
# Forward 44 - Vision for the Future of Missouri's Longest Interstate Highway

March 13, 2025

*I-44 Purpose & Need Study*

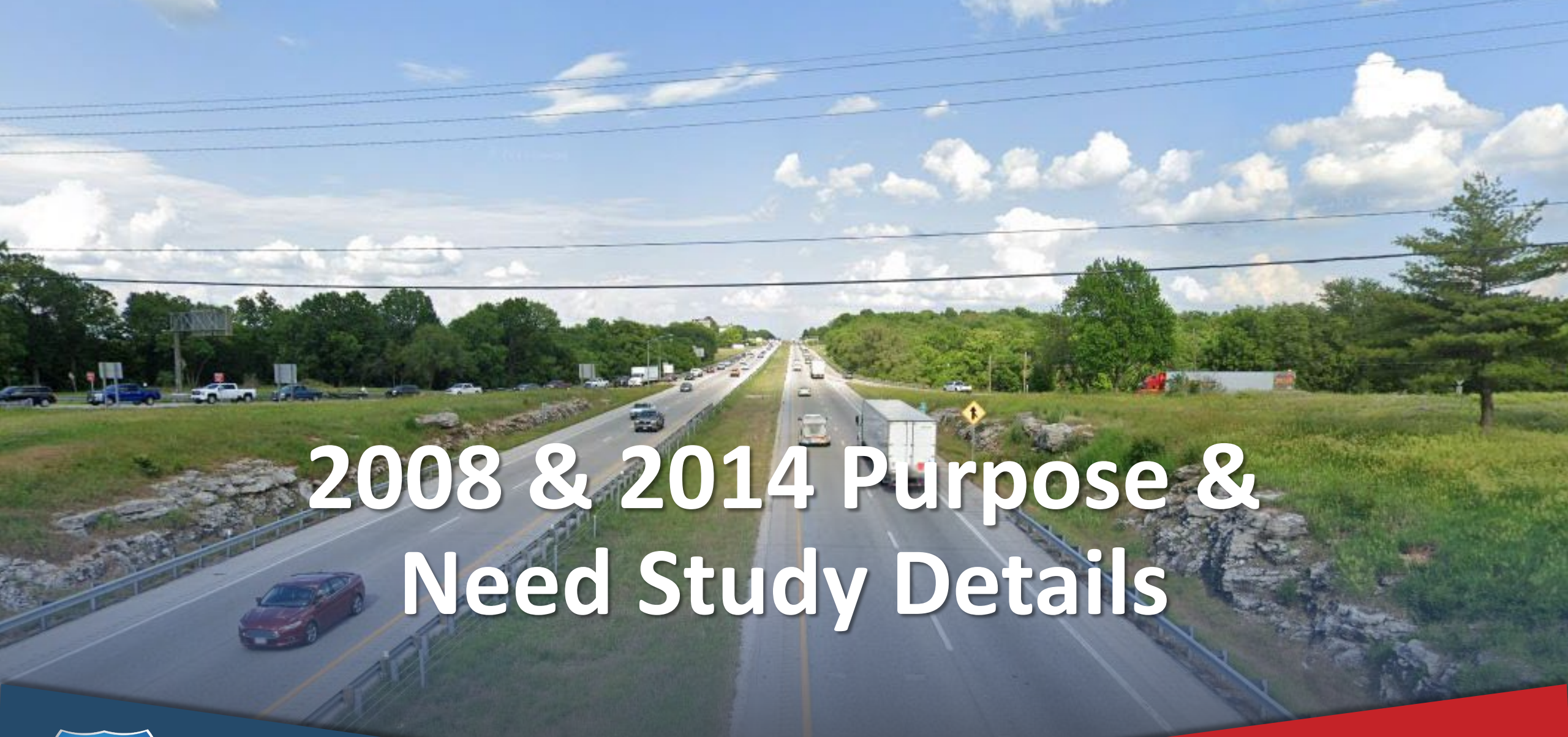
Missouri Department of Transportation

Consult Inc engineers planners

GARVER

# Today's Presentation

- 2008 & 2014 Purpose & Need Study Details
- Public Engagement
  - Buddy Desai/Hg Consult
- 2008 & 2024 Purpose & Need Findings
- Future Study Sections & Prioritization
  - Wendy Travis/Garver
- The Future of I-44
  - Preston Kramer/MoDOT
- Questions & Discussion



