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

Public Meeting

April 25, 2023| 6:30 pm

What area of I-40 is the NMDOT studying?

I-40 CORRIDOR STUDY, ARIZONA TO ALBUQUERQUE, MILEPOST (MP) 0 TO 150

County		Highway	
I-40 Study Area		River	
Alternate Route		Milepost	

Introductions

Presenters

- **Summer Herrera**- NMDOT Project Manager
- **Chris Baca** – Project Manager, Parametrix
- **Stephanie Miller** – Deputy Project Manager, Parametrix
- **Charles Allen** – Traffic Lead, Parametrix

Technical Team Representatives

- **Jill Mosher –** NMDOT Assistant District 3 Engineer
- **Arif Kazmi** – NMDOT Assistant District 6 Engineer
- **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 Key Findings and Project Needs

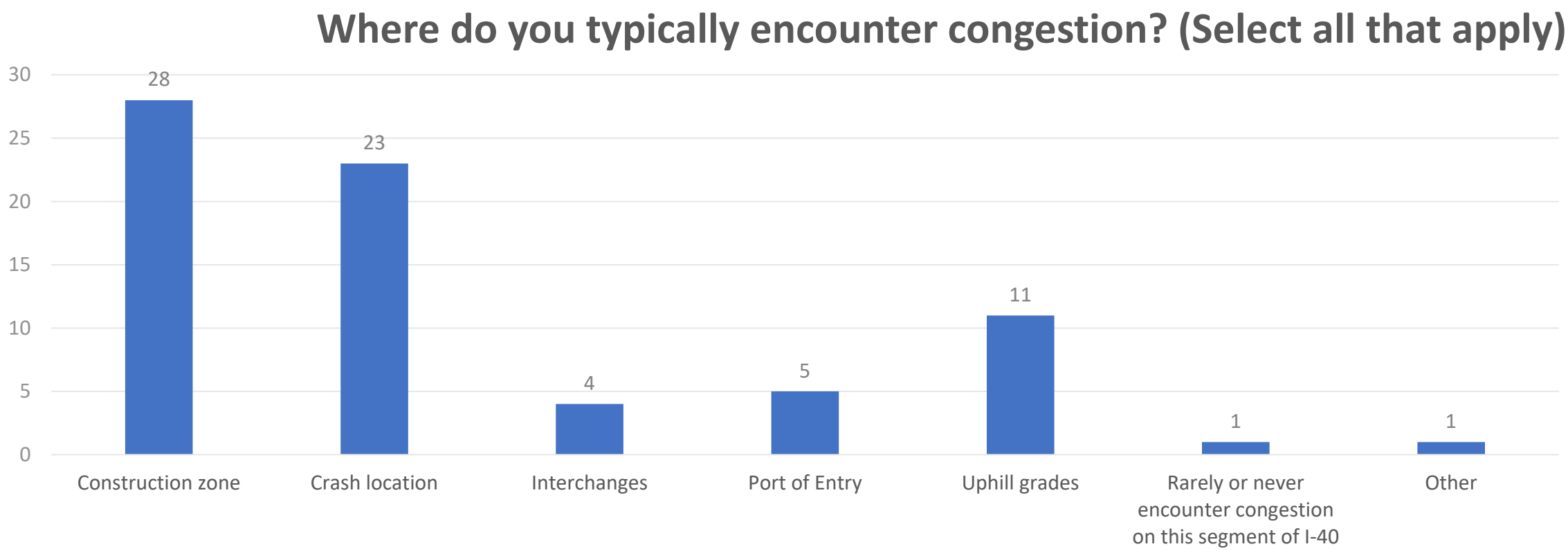
- People are concerned about safety and reliability and are frustrated with closures and truck traffic taking both lanes.
- I-40 has geometric (curve and ramp) deficiencies and areas where bridges, drainage, and pavement needs to be improved.
- Crashes have been increasing through 2019 and are above average for similar facilities. Crashes with heavy trucks are increasing.
- 1-lane construction zones are problematic.
- Capacity of I-40 with 2-lanes appears to be adequate on most of I-40 until 2050.
  - In the future, additional capacity is needed in Gallup and at several interchanges.

Public Concerns: 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)

Public Concerns: Freight Survey Results



Responses: 32

Project Needs: Geometrics Deficiencies and Infrastructure Condition

Geometric Deficiencies

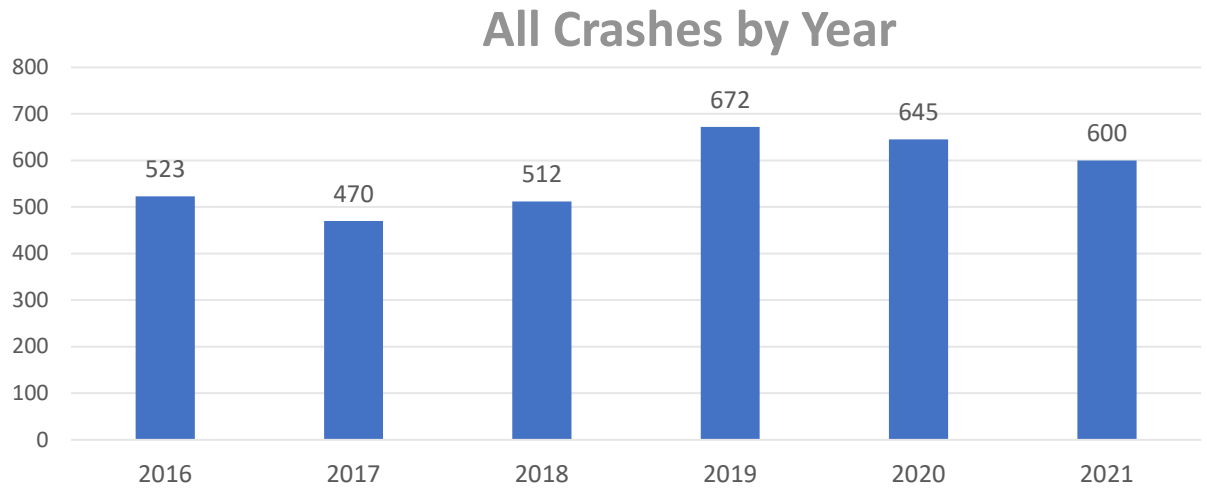
- Areas include horizontal curves, vertical curves, and interchange access ramps.
- I-40 has narrow roadway shoulders, making it difficult to respond to incidents, maintain I-40, construct improvements, and for drivers to recover.

