



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

## CN 6101580

### Public Meeting #3

February 27, 2024 | 6:30 pm





# What Area of I-40 is the NMDOT Studying?





# Introductions

## Presenters

- **Summer Herrera**- NMDOT Project Manager
- **Chris Baca** – Project Manager, Parametrix
- **Stephanie Miller** – Deputy Project Manager, Parametrix

## Technical Team Representatives

- **Nancy Perea** - NMDOT District 3 Traffic Engineer
- **Greg Clarke** – NMDOT District 3 Technical Support Engineer
- **Arif Kazmi** – NMDOT Assistant District 6 Engineer
- **Charles Allen** – Traffic Lead, Parametrix
- **Brent Hamlin** – Moderator, Parametrix



# Meeting Information

## Agenda

- Presentation
- Q & A session after the presentation
- **Presentation is being recorded**

## How do I ask questions or provide a comment?

- All participants will be muted until the end of the presentation
- We will answer questions at the end of the meeting
- We will provide instructions on how to ask a question or make a comment at the end of the presentation



# I-40 Corridor Study Purpose

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

Meet state and federal requirements



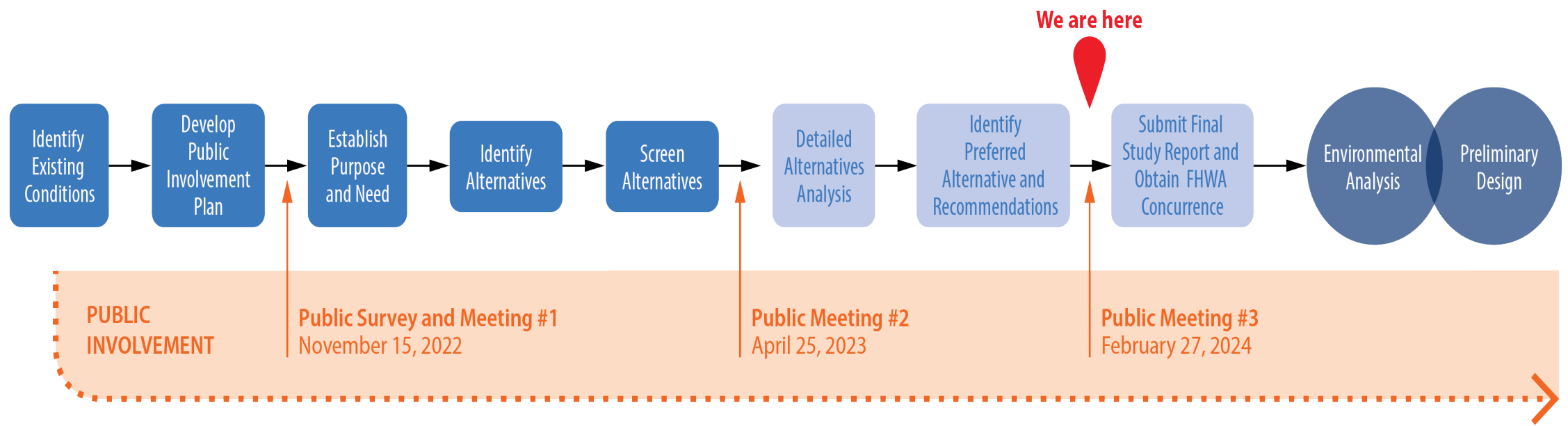


# NMDOT Corridor Study Process

## PHASE A: Alternatives Identification and Screening ▶

## PHASE B: Detailed Alternatives Analysis ▶

## PHASES C and D ▶





# Summary: Public and Stakeholder Engagement

Stakeholder	Summary
<b>Public Meetings</b> <ul style="list-style-type: none"> <li>Meeting 1, <b>November 15, 2022</b></li> <li>Meeting 2, <b>April 25, 2023</b></li> <li>Meeting 3, <b>February 27, 2024</b></li> </ul>	<ul style="list-style-type: none"> <li>56 attendees, 70 people completed a survey</li> <li>76 attendees</li> <li><b>Current Meeting</b></li> </ul>
<b>Tribes and Organizations</b> <ul style="list-style-type: none"> <li>Bureau of Indian Affairs</li> <li>Acoma Pueblo</li> <li>Laguna Pueblo</li> <li>Navajo Nation</li> <li>Zuni Pueblo</li> </ul>	<ul style="list-style-type: none"> <li>Initial meetings occurred in <b>September and October 2022</b></li> <li>Follow-up meetings occurred in <b>May, June, and July 2023</b></li> <li>Additional meetings planned in <b>March/April 2024</b></li> </ul>
<b>Regional Transportation Planning Organizations</b> <ul style="list-style-type: none"> <li>Mid-Region Council of Governments</li> <li>Northwest New Mexico</li> </ul>	<ul style="list-style-type: none"> <li>Initial meetings in <b>September 2022</b></li> <li>Follow-up meetings occurred in <b>May and June 2023</b></li> <li>Additional meetings planned in <b>March 2024</b></li> </ul>
<b>New Mexico Trucking Association</b>	<ul style="list-style-type: none"> <li>Survey in <b>January 2023</b>, 32 people responded</li> </ul>
<b>State Patrol</b>	<ul style="list-style-type: none"> <li>Meeting in <b>January 2023</b></li> </ul>



# Public and Freight Survey Results

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

## Public Responses

1. Traffic back-ups = 91% public
2. Roadway/lane closures due to accidents = 82%
3. Lane closures due to construction = 78%
4. Conflicts with large commercial trucks = 68%
5. Tie = 51%
  - Poor road or pavement condition
  - People driving too fast
  - Slow moving vehicles
8. Drivers attempting to make unsafe passing moves = 49%
9. Poor weather conditions = 23%
10. Inadequate shoulders = 14%

## Freight Responses

1. Poor road or pavement condition = 72%
2. Lane closures due to construction = 69%
3. Tie = 56%
  - Traffic back-ups
  - People driving too fast
5. Poor weather conditions = 53%
6. Tie = 50%
  - Roadway/lane closures due to accidents
  - Drivers attempting to make unsafe passing moves
8. Tie = 31%
  - Slow moving vehicles
  - Inadequate shoulder width
10. Illegally parked vehicles along ramps = 16%





## What Have We Learned?

- **Operations and Reliability** - Traffic back-ups are caused by **construction, maintenance, and crashes.**
- **Safety** - I-40 has multiple interchange ramps that need to be extended and curves that need corrections. Fatal and serious injury crash rates **are higher** than state averages.
- **Roadway Condition** - **Pavement** needs to be improved, several **bridges** need repair or replacement, and many **drainage** structures need to be expanded or repaired.
- **Roadway Capacity and Growth** – In most areas, **I-40 with 2 travel lanes** in each direction **will be sufficient** through the 2050. Capacity will be needed in Gallup, on isolated grades, and at several ramps.



