



New Mexico DEPARTMENT OF
TRANSPORTATION
MOBILITY FOR EVERYONE



U.S. Department of Transportation
**Federal Highway
Administration**

I-40 Corridor Study

Arizona to Albuquerque

Milepost 0 to 150

**Transportation Infrastructure Revenue
Subcommittee**

November 13, 2023





I-40 Corridor Study Purpose

Develop a long-term corridor improvement plan to improve **traveler safety**; **traffic operations** and **reliability**; and the **condition** of I-40 and associated infrastructure.

Meeting the project purpose requires consideration of:

- Projected traffic growth
- The ability to accommodate and **adapt to changing conditions and technologies** (e.g., changes in traffic growth, autonomous vehicles).





Stakeholder Engagement

Stakeholder	Summary
Public	<ul style="list-style-type: none"> November 2022 April 2023 January 2024 (Planned)
New Mexico Trucking Association	<ul style="list-style-type: none"> January 2023
Regional Transportation Planning Organizations <ul style="list-style-type: none"> Mid-Region Council of Governments Northwest New Mexico 	<ul style="list-style-type: none"> September 2022 May/June 2023
Tribes and Organizations <ul style="list-style-type: none"> Bureau of Indian Affairs Acoma Pueblo Laguna Pueblo Navajo Nation Zuni Pueblo 	<ul style="list-style-type: none"> September/October 2022 May/June/July 2023

NEW MEXICO DEPARTMENT OF TRANSPORTATION | ACTIVE PROJECTS

I-40 Corridor Study

Arizona to Albuquerque, Milepost 0 to 150
NMDOT Control Number 6101580

English

Overview Public Involvement Alternatives Timeline Contact

Project Website: i40nmstudy.com



I-40 Perspectives and Perceptions

- The I-40 Corridor is **unreliable**, delays make it hard to predict how long a trip will take.
- There are **too many trucks**, and they slow people down.
- The trip is **unsafe**.
- The **pavement** is in bad condition.
- It must be time for a **third lane**.
- Drivers want **alternate routes** because they get stuck in back-ups and want to keep moving.





Public and Freight Survey Results

What highway or safety issues do you encounter on I-40?

1. Traffic back-ups = 91% public (1) | 56% freight (3 tie)
2. Roadway/lane closures due to accidents = 82% public (2) | 50% freight (6 tie)
3. Lane closures due to construction = 78% public (3) | 69% freight (2)
4. Conflicts with large commercial trucks = 68% public (4) | NA freight
5. Poor road or pavement condition = 51% public (5 tie) | 72% freight (1)
6. People driving too fast = 51% public (5 tie) | 56% freight (3 tie)
7. Slow moving vehicles = 51% public (5 tie) | 31% freight (8)
8. Drivers attempting to make unsafe passing moves = 49% public (8) | 50% freight (6 tie)
9. Poor weather conditions = 23% public (9) | 53% freight (5)



What Have We Learned?

- Traffic back-ups are caused by **construction, maintenance, and crashes**
- **Reducing I-40** to 1-lane for **any reason is problematic** during daytime hours
- Crashes have been **increasing** and fatal and serious injury crash rates **are higher** than state averages for similar roadways
- Quality **traffic volume data** and I-40 closure information **is limited**, making it challenging to identify trends and **adapt**



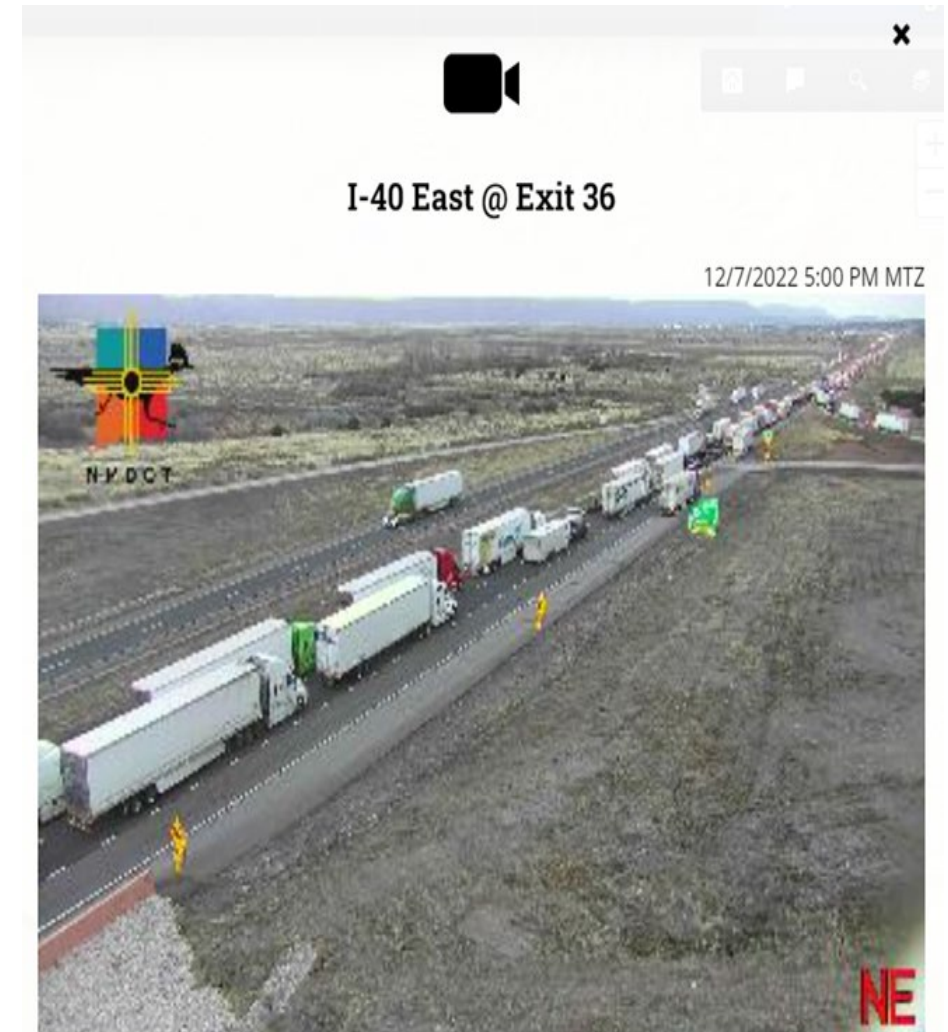
What Have We Learned?