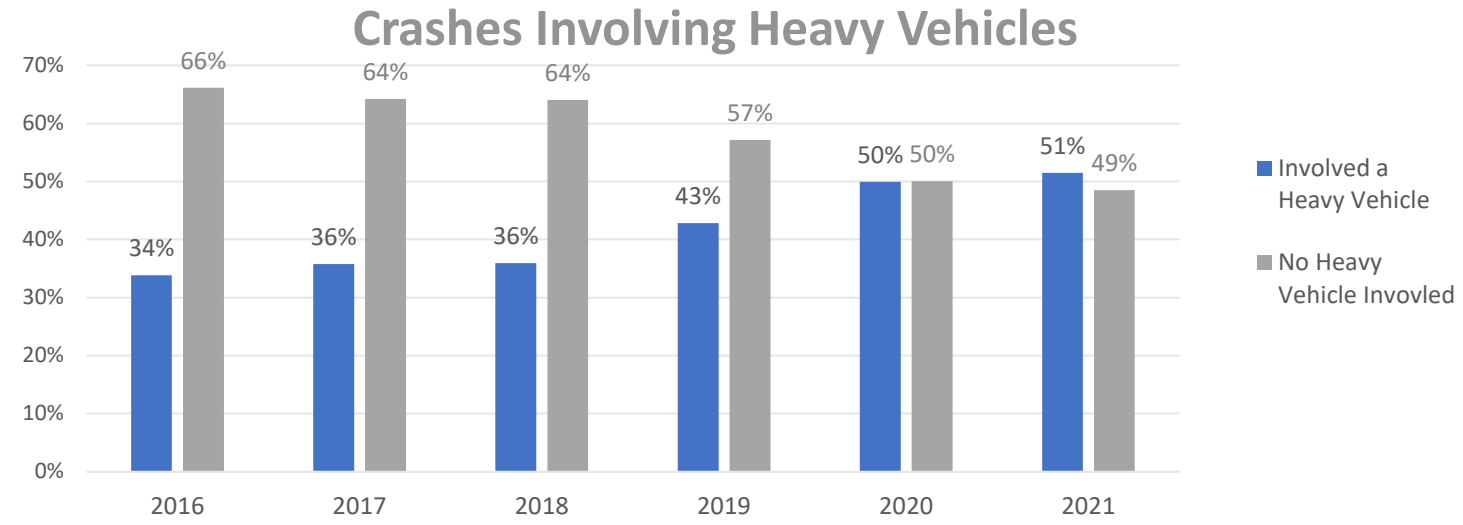
Infrastructure Condition

- There are undersized drainage structures and flooding is an ongoing issue in the Fort Wingate area.
- 32 bridges have horizontal or vertical clearance deficiencies.
- Pavement is in poor condition in several areas.

Project Needs: Safety

- Crashes reached a high in 2019, have been decreasing slightly.
- Heavy vehicle crashes have substantially increased.
- Fatal and serious injury crashes have not increased.
  - About 18 fatal crashes/year
  - About 17 serious injury crashes/year
- Most common crash types are:
  - Fixed object (20%)
  - Side-swipes (17%)
  - Overturns (14%)
  - Rear-ends (13%)





Project Needs: Safety, I-40 Crash Rates 2016 - 2021

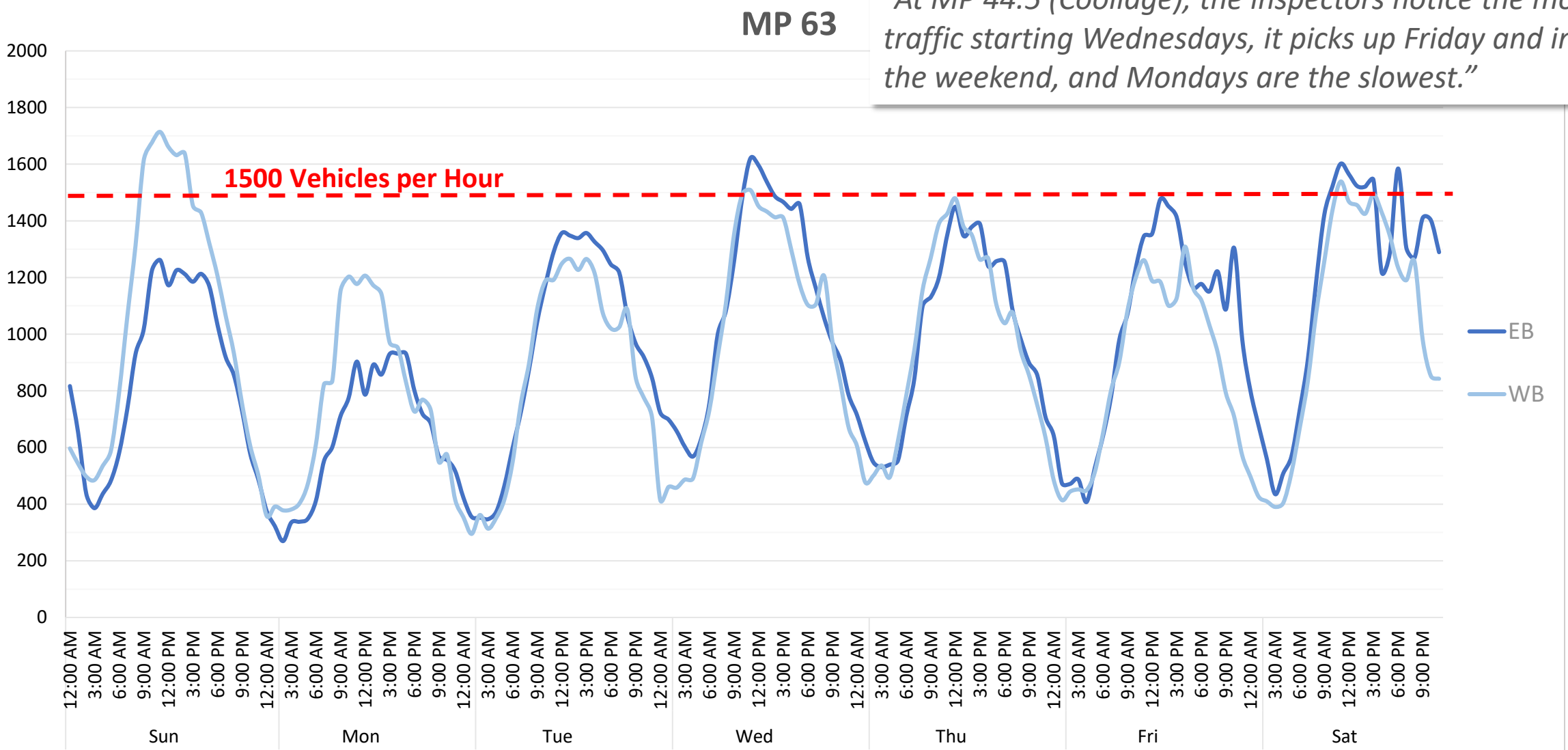
Freeway Type	Location	Fatality Rate (Fatalities / yr/ HMVM[2])		Serious Injury Rate (Serious Injuries/ yr/ HMVM[2])	
		Actual	NM Average[1]	Actual	NM Average[1]
Rural	Rural I-40	1.76	1.17	1.79	1.70
Urban	Grants Urban Area	1.81	1.10	0.90	3.83
	Gallup Urban Area	1.19	1.10	1.34	3.83

