

U.S. 412: from I-35 in Noble County, Oklahoma to I-49 in Benton County, Arkansas

Planning and Environmental Linkages Study

Purpose and Need

June 2023

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Appendix A – Infrastructure Investment and Jobs Act and Letters of Support

1.0 Introduction

The Oklahoma Department of Transportation (ODOT) and Arkansas Department of Transportation (ARDOT) have initiated a Planning and Environmental Linkages (PEL) Study of U.S. 412 from I-35 in Noble County, Oklahoma to I-49 in Benton County, Arkansas, a distance of approximately 190 miles. The overarching goal of the PEL Study is to develop a clear and supported plan of action to upgrade U.S. 412 to an Interstate highway.

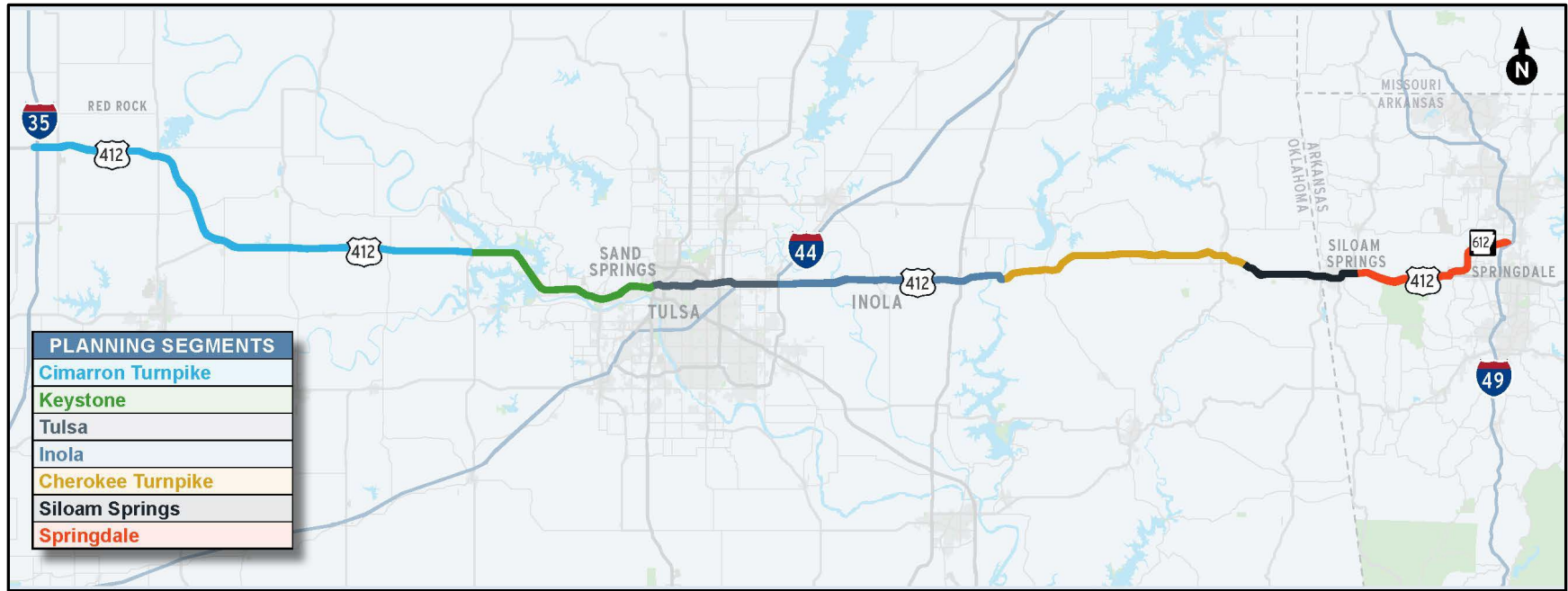
This document details the purpose and need for improvements along U.S. 412. It references data and analysis from the U.S. 412 Environmental Constraints Report and Traffic, Safety, and Engineering Constraints Report. The purpose and need discussed in this document is part of the PEL Study process.

2.0 PEL Study Area

As shown in **Figure 1**, the study area has been divided into seven planning segments representative of their surrounding environment.

- **Cimarron Turnpike** - Within this segment, U.S. 412 spans 59 miles through Oklahoma and is a predominantly an access-controlled facility.
- **Keystone** - Within this segment, U.S. 412 spans 24 miles through Oklahoma and is almost entirely access controlled. There is one existing at-grade crossing in this segment.
- **Tulsa** - Within this segment, U.S. 412 spans 15 miles through the highly developed City of Tulsa, Oklahoma and is a fully access controlled facility.
- **Inola** - Within this segment, U.S. 412 spans 27 miles through Oklahoma. It is not an access-controlled facility and has numerous at-grade crossings.
- **Cherokee Turnpike** - Within this segment, U.S. 412 spans 33 miles through Oklahoma and is a fully access controlled facility.
- **Siloam Springs** - Within this segment, U.S. 412 spans 13 miles through the community of Siloam Springs. This segment is partially in Oklahoma and partially in Arkansas. It has numerous at-grade traffic signal control crossings in an urban environment.
- **Springdale** – Within this segment, U.S. 412 spans 21 miles through Arkansas. For some analyses, such as environmental, the Springdale segment was broken into two subsegments (Springdale #1 and Springdale #2) to fully evaluate their differences. Springdale #2 is currently signed AR Highway 612.

Figure 1: PEL Study Area Planning Segments



Source: Study Team, 2023.

3.0 Needs

The following sections provide a summary of the current and future conditions in and around the study area which support the need for improvements along U.S. 412. These needs are outlined in **Figure 2**.

Figure 2: U.S. 412 PEL Study Needs



Source: Study Team, 2023.