- I-40 has **multiple deficiencies** and immediate needs
 - Pavement is deteriorating rapidly, pavement needing reconstruction or rehab more than doubled from 18 miles in 2022 to 38 miles in 2023
 - There are **118 curve deficiencies** and **shoulders are narrow**
 - **2/3 of ramps** and merge areas are **too short**
 - Flooding is an ongoing issue at Ft. Wingate (near MP 30), and drainage maintenance and improvements are needed
 - **4 bridges** are in poor condition and need repair
- A **combination** of I-40 improvements, along with operational enhancements, **policies**, and **procedures** are needed.
- **I-40 with 2 travel lanes** in each direction **without lane reductions** will be sufficient in **most areas** until 2050 and beyond.
 - Additional capacity will be needed in Gallup and at 32 ramps



Reducing I-40 to 1-Lane is Problematic

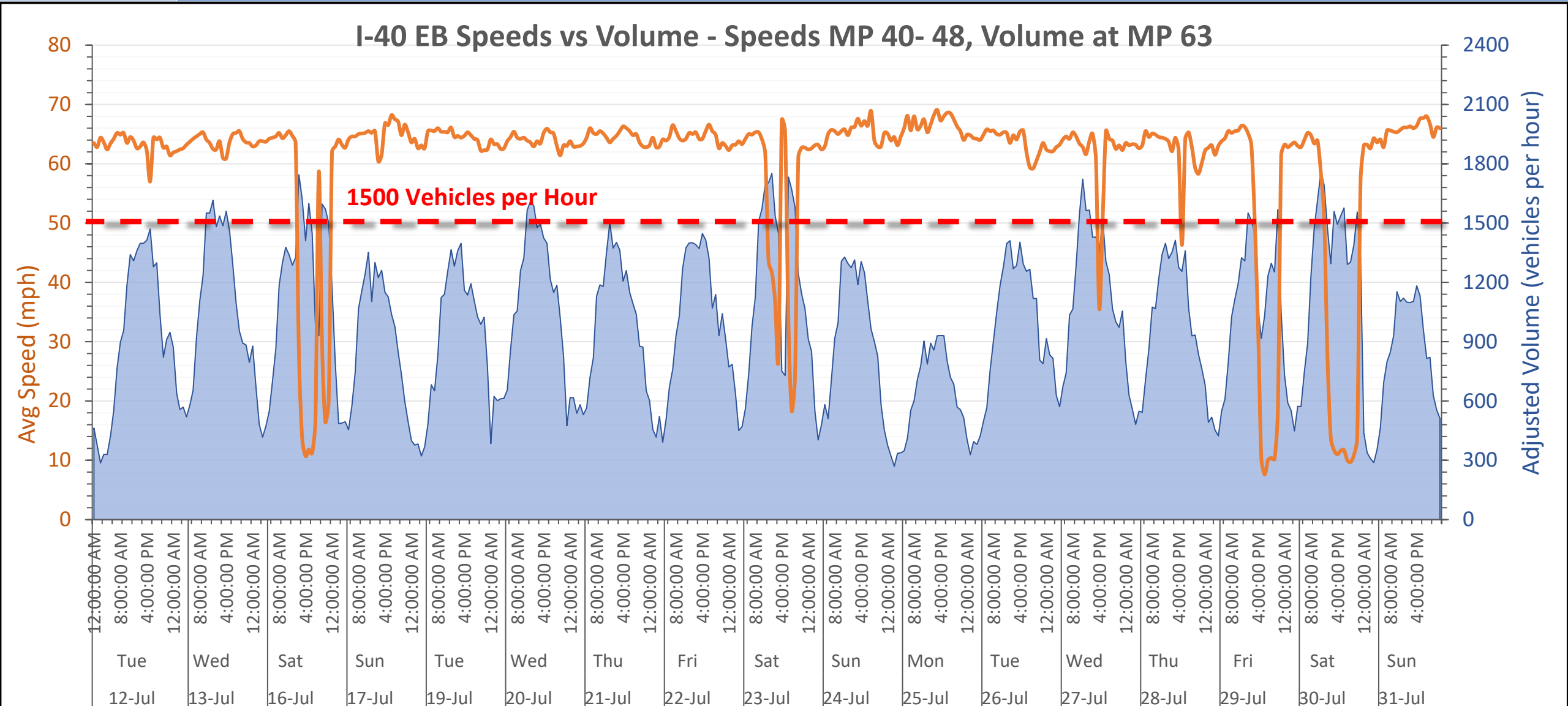
- 8-week period from 7/11/22 to 9/12/22
- 17 incidents (@ 27% of the time)
 - **9 maintenance-related closures**; 8, 1-lane single direction closures, 1 ramp closure.
 - **7 crashes**, 1 closure both directions; 2 closures in one direction; 3, 1-lane closures EB or WB, 1 ramp closure.
 - **1 flooding closure** at MP 33 (Fort Wingate area).