# 2008 & 2014 Purpose & Need Study Details

*I-44 Purpose & Need Study*

Missouri Department of Transportation

# Why Study Interstate 44?

- I-44 is a freight route of national significance.
- I-44 touches 11 counties; helping facilitate 1.2 million jobs.
- Existing pavement structure built in the 1960s.
- Design standards have changed.
- Traffic volumes are increasing.


FORWARD 44

*I-44 Purpose & Need Study*

MoDOT

Missouri Department of Transportation

# Forward 44 Study Goals

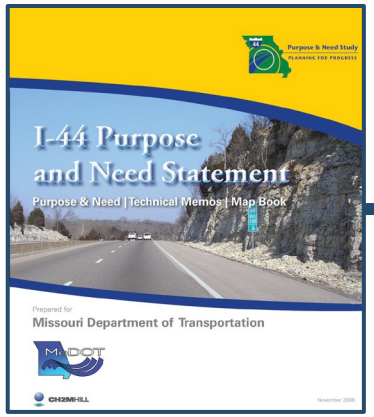
**Validate the outcomes of the 2008 I-44 Purpose and Need Study**

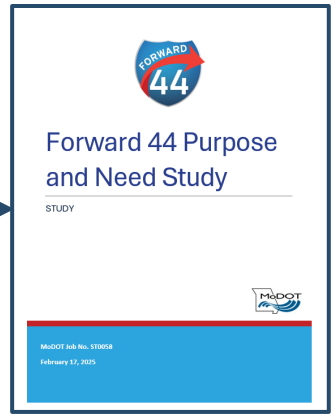
**Provide opportunities for public input**

**Prioritize future study segments (FSS) for more in-depth environmental review.**

# 2008 Study History

- Original Study completed in 2008
- Analyzed 257 miles of I-44 from the Oklahoma State line to Exit 257




# 2008 Study History (con't)

- Identify the issues that affect the I-44 corridor
- Investigate parameters that may be important for determining how well future alternatives address the identified transportation issues
- Conceptually investigate whether modal strategies have the potential for addressing the transportation problems
- Establish logical termini and develop Future Study Sections (FSSs) that may ultimately lead to the establishment of appropriate Sections of Independent Utility (SIUs)
- Present the environmental, planning, engineering and traffic data that affects the transportation issues, modal strategies, and logical termini

# 2008 & 2014 Study Analysis Areas

- Roadway geometry
  - Lane, shoulder, median widths
  - Vertical and horizontal clearances
  - Vertical grades & horizontal curves
- Interchange (81) geometries & operations
- Bridge (241) condition
- Traffic operations
  - Travel time, delay, LOS, v/c, VMT
- Safety
- Agency Coordination
- Environmental
  - Natural resources
    - Wetlands, T&E, floodplains
  - Cultural resources
    - Archaeological (33), architectural (1), cemeteries, churches, schools, Historic Route 66, National Historic Trails
  - Hazardous materials sites (>1,700)
- Air quality
- Environmental Justice
- Economic development

# Other Analysis Performed

- Cost estimates for adding one additional lane
  - Typical sections, pavement (mainline, shoulders, ramps, auxiliary lanes), structures, ramp acceleration/deceleration extensions, retaining walls, earthwork, barriers, ROW, drainage, MOT, signing & marking, lighting, utilities
- Resiliency
  - Identified 6 locations vulnerable to natural hazards
- Establish Future Study Sections (FSSs)
  - Based on traffic volumes, LOS, and safety
- Prioritize FSSs – Tier I, II, and III
- Potential NEPA Classification for FSSs