3.1 Comply with Federal Legislation

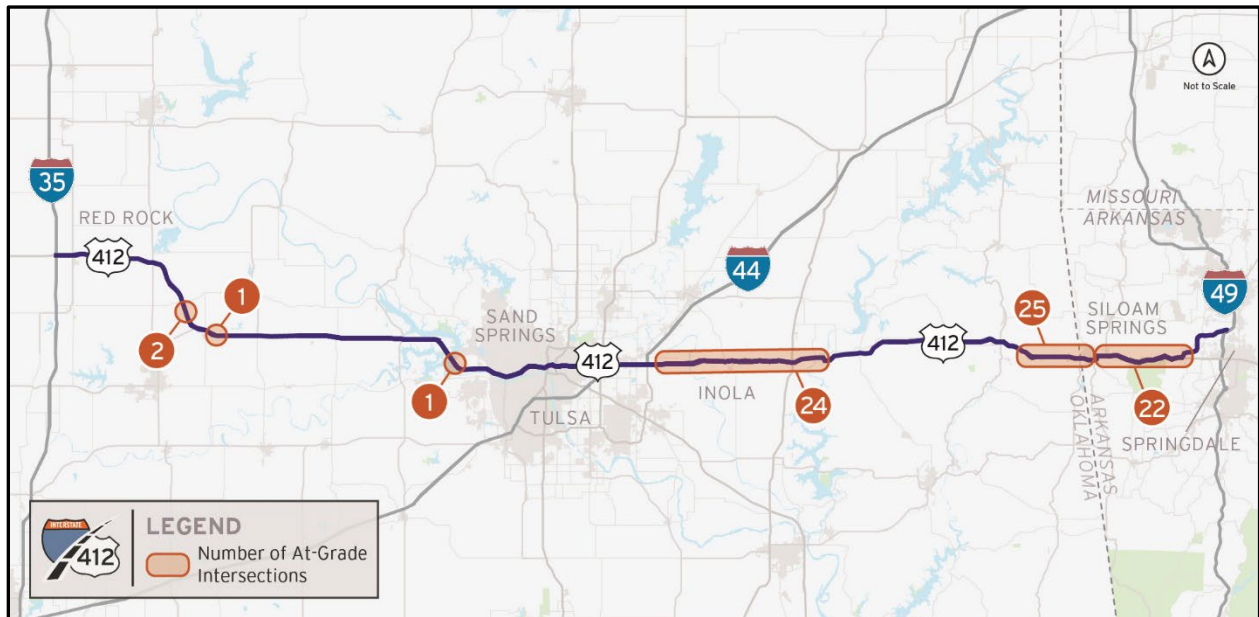
In May 2021, U.S. Senators from Oklahoma and Arkansas introduced S. 1766, the *Future Interstate in Oklahoma and Arkansas Act*, designating U.S. 412 from I-35 in Noble County, Oklahoma to I-49 in Springdale, Arkansas as a future interstate. The Northwest Arkansas Regional Planning Commission (NWARPC) passed Resolution #2021-08 on May 26, 2021 supporting this legislation. In addition, the Oklahoma Secretary of Transportation/ODOT Executive Director and the Indian Nations Council of Governments (INCOG) Executive Director issued a letter of support on May 10, 2021 for the designation of U.S. 412 as a future interstate. As cited in the letter, most major metropolitan areas across the U.S. typically have two or three interstates connecting their region; however, the Tulsa Metropolitan Statistical Area, a region with over one million residents, is only served by one, I-44. The above-mentioned letters of support are included in **Appendix A**.

The Infrastructure Investment and Jobs Act (IIJA), signed into law in November 2021, identified the U.S. 412 corridor under SEC. 11514 HIGH PRIORITY CORRIDORS ON THE NATIONAL HIGHWAY SYSTEM. The U.S. 412 corridor was added to section (a) HIGH PRIORITY CORRIDORS—Section 1105(c) of the Inter-modal Surface Transportation Efficiency Act of 1991 (Public Law 102–240; 105 Stat. 2032; 133 Stat. 3018) as amended— “(96) The route that generally follows United States Route 412 from its intersection with Interstate Route 35 in Noble County, Oklahoma, passing through Tulsa, Oklahoma, to its intersection with Interstate Route 49 in Springdale, Arkansas.”

3.2 Address Safety

It is a primary goal of both ODOT and ARDOT to improve roadway safety, which includes reducing the number of crashes. As shown in Figure 3, a primary safety issue along U.S. 412 is the numerous un-signalized, at-grade intersections, particularly in the Inola and Siloam Springs segments. In addition to these at-grade intersections being a safety issue, they are not allowed on interstate facilities per the 2016 A Policy on Design Standards – Interstate System (2016 Interstate Policy) and the 2018 A Policy on Geometric Design of Highways and Streets (2018 Greenbook) which were used to establish design criteria.

Figure 3: At-Grade Intersections



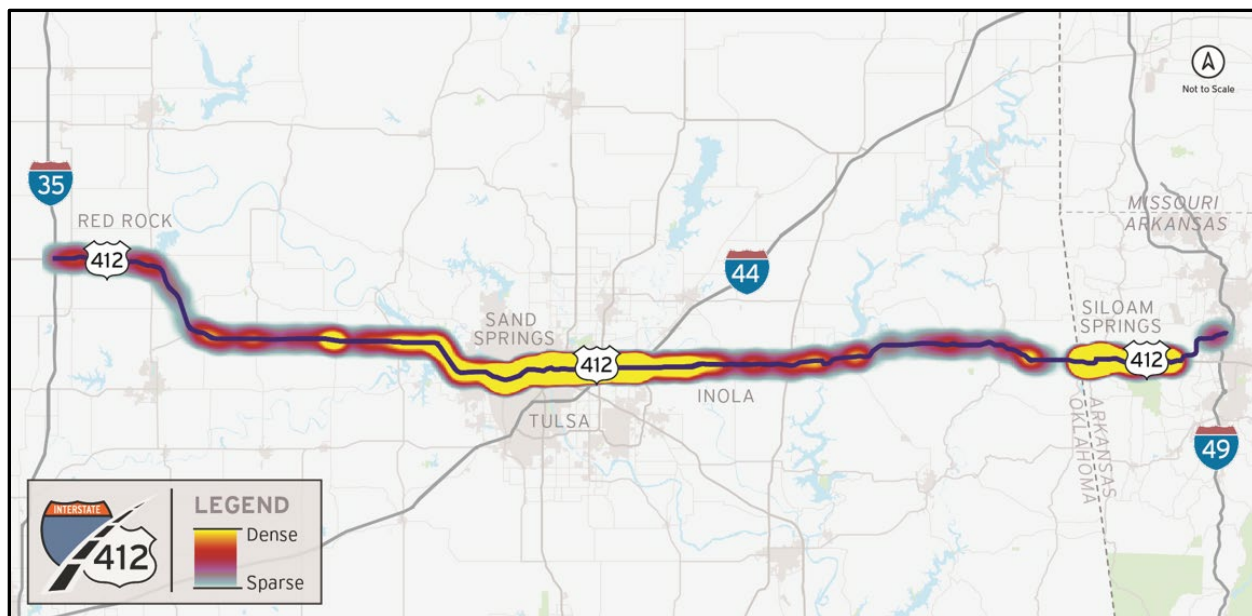
Note: In addition to the 25 public at-grade intersections in Siloam Springs, there are 26 private driveways in that segment that are not allowed on an interstate facility per the 2016 Interstate Policy and 2018 Greenbook.

Source: On-line database searches, imagery analysis, Google Maps, as-built plan review, and site visits.

A total of 4,861 crashes occurred along the U.S. 412 corridor within the PEL study area, resulting in 47 fatalities between 2017 and 2021. This represents an average of 2.7 crashes a day. Among the segments, the Tulsa segment experienced the highest percentage of crashes (1,863 crashes, 38.3% of total crashes) resulting in 19 fatalities and 61 incapacitating injury crashes. Fixed object collisions were the predominant crash types in the Cimarron Turnpike, Keystone, Cherokee Turnpike, and Springdale segments. In contrast, rear-end collisions were the predominant crash types in Tulsa and Siloam Springs segments. In the Inola segment, which has many at-grade crossings, angle collisions were the most common crash types resulting in a higher percentage of fatalities and incapacitating injuries. As the segments transition between rural and urban areas, the shift in crash types from fixed object collisions to rear-end collisions and angle collisions indicates a change in both traffic patterns and roadway elements. Roadway design elements such as curve geometry, raised curb medians, or sight distances which do not currently meet interstate standards may be improved to improve safety if the existing condition is determined to be a factor in a particular location with a higher frequency of crashes.

