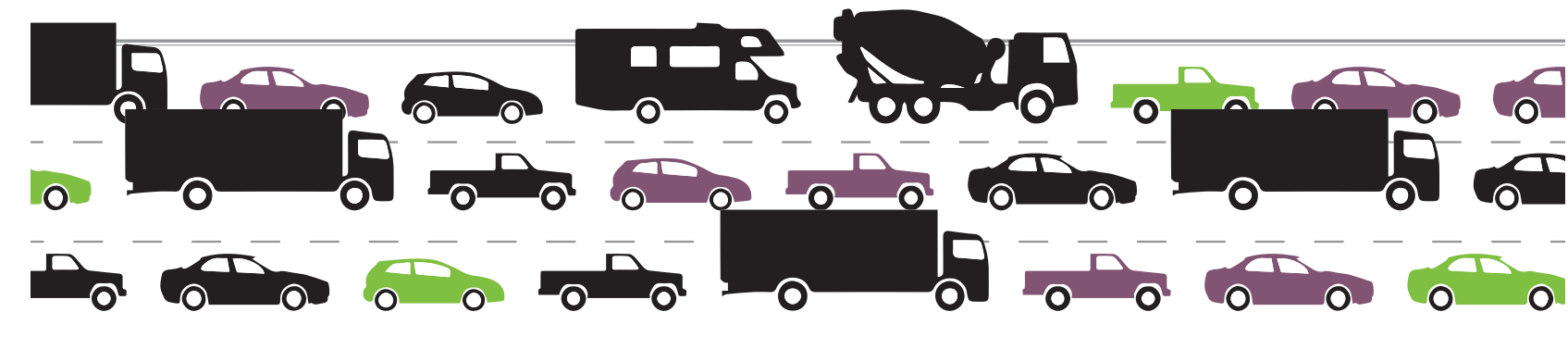
*Data is from the I-70 Mountain Express Lane January 1 through April 10, 2016 and May 30 through September 5, 2016 Summary of Findings Report*

# EASTBOUND DATA

## VOLUME

Winter: 1.03  
million vehicles

2010-2012 average: 896,000 vehicles



Summer: 1.06  
million vehicles

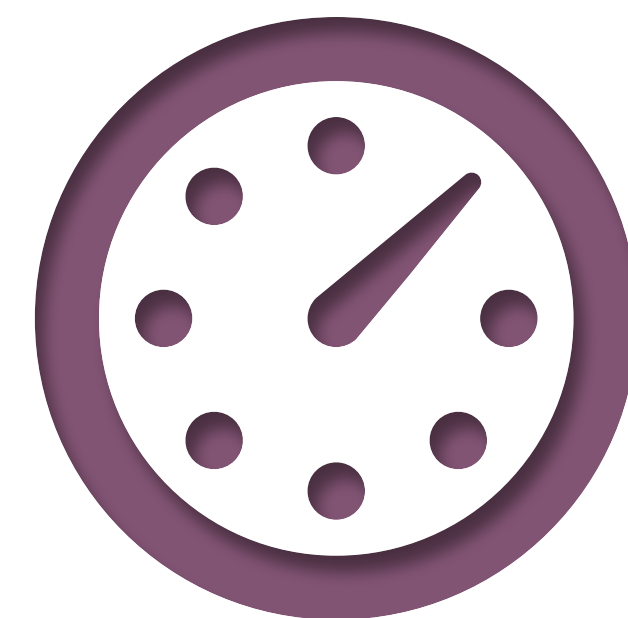
2010-2012 average: 993,500 vehicles

## CORRIDOR SAFETY IMPROVED



Corridor incidents were down  
15 percent in the winter season.

## TRAVEL TIMES IMPROVED

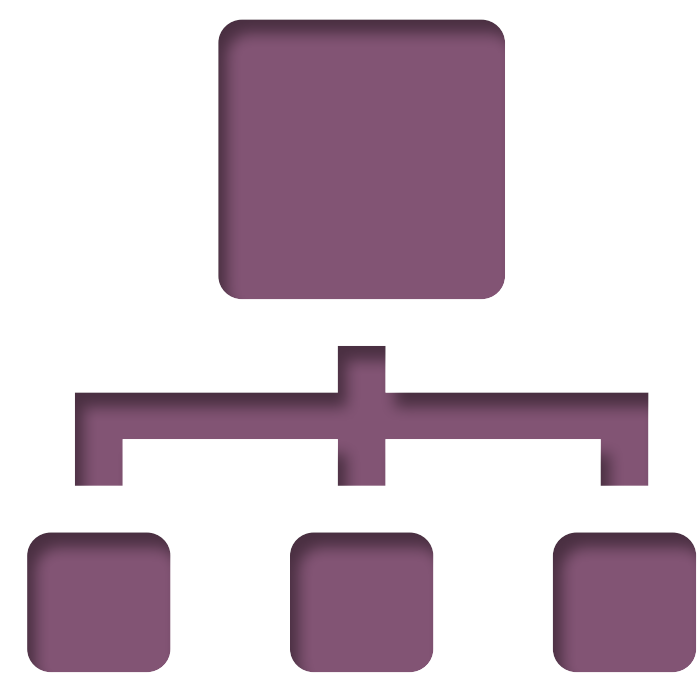


In a worst-day comparison between  
2015 and 2016, eastbound travel times  
between Georgetown and US 40 improved  
by 21 minutes with Mountain Express Lanes.

*Data is from the I-70 Mountain Express Lanes January 1 through April 10 and May 30 through September 5 Summary of Findings Report*

# OUR LESSONS LEARNED

## FEEDBACK ON RECENT CONSTRUCTION



Need better coordination among the multiple construction projects



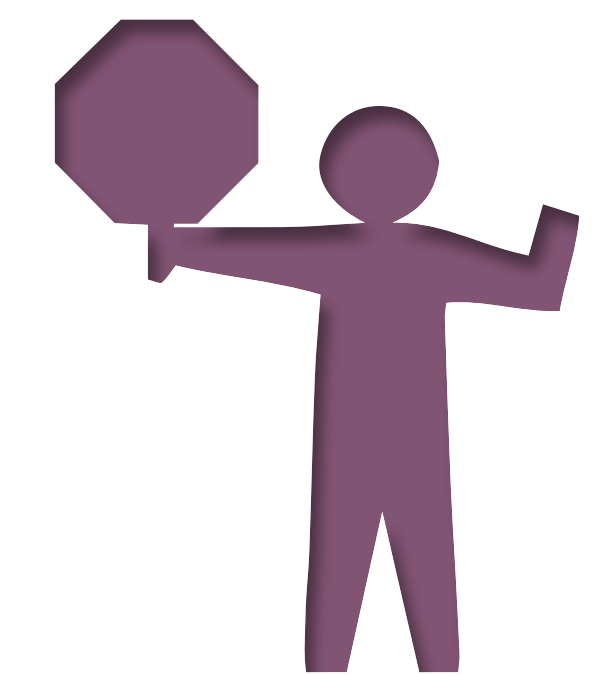
Need better communication with the business community and the public, especially about road closures