Reducing I-40 to 1-Lane is Problematic

Speed Data at Coolidge, Traffic Volume at MP 63 (Prewitt)

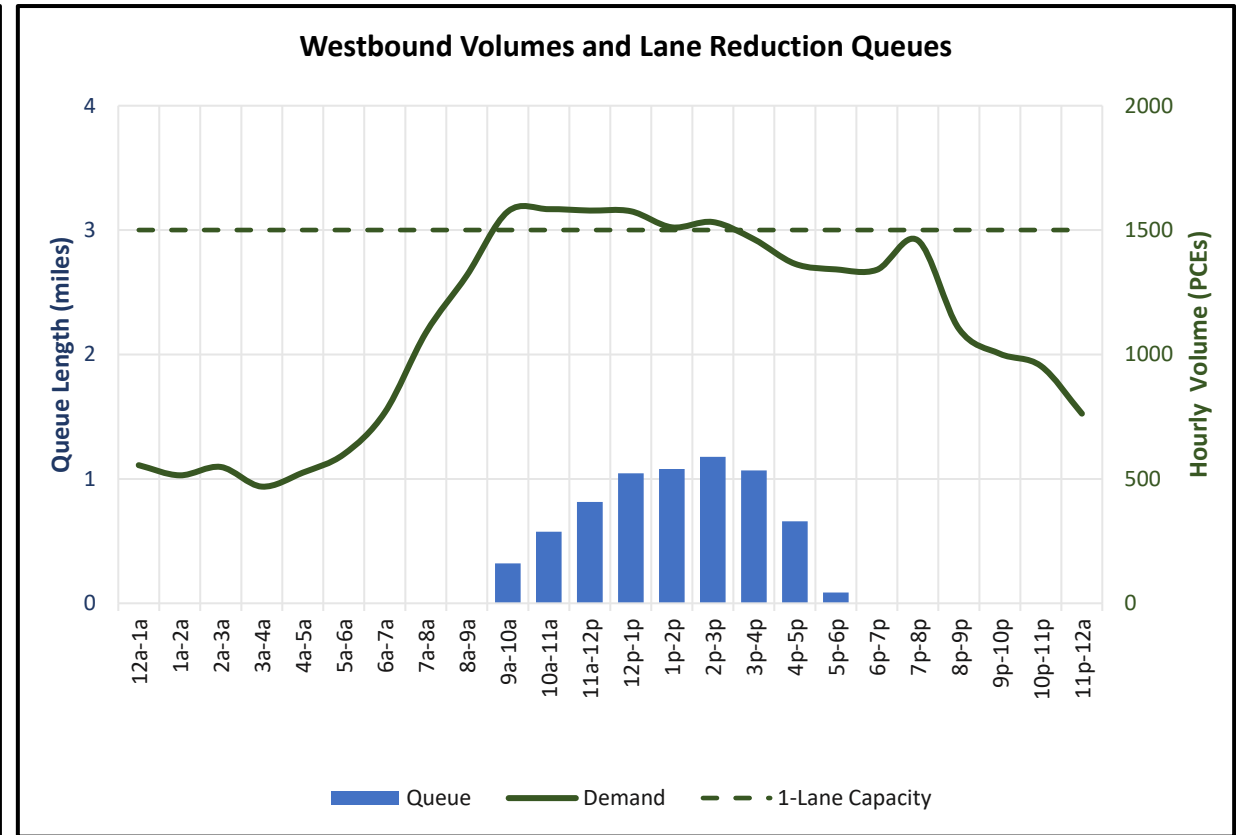
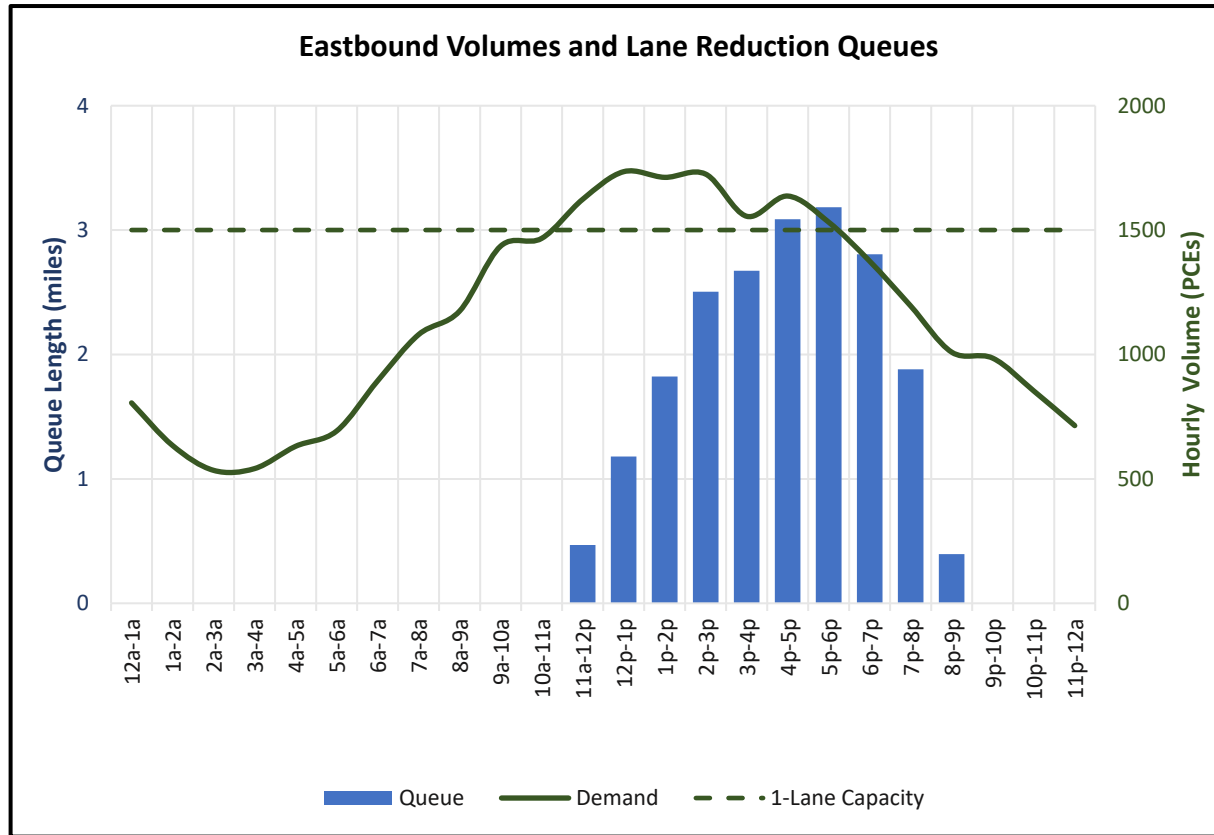