1. NMDOT Highway Safety Improvement Program 2020 Annual report
2. Hundred-million vehicle-miles

Project Needs: Construction Zone Improvements

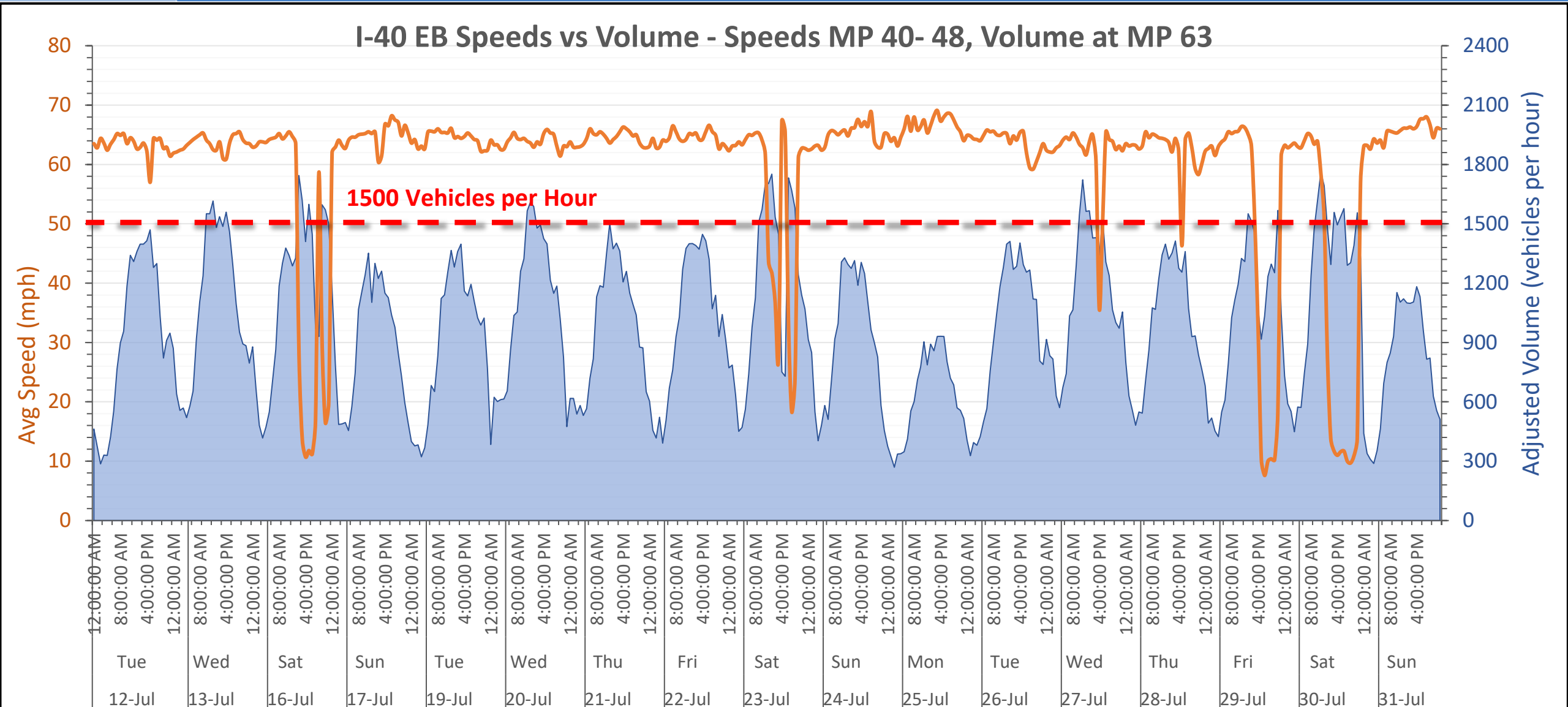
1-lane Capacity vs. I-40 Adjusted Vehicles per Hour

"At MP 44.5 (Coolidge), the inspectors notice the most traffic starting Wednesdays, it picks up Friday and into the weekend, and Mondays are the slowest."



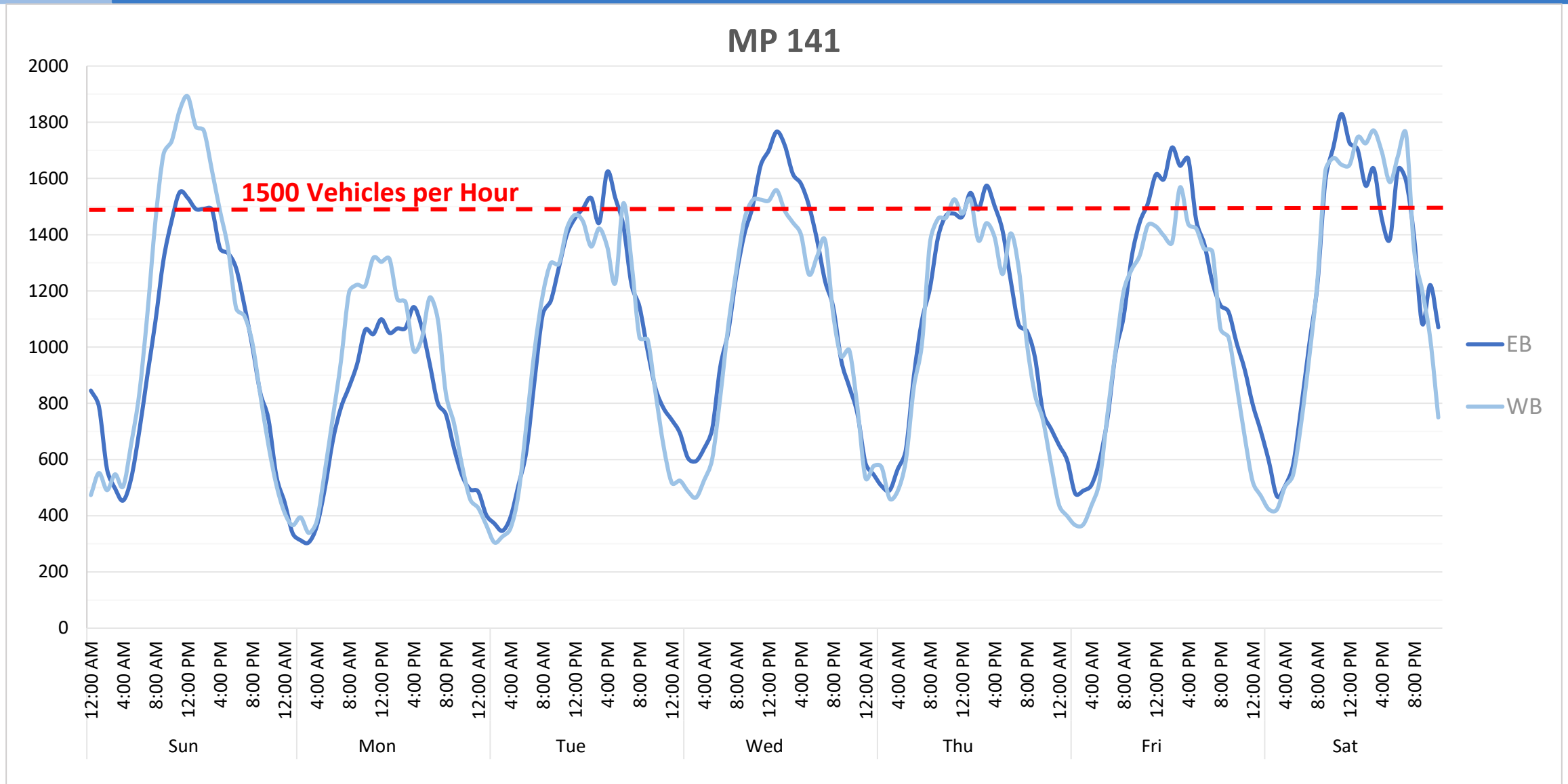
Project Needs: Construction Zone Improvements