Need more signage that business access is open



Need better construction quality



Need more sufficient traffic control

# WHY ARE WESTBOUND IMPROVEMENTS NEEDED?



## TRAFFIC IS STILL A DRAG

Westbound congestion that starts at the base of Floyd Hill on Saturday mornings and Friday afternoons is a drag on the local economy and impacts tourism negatively.



## HAZARDS REMAIN THE SAME

Increasing number of westbound crashes occur when the roads are congested. This also creates delays for emergency response vehicles.



## LOCALS ARE STILL STRANDED

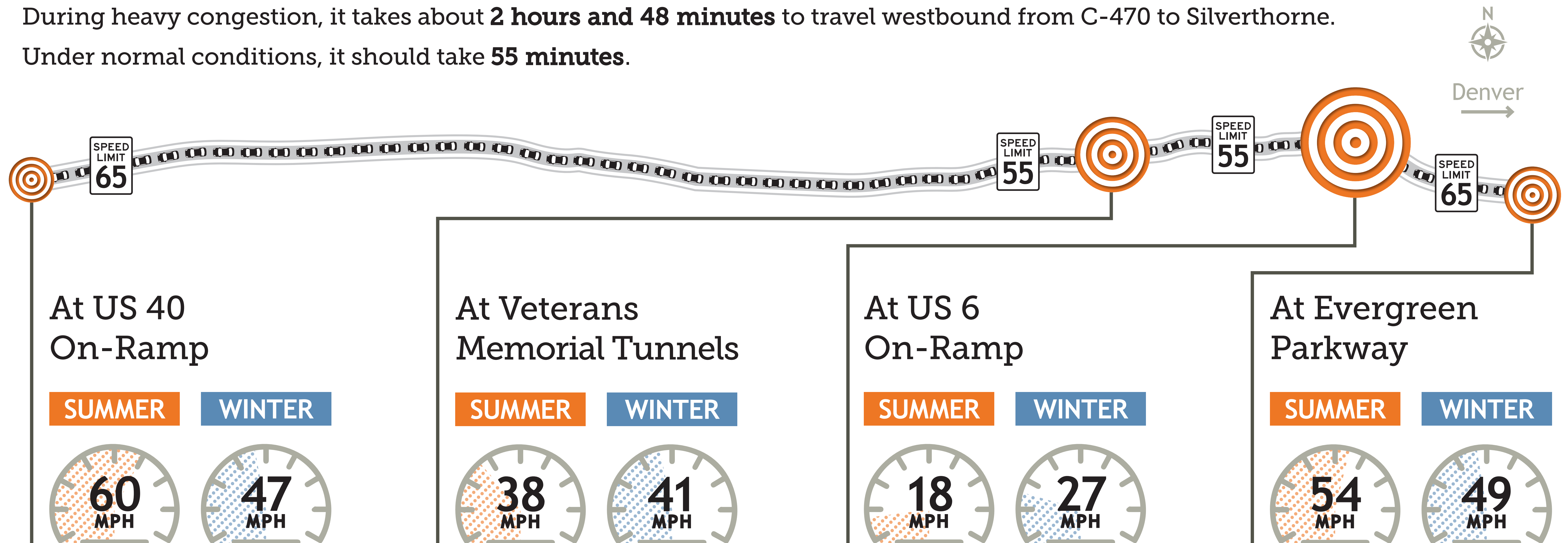
Local access becomes nearly impossible during westbound gridlock time periods on I-70.



# WESTBOUND IMPACT

## CORRIDOR SPEEDS CAN BE SEVERELY IMPACTED

During heavy congestion, it takes about **2 hours and 48 minutes** to travel westbound from C-470 to Silverthorne. Under normal conditions, it should take **55 minutes**.