Reducing I-40 to 1-lane is Problematic

1-Lane Closure near Mesita 2022

MP 120/Mesita at year 2022

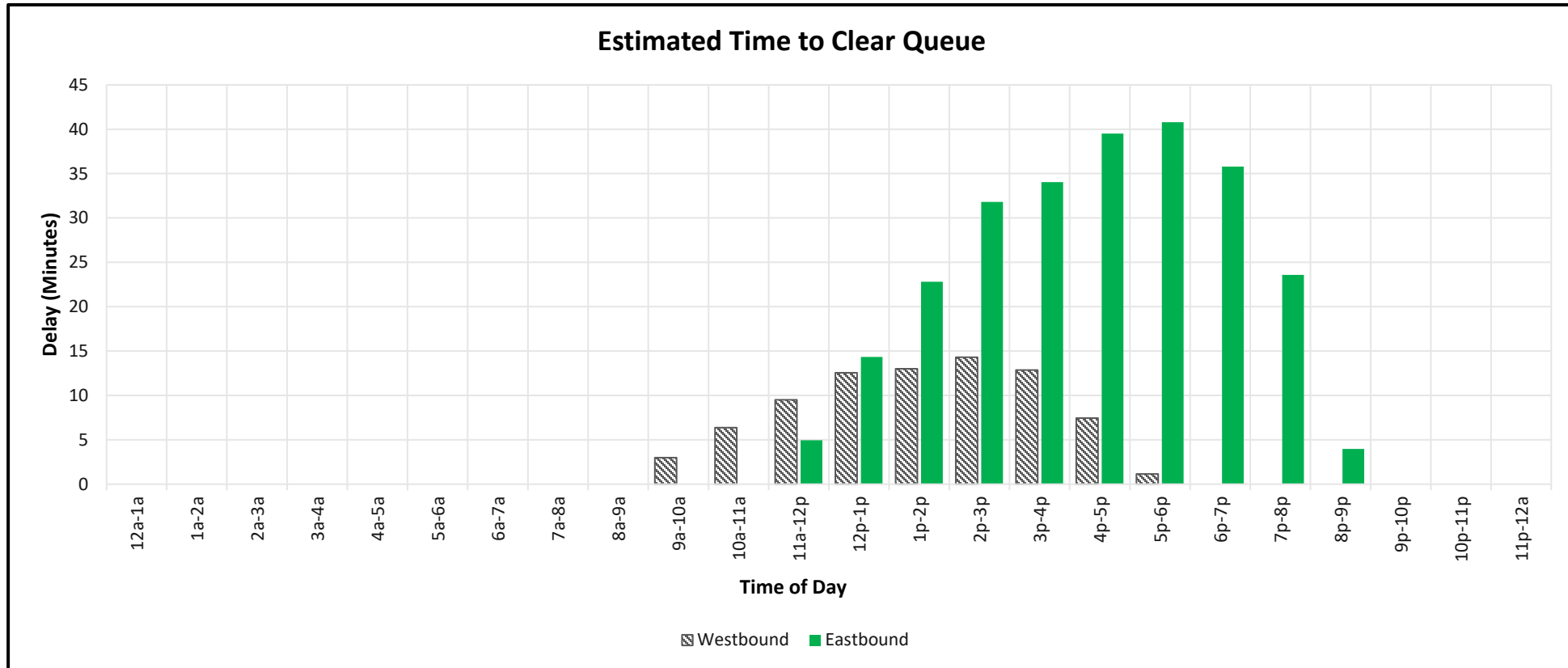




Reducing I-40 to 1-Lane is Problematic