Speed Data at Coolidge



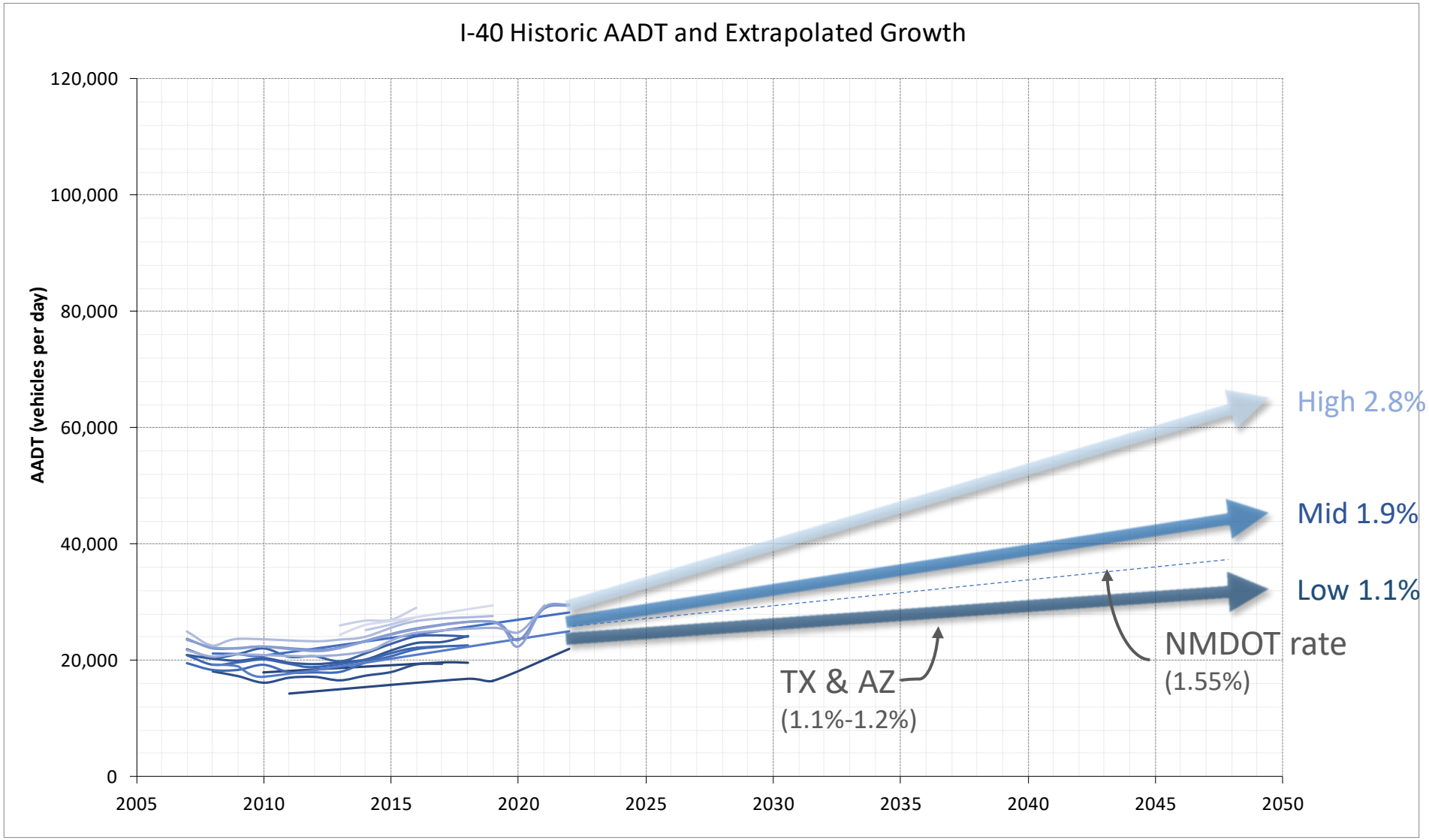
Project Needs: Construction Zone Improvements

1-lane Capacity vs. I-40 Adjusted Vehicles per Hour



Project Needs: Future Traffic Growth

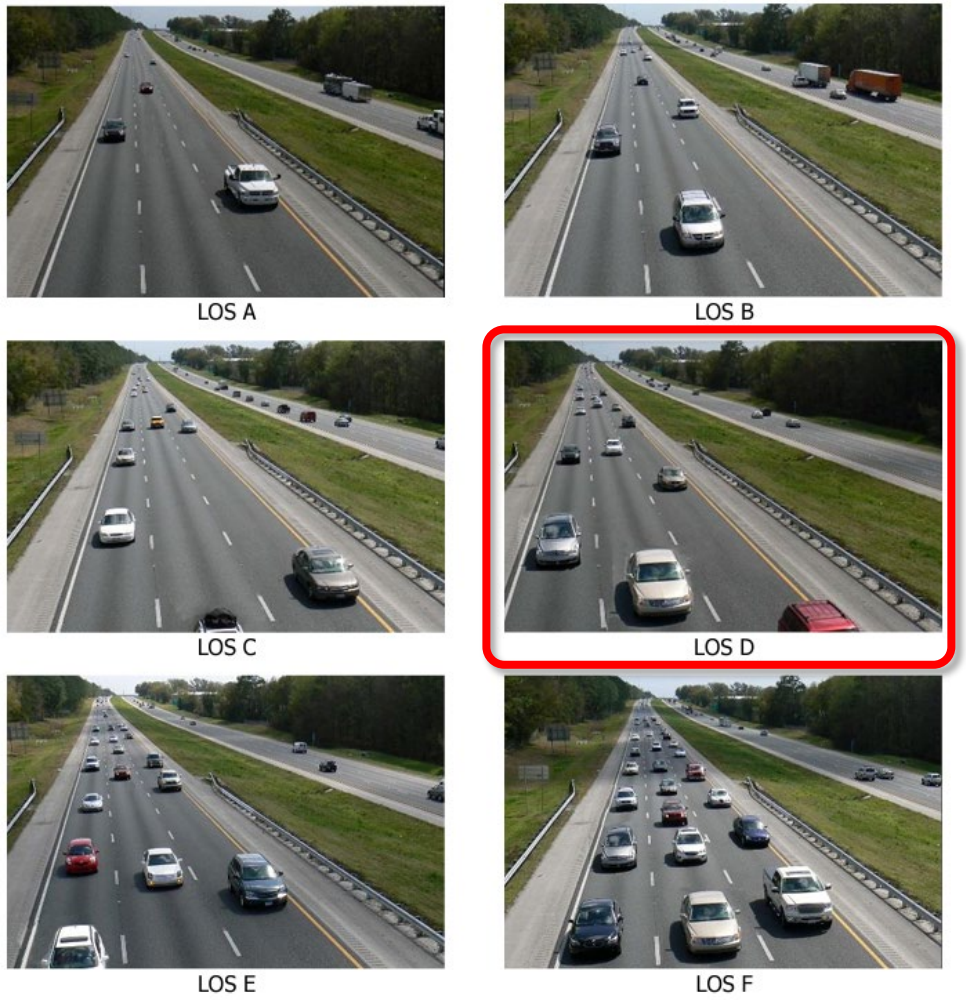
- Historic traffic data shows a variety of trends
- Range of growth rates to bracket the future
  - Accounts for slow long-term growth
  - Considers rapid growth in recent years for freight
  - Considers growth rates on I-40 in Arizona and Texas



Project Needs: I-40 Level of Service (LOS)

- Freeway capacity analyzed on a Level of Service (LOS) A-to-F letter scale

- LOS D is the failure threshold for rural freeways according to NMDOT policy



Source: Highway Capacity Manual, 7th Edition

Project Needs: I-40 Capacity, Existing and 2050

- Mid growth rate of 1.9%
- All segments of I-40 are currently at LOS A or B.
- In 2050, most segments of I-40 are expected to operate sufficiently (LOS C)
- LOS D in some Gallup-area segments
- Separate analysis done for interchanges and grades.

	Location	Beg MP	End MP	EB		WB	
				2022	2050	2022	2050
	Arizona to West Gallup	0	16	LOS B	LOS C	LOS B	LOS C
Gallup	West Gallup to Downtown Gallup	16	20	LOS B	LOS C	LOS B	**LOS D**
	Downtown Gallup to Miyamura	20	22	LOS B	**LOS D**	LOS B	**LOS D**
	Miyamura to East Gallup	22	26	LOS B	LOS C	LOS B	**LOS D**
	East Gallup to Thoreau	26	53	LOS A	LOS C	LOS B	LOS C
	Thoreau to Milan	53	79	LOS A	LOS C	LOS B	LOS C
Grants	Milan to Grants NM 53	79	81	LOS A	LOS C	LOS B	LOS C
	Grants NM 53 to Grants Santa Fe Ave	81	85	LOS B	LOS C	LOS B	LOS C
	Grants Santa Fe Ave to Dancing Eagle Casino	85	108	LOS B	LOS C	LOS B	LOS C
	Dancing Eagle Casino to NM 6	108	126	LOS B	LOS C	LOS B	LOS C
	NM 6 to Route 66 Casino	126	140	LOS B	LOS C	LOS B	LOS C
	Route 66 Casino to Atrisco Vista	140	149	LOS B	LOS C	LOS B	LOS C

MP = milepost, EB = Eastbound, WB = Westbound

Project Needs: I-40 Capacity on Grades, Existing and 2050

- Capacity for all grades is currently LOS A or B and is expected to be LOS B or C in 2050.
- Existing climbing lanes provide improved capacity in several locations.