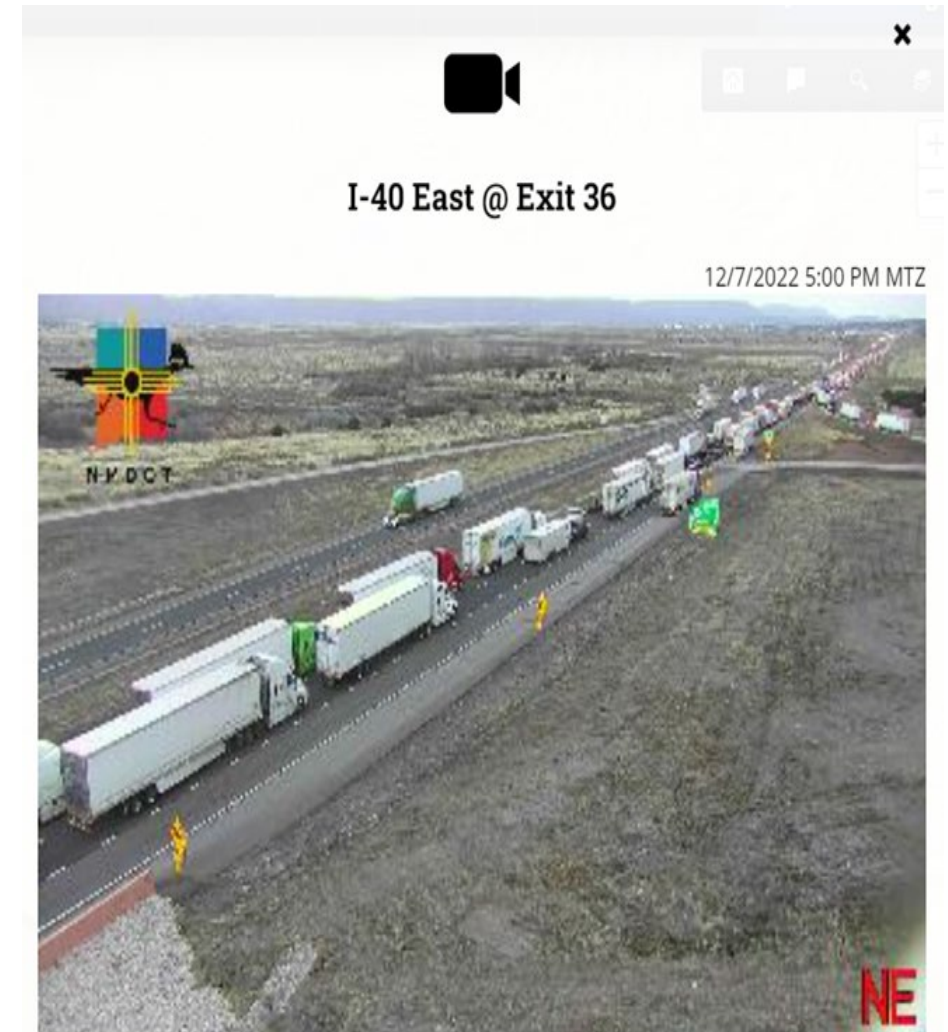
# What Issues Need to be Addressed?

- **Improve Traffic Operations and Reliability** – Reduce lane closures.
- **Improve Safety** – Lengthen ramps and correct curves.
- **Improve Roadway Condition** – Address pavement, bridge, and drainage needs.
- **Prepare for the Future** – Build projects that provide flexibility and can be expanded, where and when warranted, without loss of investment.



# Reduce Lane Closures

- Traffic back-ups are caused by lane reductions due to **construction, maintenance, and crashes**.
- During an 8-week period there were 17 incidents (27% of the time)
  - 9 maintenance-related closures
  - 7 crashes
  - 1 flooding closure





# Improve Safety and Roadway Condition

I-40 has **immediate needs**:

- Pavement needs **repair**
- **118** curves need to be corrected
- **2/3 of ramps** or merge areas are too short
- **Narrow** shoulders
- **Flooding** east of Gallup at Fort Wingate (MP 30 to 36)
- 5 bridges in **poor** condition

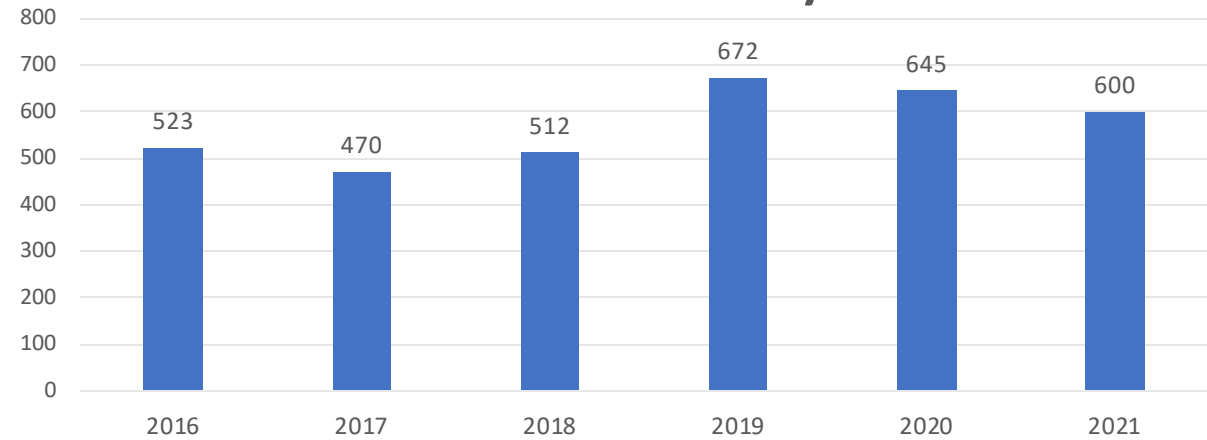




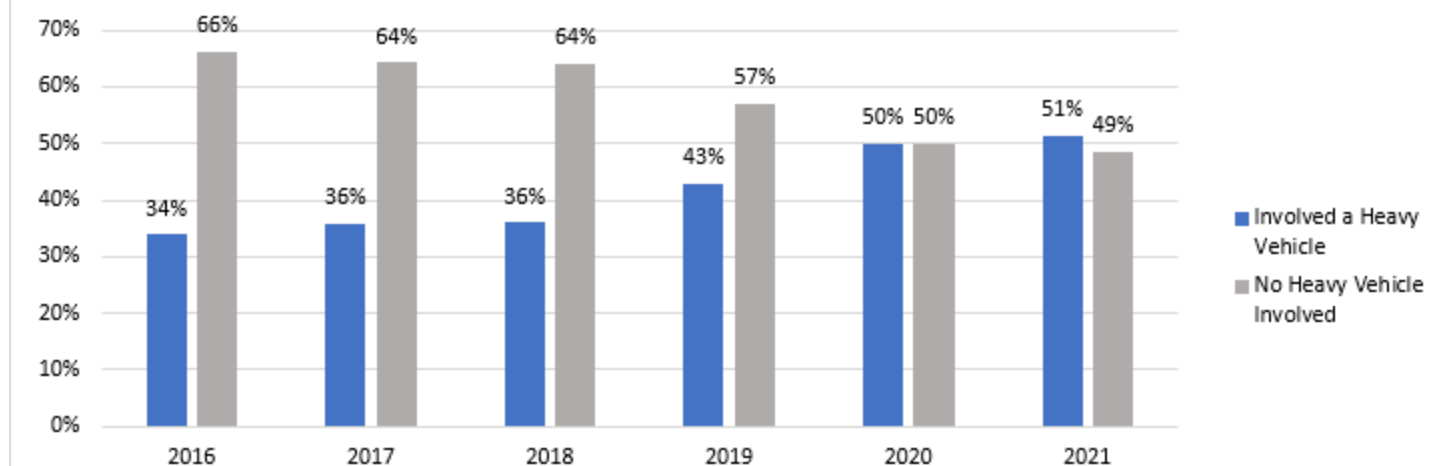
# Improve Safety and Roadway Condition

- Crashes have been **increasing**
- Fatal and serious injury rates **are higher** than state averages
- **Weather** is a factor in 21% of crashes