# Public Engagement

*I-44 Purpose & Need Study*

Missouri Department of Transportation

# Public Engagement Opportunities

- Website – modot.mo.org/forward44
- Email Database
  - Advocacy groups, community centers, media, individual Stakeholders
- Public officials' meetings
- Quarterly Stakeholder Meeting 1 – May 2024
  - Agencies and MPOs/RPCs
  - Study goals, schedule, and an opinion survey
- Quarterly Stakeholder Meeting 2 – January 2025
  - Study update, Purpose & Need validation, Stakeholder comments, Future Study Sections, Prioritization

# Public Engagement Opportunities (con't)

- In-person Public Information Meetings (5)
  - July and August 2024
  - St. Clair, Rolla, Joplin, Springfield, Lebanon
  - 149 combined attendees (~29 per meeting)
  - Study overview, environmental resources, engineering & traffic data findings
  - Digital online map to discuss site specific issues
- Online Survey
  - July 10, 2024 – August 21, 2024
  - 1,644 respondents & 3,858 individual comments
  - Improvements, benefits, issue locations, environmental resources,

# Public Engagement: 3,858 Comments

| Substantive Comment Category | Related to NEPA or Purpose & Need? | Response |
|---|---|---|
| Add one lane in each direction, reduce congestion, and improve safety | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Improve interchanges/lengthen ramps | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Widen shoulders | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Speed enforcement for cars/trucks | Neither | Speeding is an enforcement issue and should be addressed by enforcement officials. |
| Separate lanes for trucks only | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Add more truck climbing lanes | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |

# Public Engagement: 3,858 Comments

| Substantive Comment Category | Related to NEPA or Purpose & Need? | Response |
|---|---|---|
| More truck parking/rest areas | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Multimodal considerations | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Underpasses for wildlife | NEPA | Alternative design/impacts and multimodal considerations will be included as part of future NEPA studies. |
| Share results of the Study with the public | Purpose & Need | The Purpose & Need study findings will be available for public review and comment. |
| Environmental impacts | Purpose & Need | Subsequent NEPA studies will consider alternatives, along with a detailed environmental analysis of impacts. |

# Purpose & Need Validation

*I-44 Purpose & Need Study*

Missouri Department of Transportation

# 2008 Purpose & Need Study – Needs

- Roadway capacity is becoming inadequate for expected demand.
- There is a degrading safety environment on I-44.
- Interchanges along I-44 have safety and operation issues and are inconsistent with current design standards.
- Freight traffic represents an essential element of the traffic stream on I-44.
- Evolving engineering standards result in inconsistent roadway designs.
- Balancing access, economic development, and human/natural resources.

# 2024 Purpose Need Study – Validation

| 2008 Purpose & Need Element | 2008 Need Conclusions | 2024 Need Summary | Purpose & Need Element Validated? |
|---|---|---|---|
| Engineering standards result in inconsistent roadway design | Horizontal curves, steep grades, and some bridge structures need of evaluation and improvement. | 80% of the horizontal curves along the corridor do not meet the super elevation requirements.<br><br>Bridges along I-44 are approaching their useful design life, and a substantial number has exceeded it. | Yes |
| Balance access, economic development, and human/natural resources | Attention and coordination, consistent with the MoDOT EPG, will balance the access that I-44 provides with the economic development and natural resources. | No additional natural or economic development resources should be added to the 2008 list of resources.<br><br>All resources identified in the 2008 Study should be evaluated for potential impacts. | Yes |