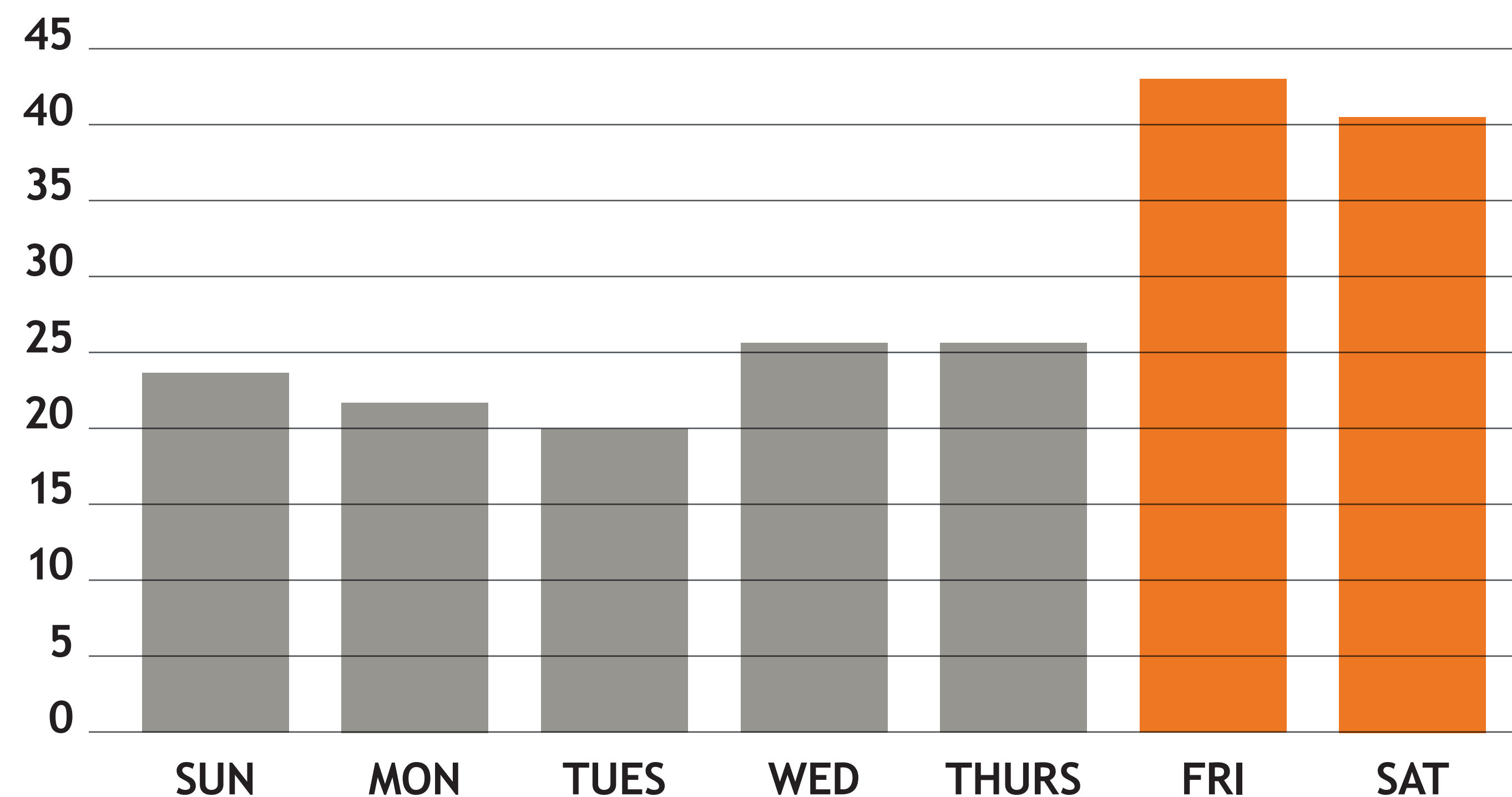


*Speeds are an average of the slowest speeds on Friday and Saturday in the Summer and in the Winter*