Crash density analysis, presented in Figure 4, showed that the Tulsa and portions of the Keystone segments in Oklahoma, and Siloam Springs in Arkansas experienced the highest concentration of crashes. Fatality crashes were also mostly concentrated in these same segments.

Figure 4: Crash Density Map



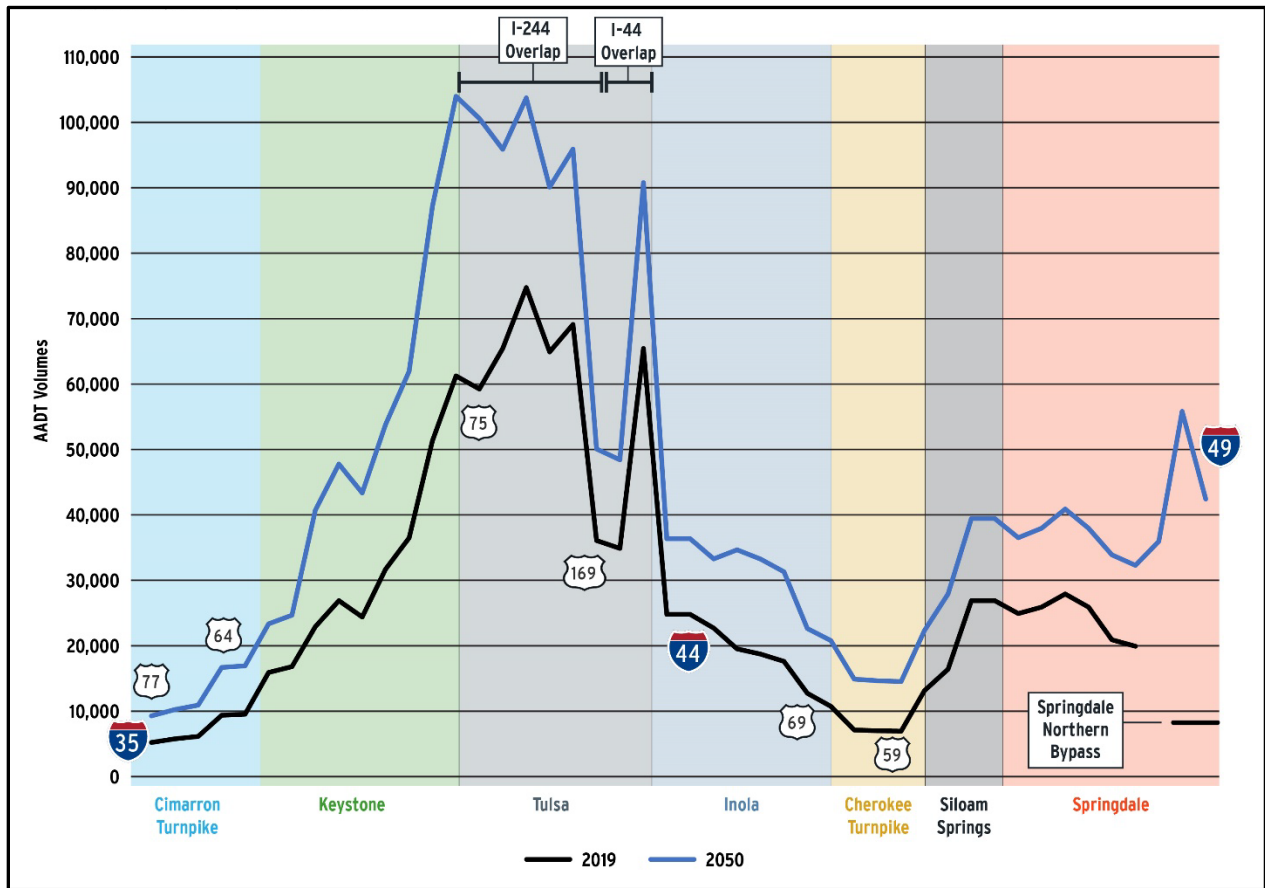
Source: ODOT and ArDOT Crash Data, 2017 – 2021.

3.3 Improve Mobility

Traffic Volumes

Existing traffic volume data was gathered to better understand traffic demand along U.S. 412. **Figure 5** shows existing traffic demand in the different U.S. 412 planning segments, with the highly urbanized area of Tulsa having the highest traffic volumes. It also shows future projected traffic volumes for 2050. From 2019 to 2050, traffic volumes on U.S. 412 are anticipated to grow by an average of 64%.

Figure 5: U.S. 412 Existing and Future Traffic Volume Profile

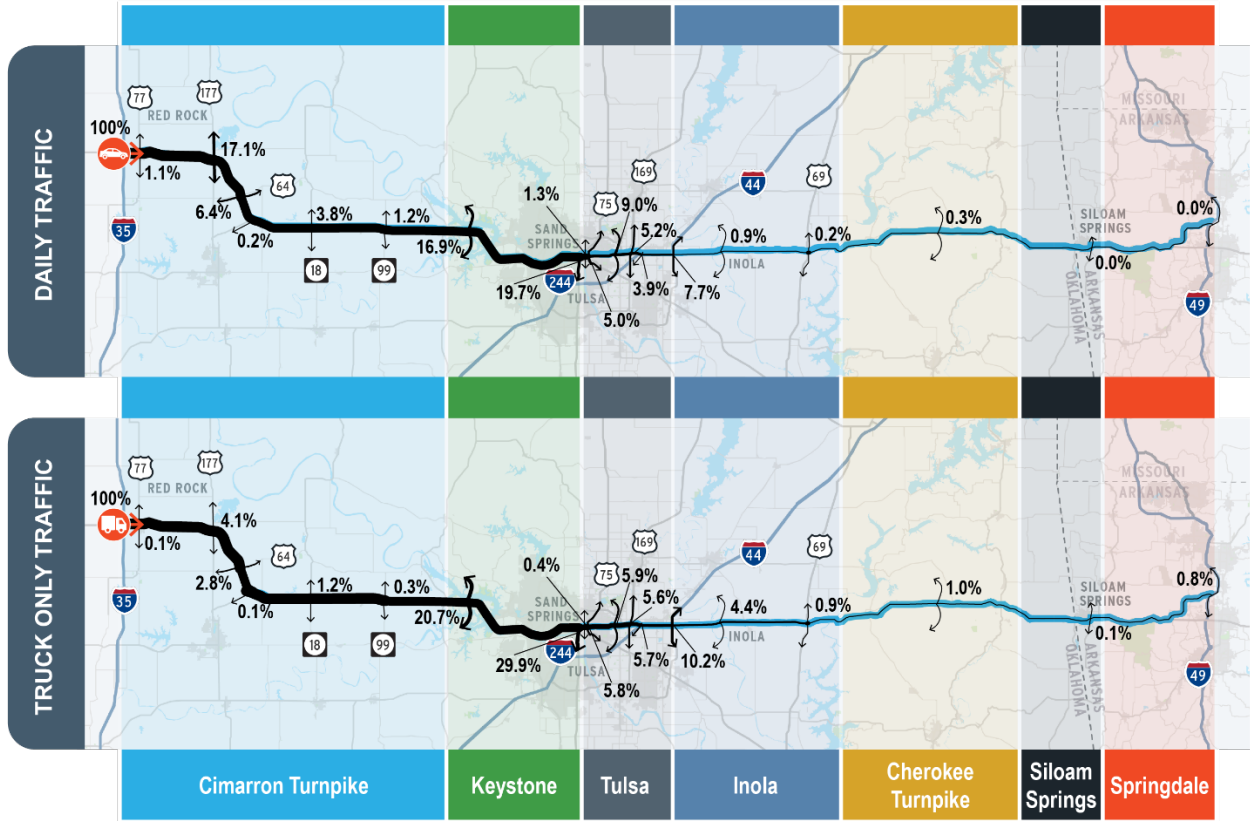


Source: Traffic and traffic growth data compiled from various sources including ODOT, ARDOT, Oklahoma Turnpike Authority, Indian Nations Council of Government, and Northwest Arkansas Regional Planning Commission.