# 2024 Purpose & Need Study – Validation

| 2008 Purpose & Need Element | 2008 Need Conclusions | 2024 Need Summary | Purpose & Need Element Validated? |
|---|---|---|---|
| Roadway capacity inadequate for expected demand | 88% of F44 Study Corridor expected to exceed LOS thresholds by 2035. | LOS F is projected to occur on segments of I-44 in the Springfield area by 2030.<br><br>By 2050 approximately 88 miles will operate at LOS D, 23 miles at LOS E, and 26 miles at LOS F. | Yes |
| Degrading safety environment on I-44 | Many injury and fatal crashes occurred in close vicinity to each other.<br><br>Nearly all injury/fatal crash clusters occurred in the eastern 100 miles of the F44 Study corridor. | The ISATe analysis shows approximately 40% of I-44 experiences notably more crashes than predicted safety equations. | Modified<br><br>FHWA and MoDOT recognize that safety is a fundamental goal of all transportation projects in Missouri, ensuring every project is designed to enhance safety for all system users. |

# 2024 Purpose & Need Study – Validation

| 2008 Purpose & Need Element | 2008 Need Conclusions | 2024 Need Summary | Purpose & Need Element Validated? |
|---|---|---|---|
| Interchanges operations, safety, and geometrics are deficient | 51 (65%) of the 78 interchanges exceeded at least one crash criteria established for the project.<br><br>8 interchanges exceeded all three criteria:<br>• Total Crash Rate 2x state average.<br>• Fatal Crash Rate 2x state average.<br>• Crash Hotspot present.<br><br>In 2035, 1/3 of interchanges are expected to not meet all traffic operations criteria. | 15 (19%) of the 81 interchanges do not meet current MoDOT access management ramp termini spacing guidelines.<br><br>76 (93%) of the interchanges in the corridor have ramps with deficient acceleration and deceleration lengths. | Yes |
| Freight traffic is an essential element of traffic on I-44 | Truck volume percentages are expected to range from 15% (central) to 35% (Joplin) percent in the F44 Study corridor. | Trucks currently comprise approximately 30% of the daily traffic volume on I-44.<br><br>The number of trucking source facilities has significantly grown along the F44 Study corridor. | Yes |

# Forward 44 Purpose and Need Study – Needs (*Draft*)

## √ Validated

- Roadway capacity is becoming inadequate for expected demand.
- Freight traffic represents an essential element of the traffic stream on I-44.
- Evolving engineering standards result in inconsistent roadway designs.
- Balancing access, economic development and human/natural resources.

## □ Modified

- There is a degrading safety environment on I-44.
- Interchanges **and portions of the mainline** along I-44 have safety and operation issues and are inconsistent with current design standards.

## ➢ Added

- Preserve the existing I-44 facility as needed to carry existing and future traffic.

# Draft Future Study Sections (FSS) Logical Termini & Prioritization

*I-44 Purpose & Need Study*

Missouri Department of Transportation

# Review of Factors Used to Establish FSS Logical Termini

| Factor | Description | Review |
|---|---|---|
| Jurisdictional | Roadways under common administrative or jurisdictional control are generally subject to common planning strategies and are, therefore, logical to group together.<br><br>Among the jurisdictions considered were metropolitan planning organizations (MPOs), various municipal jurisdictions such as counties, cities, townships, and MoDOT Districts. | Review did not warrant changes. |
| Landscape | On a statewide scale, there can often be important terrain differences to consider.<br><br>Addressing these challenges in a comprehensive way can have benefits in the design, construction, and maintenance cycle as well as maximizing driver expectations regarding roadway design. | Review did not warrant changes. |

# Review of Factors Used to Establish FSS Logical Termini

| Factor | Description | Review |
|---|---|---|
| Traffic Volume | Roadways that handle similar volumes of vehicular traffic often have common problems whose solutions need to be considered collectively. Consequently, major breaks in traffic volumes were considered in the establishment of the FSS. | FSS adjusted to keep localized traffic and safety issues concentrated by reviewing crash densities overlaid with future (2050) projected volumes and LOS. Review warranted changes. |
| Traffic Composition | Similarly, the types of vehicles that make up the traffic stream can influence problems and solutions. Common issues of this type include commuter traffic and truck traffic. | |
| Traffic Destination | Incorporating the entire trip into a transportation solution is often key to adequately addressing associated needs. | |
| Crash Densities | Generally, there are three elements to safe roadway design: traffic, geometrics and crashes. Areas of crash densities were utilized in determining the FSS, as a means for determining the origin of vehicular safety issues. | |
| Roadway Condition | Roadways are under continual maintenance. Grouping roadway sections in ways that acknowledge the existing condition of the roadway and the future maintenance projects can maximize the effectiveness of public expenditures. Operational similarities such as common speed limit and design features are also important. | Areas of vertical or horizontal curves not meeting design guidelines were logically concentrated into one FSS. Review warranted changes. |