### I-40 Crashes by Year

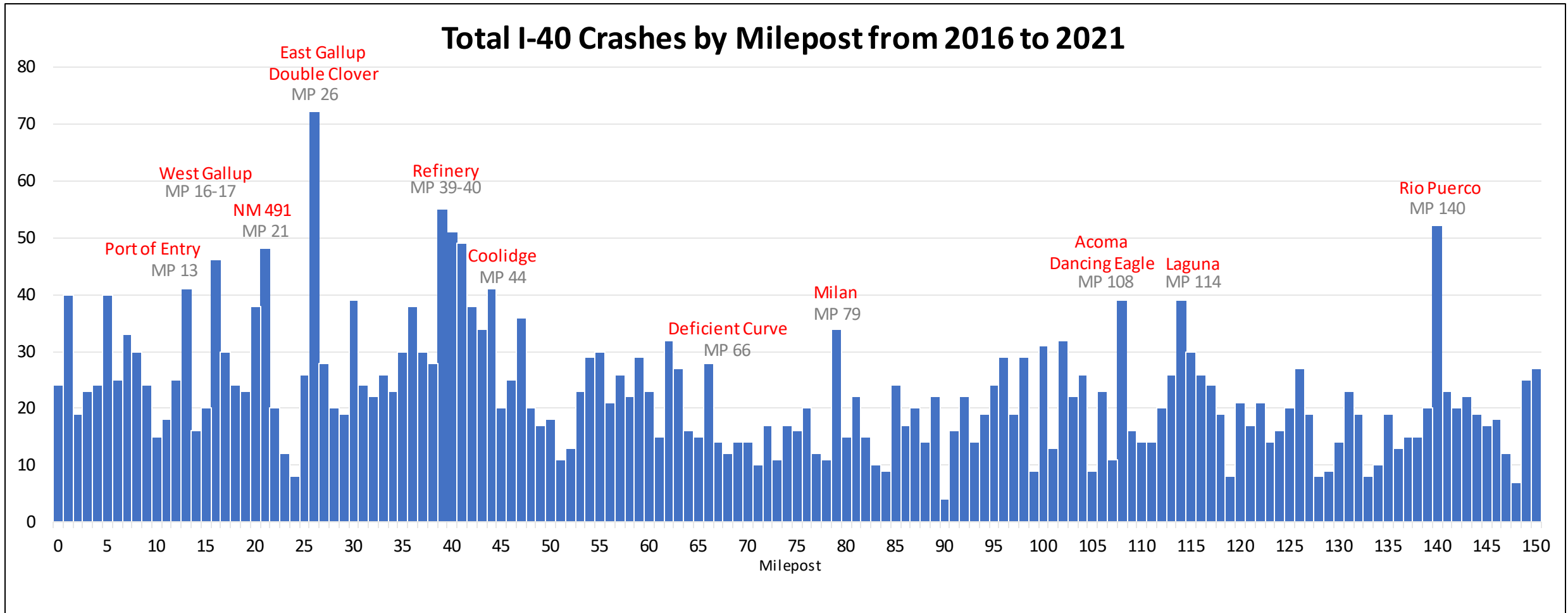


### I-40 Crashes Involving Heavy Vehicles





# Safety: I-40 Crash Locations, 2016-2021



**Most common crash types: Fixed object (20%) Side-swipes (17%) Overturns (14%) Rear-ends (13%) = 64%**



# Preparing for the Future

**Capacity** – I-40 with 2 travel lanes in each direction will be sufficient in **most areas** through the planning horizon year of 2050.

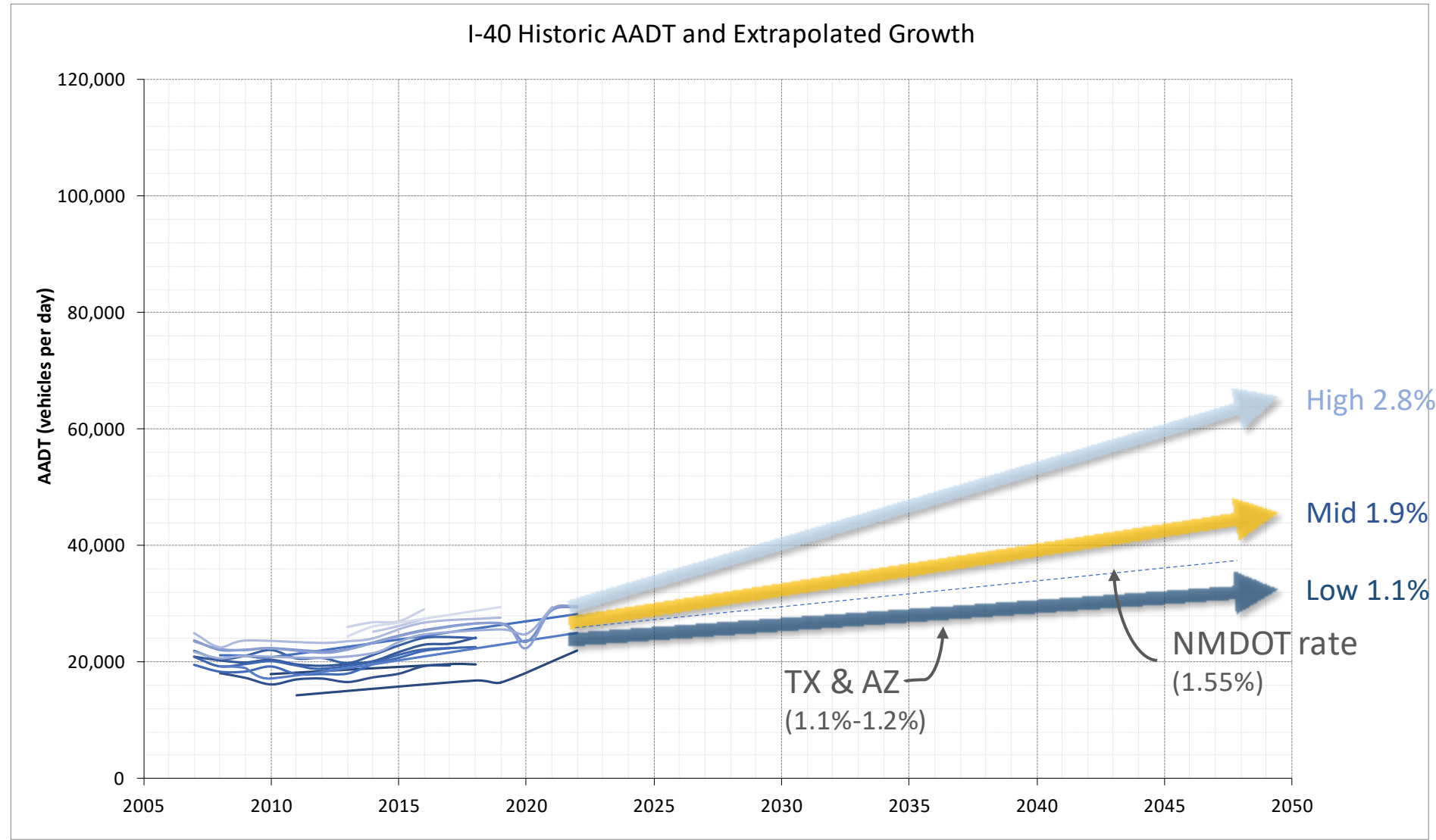
- Need additional capacity at 32 ramps, in Gallup, and on isolated uphill grades.