Traffic Patterns

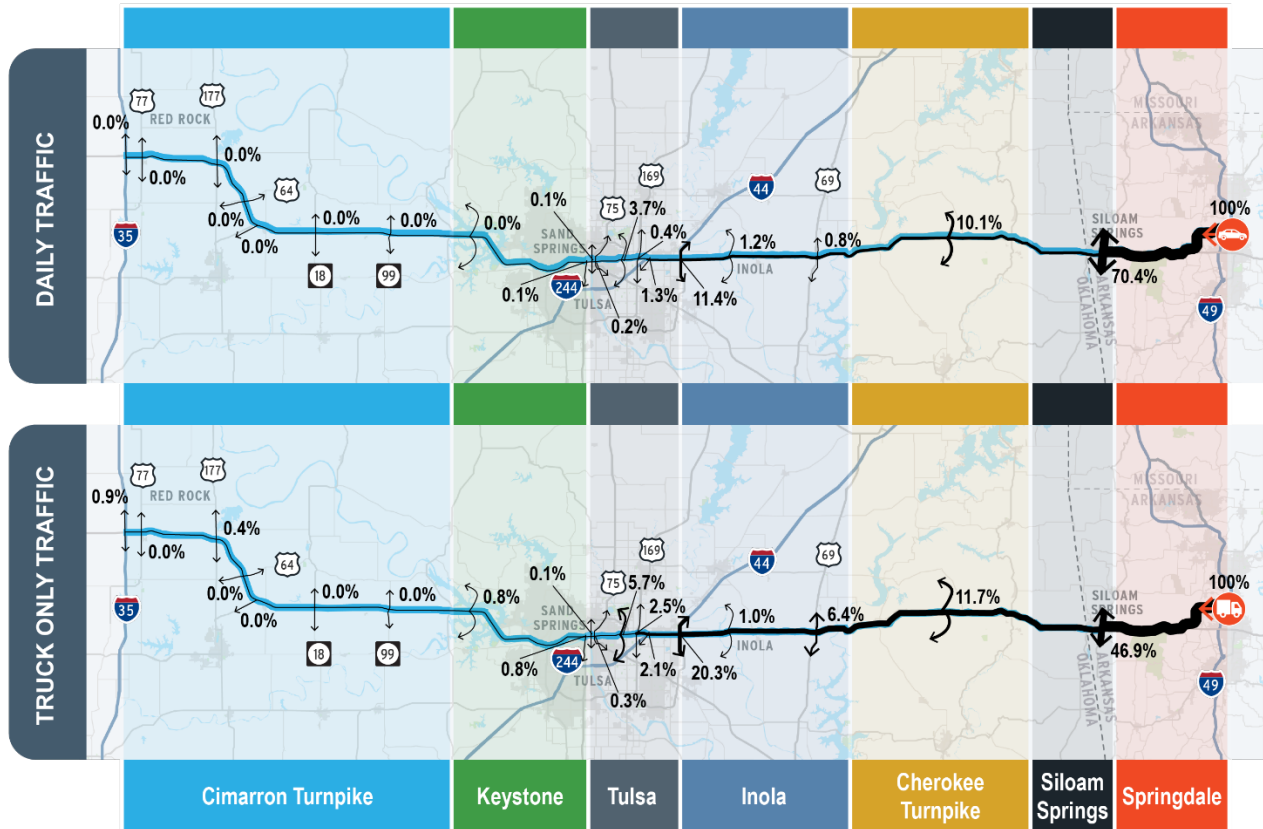
In order to better understand mobility, origin and destination (OD) data was analyzed throughout the study corridor to understand daily and peak hour traffic patterns – where traffic is coming and going. **Figure 6** and **Figure 7** show the destinations of vehicles that enter the study corridor from either end. Very few vehicles travel the entirety of the study corridor between I-35 and I-49 today. This same OD data was analyzed for several origins along the study corridor and is available in the Traffic, Safety, and Engineering Constraints report.

Figure 6: Destinations of Vehicles Entering U.S. 412 Eastbound at I-35



Source: StreetLight Insight, 2019 Traffic Volumes. OD data is available for all planning segments.

Figure 7: Destinations of Vehicles Entering U.S. 412 Westbound at I-49

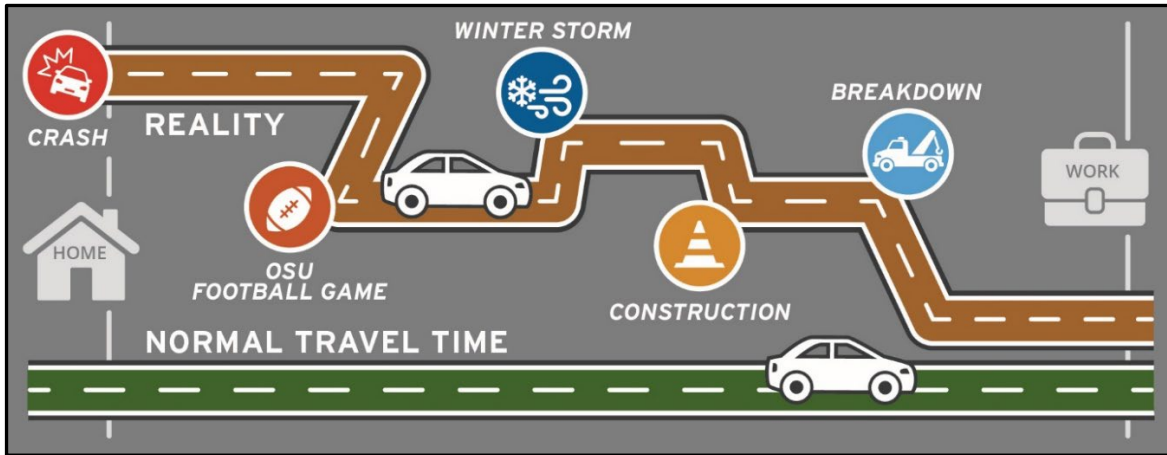


Source: StreetLight Insight, 2019 Traffic Volumes. OD data is available for all planning segments.

Travel Reliability

Travel reliability describes the variability of travel time drivers experience from day-to-day. Crashes, weather, special events, construction, and traffic are just a few factors that can negatively affect the reliability of a trip, as illustrated in **Figure 8**. Travelers often remember the worst days.