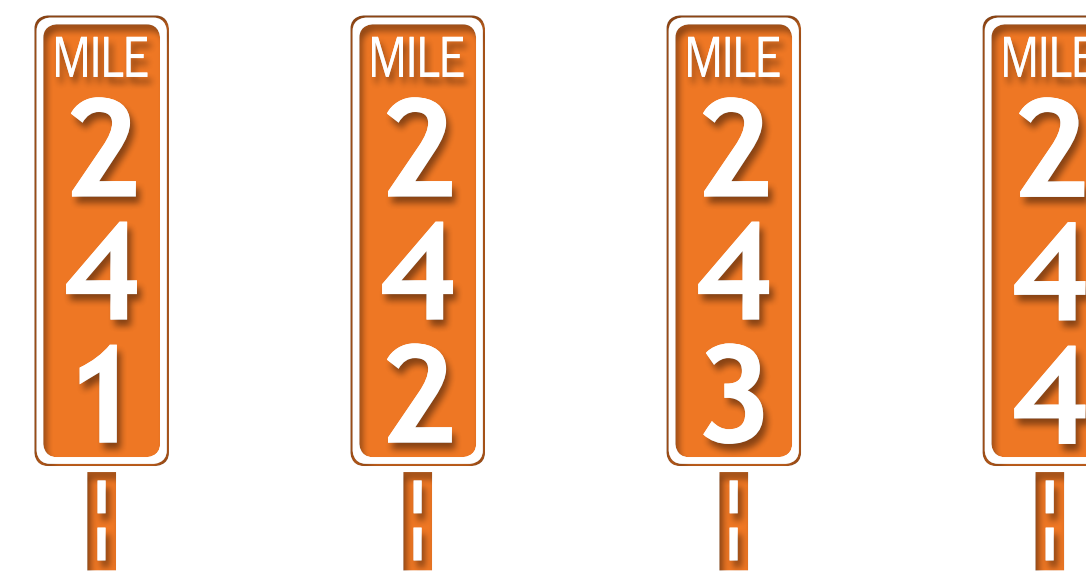
# WESTBOUND DATA



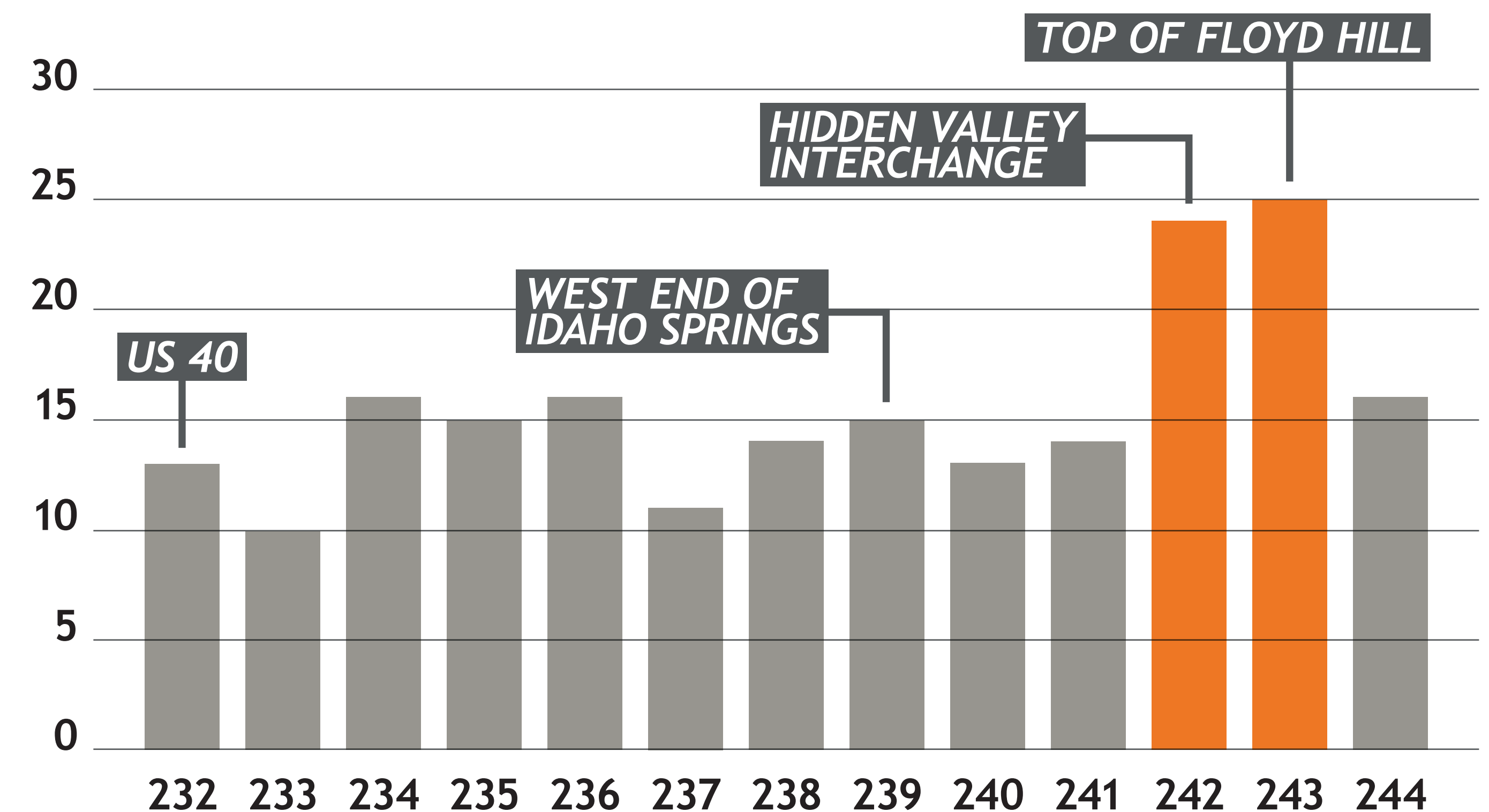
## CRASHES BY DAY OF THE WEEK



Westbound crash data is from 2012-2015

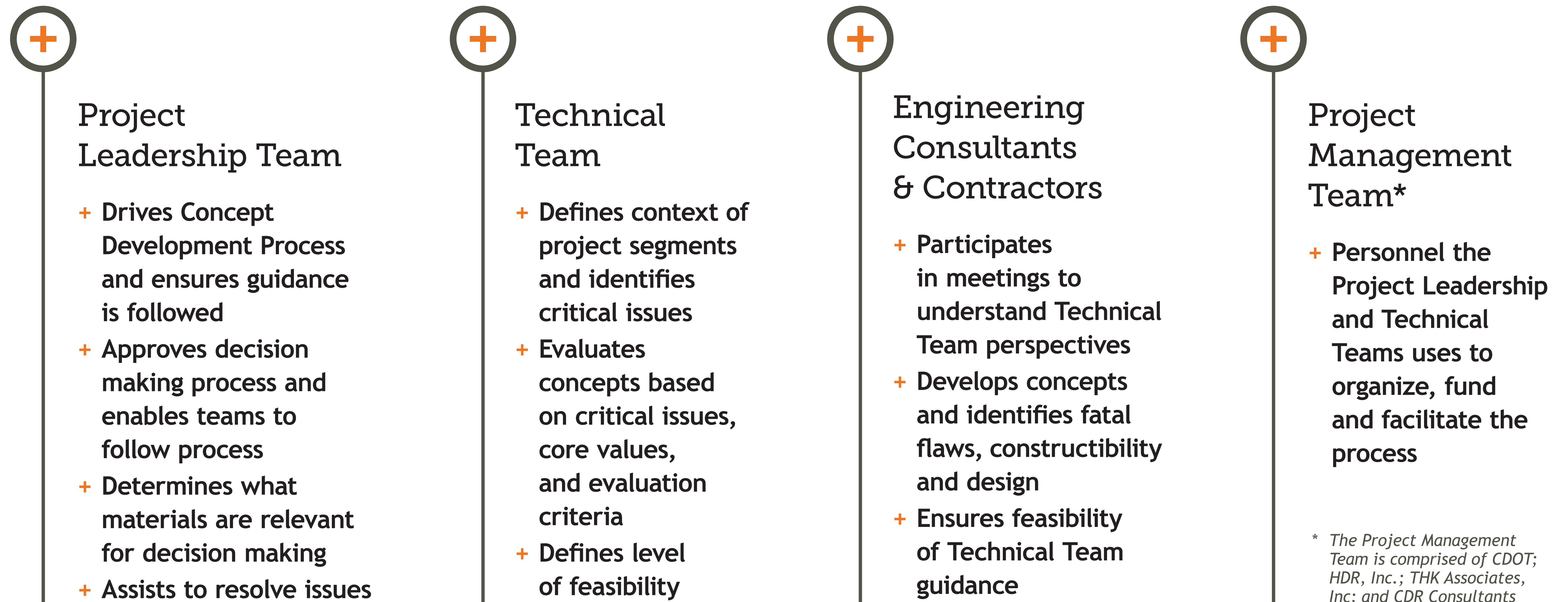


## CRASHES BY MILE POINT



# WHO'S DOING THE WORK?

## CONTEXT SENSITIVE SOLUTIONS





# TEAM PARTNERSHIPS

## PROJECT LEADERSHIP TEAM



- + CDOT
- + Central City
- + City of Idaho Springs
- + Clear Creek County
- + Eagle County
- + Federal Highway Administration
- + Georgetown
- + I-70 Coalition
- + Silver Plume
- + Summit County
- + Town of Empire
- + U.S. Forest Service

## TECHNICAL TEAM\*



\* *Technical Team is made up of agencies that have been invited to participate*

- + CDOT
- + Central City
- + City of Black Hawk
- + City of Idaho Springs
- + Clear Creek Bikeway Users Group
- + Clear Creek County
- + Clear Creek County Archivist
- + Clear Creek County Emergency Services
- + Clear Creek County Sheriff
- + Clear Creek Economic Development Corp.
- + Clear Creek Fire Authority
- + Clear Creek Greenway Authority
- + Clear Creek Open Space
- + Clear Creek Rafting
- + Clear Creek School District
- + Clear Creek Tourism Bureau
- + Clear Creek Watershed Foundation
- + Colorado Motor Carriers Association
- + Colorado Parks and Wildlife
- + Denver Regional Council of Governments
- + Downieville, Lawson, and Dumont Neighborhood
- + Empire Junction
- + Federal Highway Administration
- + Floyd Hill Property Owners Association
- + Georgetown Loop Railroad
- + Gilpin County
- + Jefferson County
- + Loveland Ski Resort
- + Mile Hi Rafting
- + Summit County
- + Trout Unlimited
- + U.S. Forest Service
- + Vail Ski Resorts
- + Winter Park Ski Resort

# WHAT'S THE CONCEPT DEVELOPMENT PROCESS?

## CONTEXT SENSITIVE SOLUTIONS PROCESS



Establish context statement



Define core values & issues



Develop concepts with staff, project teams, & public



Evaluate, select, and refine alternative or option



Determine which option(s) to advance to NEPA



Finalize documents and evaluate process

# CONTEXT STATEMENT

**The I-70 Mountain Corridor is a magnificent, scenic place.**

Human elements are woven through breathtaking natural features. The integration of these diverse elements has occurred over the course of time.