Direction	Location	Beg MP	End MP	2022	2050
Eastbound	3.1% grade west of Gallup	5.2	5.4	LOS A	LOS C
	3.2% grade east of Refinery*	40.1	40.6	LOS A	LOS B
	4.6% grade east of Refinery*	41.1	41.4	LOS A	LOS B
	3.0% grade east of Route 66 Casino	141.4	142.3	LOS B	LOS C
	4.7% grade to Lost Horizon Drive*	143.7	144.8	LOS A	LOS C
Westbound	3.0% grade west of Milan	76.5	77.1	LOS B	LOS C
	3.8% grade west of Laguna	103.7	104.4	LOS B	LOS C
	4.0% grade at Laguna	115.2	115.6	LOS B	LOS C
	4.0% grade west of Route 66 Casino	138.6	139.2	LOS B	LOS C
	4.5% grade on Nine Mile Hill*	150.0	150.4	LOS A	LOS B

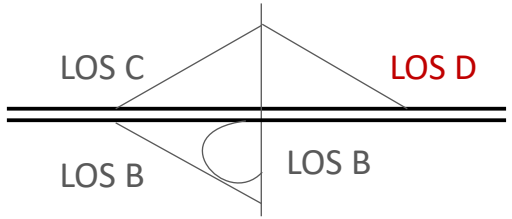
*Features a climbing lane, MP = milepost

Project Needs: I-40 Capacity at Interchanges

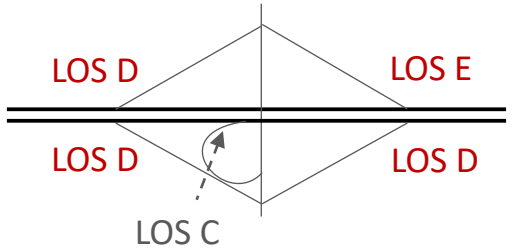
- Current capacity at all interchange merge/diverge areas are LOS A or B (highlighted ramp at Exit 26 is LOS C)
- Capacity at several interchange merge/diverge areas reaches LOS D or worse

Gallup

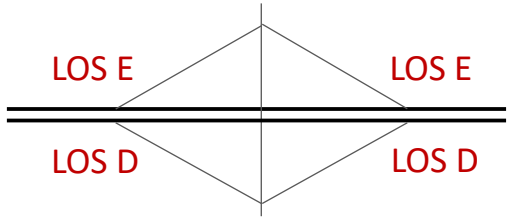
West Gallup (Exit 16)



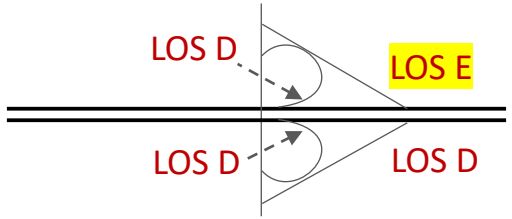
Downtown Gallup (Exit 20)



Miyamura (Exit 22)

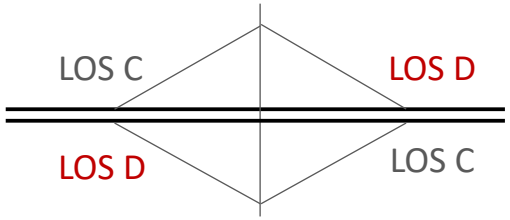


East Gallup (Exit 26)

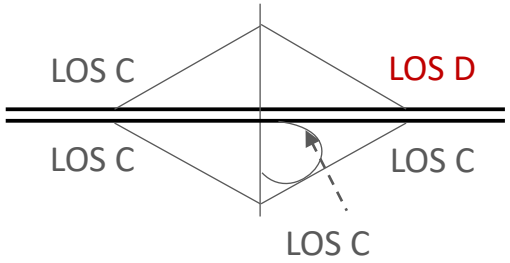


Grants

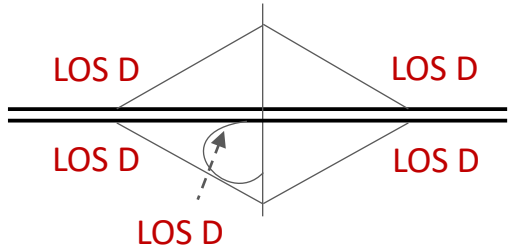
Milan/San Mateo/ Chaco Canyon (Exit 79)



Grants/ San Rafael (Exit 81)

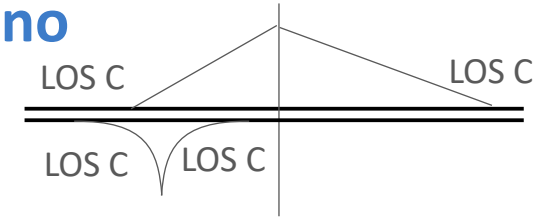


Grants Mt Taylor (Exit 85)