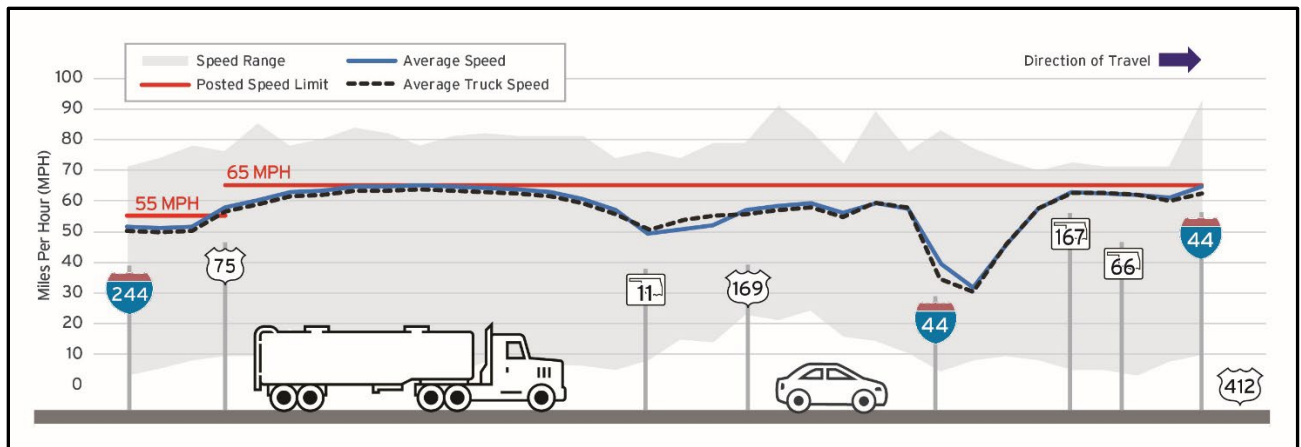
Figure 8: What is Travel Time Reliability?



Source: Study Team, 2023.

Travel time and speed data was collected for U.S. 412 in 2019. It included data for average travel days, but also for days with incidents or other non-recurring congestion¹ events which allowed the opportunity to look at the reliability (or variability) of travel times in the corridor. Travel times and speeds through the corridor were analyzed for the AM and PM peak periods in the eastbound (EB) and westbound (WB) directions for six of the seven segments (travel time data for the Springdale segment was incomplete). Speeds in each of the segments were near the posted speed limit for most segments. The exceptions are in the Tulsa and Siloam Springs segments where the average speeds are below posted speeds due to congestion and delay from signal-controlled intersections, respectively. **Figures 9 and 10** show representative speed profiles for these two segments.

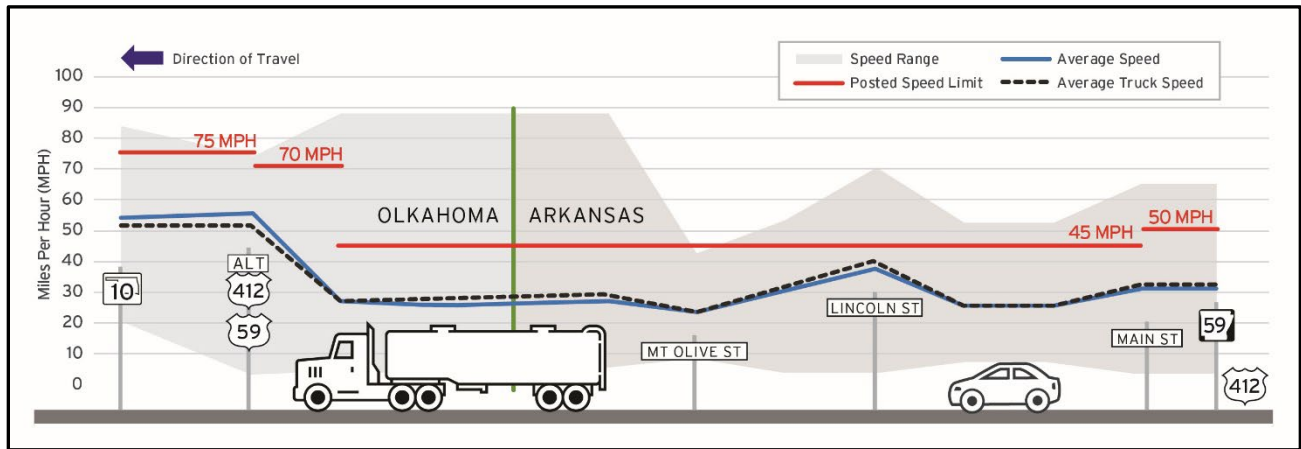
Figure 9: Eastbound PM Travel Speeds in the Tulsa Segment



¹ There are two types of congestion: recurring and non-recurring. Non-recurring congestion occurs due to unexpected or non-typical events such as vehicular crashes, breakdowns, construction, inclement weather, or special events. Recurring congestion can be expected to occur at the same time every weekday, such as morning and afternoon peak hours, due to high traffic volumes.

Source: National Performance Management Research Data Set (NPMRDS), January 1, 2019, to December 31, 2019. Speed data is available for all planning segments.

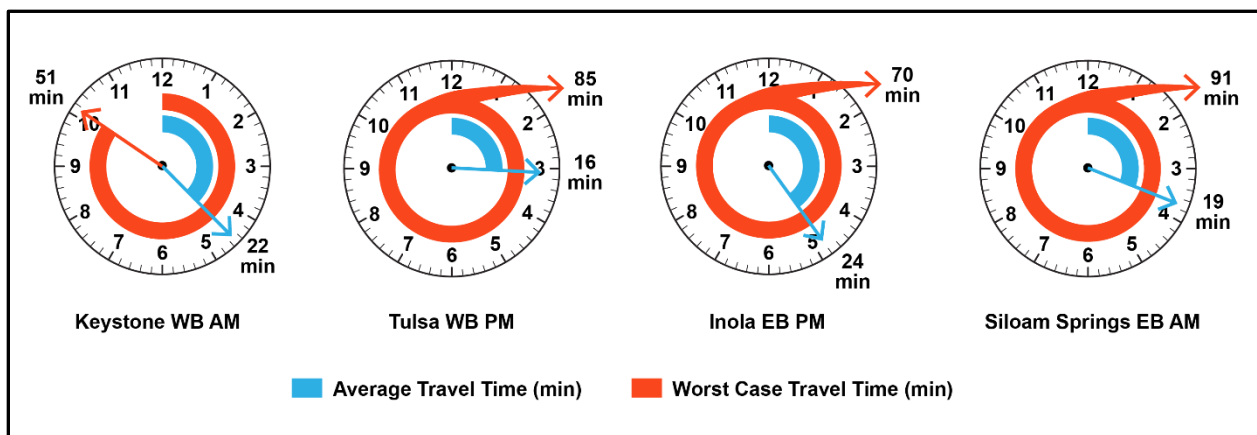
Figure 10: Westbound PM Travel Speeds in the Siloam Springs Segment



Source: National Performance Management Research Data Set (NPMRDS), January 1, 2019, to December 31, 2019. Speed data is available for all planning segments.