# Preparing for the Future

**I-40 with 2 travel lanes in each direction** operates well and will be sufficient in **most areas** until 2050 and beyond.







# Preparing for the Future

**Flexibility for the Future** –  
The long-term plan must  
be able to **adapt** to  
changes in technology and  
growth.





## What Are Possible Solutions?

How do we **reduce** lane closures;  
**improve** safety and roadway condition;  
and **prepare** for the future?



# What are Possible Solutions?

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

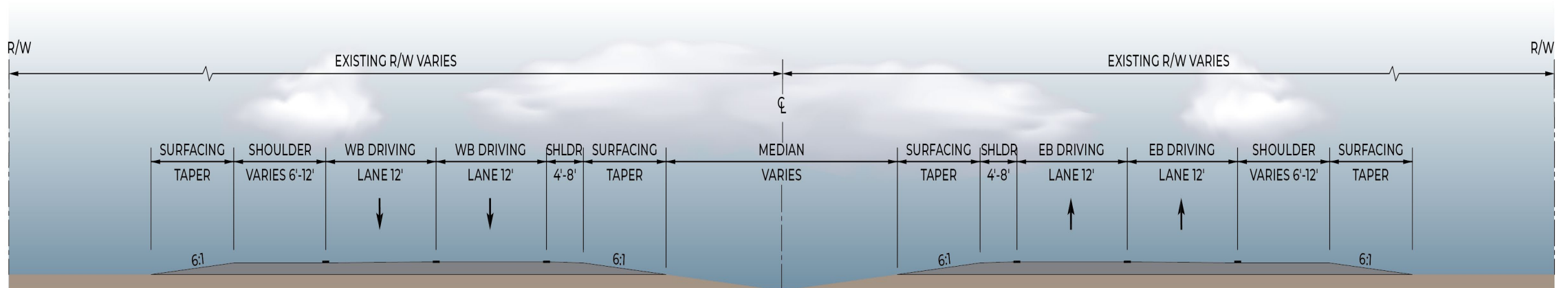
## Operational Enhancements

- Minimize Lane Closures During Construction and Maintenance
- Intelligent Transportation System (ITS) Improvements – Data collection, cameras, digital messaging, etc.
- Improve Alternate Routes
- Incident Management