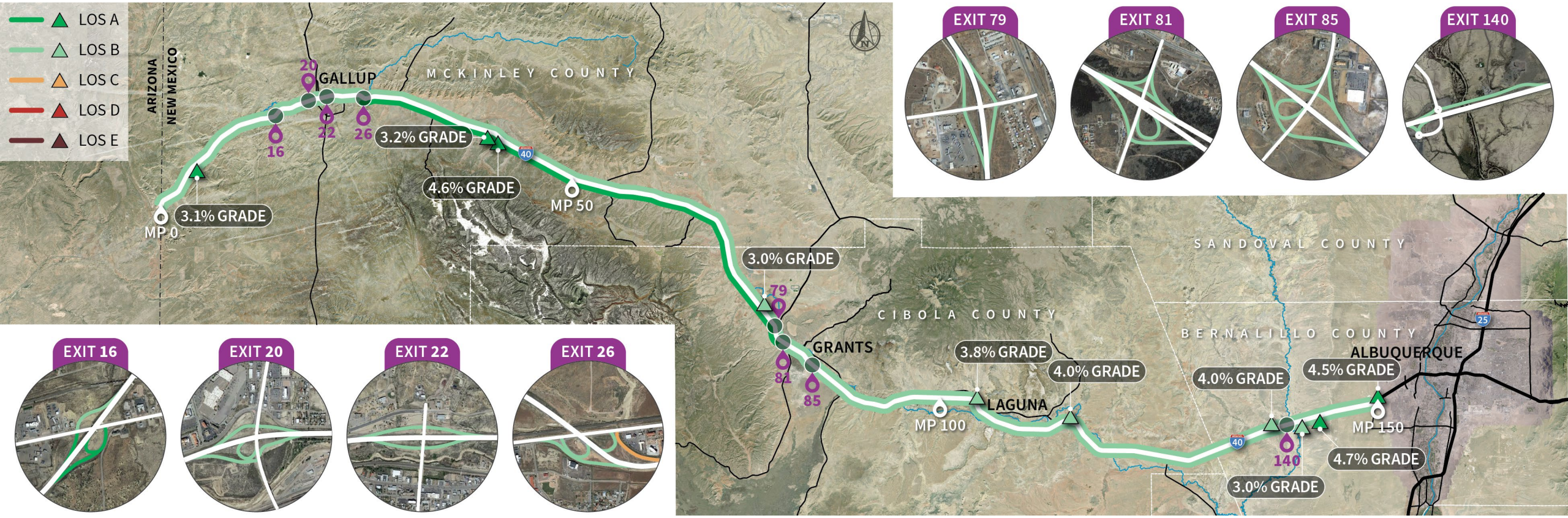


Rt 66 Casino

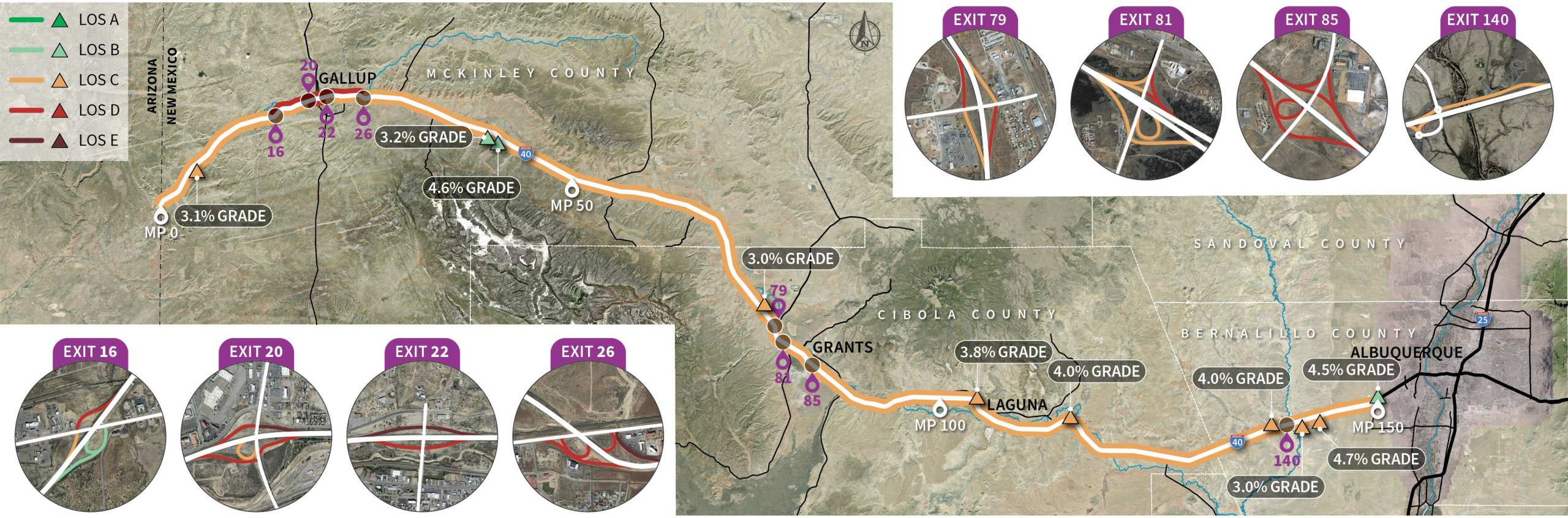
Rio Puerco/ Rt 66 Casino (Exit 140)



I-40 Capacity Analysis Overview: Existing Conditions



I-40 Capacity Analysis Overview: 2050



Project Needs: Reliability

- Rural area makes it difficult to respond quickly to crashes and weather-related events.
- Narrow shoulders make it difficult to get resources to the area, clear debris, and get traffic moving.
- State police staffing resources and tow truck resources are limited:
  - It can take 30-60 minutes to get a tow truck
  - There is no formal incident response plan
- I-40 closure data is limited.

Project Needs: Reliability - Closures Over 2 Months

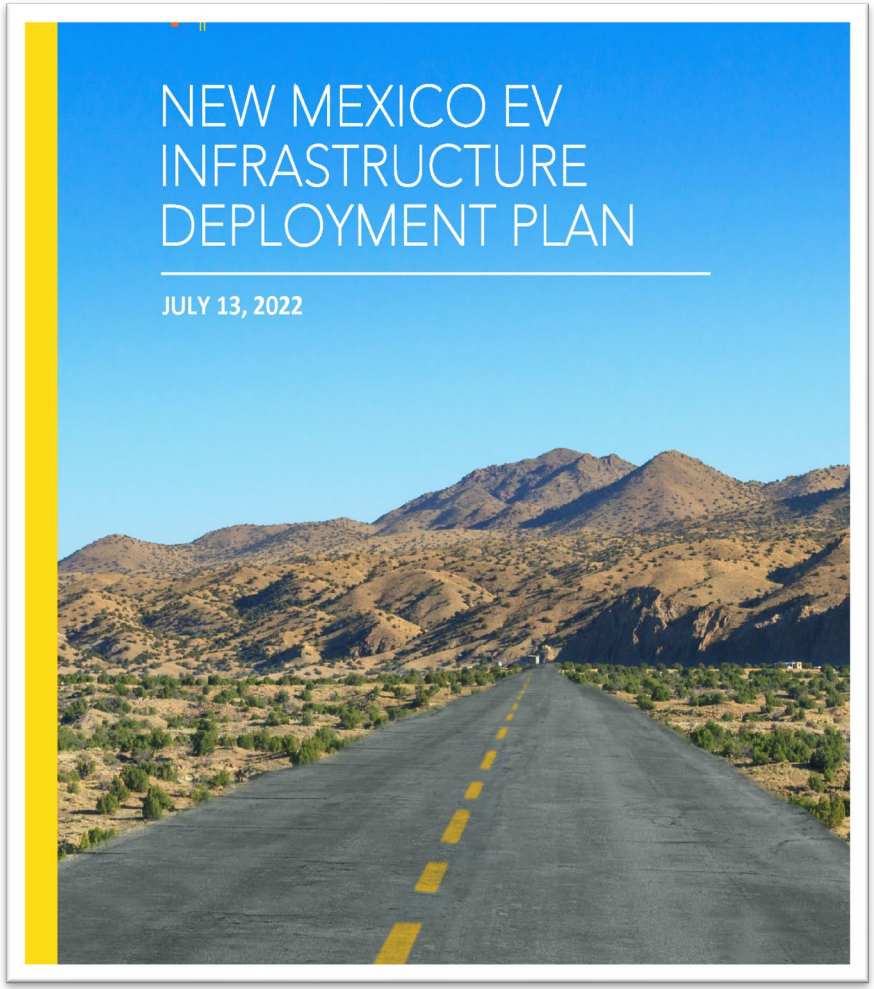
- 8-week period from 7/11/22 to 9/12/22
- 17 incidents
  - 7 crashes, 1 closure both directions; 5, 1-lane closures EB or WB, 1 ramp closure
  - 9 maintenance-related closures of usually one lane in a single direction (8)
  - 1 flooding closure at MP 33 (Fort Wingate)

Project Needs: Reliability/Alternate Routes

- 120 miles of alternate routes, no routes at:
  - MP 37 to 47 (10 miles, east of Ft. Wingate)
  - MP 114 to 117 (3 miles, Laguna)
  - MP 119 to 136 (17 miles, between Mesita and Rio Puerco)
- Truck limitations, box culverts with low clearances and narrow widths at:
  - MP 8.4 (west of Gallup)
  - MP 90.6 (near NM 117)
- Constraints connecting to I-40, areas with poor pavement condition
- Capacity of alternate routes is significantly less than the interstate
- Varied public and stakeholder views
  - Concerns from neighboring communities
  - Desire for alternate routes and knowledge of where the routes are located

Project Needs: Intelligent Transportation Systems (ITS)

- Fiber optic needed from MP 0 to MP 125 (Provided from MP 125 to MP 150)
- Improve real-time traveler information
  - Data collection
  - Incidents
  - Construction zones
  - Weather
  - Travel time information
  - Freight parking/EV charging, etc.
- New Mexico Broadband Program
- New Mexico Electric Vehicle Infrastructure Deployment Plan
- Autonomous vehicles



I-40 Corridor Study Purpose

- Improve traveler safety; traffic operations and reliability; and the condition of the roadway and associated infrastructure on I-40.