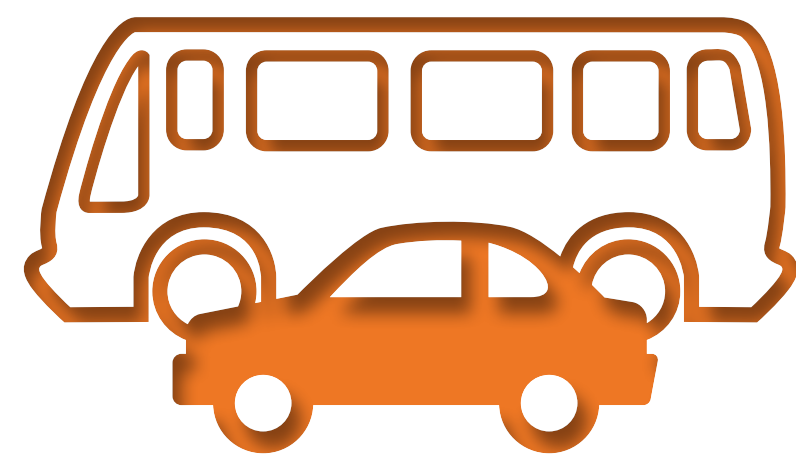
The corridor is a world class recreational destination, a route for interstate and local commerce and a unique place to live. I-70 is also a nationally significant part of the defense network and is the lifeline for many local communities along the corridor.

Current I-70 roadway geometry is constrained, with narrow shoulders and tight curves resulting in decreased safety, mobility, accessibility and capacity for travelers. Westbound improvements are needed to lessen delays caused by peak period volumes in a manner that protects and enhances the unique environmental, historic, community and recreational resources in the I-70 Mountain Corridor.