1-Lane Closure near Mesita 2022

MP 120 at year 2022

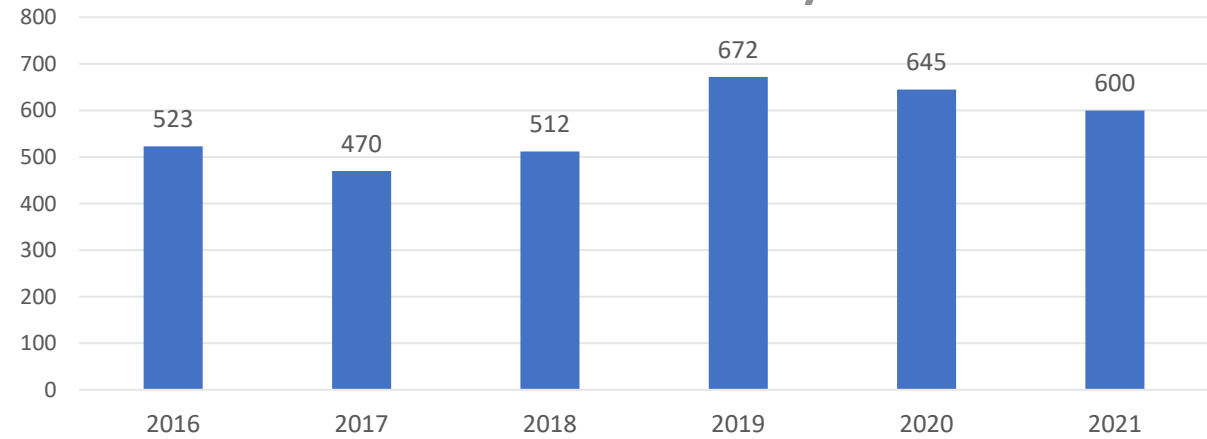




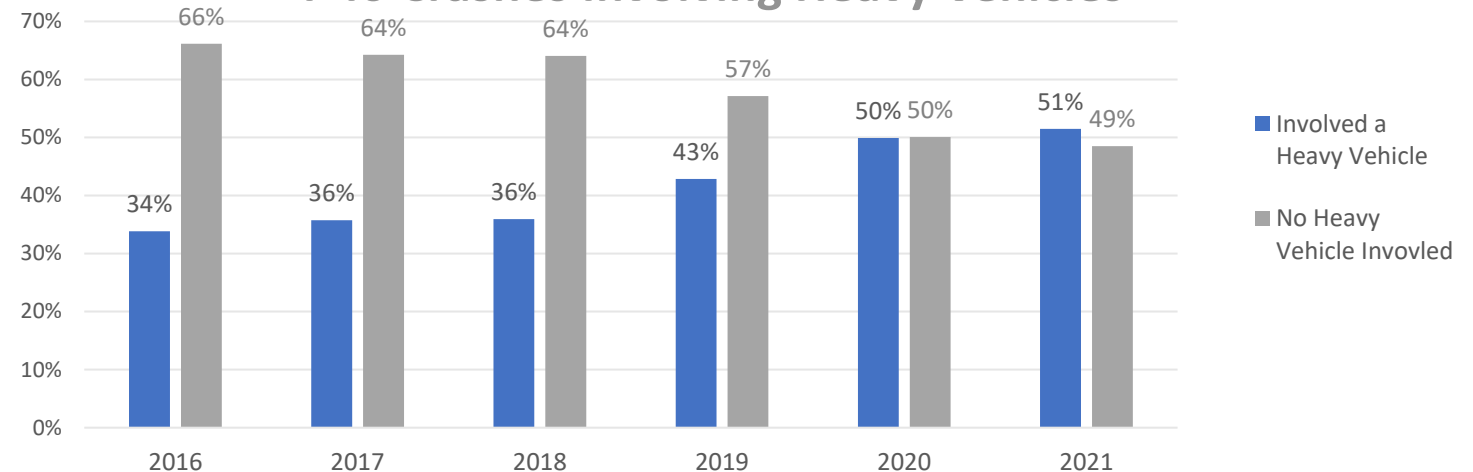
Safety: Crashes on I-40 Have Been Increasing