Meeting the project purpose requires consideration of:

  - Expected traffic growth, especially as it relates to forecasted growth in freight transport.
  - Accommodating and adapting to changing technologies that may substantially influence how vehicles operate and how traffic is managed (e.g., autonomous vehicles and advanced ITS systems).

Public and Freight Survey Results

What type of improvements to I-40 would you like NMDOT to consider?

1. Improved construction work zones, maintaining 2-lanes of traffic during construction = 74% public (1)| 53% freight (1)
2. Adding lanes = 71%/ public (2)| 13% freight (6)
3. Improving I-40 frontage roads = 65% public (3)| 22% freight (3 tie)
4. Improving pavement = 55% public (4) | 47% freight (2)
5. Improving travel notifications = 54% public (5) | 16% (5) freight
6. Improving incident management = 42% public (6) |22% freight (3 tie)
7. Widening roadway shoulders = 23% public (7)| 6% freight (7)

Possible Solutions - Initial Concepts Considered

- **14 concepts considered/screened**
  - Meeting the purpose and need requires a combination of solutions
  - Recommended concepts will be packaged into I-40 Corridor Alternatives
- **I-40 Improvements (7 concepts)**
  - Variations of 2-lane and 3-lane roadways
- **Supporting Improvements (7 concepts)**
  - Basic ITS
  - Enhanced ITS
  - Improve incident management
  - Improve alternate routes/frontage roads
  - Minimize lane closures during construction and maintenance
  - Provide commuter rail service from ABQ to Gallup
  - Enhance commuter bus service

Initial Screening Criteria – Fatal Flaw Analysis

- **Criteria 1: Geometric Deficiencies** – Does the concept address geometric deficiencies on I-40?
- **Criteria 2: Infrastructure Deficiencies** – Does the concept address identified drainage, bridge, and pavement deficiencies on I-40?
- **Criteria 3: Safety** – Would the concept improve safety on I-40?
- **Criteria 4: Traffic Operations, Future Traffic Growth, and Reliability** – Would the concept accommodate future traffic growth and improve traffic operations and reliability on I-40?

I-40 Improvements – 7 Concepts

Concept	Screening Result
1. Enhanced Two-Lane	**Not Recommended.** Would not address multiple spot locations that degrade to LOS D by 2050.
2. Enhanced Two-Lane w/ Part-Time Running Shoulder	**Not Recommended.** Strategy requires congestion to be severe, recurring, and consistent; which does not occur on I-40. Concept not precluded if conditions change.
3. Enhanced Two-Lane with Added Lanes	**Recommended.** Similar to Concept 1 but corrects spot locations that become congested in the future.
4. Enhanced Two-lane with Passing Lane at Consistent Intervals	**Not Recommended.** Passing lanes may or may not all address spot locations. Concept 3 better meets needs.
5. Widen to Three-Lanes	**Recommended.** Widening to three lanes in each direction is not needed in most areas and increases costs and impacts.

I-40 Improvements – 7 Concepts

Concept	Screening Result
6. Add a Managed Lane (Toll, HOV, Freight)	**Not Recommended.** Toll and HOV lanes require severe congestion to provide a travel time advantage, conditions do not meet guidelines for a freight-only lane. Concept not precluded if conditions change.
7. Reversible Two-Lanes in Median	**Not Recommended.** Difficult to implement, large footprint, and concepts 3 or 5 better meet needs.

Supporting Improvements – 7 Concepts

Supporting Improvements	Screening Result
1. Basic ITS	**Recommended.** Improves safety and operations by improving information provided to travelers as it relates to weather, crashes, and construction work zones.
2. Enhanced ITS	
3. Improve Incident Management	**Recommended.** Improves safety and traffic operations by reducing incident response times, minimizing lane and roadway closures due to crashes, and decreasing the likelihood of secondary crashes.
4. Improve Alternate Routes	**Recommended.** Provide improved alternate routes to keep a limited volume of traffic moving when there are crashes.
5. Minimize Lane Closures During Construction and Maintenance	**Recommended.** Improves safety and traffic operations during construction and maintenance to minimize lane closures and maximize roadway capacity.

Supporting Improvements – 7 Concepts

Supporting Improvements	Screening Result
6. Provide Commuter Rail Service from ABQ to Gallup	**Not Recommended.** Concept is not precluded if conditions change. • Amtrak currently provides affordable service and is part of a larger national train system that limits NMDOT's ability to change service frequency, schedule, or stop locations. • Extending the NM Rail Runner requires adequate passenger demand. Distance and low population and job density limit cost-effectiveness of commuter service.
7. Enhanced Commuter Bus Service	**Not Recommended.** Concept is not precluded if conditions change. • Greyhound and local service is provided by Gallup Express, Cibola Rockin' 66 Express, Shaa'srk'a Transit, and Rio Metro Route 366. • Job-based commuter transit is provided to/from Route 66 Casino. • Distance and low population and job density limit cost-effectiveness of commuter service. • Recommendation is to seek opportunities to include possible transit/bus such as the formation of vanpool operations in future phases in collaboration with regional transportation planning organizations and local transit.

Concepts Moving Forward

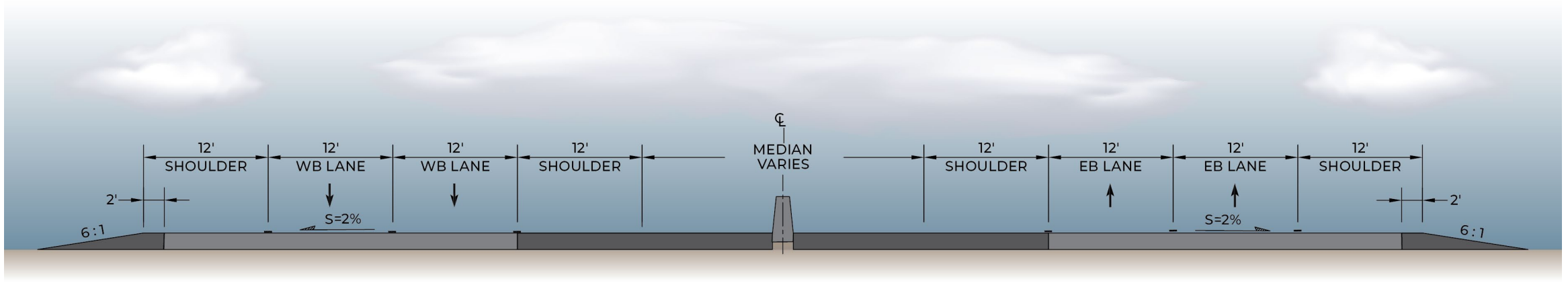
- **Alternative 1 =** Enhanced Two-Lane w/ Added Lanes + Supporting Improvements
- **Alternative 2** = Widen to 3 Lanes + Supporting Improvements

Supporting Improvements
1. Basic ITS
2. Enhanced ITS
3. Improve Incident Management
4. Improve Alternate Routes
5. Minimize Lane Closures During Construction and Maintenance

Enhanced Two-Lane with Added Lanes

- Provides 2 travel lanes in each direction, widens shoulders to 12-feet on both sides:
  - Wider shoulders could be used to provide space for incident management to get 1 or 2 lanes moving as soon as possible.
  - 48-foot-wide roadway section allows for two lanes to be provided during construction.
- Third lane provided where needed
- Addresses geometric deficiencies
- Addresses drainage, bridge, and pavement deficiencies
- Provides crossovers