# Existing I-40

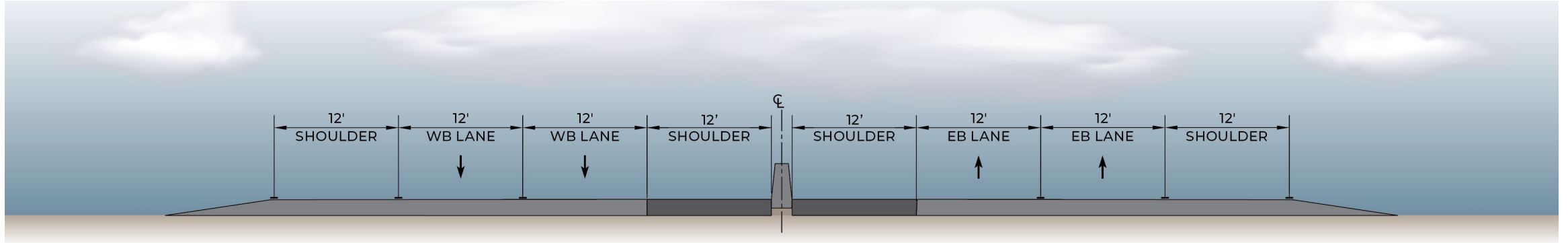
## Existing I-40 Typical Section



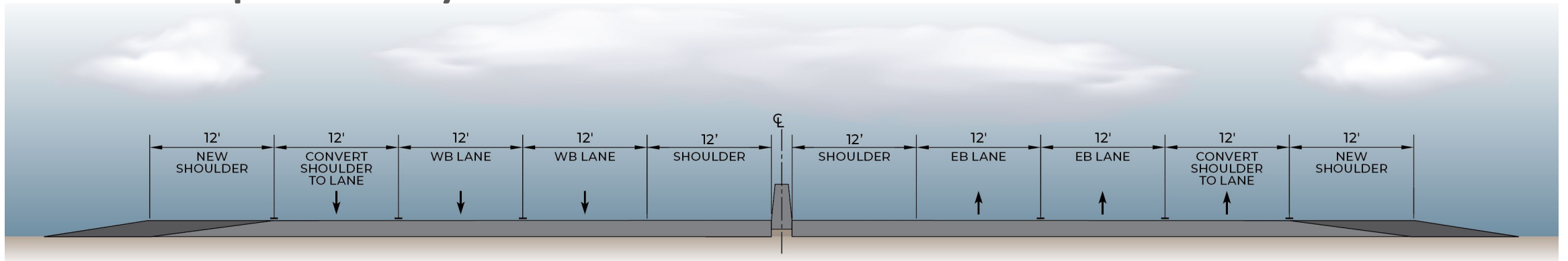


# Build Alternative Example Roadway Sections

## Enhanced 2-Lane Example Roadway Section



## 3-Lane Example Roadway Section



**Enhanced 2-Lane roadway can be widened to 3 lanes by adding a 12-foot shoulder to the inside or outside of I-40.**

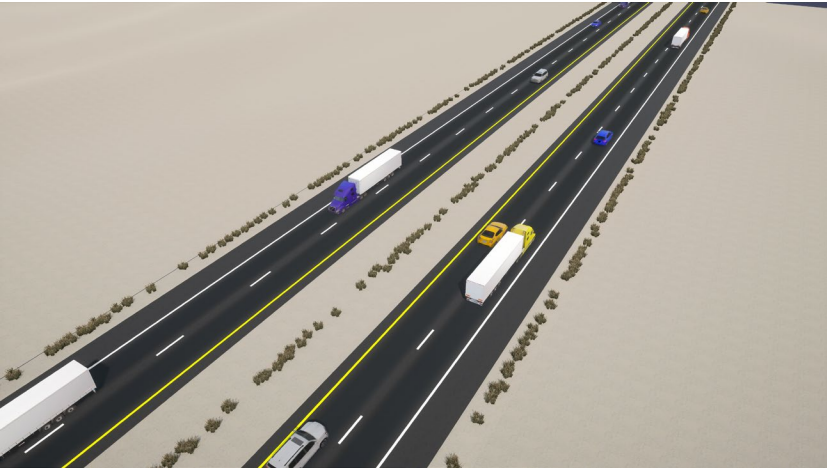


# Comparison of Roadway Widths

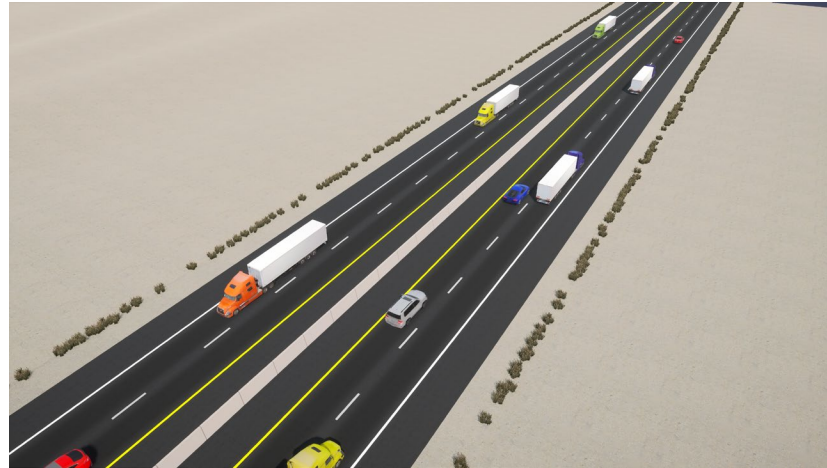
Roadway Type	Total Width	Total Width Added
Existing I-40	38 ft x 2 directions = 76 ft	<b>0 ft</b>
Enhanced 2-Lane	48 ft x 2 directions = 96 ft	<b>+ 20 feet</b>
3-Lane	60 ft x 2 directions = 120 ft	<b>+ 44 feet</b>



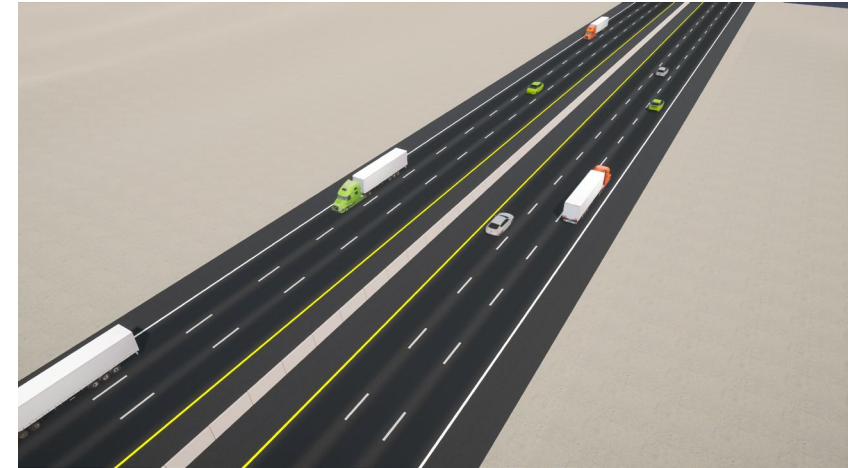
# Proposed Alternatives



**Existing**



**Enhanced 2-Lane**



**3-Lane**

To view a video of the alternatives, go to <https://youtu.be/RywoeirM9XI>



# What are the Safety Benefits?

Improvement		Before	After	% Crash Reduction
Lengthen Ramps	Lengthen Entrance Ramp	300 ft	1,000 ft	up to <b>29%</b>
	Lengthen Exit Ramp	300 ft	1,000 ft	up to <b>5%</b>
Improve Horizontal Curves	Increase Superelevation	1.9%	4.2%	up to <b>7%</b>
		2.5%	3.5%	up to <b>1%</b>
Widen Shoulders	Widen Inside Shoulder	<b>2 ft</b>	8 ft	up to <b>9%</b>
			12 ft	up to <b>15%</b>
	<b>4 ft</b>	8 ft	up to <b>6%</b>	
		<b>12 ft</b>	up to <b>12%</b>	
	Widen Outside Shoulder	6 ft	12 ft	up to <b>14%</b>
		8 ft	12 ft	up to <b>9%</b>
<b>10 ft</b>		<b>12 ft</b>	up to <b>5%</b>	
Widen to 3-Lanes	Add Travel Lane	<b>2 lanes</b>	<b>3 lanes</b>	up to <b>10%</b>