# CORE VALUES



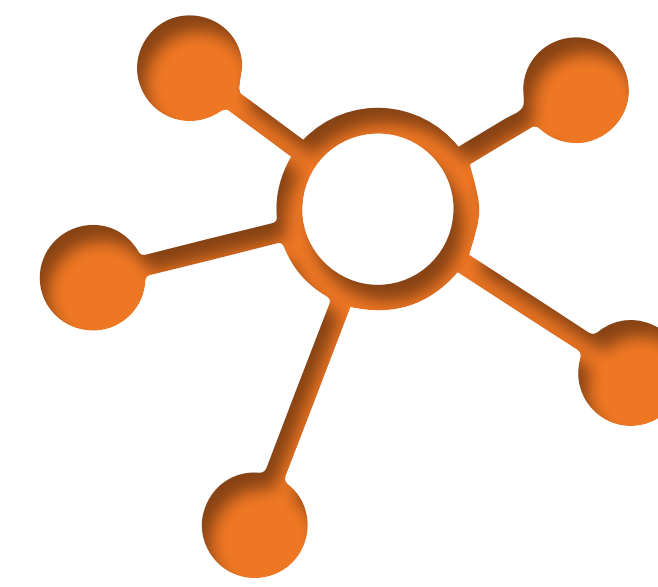
Safety



Mobility &  
Accessibility



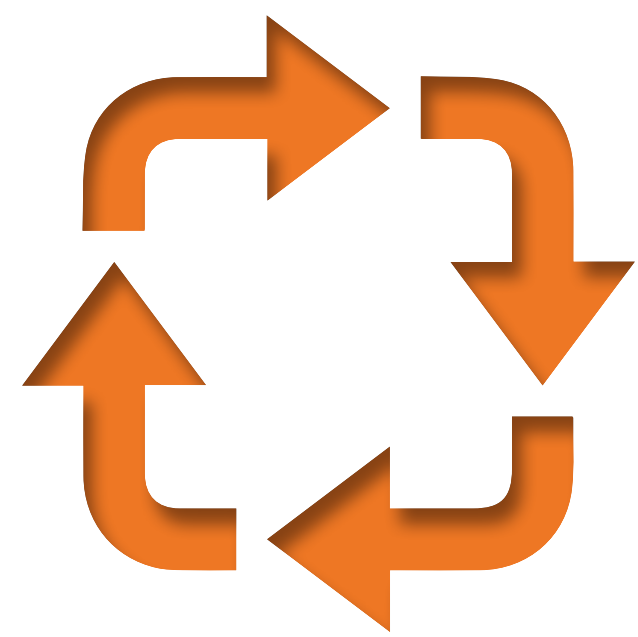
Implementability



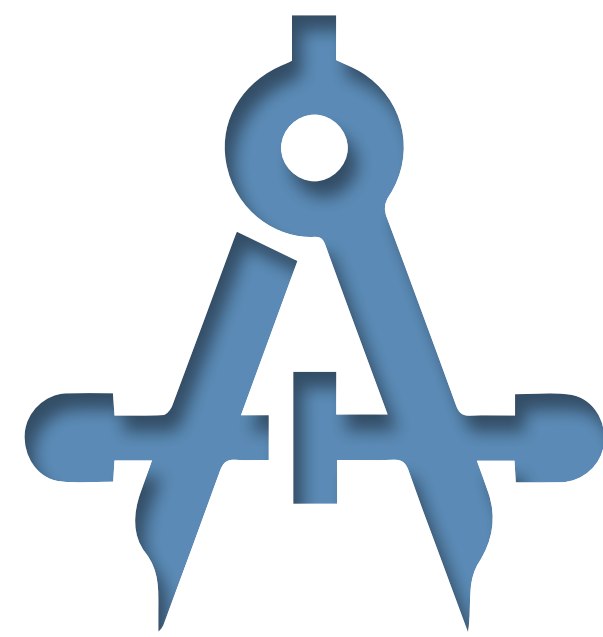
Community



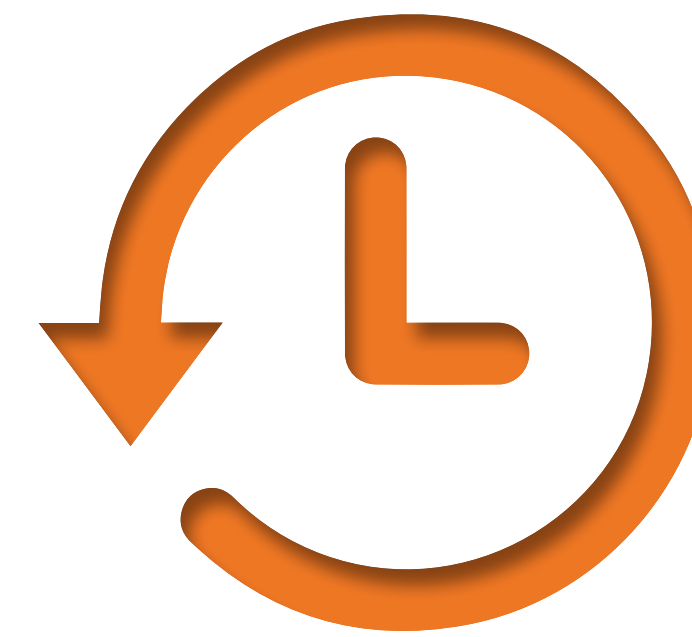
Environment



Sustainability



Engineering  
Criteria &  
Aesthetic  
Guidelines



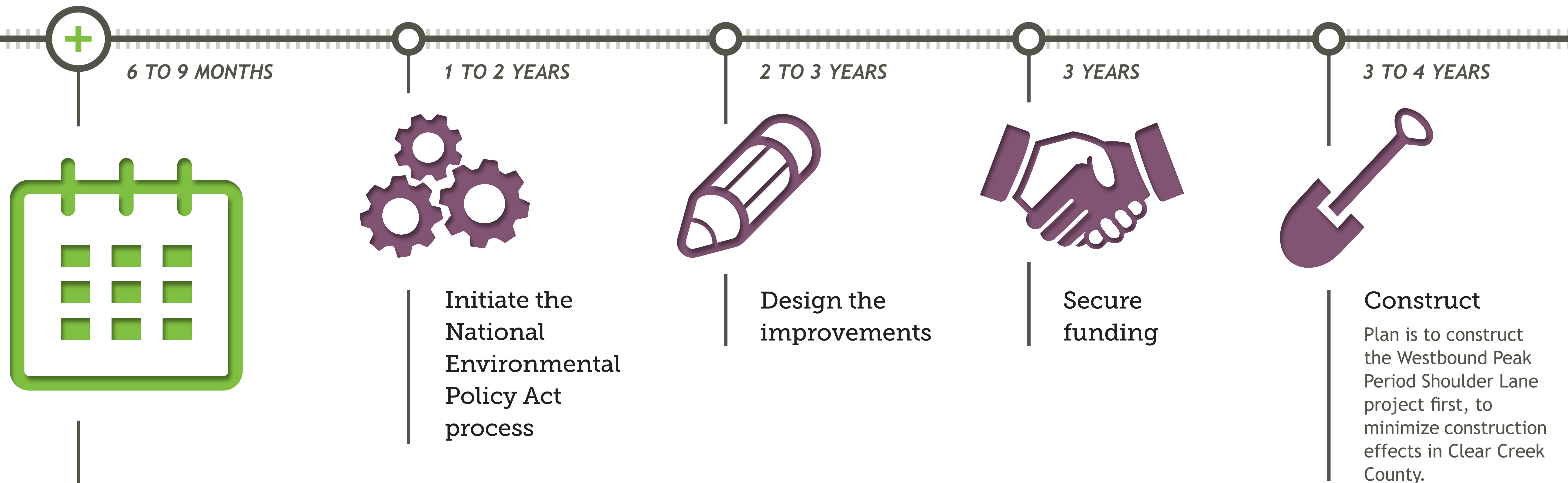
Historic  
Context



Decision  
Making

# WHAT'S NEXT?

## WESTBOUND CONCEPT DEVELOPMENT TIMELINE



# Second public meeting Summer 2017

# TELL US YOUR IDEAS

Please visit the map table to write down your thoughts and ideas for Westbound Improvements



What concerns do you have for each project segment?



What are your suggestions for improvements for each project segment?



## WANT TO LEARN MORE OR HAVE QUESTIONS?

Send your additional comments and questions to [Neil.Ogden@state.co.us](mailto:Neil.Ogden@state.co.us)

Go online to [codot.gov/projects/i-70mountaincorridor](https://codot.gov/projects/i-70mountaincorridor)