- Crashes reached a high in 2019.
- Heavy vehicle crashes have substantially increased.
- Fatal and serious injury crashes have not increased, but are higher than state averages.
- Most common crash types are:
 - Fixed object (20%)
 - Side-swipes (17%)
 - Overturns (14%)
 - Rear-ends (13%)

I-40 Crashes by Year



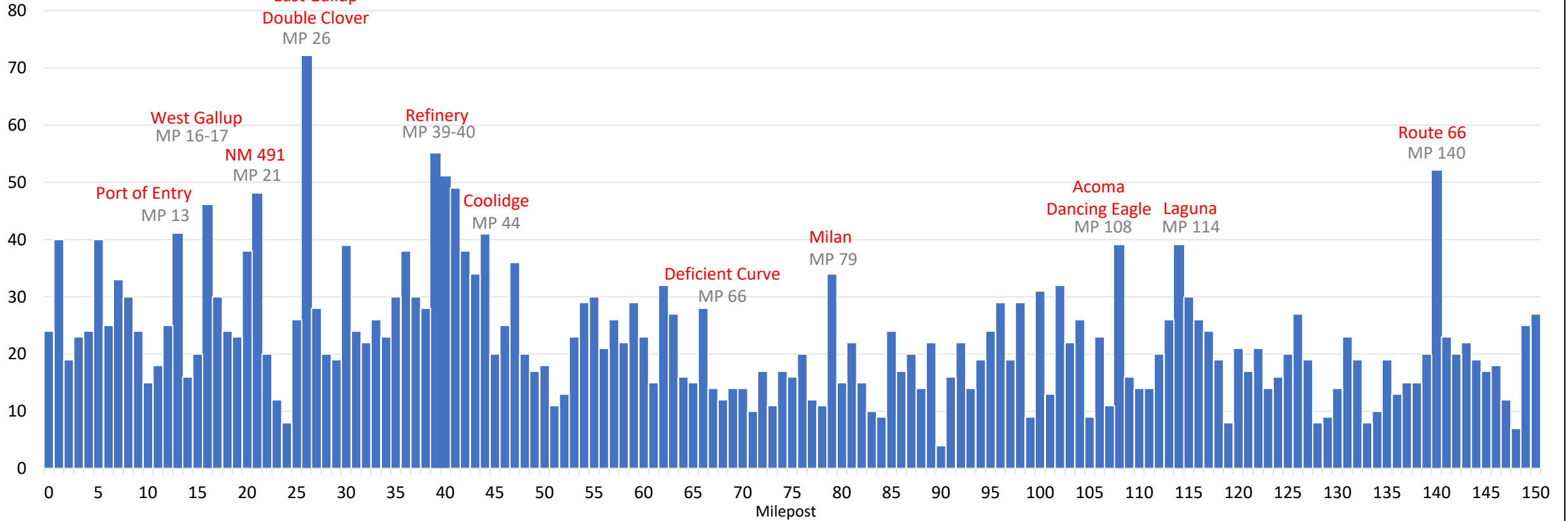
I-40 Crashes Involving Heavy Vehicles





Safety: I-40 Crashes, 2016-2021

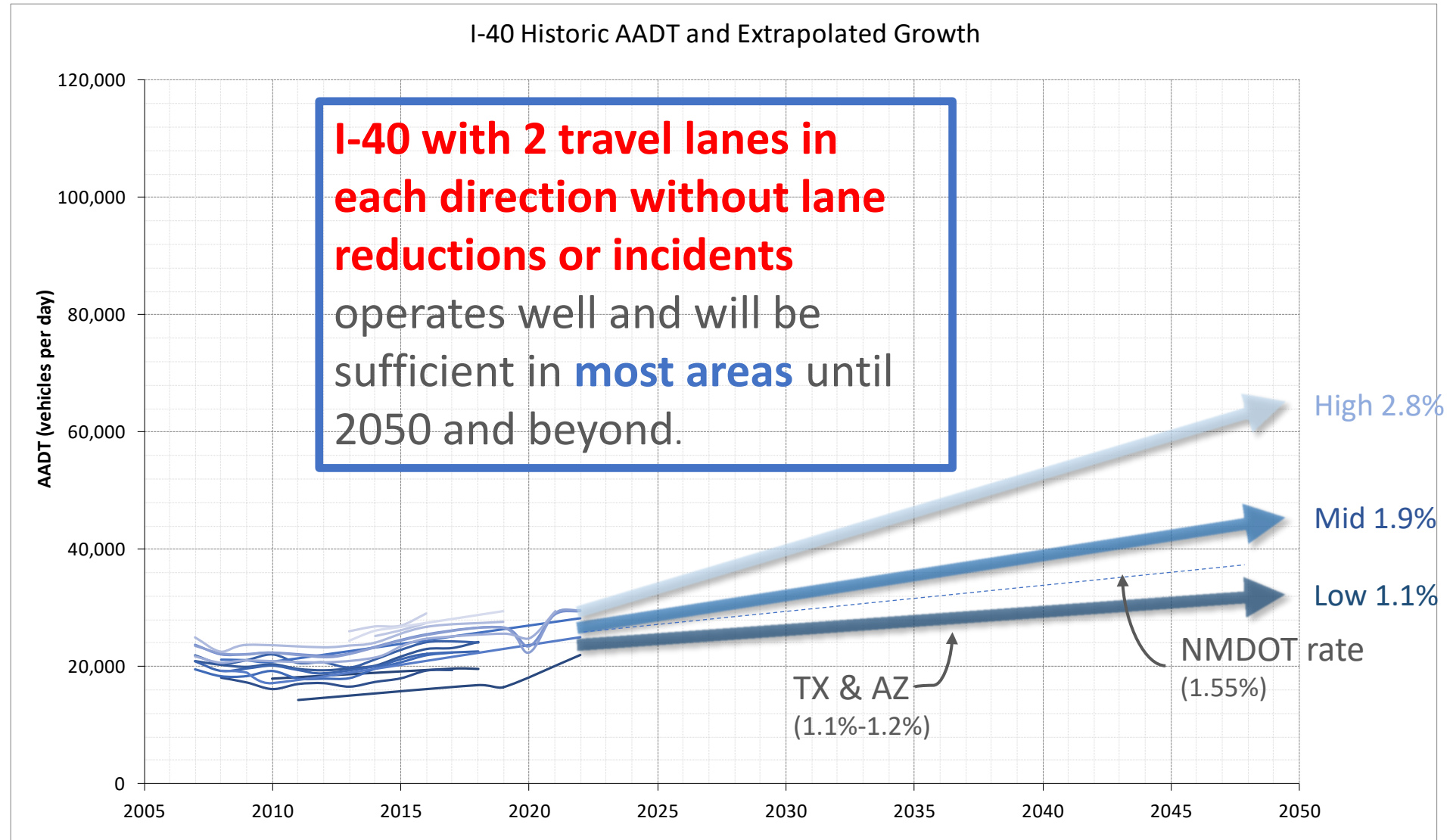
Total Mainline Crashes by Milepost from 2016 to 2021





Future Traffic Growth

- Historic traffic data shows a variety of trends
- Range of growth rates to bracket the future
 - Considers rapid growth in recent years for freight
 - Considers growth rates on I-40 in Arizona and Texas