# Example of a Curve Correction Made in 2021



**Crash Before Construction**



**Before Construction**



**After Construction**



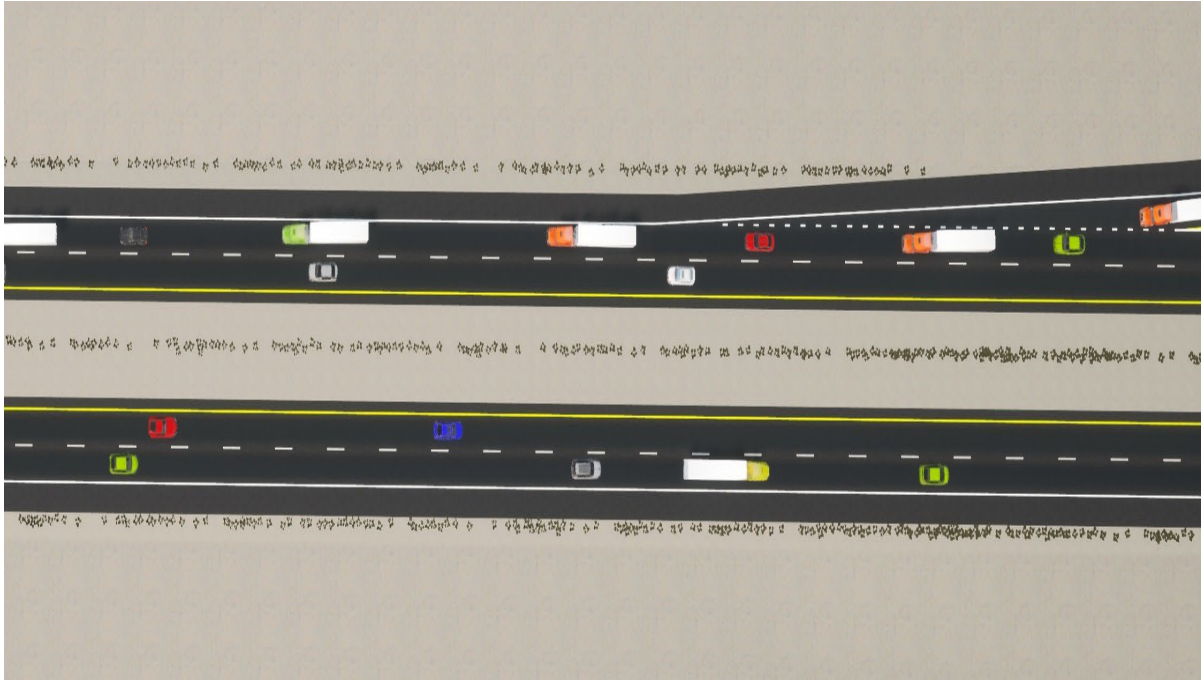
# Example of Ramps Needing Improvements

*Exit 89 Quemado*





# Ramp Improvement Example



**Existing Ramp**

To view a video of a ramp improvement, go to <https://youtu.be/ck1oy4PnkNE>

## Extended Ramp





# What are the Costs?

Alternative	Average Cost Per Mile	Total
<b>Enhanced 2-Lane with Added Lanes</b> (includes 13 miles of 3-Lane roadway)	\$24 to 26 million	\$3.6 to 3.9 billion
<b>3-Lane</b>	\$30 to 32 million	\$4.5 to 4.8 billion

**For comparison and discussion purposes, does not include operational enhancements, project development, right-of-way, or New Mexico Gross Receipts Tax.**



# How Were the Alternatives Evaluated?

- **Traffic Operations and Future Traffic Growth** – Both accommodate expected future traffic growth between now and 2050.
- **Safety** – Both improve safety by lengthening interchange ramps, correcting curves, and widening shoulders.
- **Maintenance of Traffic during Construction** – Both maintain 2 lanes.
- **Maintenance of Traffic during Incidents, Maintenance, and Construction Once Built** – Enhanced 2-Lane is a substantial improvement, the 3-Lane provides more space and flexibility.
- **Right-of-Way Impacts** – No anticipated needs for either alternative.
- **Environmental Considerations** – 3-Lane Alternative has a larger footprint and more potential effects, but differences are minor.
- **Cost** – 3-Lane is about 25 to 30% more than the Enhanced 2-Lane and will also have higher maintenance costs.



# What Alternative is Recommended?

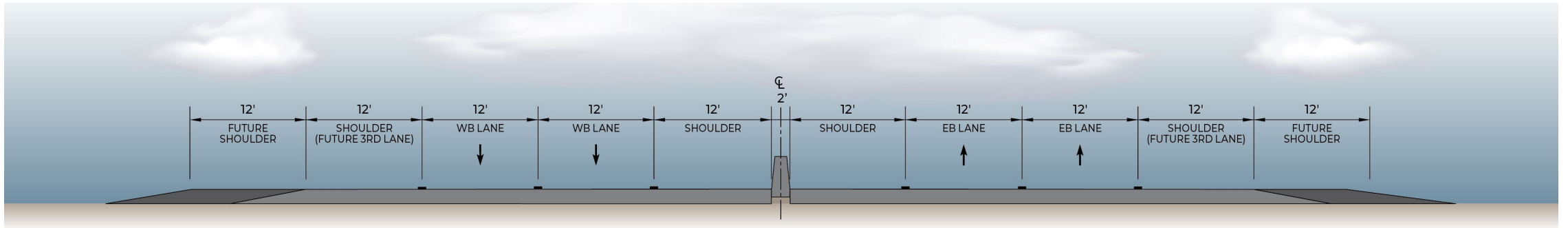
## Enhanced 2-Lane with Added Lanes Alternative with Operational Enhancements

- **Improves Traffic Operations and Reliability** by reducing the main causes of traffic back-ups – construction, maintenance, and incidents.
- **Responds to Safety and Infrastructure Needs** by addressing pavement condition, ramps that need to be extended, and curves that need to be corrected.
- **Meets Expected Future Traffic Growth** and is **“future-ready”** for easy expansion to 3-lane should conditions change.



# Roadway Sections and Future Expansion

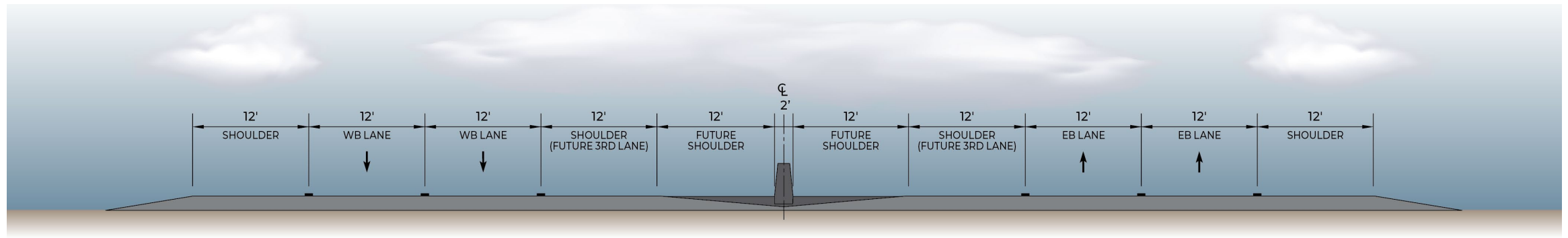
## Example Section A – Flush Median with Wall Barrier (50 miles, shown in video)