# Review of Factors Used to Establish FSS Logical Termini

| FSS | Jurisdictional | Landscape | Traffic and Safety | | | | | | | | Roadway Conditions | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Crash Ratio/ Weighted Crash Ratio | High Crash Density Location | *2023* | | | *2050* | | | Vertical Curves | Horizontal Curves |
| | | | | | Volume (AADT) | LOS | Composition (% Trucks) | Volume (AADT) | LOS | Composition (% Trucks) | | |
| **1** | Joplin; JATSO - Joplin MPO; MoDOT-SW; Harry S. Truman Coord Council RPC | Flat | 0.70/6.84 | Exits 6 & 8, Exit 18 | 35,200 | B | 30% | 52,700 | C | 30% | Generally meets current standards | Generally does not meet current standards (Superelevation and radius deficiencies) |
| **2** | Incorporates rural areas between Joplin and Mt. Vernon; MoDOT-SW; Harry S. Truman Coord Council RPC & SW Missouri COG RPC | Flat; Minimal Development | 0.41/2.69 | N/A | 32,400 | B | 29% | 48,500 | C | 29% | Generally does not meet current standards | Generally meets current standards |
| **3** | Mt. Vernon; MoDOT-SW; SW Missouri COG RPC | Flat; Minimal Development; Rolling terrain (Ozark Uplands) | 0.53/7.22 | Exit 58 and Exit 67 | 34,300 | B | 26% | 51,300 | C | 26% | Generally meets current standards | Generally does not meet current standards (Superelevation deficiencies) |