 - Accounts for long-term growth





What does all of this data mean?

How do we **reduce** congestion, **improve** safety, and **prepare** for the future?



What Alternatives Are Being Evaluated?

- **Build Alternative 1** = Enhanced Two-Lane w/ Added Lanes + Operational Enhancements
- **Build Alternative 2** = Widen to 3 Lanes + Operational Enhancements

Both Build Alternatives

Address geometric, ramp, pavement, drainage, and bridge deficiencies

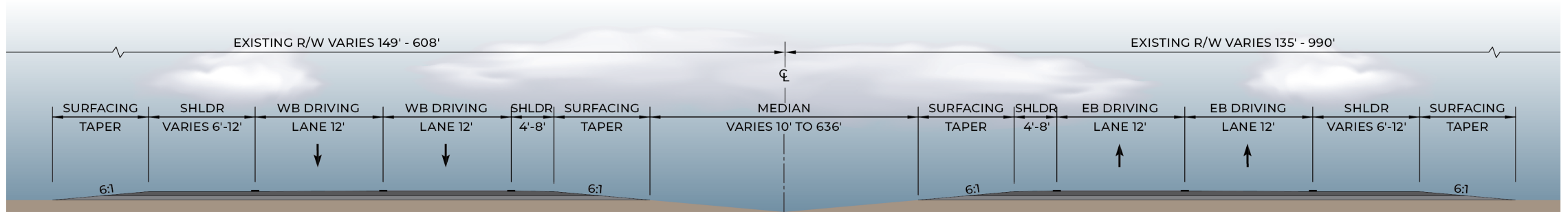
Operational Enhancements (Both Alternatives)

- Minimize Lane Closures during construction and maintenance
- Intelligent Transportation Systems (ITS) – Data collection, cameras, digital messaging, etc.
- Improve Alternate Routes
- Incident Management