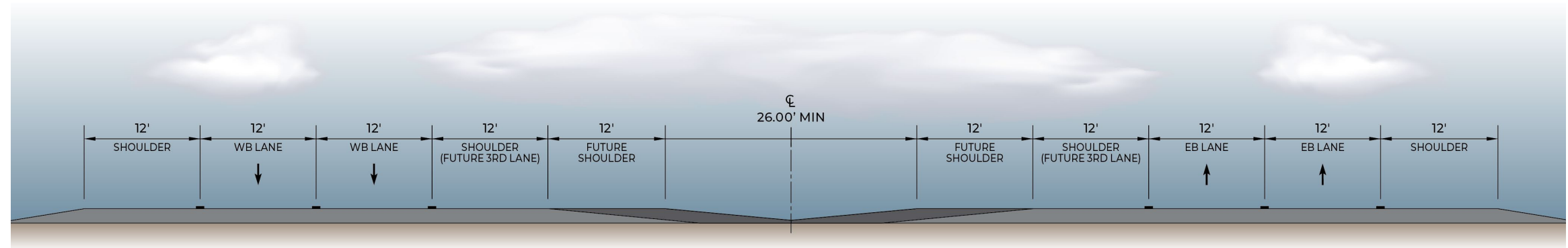


# Roadway Sections and Future Expansion

## Example Section B – Depressed Median with Future Wall Barrier (41 miles)



## Example Section C – Wide Depressed Median with No Wall Barrier (59 miles)







# How does the Enhanced 2-Lane Improve Incident Response?



**Existing**

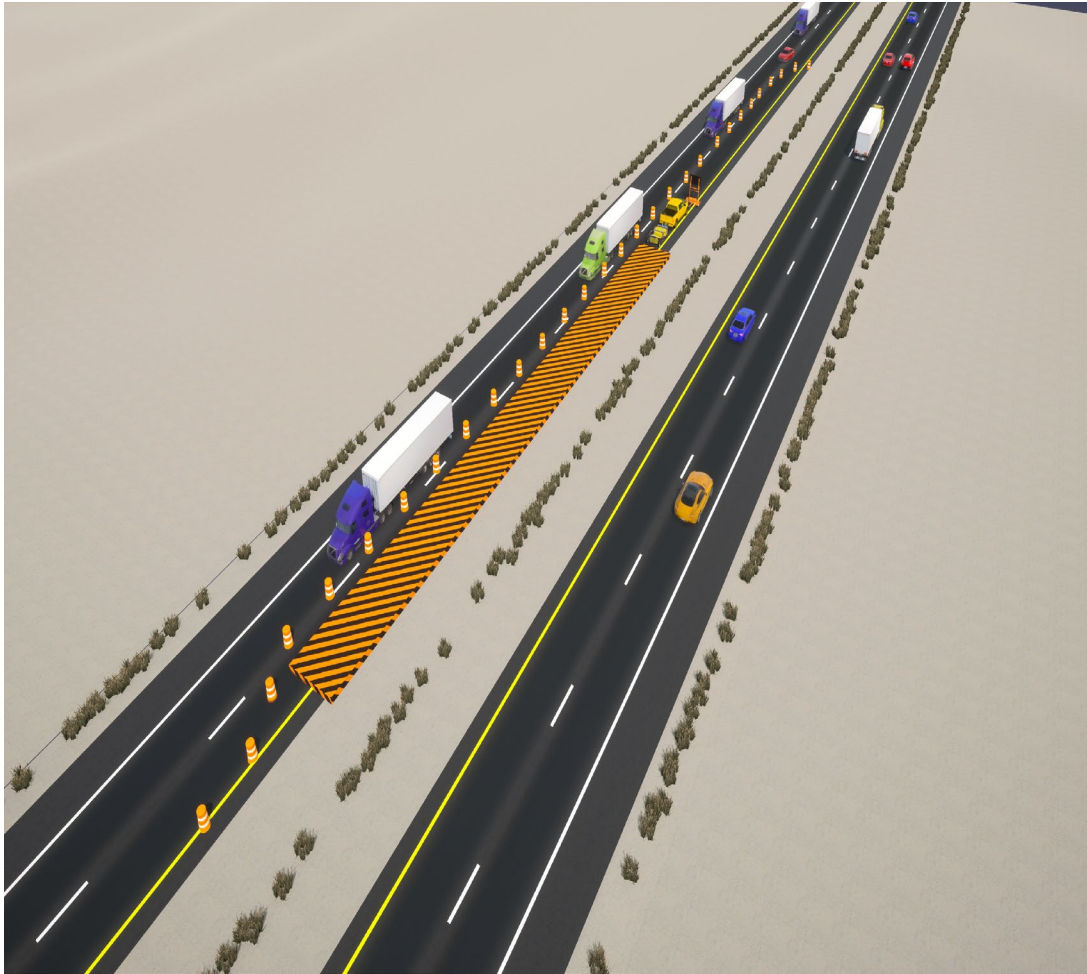


**Enhanced 2-Lane**

To view a video example, go to <https://www.youtube.com/watch?v=LkXm0VAX7-k>



# How does the Enhanced 2-Lane Keep Lanes Open During Maintenance?



**Existing**

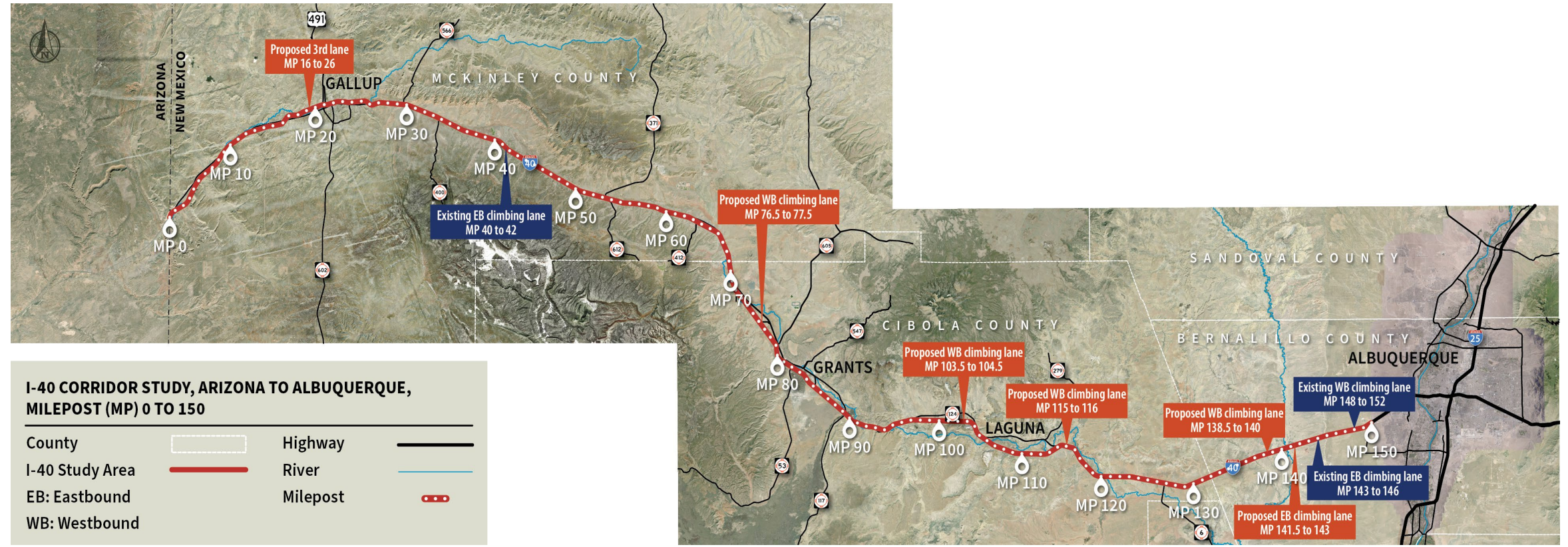


**Enhanced 2-Lane**

To view a video example, go to [https://youtu.be/2N\\_d9fvogY4](https://youtu.be/2N_d9fvogY4)



# Where Are 3-Lanes Proposed?



**Includes about 13 miles of widening to 3-Lanes**



# Where Are Ramp Improvements Proposed?

Exit	Description	Ramp Improvements Needed	Exit	Description	Ramp Improvements Needed
3	Eastbound Rest Area	2/2	81 A/B	Grants/San Rafael	5/5
8	Defiance/Manuelito	4/4	85	Grants/Mt. Taylor	5/5
12	Westbound Pullout	2/2	89	Quemado (Hwy 117)	4/4
16	West Gallup	1/4	100	San Fidel	4/4
20	Downtown Gallup	5/5	102	Acoma/Sky City	3/4
22	Gallup	4/4	104	Cubero/Budville/Seama	1/4
26	East Gallup	4/4	108	Casa Blanca/Paraje	4/4
33	McGaffey	4/4	114	Laguna	3/4
36	Iyanbito	4/4	117	Mesita	3/4
53	Thoreau	2/4	126	Los Lunas/Hwy 6	3/4
63	Prewitt	4/4	131	To'hajiilee	4/4
79	Milan	4/4	140	Rio Puerco/ Rt 66 Casino	3/4

**82 ramps need improvements at 24 locations**



# Recommended Operational Enhancements

## Minimize Lane Closures during Construction and Maintenance

- Maintain 2-lanes during construction. Costs are included in build alternative costs.
- Develop and implement policies to maintain 2 lanes during maintenance activities as much as possible during daytime hours. Costs will be determined on a case-by-case basis.