*A Path Forward*

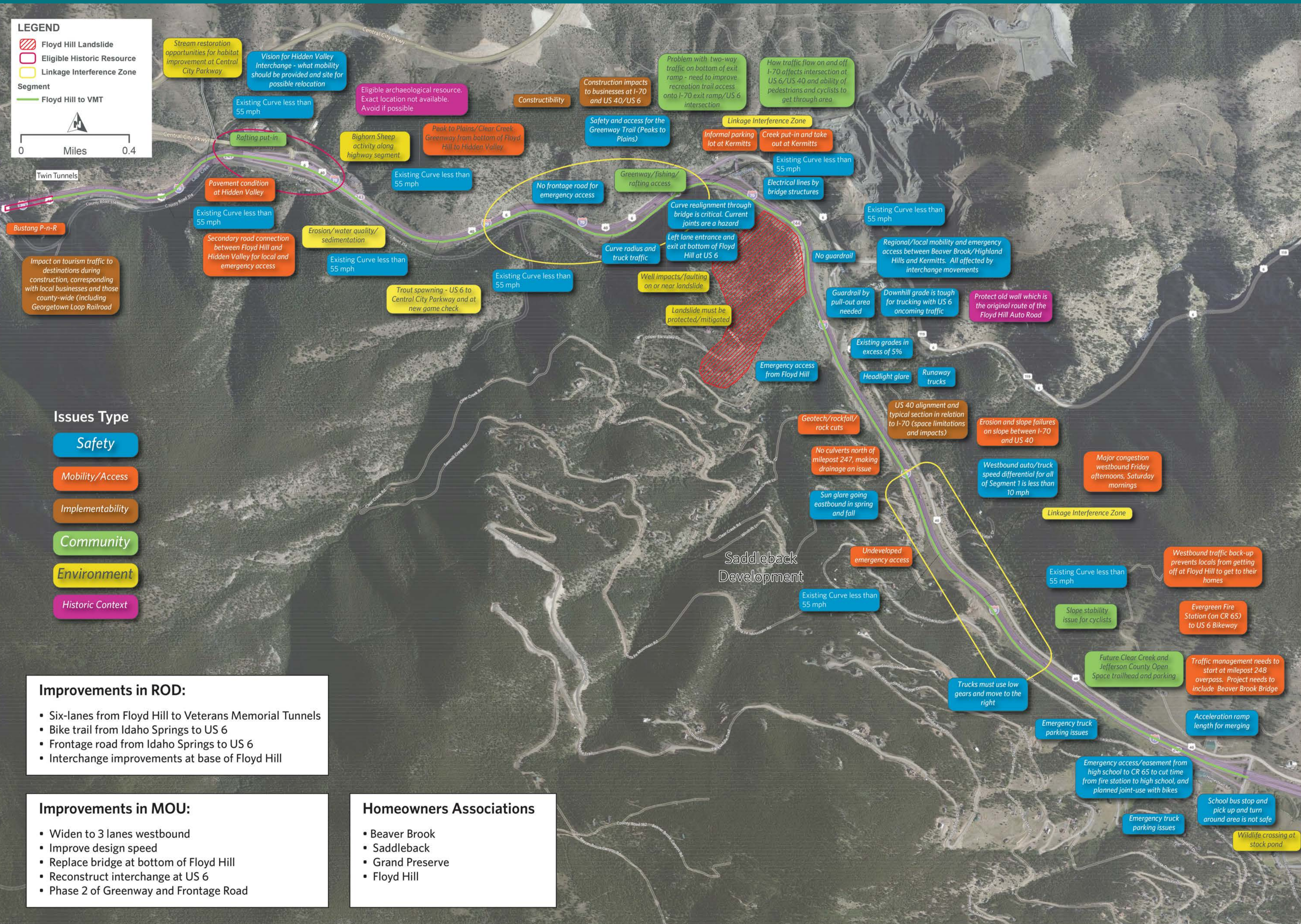
*WESTBOUND I-70 MOUNTAIN CORRIDOR CONCEPT DEVELOPMENT*

**THANK YOU**  
**FOR JOINING US**



**COLORADO**  
Department of Transportation

# CRITICAL ISSUES: SEGMENT 1



**Improvements in ROD:**

- Six-lanes from Floyd Hill to Veterans Memorial Tunnels
- Bike trail from Idaho Springs to US 6
- Frontage road from Idaho Springs to US 6
- Interchange improvements at base of Floyd Hill

**Improvements in MOU:**

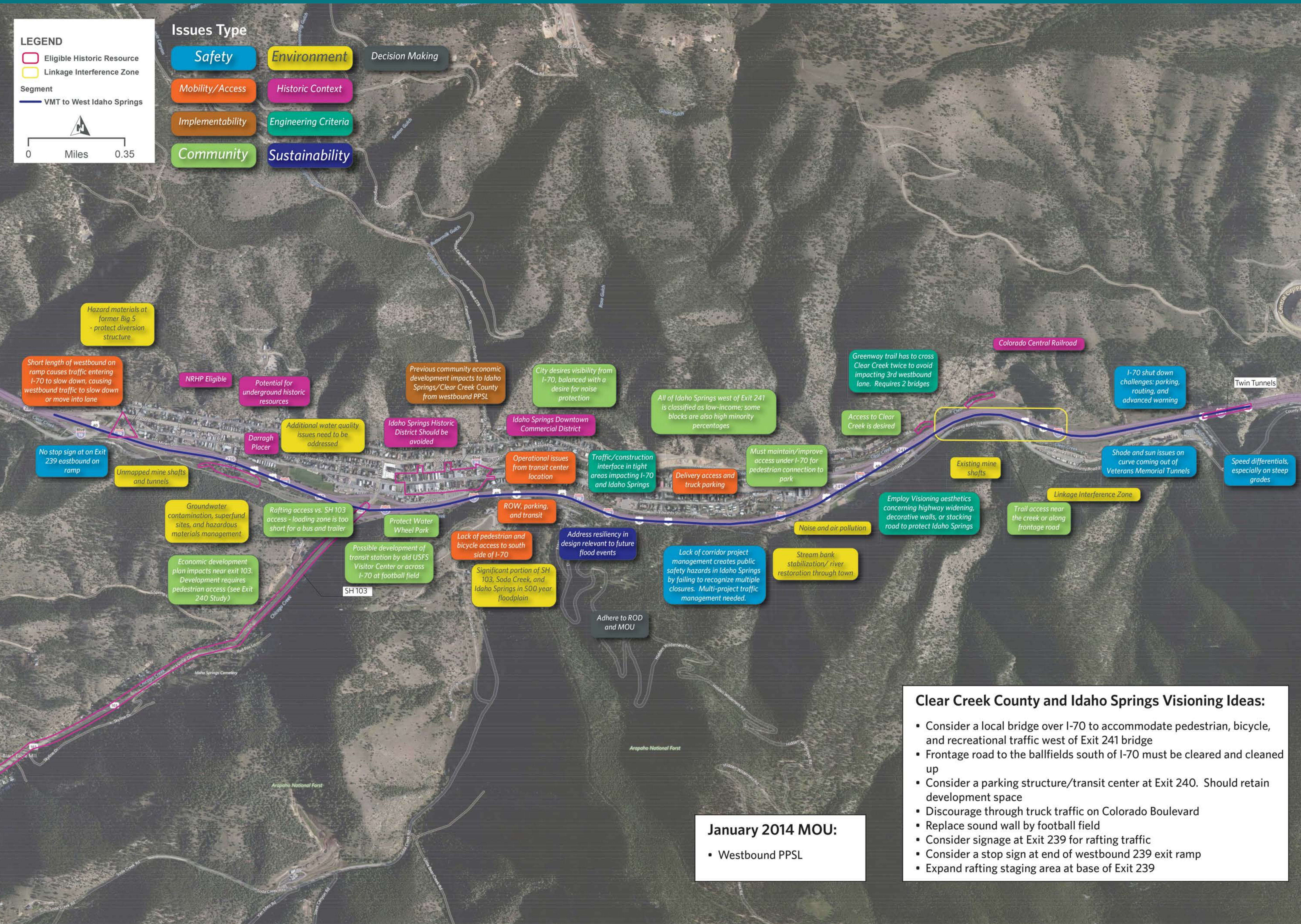
- Widen to 3 lanes westbound
- Improve design speed
- Replace bridge at bottom of Floyd Hill
- Reconstruct interchange at US 6
- Phase 2 of Greenway and Frontage Road