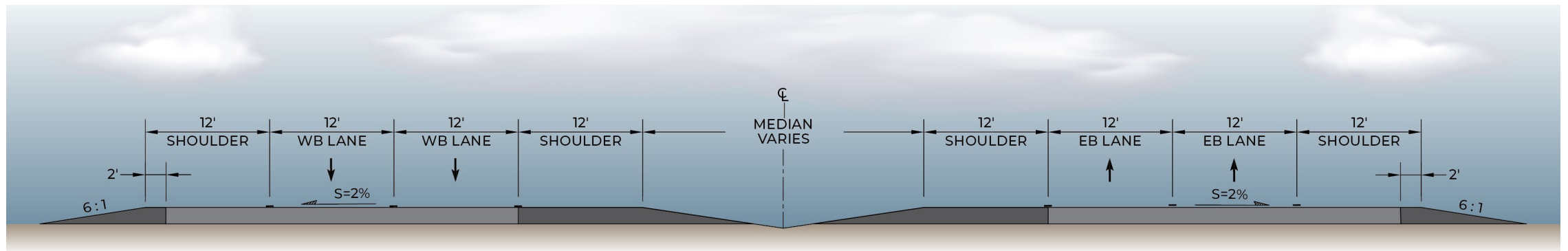


Enhanced 2-Lane with Added Lanes Alternative

Existing 2-Lane



Proposed



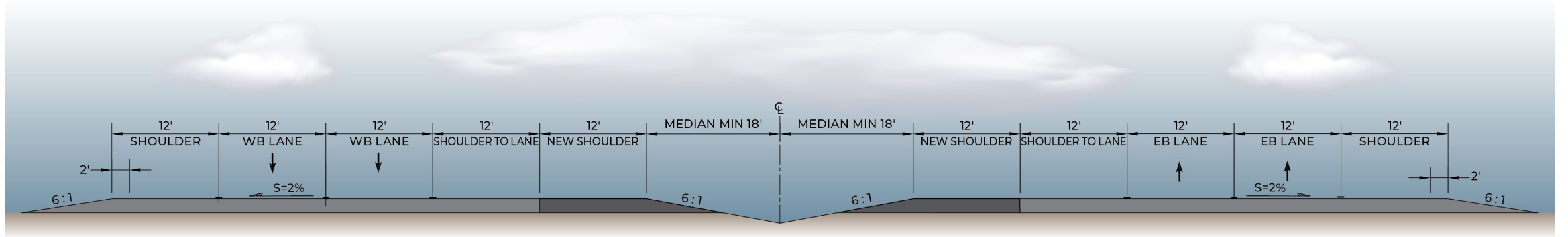


Enhanced 2-Lane with Added Lanes Alternative

- Provides 2 travel lanes in each direction, widens shoulders to 12-feet on both sides:
 - 48-foot-wide roadway section allows for **two lanes** to be provided during construction and provides space for maintenance.
 - **Wider shoulders** could be used to provide space for incident management to get traffic moving as soon as possible.
 - Is **“future ready”** to be expanded to 3 lanes
- Third lane provided where needed (Gallup)
- Addresses geometric, drainage, bridge, and pavement deficiencies
- Provides crossovers



3-Lane Alternative





What are the Safety Benefits?

Treatment		Before	After	% Crash Reduction
Lengthen Ramps	Lengthen Entrance Ramp	300 ft	1,000 ft	29%
	Lengthen Exit Ramp	300 ft	1,000 ft	5%
Improve Horizontal Curves	Increase Radius	2,500 ft	3,000 ft	4%
			3,500 ft	7%
Widen Shoulders	Widen Inside Shoulder	2 ft	8 ft	9%
			12 ft	15%
		4 ft	8 ft	6%
	Widen Outside Shoulder	6 ft	12 ft	12%
			12 ft	14%
			12 ft	9%
		10 ft	5%	
Widen to 3-Lanes	Add Travel Lane	2 lanes	3 lanes	10%



Geometric Correction Made in 2021



After Curve Correction

Before Curve Correction





What are the Costs?

Preliminary!!! For comparison and discussion purposes only.

Alternative	Per Mile	Total
Enhanced 2-Lane	\$23.5-25.5 million	\$3.5 to 3.8 billion
3-Lane	\$30-32 million	\$4.5 to 4.8 billion
No Build	\$12-14 million	\$1.8 to 2.1 billion

- Cost estimates are evolving – identifying areas for ramp extensions and crossovers
- Includes 20% contingency, in 2023 dollars
- Doesn't include NMGRT, right-of-way, project development
- Doesn't include improvements for ITS, alternate routes, incident management



What Is Our Recommendation?

- Enhanced 2-lane provides the **greatest benefit**, to the **most people**, in a **shorter period of time**
- Responds to immediate needs and **improves safety** – **addresses pavement** and **fixes geometric deficiencies**
- Makes improvements that reduce the main causes of traffic back-ups - **construction, maintenance**, and **incidents**
- Is **future ready** for **easy expansion to 3-lane** should **conditions change**
- Meets performance/capacity **needs**



What Should Be Done First?

- **Maintain 2-lanes during construction (policy)**
 - Requires planning and in some cases, detour pavement
 - This commitment has been made and is being incorporated into projects being designed.
- **Limit planned lane closures for maintenance (policy)**
 - Consider conducting routine maintenance during lower volume traffic times, would not apply to emergency repairs
 - Could start within the next year
- **Reduce the number of incidents**
 - There are 118 curve deficiencies on I-40 and more than 70 ramps and merge areas that are too short.
 - Fixing these issues will require time to fund and build projects
 - Could also improve incident management/response, push/pull legislation would help.



What Other Improvements Are Recommended?

- **ITS Improvements**

- **Data collection must be a priority!**
- Recommendations include a short-term and long-term plan, includes fiber optic for full corridor

- **Improve Alternate Routes**

- **Providing a contiguous, parallel route to I-40 has limited value and does not address needs on I-40**
- Reconstruct pavement where needed, address bridges, address vertical clearance issues

- **Improve Incident Management**

- **Push/pull legislation**, D6 TMC, ITS improvements, coordination, first responder training.