## ITS Improvements

- Upgrade and add data collection stations, cameras, and messaging signs.
- Provide a traffic management center to monitor traffic and incidents and a truck parking availability system.
- Provide fiber optic network to connect devices and improve information provided to travelers.
- Estimated costs are about **\$30 million**



# Recommended Operational Enhancements

## Improve Alternate Routes

- Repair or replace bridges and pavement with identified needs.
- Remove vertical clearance constraints (MP 8.4 on NM 118 and MP 90.5 on NM 124)
- Costs for bridges and vertical clearance constraints will be developed on a case-by-case basis. Pavement costs will vary and range from \$2.1 million per mile for reconstruction and \$750,000 per mile for rehabilitation on typical 2-lane roadway. Costs for wider roadways will be higher.

## Improve Incident Management

- NMDOT will continue to work with the legislature and law enforcement to improve incident management through **improved coordination** and training and supporting incident response.
- Costs would depend on policies and procedures developed and would be determined on a case-by-case basis.



# How Will Improvements be Prioritized?

**Immediate Needs** – Continue data collection, develop policies to improve reliability, build currently funded projects, and seek additional funding.

- **Data collection** – Get existing systems working and upgrade and add new data collection points
- **Policies** – Maintain 2-lanes during construction, develop policies for maintenance, which may include doing work during off-peak times. Improve incident management (e.g. push/pull legislation).
- **Projects and Funding** – Build currently funded projects, seek additional funding to implement the I-40 Corridor Plan.



# I-40 and Alternate Route Studies Funded and In Progress

#	NMDOT #	Location	Description	Prior Funding	2024 Funding	2025 Funding	Total Funding
1	6101600	I-40 MP 8.0, NM 118 (West of Gallup)	Study to Improve Truck Clearance on NM 118	\$1 million			<b>\$1 million</b>
2	6101390	I-40, MP 20.5 – 21.5 Gallup @ US 491	I-40/US 491 Interchange Study	\$1.7 million	\$32,433	\$1,467,567	<b>\$3.2 million</b>
3	6101570	I-40 MP 90.6, NM 124 East of Grants	Study to Improve Truck Clearance/Realign NM 124	\$950,000			<b>\$950,000</b>
						<b>Total</b>	<b>\$5.150 million</b>





# I-40 Funded Projects 2024 to 2027

#	NMDOT #	Location	Description	Prior	2024	2025	2026	2027	Total
1	6101391	MP 20.4 – 21.2	US 491 Ramp Realignment					\$7,400,000	\$7,400,000
2	6100932	MP 21.9 – 25.7	Gallup Pavement Rehabilitation					\$10,656,393	\$10,656,393
3	6101500	MP 30.0 – 31.0	Bridge Rehabilitation (4 bridges)					\$4,000,000	\$4,000,000
4	6101581	MP 39.8 – 44.8	Roadway Widening	\$18,962,572		\$41,657,539			\$60,620,111
5	6101550	MP 72.2 and 85.1	Bridge Deck Overlay (2 bridges)				\$10,700,000		\$10,700,000
6	6101551	MP 76.1	Bridge Rehabilitation		\$1,500,000				\$1,500,000
7	6100838	MP 105.9 – 106.4	Bridge Replacement (2 bridges)	\$200,000	\$1,217,295		\$8,566,385		\$9,983,680
8	6100843	MP 119.38	Bridge Replacement					\$900,000	\$900,000
9	6101630	MP 121.8	Bridge Repair (2 bridges)		\$750,000				\$750,000
			<b>Total</b>	<b>\$19,162,572</b>	<b>\$3,467,295</b>	<b>\$41,657,539</b>	<b>\$19,266,385</b>	<b>\$22,956,393</b>	<b>\$106,510,184</b>



# How Will Future Unfunded Improvements be Prioritized?

- Smaller-Scale **Safety and Crash Reduction** Improvements (ramp and geometric improvements)
- Larger-Scale Projects to Maintain Critical Infrastructure and **Keep I-40 Open** (includes Fort Wingate and addressing alternate routes)
- Larger-Scale **Safety Improvement** Projects
- **Expand** to the Enhanced 2-Lane Configuration and add 3<sup>rd</sup> lane in Gallup and select uphill grades



# Summary of Recommendations

## Operational Enhancements, Policies, Build Funded Projects

- ITS Improvements – Data collection, cameras, digital messaging, etc.
- **Maintain two lanes** during construction and maintenance activities
- Incident Management – Re-establish traffic lanes as efficiently as possible
- Build funded projects, design **Enhanced 2-Lane Alternative** at Continental Divide

## Geometric and Ramp Improvements

### Maintain Critical Infrastructure

- Fort Wingate/MP 30 and maintain existing alternate routes

### Implement the Enhanced 2-Lane with Added Lanes Alternative

- Future projects prioritized by areas with **poor pavement**
- **3 Lanes in Gallup Metro** and on select uphill grades (13 miles)

### Monitor Traffic Growth – Adjust to 3-Lane Section as Warranted

- Convert inside or outside shoulder and add a new shoulder



## Next Steps

- **Public Comments and Stakeholder Meetings** – Obtain input and incorporate into the final recommendations and I-40 Corridor Plan (Winter/Spring 2024)
- **Finalize recommendations** and the I-40 Corridor Plan (Spring 2024)
- **Implement** existing planned and funded projects
- **Seek funding** for projects in the I-40 Corridor Plan
- Continue to **collect data** and verify and update the I-40 Corridor Plan as needed



# How Can I Submit Comments?

## Project website at [i40nmstudy.com](http://i40nmstudy.com)

- Provide comments using the comment form
- A meeting recording and presentation materials will be available

**E-mail** comments to [i40study@parametrix.com](mailto:i40study@parametrix.com)

**Mail** comments to:

I-40 Corridor Study  
4041 Jefferson Plaza NE, Suite 210  
Albuquerque, NM 87109

**Please submit comments by Wednesday, March 27, 2024**



# How Do I Ask a Question If I Called In?

## If you are on a phone and want to ask a question:

- Press **\*9** to raise your hand and the moderator will call on you to ask a question.
- Press **\*6** to “unmute” to ask your question.
- Please state your name, affiliation (if applicable), and ask your question.



# How Do I Ask a Question If I Am Online?

Ask a question using the Q&A button or verbally:

- To use the Q&A button, select the button, type your question, and hit send.
- To ask your question verbally, please “raise your hand” using the button.
  - The moderator will call on you.
  - You will be prompted to unmute. (If you are on the phone, \*6 unmutes)
- Please state your name and ask your question.