# FSS Logical Termini Revisions – 2008 Study vs Forward 44 Study

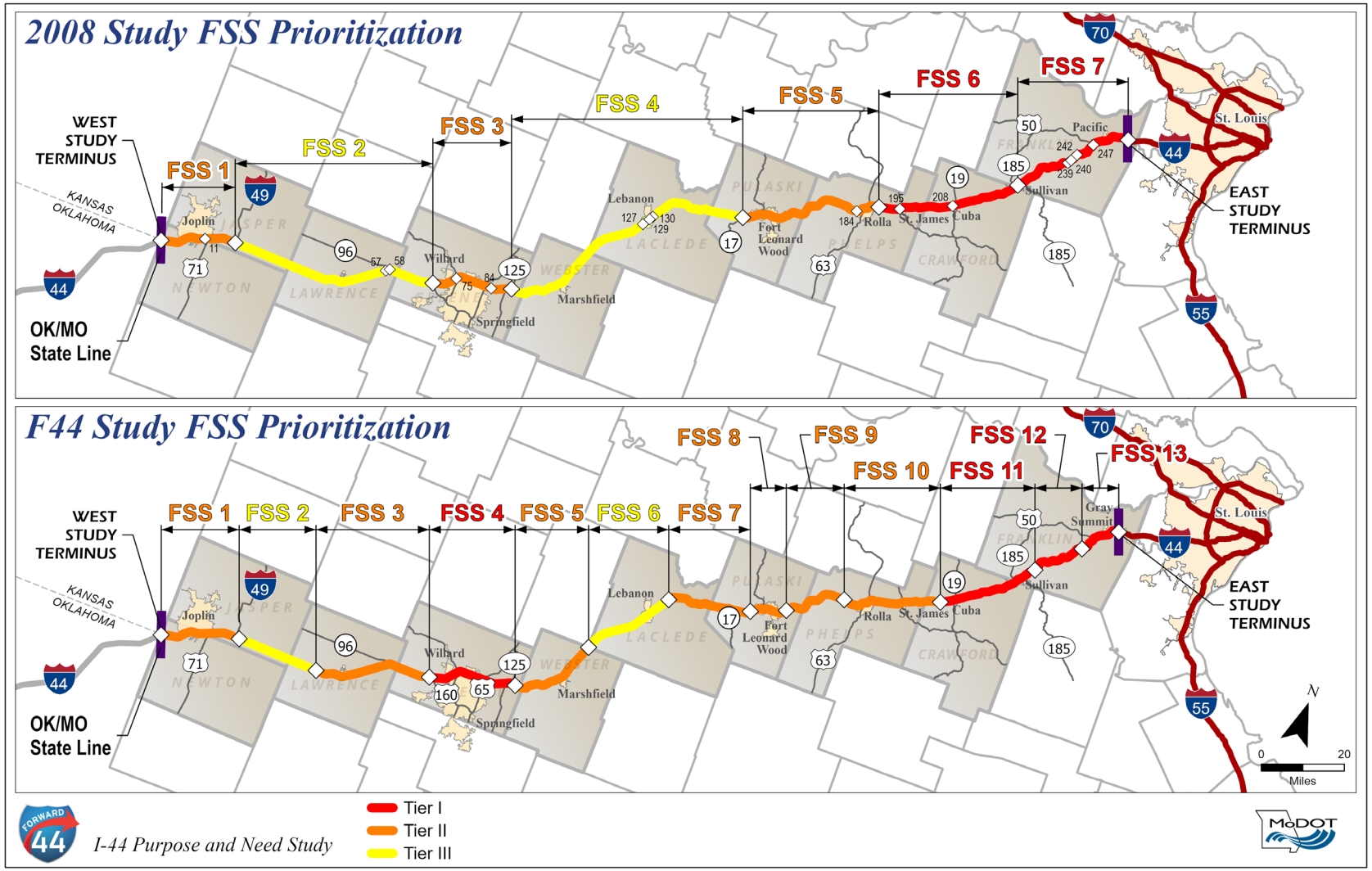
## 2008 FSS

| FSS | Length (miles) | # of Interchanges |
|---|---|---|
| 1 | 19 | 7 |
| 2 | 49 | 12 |
| 3 | 22 | 9 |
| 4 | 63 | 12 |
| 5 | 37 | 12 |
| 6 | 34 | 6 |
| 7 | 28 | 10 |

## Forward 44 FSS

| FSS | Length (miles) | # of Interchanges |
|---|---|---|
| 1 | 19.5 | 8 |
| 2 | 20 | 5 |
| 3 | 28.6 | 7 |
| 4 | 21.8 | 9 |
| 5 | 21.8 | 4 |
| 6 | 22.9 | 6 |
| 7 | 20.7 | 5 |
| 8 | 9.2 | 4 |
| 9 | 16 | 4 |
| 10 | 24.4 | 6 |
| 11 | 24.6 | 6 |
| 12 | 13.6 | 4 |
| 13 | 10.6 | 3 |

# FSS Logical Termini Prioritization



# The Future of I-44

FORWARD 44

*I-44 Purpose & Need Study*

MoDOT

Missouri Department of Transportation

# The Path Forward for I-44

- Some improvements are already underway
  - Additional lanes from Route 13 to Route 65 in Springfield
- Scoping
  - Adding additional projects to the STIP
  - Funding for NEPA, ROW, utilities, design, and construction
- NEPA Studies
  - Environmental clearance and alternatives analysis

# The Path Forward for I-44

- Project Delivery Methods
  - Design-Bid-Build
  - Design-Build
  - Construction Management/General Contractor
- Selection of Owner's Engineers for Delivery Assistance
  - One each for the Southwest, Central, and St. Louis Districts

# Thank you

Contact us


Forward44@modot.mo.gov

www.modot.org/forward44

1-888-ASK-MODOT
(275-6636)