**Homeowners Associations**

- Beaver Brook
- Saddleback
- Grand Preserve
- Floyd Hill



# CRITICAL ISSUES: SEGMENT 2



- Clear Creek County and Idaho Springs Visioning Ideas:**
- Consider a local bridge over I-70 to accommodate pedestrian, bicycle, and recreational traffic west of Exit 241 bridge
  - Frontage road to the ballfields south of I-70 must be cleared and cleaned up
  - Consider a parking structure/transit center at Exit 240. Should retain development space
  - Discourage through truck traffic on Colorado Boulevard
  - Replace sound wall by football field
  - Consider signage at Exit 239 for rafting traffic
  - Consider a stop sign at end of westbound 239 exit ramp
  - Expand rafting staging area at base of Exit 239

**January 2014 MOU:**

- Westbound PPSL

# CRITICAL ISSUES: SEGMENT 3

**LEGEND**

Eligible Historic Resource Segment

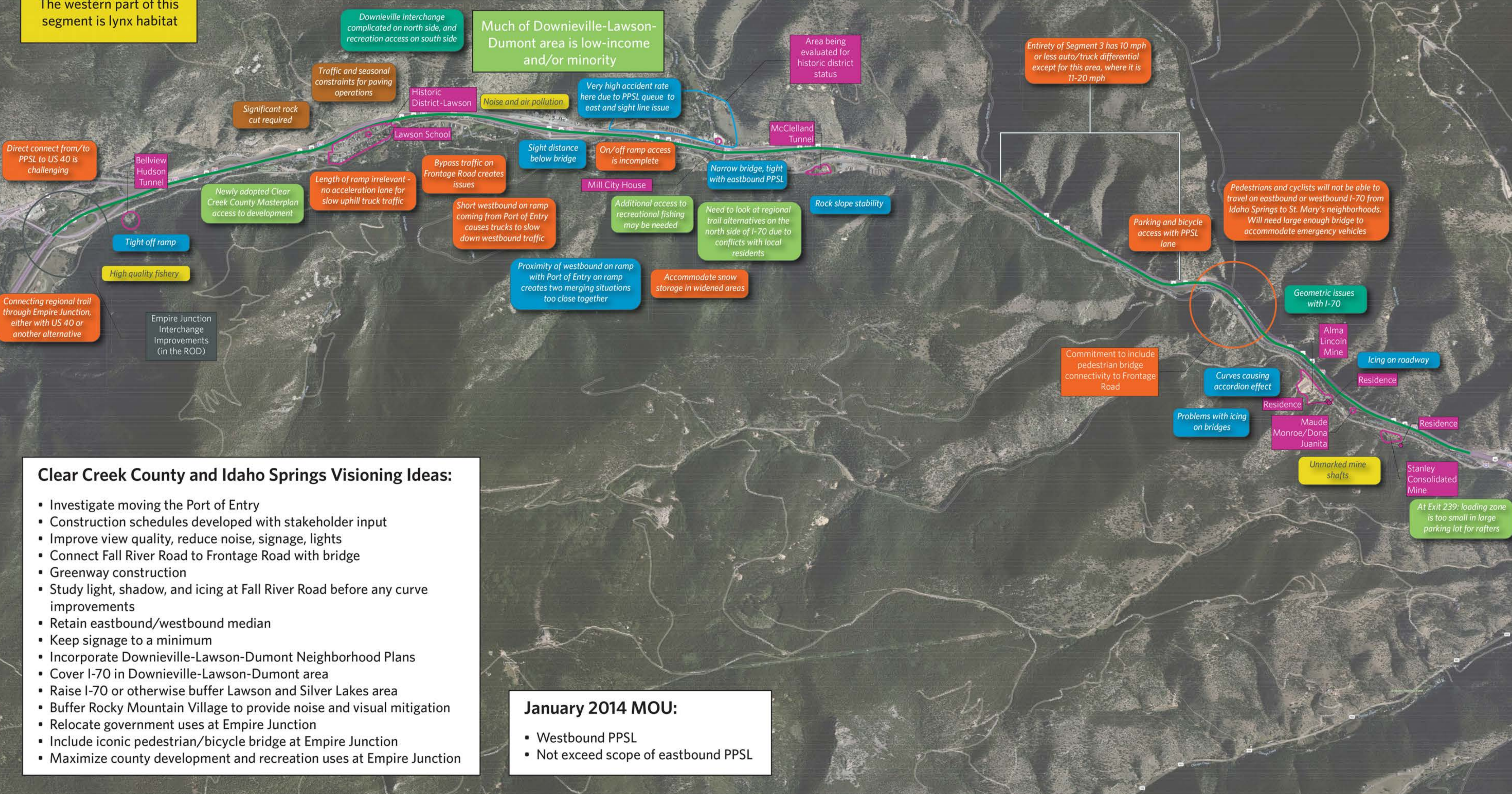
West Idaho Springs to Empire Junction

0 Miles 0.7

**Issues Type**

- Safety
- Environment
- Decision Making
- Mobility/Access
- Historic Context
- Implementability
- Engineering Criteria
- Community
- Sustainability

The western part of this segment is lynx habitat



- Clear Creek County and Idaho Springs Visioning Ideas:**
- Investigate moving the Port of Entry
  - Construction schedules developed with stakeholder input
  - Improve view quality, reduce noise, signage, lights
  - Connect Fall River Road to Frontage Road with bridge
  - Greenway construction
  - Study light, shadow, and icing at Fall River Road before any curve improvements
  - Retain eastbound/westbound median
  - Keep signage to a minimum
  - Incorporate Downieville-Lawson-Dumont Neighborhood Plans
  - Cover I-70 in Downieville-Lawson-Dumont area
  - Raise I-70 or otherwise buffer Lawson and Silver Lakes area
  - Buffer Rocky Mountain Village to provide noise and visual mitigation
  - Relocate government uses at Empire Junction
  - Include iconic pedestrian/bicycle bridge at Empire Junction
  - Maximize county development and recreation uses at Empire Junction

- January 2014 MOU:**
- Westbound PPSL
  - Not exceed scope of eastbound PPSL