Figure 11 shows a sample of the average and worst-case travel time results from four of the segments. During periods of non-recurring congestion, speeds can fall well below posted speeds and travel times increase substantially in each of the segments. This can be due to crashes, weather events, construction, or special events and indicates a lack of resiliency in the network to adapt to these types of events. The worst-case travel times on U.S. 412, from days with incidents or other non-recurring congestion events, can be two to five times longer than average travel times. This demonstrates an opportunity and a need to improve mobility in the corridor.

Figure 11: Travel Time Reliability on U.S. 412 (Worst Segments)



Note: Shown are the highest values over the year 2019.

Source: National Performance Management Research Data Set (NPMRDS), January 1, 2019, to December 31, 2019.

3.4 Enhance System Linkage

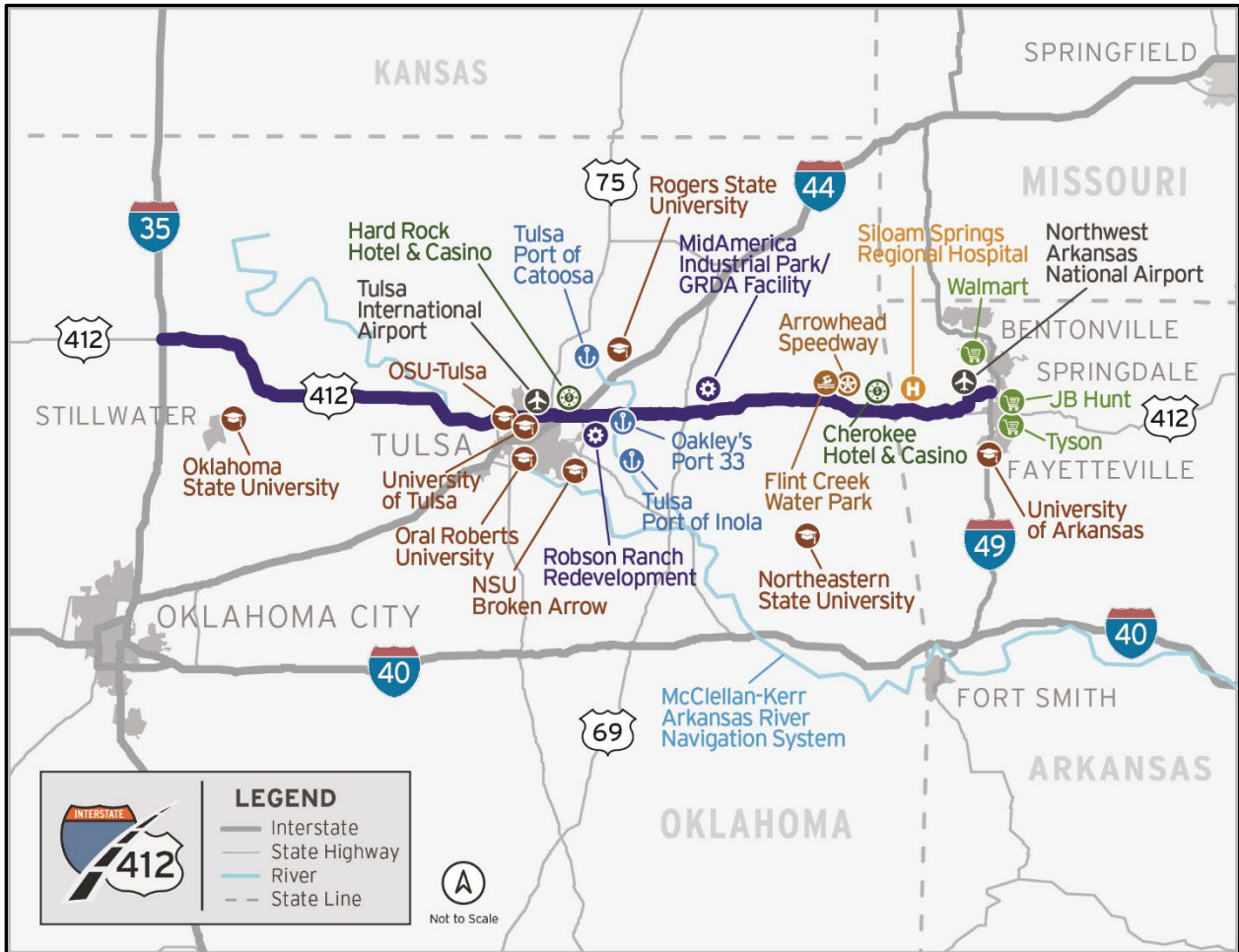
U.S. 412 is part of a regional transportation system that is needed to provide good accessibility to where motorists live and work. Upgrading U.S. 412 to interstate standards would better connect rural and urban communities and improve economic development. It would also better connect major retail and industrial employers in the region, including numerous energy and aerospace companies. Improvements to U.S. 412 would provide better connectivity among the three key interstate freight corridors: I-35, I-44 and I-49.

In addition, upgrading and improving U.S. 412 to an interstate would improve major inland port access including the Tulsa Ports of Catoosa and Inola, and Oakley's Port 33. The Tulsa Port of Catoosa is located at the head of navigation for the McClellan-Kerr Arkansas River Navigation System (MKARNS) in Northeast Oklahoma and is one of the largest, most inland river-ports in the United States. The Tulsa Port of Inola is a 2,500- acre industrial park with access to rail and barge transportation on the MKARNS. Likewise, Oakley's Port 33 on the MKARNS is positioned near Tulsa and has eight docks for loading and unloading from truck to barge or barge to truck.

Improving U.S. 412 to an interstate would also better serve motorists' connectivity to both the Tulsa International Airport and the Northwest Arkansas National Airport. The Tulsa International Airport is located five miles northeast of Downtown Tulsa and serves six airlines. The Northwest Arkansas National Airport is located 12 miles northwest of Springdale, Arkansas and serves six airlines.

All of the above would improve the supply chain of goods both locally and regionally. **Figure 12** presents various regional influencers near U.S. 412.

Figure 12: Regional Influencers

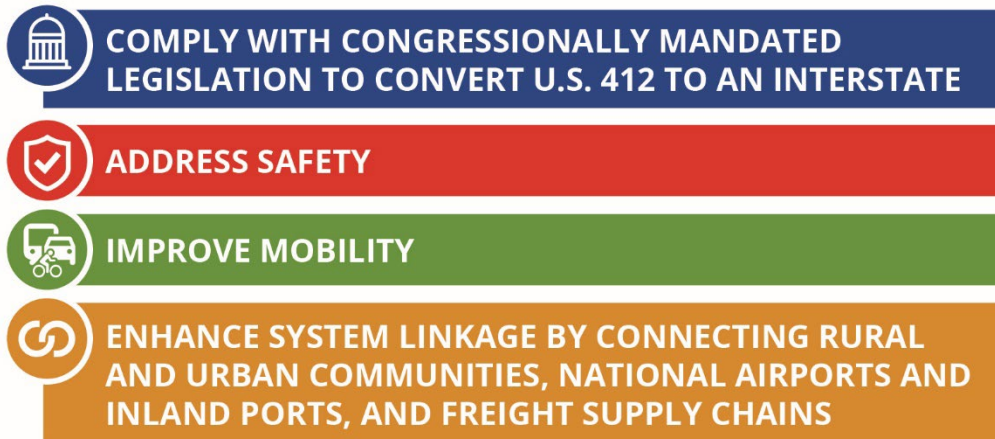


Source: Study Team, 2023.