Enhanced Two-Lane Example Typical Section

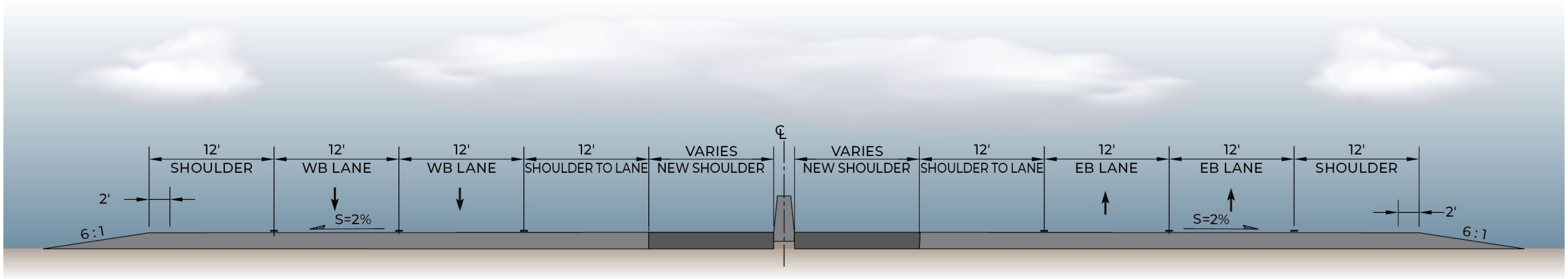


2-LANE ENHANCED WIDEN TO INSIDE WITH WALL BARRIER

Widen to Three Lanes

- Provides 3 travel lanes in each direction, widens shoulders to 12-feet on both sides:
  - Wider shoulders could be used to provide space for incident management to get 1 or 2 lanes moving as soon as possible.
  - 60-foot-wide roadway section allows for two lanes to be provided during construction.
- Addresses geometric deficiencies
- Addresses drainage, bridge, and pavement deficiencies
- Provides crossovers

Three-Lane Example Typical Section



3-LANE WIDEN TO INSIDE WITH WALL BARRIER

Third lane would be provided by reconstructing the existing shoulder

Basic ITS Concept

Data Repository

Traffic Management

- Freeway and traffic monitoring
- CCTV and traffic sensor monitoring
- Freeway operations
- DMS roadside information
- Incident management
- Traffic data collection

Traveler Information

- Traveler information dissemination
- EV charging stations

Maintenance and Construction

- Work zone management
- Maintenance and construction Information dissemination

Weather & Road Conditions

- Road weather conditions
- Road weather information dissemination

Highspeed Communication Network

Enhanced ITS Concept

Data Repository

Traffic Management

- Freeway and traffic monitoring
- CCTV and traffic sensor monitoring
- Freeway operations
- DMS roadside information
- Incident management
- Traffic data collection

Active Traffic Management

- ***Dynamic lane management***
- ***Variable speed limit***
- ***Dynamic road warning***
- ***Service patrols***

Traveler Information

- Traveler information dissemination
- EV charging stations

Maintenance and Construction

- Work zone management
- Maintenance and construction Information dissemination
- ***Work zone safety monitoring***

Road & Weather Conditions

- Road & weather conditions
- Road & weather information dissemination

Commercial Vehicles

- ***Commercial vehicle parking***
- ***Commercial vehicle EV charging***
- ***Dynamic travel planning***

Highspeed Communication Network

Improve Incident Management

- Develop and implement a corridor-wide incident management plan:
  - Best practices for responding to incidents and getting traffic moving
  - Identify detours
  - Data collection to document I-40 closures
- Provide a courtesy patrol to assist drivers of disabled vehicles or those involved in crashes.
  - Providing a tow truck/front loader to move vehicles off the road could help, legislation would be needed for NMDOT to provide support.
- Provide additional traffic control support to State Patrol and local police.

Improve Alternate Routes

- Remove vertical clearance constraints for trucks on alternate routes:
  - MP 8.4, is part of NM 118 Project CN 6101600, a planning study is underway
  - MP 90.6, box culvert is a restriction
- Reconstruct/rehabilitate pavement where needed.
- Consider improvements on I-40 or within the right-of-way for areas where alternate routes are not provided.
  - MP 37 to MP 47
  - MP 114 to MP 117
  - MP 119 to MP 137
- Consider improvements to bridges with limitations as they approach the end of their service life.

Minimize Lane Closures During Construction and Maintenance

- Develop and implement construction approaches to minimize disruptions to traffic during construction and maintenance activities including:
  - Develop concepts to maintain two-lanes of traffic in each direction on I-40 during construction and maintenance activities
  - Consider nighttime construction and maintenance, or conduct activities during off-peak days and times
  - Consider avoiding weekend construction

Other Information – New Legislation

- Current law (Motor Vehicle Code 66-7-308) requires all vehicles to drive on the right side of the road (1996).
- New law/Senate Bill 102, was passed to increase the penalty specific to truck tractors, if they are not in the proper lane.
  - Bill was introduced by Senator George Munoz and signed by the Governor on April 4, 2023.
  - Law will be effective July 1, 2023 to restrict travel lane use for truck tractors (semi-trucks) under the Motor Vehicle Code, Section 66-7-376, NMSA 1978.
- The law does allow flexibility for trucks to drive in the left lane where it is safer to do so, this can include passing another vehicle, moving for merging traffic, or when the right-lane is closed. In 3-lane areas, trucks can use the center lane.
- Truck tractor drivers can be issued a ticket/fine for up to $250
- Other states are looking at similar laws, California and Arizona have a similar law in place.

New Legislation – Affected Truck-Types in Yellow

Vehicle Configuration

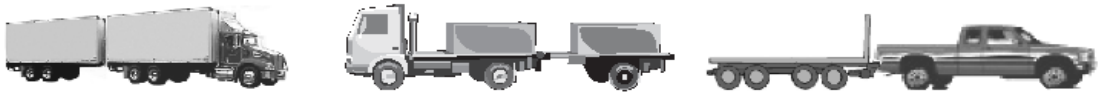
Bus (9-15 Seats, Including Driver)

Bus (16 or More Seats, Including Driver)

Single-Unit (2 Axles, 6 Tires)

Single-Unit (3 or More Axles)

Truck/Trailer (Single-Unit Truck Pulling a Trailer)



Truck Tractor (Bobtail)

Tractor/Semi Trailer (One Trailer)

Truck Tractor/Double (Two Trailers)

Truck Tractor/Triple (Three Trailers)

Revised 06/05

Federal Motor Carrier Safety Administration

U.S. Department of Transportation
www.fmcsa.dot.gov

Next Steps

Refine and Evaluate Alternatives

- Identify specific improvements for smaller sections of I-40 and alternate routes.
- Refine concepts: ITS, incident management, alternate routes, and construction approaches.
- Develop preliminary costs.
- Assess environmental and community impacts of proposed alternatives (right-of-way, natural and cultural resources, built environment).
- Develop a prioritized I-40 Corridor Plan.
- Continue communication with the public, elected officials, tribes, Transportation Planning Organizations.

Project Schedule/Next Steps

Spring/Fall 2022	Winter/Spring 2023	Spring/Summer 2023	Fall 2023
• Collect and analyze data • **Virtual public meeting #1**	• Establish need for improvements • Identify and screen alternatives • **Virtual public meeting #2**	• Refine and evaluate selected alternatives	• Identify recommended alternative(s) • Develop I-40 Improvement Plan • **Virtual Public Meeting #3** • Study completed

Completed

Current Phase

How can I submit comments?

Project website at i40nmstudy.com

- Use the website to complete the comment form and/or submit written comments.
- Check for updates and information on future meetings.
- Sign up to receive future meeting invitations.

E-mail comments to i40study@parametrix.com

Mail comments to:

I-40 Study
9600 San Mateo Blvd. NE
Albuquerque, NM 87113

Please submit comments by Wednesday, May 24, 2023

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.