4.0 Purpose

The purpose and need statement establishes the importance of a study and serves as the cornerstone for the alternatives analysis process. Based on the needs outlined in **Section 3.0**, the purpose of the study is listed in **Figure 13**.

Figure 13: U.S. 412 PEL Study Purpose



Source: Study Team, 2023.

Input will be sought from the public and Advisory Committee, which includes U.S. 412 stakeholders and agencies, on the purpose and need, study goals (Section 5.0) and guiding principles (Section 6.0).

5.0 Study Goals

In addition to the purpose and need, study goals were established as shown in Figure 14 to balance transportation and environmental outcomes of the PEL Study. The study goals will be used to help further evaluate alternatives.

Figure 14: Study Goals

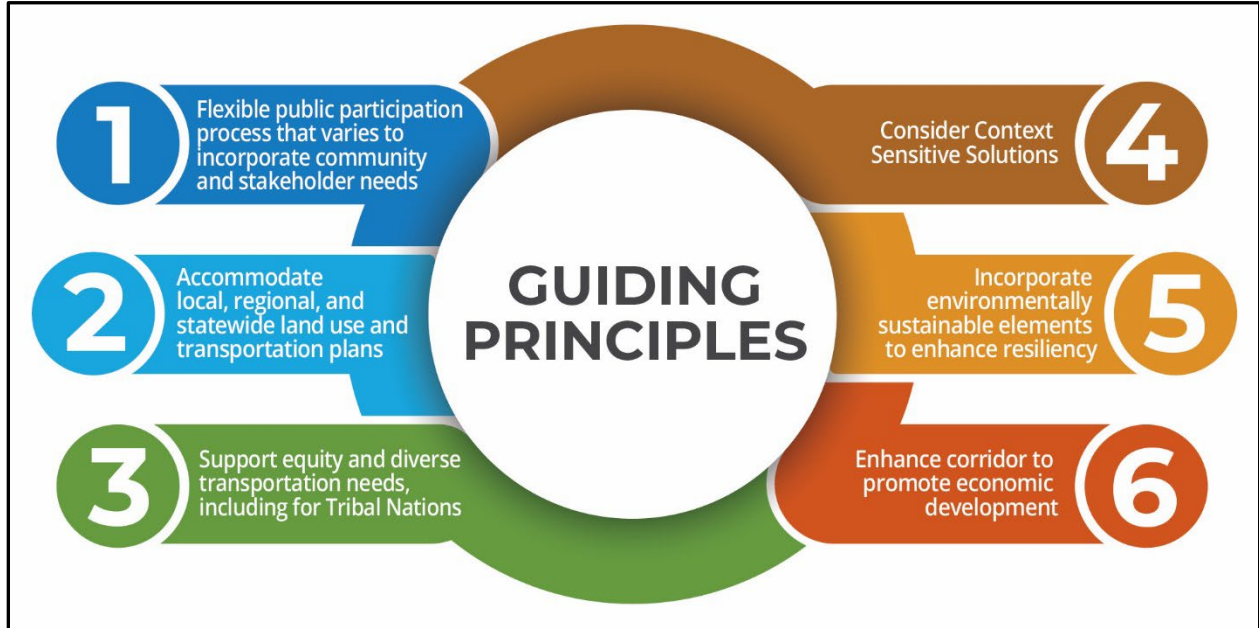


Source: Study Team, 2023.

6.0 Guiding Principles

Guiding principles that will influence the study (listed in no particular order) are included in **Figure 15**.

Figure 15: Guiding Principles



Source: Study Team.

**Appendix A – Infrastructure Investment and Jobs Act
and Letters of Support**

Brookhaven, Monticello, Prentiss, and Collins, Mississippi, to the logical terminus with Interstate Route 59 in the vicinity of Laurel, Mississippi, and continuing on Interstate Route 59 south to the vicinity of Hattiesburg, Mississippi; and

“(B) United States Route 49 from the vicinity of Hattiesburg, Mississippi, south to Interstate Route 10 in the vicinity of Gulfport, Mississippi, following Mississippi Route 601 south and terminating near the Mississippi State Port at Gulfport.

“(94) The Kosciusko to Gulf Coast corridor commencing at the logical terminus of Interstate Route 55 near Vaiden, Mississippi, running south and passing east of the vicinity of the Jackson Urbanized Area, connecting to United States Route 49 north of Hattiesburg, Mississippi, and generally following United States Route 49 to a logical connection with Interstate Route 10 in the vicinity of Gulfport, Mississippi.

“(95) The Interstate Route 22 spur from the vicinity of Tupelo, Mississippi, running south generally along United States Route 45 to the vicinity of Shannon, Mississippi.

“(96) The route that generally follows United States Route 412 from its intersection with Interstate Route 35 in Noble County, Oklahoma, passing through Tulsa, Oklahoma, to its intersection with Interstate Route 49 in Springdale, Arkansas.

“(97) The Louie B. Nunn Cumberland Expressway from the interchange with Interstate Route 65 in Barren County, Kentucky, east to the interchange with United States Highway 27 in Somerset, Kentucky.

“(98) The route that generally follows State Route 7 from Grenada, Mississippi, to Holly Springs, Mississippi, passing in the vicinity of Coffeerville, Water Valley, Oxford, and Abbeville, Mississippi, to its logical connection with Interstate Route 22 in the vicinity of Holly Springs, Mississippi.

“(99) The Central Louisiana Corridor commencing at the logical terminus of Louisiana Highway 8 at the Sabine River Bridge at Burrs Crossing and generally following portions of Louisiana Highway 8 to Leesville, Louisiana, and then eastward on Louisiana Highway 28, passing in the vicinity of Alexandria, Pineville, Walters, and Archie, to the logical terminus of United States Route 84 at the Mississippi River Bridge at Vidalia, Louisiana.

“(100) The Central Mississippi Corridor, including the route—

“(A) commencing at the logical terminus of United States Route 84 at the Mississippi River and then generally following portions of United States Route 84 passing in the vicinity of Natchez, Brookhaven, Monticello, Prentiss, and Collins, to Interstate Route 59 in the vicinity of Laurel, Mississippi, and continuing on Interstate Route 59 north to Interstate Route 20 and on Interstate Route 20 to the Mississippi–Alabama State border; and

“(B) commencing in the vicinity of Laurel, Mississippi, running south on Interstate Route 59 to United States Route 98 in the vicinity of Hattiesburg, connecting to United States Route 49 south then following United States Route 49 south to Interstate Route 10 in the vicinity of

FOR IMMEDIATE RELEASE

[LINK TO RELEASE](#)

May 21, 2021

[Leacy Burke](#)

[Laurie Fitch](#)

(202) 224-4721

INHOFE, BOOZMAN, COTTON INTRODUCE BILL TO DESIGNATE U.S. ROUTE 412 AS FUTURE INTERSTATE

WASHINGTON – U.S. Sens. Jim Inhofe (R-Okla.), John Boozman (R-Ark.) and Tom Cotton (R-Ark.), today introduced *S.1766*, legislation to designate U.S. Route 412, from I-35 in Noble County, Oklahoma, to I-49 in Springdale, Arkansas, as a future interstate.

“Our interstate system is the lifeblood of Oklahoma’s economy and provides the network for companies to bring materials into our critical industries, for businesses to locate in areas convenient for consumers, and for commuters to get to work and school safely and reliably,” Inhofe said. **“Designating Route 412 as an interstate would benefit Oklahoma by attracting new businesses, improving safety, enhancing freight mobility and better connecting rural and urban communities. I am proud to introduce this bill today alongside Sens. Boozman and Cotton and look forward to its swift consideration.”**

“Connecting Northwest Arkansas and North Central Oklahoma will encourage economic development along this corridor and expand opportunities for employment in the region,” Boozman said. **“I’m proud to join Senator Inhofe and Senator Cotton in designating U.S. Route 412 as a future interstate.”**

“Interstates make travel safer and shipping easier. Connecting I-49 to I-35 will support NWA’s growth and bring opportunity to all communities in the corridor,” Cotton said. **“I look forward to working with Senators Boozman and Inhofe to designate Route 412 as a future interstate.”**

Multiple stakeholders have voiced their support for the bill:

“This designation would have a significant economic impact for Tulsa and all of Northeast Oklahoma,” said **Tulsa Mayor G.T. Bynum**. **“I am very grateful for Senator Inhofe’s leadership and his work to once again use infrastructure to grow Oklahoma’s economy.”**

“The designation of the US-412 corridor as a future Interstate will both enhance economic development for our region and improve travel safety between northeast Oklahoma and northwest Arkansas,” said **Indian Nations Council of Governments (INCOG) Director Rich Brierre**. **“Public and private officials in our region again applaud Senator Inhofe’s continuing leadership on important transportation and infrastructure issues that will have lasting impact.”**

The Oklahoma Department of Transportation Secretary Tim Gatz and Arkansas Department of Transportation expressed their support in a letter [here](#).

Full text of the bill can be found [here](#).

Background:

- While most major metropolitan areas across the nation have two or more interstate Highways connecting their region, the Tulsa area and the Northwest Arkansas metropolitan area are both served by just one interstate highway, I-44 and I-49, respectively.
- With the Tulsa area growing to more than one million in population after the 2020 census, and the Northwest Arkansas area rapidly growing to over 500,000 in population, it is clear that a future interstate designation for U.S. Route 412 is needed to keep pace with the region's economic growth.

The Bill:

- Designates U.S. Route 412 as a future interstate.
- Allows all vehicles previously allowed to operate on U.S. Route 412 to continue to operate after the future interstate designation.

Benefits:

- The future interstate route would directly connect three key Interstate freight corridors in the heartland of America – I-35, I-44, and I-49.
- The future interstate route serves two major inland ports – the Tulsa Ports of Catoosa and Inola, and Oakley's Port 33 on the McClellan-Kerr Arkansas River Navigation System – and improves access to the Tulsa International Airport and the Northwest Arkansas Regional Airport.
- The future interstate route would improve supply chain connectivity for major retail and industrial employers in the region, including the numerous energy and aerospace companies in Northeast Oklahoma and Walmart in Northwest Arkansas.

###

RESOLUTION #2021-08

SUPPORTING DESIGNATION OF THE U.S. 412 CORRIDOR, FROM I-35 IN OKLAHOMA TO I-49 IN ARKANSAS, AS A FUTURE INTERSTATE HIGHWAY

WHEREAS, U.S. Senator James Inhofe of Oklahoma, and Senators John Boozman and Tom Cotton of Arkansas, introduced legislation (S. 1766) on May 21st to designate “The route that generally follows U.S. 412 from its intersection with Interstate 35 in Noble County, Oklahoma, passing through Tulsa, Oklahoma, to its intersection with Interstate 49 in Springdale, Arkansas,” as a future interstate; and

WHEREAS, a majority of the 189-mile route has already been designed and constructed to interstate standards, with that part east of Tulsa already being a Congressionally Designated High Priority Corridor (#8) on the National Highway System (NHS); and

WHEREAS, this future interstate route, connecting I-35, I-44, and I-49, would facilitate the movement of freight; reduce travel times; improve connectivity to national airports and inland ports; and enhance economic development opportunities; and

WHEREAS, the Oklahoma Department of Transportation Secretary; the Arkansas Department of Transportation Director; and Tulsa’s Metropolitan Planning Organization, the Indian Nations Council of Governments, have expressed their support for the designation; and

WHEREAS, as the Metropolitan Planning Organization for the Fayetteville-Springdale-Rogers, AR-MO urbanized area, it is important that NWARPC state its position on behalf of the region.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE NORTHWEST ARKANSAS REGIONAL PLANNING COMMISSION:

That the Northwest Arkansas Regional Planning Commission (NWARPC) supports passage of S. 1766, the “Future Interstate in Oklahoma and Arkansas Act,” designating a route generally following the U.S. 412 corridor, between I-35 in Oklahoma to I-49 in Arkansas, as a future part of the interstate system.

PASSED AND APPROVED THIS 26 DAY OF MAY, 2021


Chair Mayor Chris Keeney

ATTEST: 
Jeff Hawkins, Director



May 10, 2021

The Honorable James M. Inhofe
United States Senate
205 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Inhofe,

We, the undersigned organizations, support the designation of U.S. Highway 412 as a future interstate from I-35 in Noble County, Oklahoma to I-49 in Springdale, Arkansas. A future interstate designation will improve economic development opportunities throughout the Northeast Oklahoma region while providing the Oklahoma Department of Transportation (ODOT) with sufficient time to fully upgrade the corridor to Interstate standards.

As you know, an interstate highway corridor attracts new businesses, improves safety along the corridor, enhances freight mobility, reduces travel times, and connects rural and urban communities. A significant portion of this route was designed and constructed to Interstate standards, and this proposal would directly connect three key Interstate freight corridors in the heartland of America: I-35, I-44, and I-49. The existing US-412 route directly serves major inland ports, including the Tulsa Ports of Catoosa and Inola and Oakley's Port 33 on the McClellan-Kerr Arkansas River Navigation System. An interstate designation on this route also improves access to Tulsa International Airport, and will improve supply chain connectivity and freight mobility for major retail and industrial employers in the region, including numerous energy and aerospace companies.

Most major metropolitan areas across the Nation typically have two or three Interstate highways connecting their region. However, the Tulsa Metropolitan Statistical Area is only currently served by one Interstate highway, I-44. Of the 60 largest metropolitan statistical areas in the Nation, Tulsa, a region with over one million residents, remains virtually alone as a non-coastal metropolitan region of its size with only one current or congressionally-designated future interstate highway connection.

Thank you for your support of Oklahoma's surface transportation system and we look forward to working with you to improve transportation access and mobility in our region.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Gatz".

Tim Gatz
Secretary of Transportation

A handwritten signature in black ink, appearing to read "Rich Brierre".

Rich Brierre
Executive Director, INCOG

cc: The Honorable Tom Carper, Chairman, Committee on Environment and Public Works
The Honorable Shelley Moore Capito, Ranking Member, Committee on Environment and Public Works