



**MID-STATES
CORRIDOR**

DRAFT PURPOSE & NEED STATEMENT

Mid-States Corridor Tier 1 Environmental Impact Study

Prepared for
Indiana Department of Transportation
Mid-States Regional Development Authority

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Prepared by
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1. STATEMENT OF PURPOSE & NEED

The Purpose of the Mid-States Corridor project is to provide an improved transportation link between the US 231/SR 66 and I-69 (either directly or via SR 37) which

1. Improves business and personal regional connectivity in Dubois County and Southern Indiana;
2. Improves regional traffic safety in Southern Indiana;
3. Supports economic development in Southern Indiana; and
4. Improves highway connections to existing major multi-modal locations from Southern Indiana.

2. POLICY FRAMEWORK

The planning for major transportation projects must conform to relevant federal and state transportation planning laws and policies. This section documents these laws and policies, and describes at a high level how the Mid-States Corridor projects supports these laws and policies. This section extensively uses material in the Indiana Department of Transportation *Long-Range Transportation Plan, 2018-2045 Transportation Needs Report* (<https://www.in.gov/indot/3714.htm>).

The Mid-States Corridor will address multiple federal and statewide transportation planning considerations described below. **Section 4, Needs Assessment** provides a robust assessment of needs in the Project Study Area. In addressing these needs, the Mid-States Corridor project will support these federal and state policy goals.

2.1 Federal Transportation Planning Requirements

The Moving Ahead for Progress in the 21st Century (MAP-21) Act established national goals in the areas of safety, pavement and bridge infrastructure, congestion reduction, system reliability, freight movement, environmental sustainability, and project delivery. These national goals were carried forward into the Fixing America's Surface Transportation (FAST) Act, which further requires INDOT and Indiana MPOs to have federally-funded transportation projects support national goals. These national goals include:

- **Safety.** To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure Condition.** To maintain the highway infrastructure asset system in a state of good repair.
- **Congestion Reduction.** To achieve a significant reduction in congestion on the national highway system.
- **System Reliability.** To improve the efficiency of the surface transportation system.



- **Freight movement and economic vitality.** To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental sustainability.** To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced project delivery delays.** To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

2.2 Blue Ribbon Panel on Transportation Infrastructure – Final Report to Governor Pence (July 9, 2014)

On July 9, 2014, the Governor's Blue Ribbon Panel on Transportation Infrastructure recommended to Indiana Governor Michael Pence a set of priority projects for the short term and provided a vision of transportation in Indiana for the long term. Based on a detailed technical analysis of costs and benefits, it identified priority projects to enhance Indiana's transportation system across all modes of transportation for both freight and passengers. It evaluated and prioritized highway, rail, port, and air projects.

The report identified four projects as Tier 2¹ statewide priorities (p. 63). These included:

- **I-69 (north) added travel lanes.** This project consists of widening of I-69 between Indianapolis and Muncie.
- **Southwest Indiana Port connections.** This project consists of construction of a four-lane connection between I-69 and the Port of Mount Vernon, Indiana.
- **Mid-State Corridor.** The project consists of a new four-lane connector between the Ohio River near Rockport and I-69. For analytical purposes, a connection to I-69 at Petersburg was assumed.
- **US 30 Fort Wayne to Valparaiso.** Convert US 30 to a fully access-controlled freeway between Valparaiso and Fort Wayne.

The detailed analysis supporting the Mid-state Corridor (Project Appendix, Project 12) cites the following forecasted project benefits. These benefits were provided by INDOT staff, using the Indiana Statewide Travel Demand Model (ISTDM), Major Corridor Investment Benefit Analysis System (MCIBAS), and Transportation Economic Development Impact System (TREDIS) (pp. 66 – 72).

- **Better access for goods from manufacturing centers in Huntingburg and Jasper to Nashville TN and to northern Michigan.**

¹ The four Tier 1 projects include added travel lanes on I-65 to provide at least six travel lanes throughout Indiana, added travel lanes on I-70 to provide at least six travel lanes throughout Indiana, I-69 Ohio River Bridge between Evansville and Henderson (KY) and the Commerce Connector from I-65 north of Indianapolis to I-69 northeast of Indianapolis.



- Improved access to Indiana ports and rail facilities providing direct links to international markets.
- Significant transportation and economic benefits. These include over 3,900 additional jobs, increases in gross regional product of over \$360 million/year and increases in real personal income of over \$350 million/year.

2.3 INDOT 2045 Long-Range Plan

On June 28, 2019, INDOT transmitted to the Federal Highway Administration its *2018 – 2045 Future Transportation Needs Report*. This document will guide INDOT in the development, management, and operation of a safe and efficient transportation system for the next 25-plus years. It is an up-to-date assessment of the transportation needs in Indiana, and conforms to Federal and state transportation planning requirements. The Plan was finalized based upon public and agency input received on a draft Plan issued earlier in 2019. The page reference is to the Plan which is available at <https://www.in.gov/indot/3714.htm>.

The Plan is guided by seven overall policy goals (p. 8). These are:

- **Safe and Secure Travel.** Move Indiana toward zero deaths and reduction of serious injuries by applying proven strategies and enhancing the safety and security of our transportation system for all users.
- **System Preservation.** Going beyond taking care of what we have and maintain our multimodal transportation system and infrastructure in a state of good repair.
- **Economic Competitiveness and Quality of Life.** Enhance the competitiveness of Indiana's economy as the "Crossroads of America" through strategic multimodal transportation investments, reducing transportation costs, and the safe and efficient movement of people and goods.
- **Multimodal Mobility.** Maximize the performance of our transportation system, ensuring efficient movement of people, goods, and regional connectivity by enhancing access to different modes of transportation.
- **Environmental Responsibility.** Minimize the potential impacts of the transportation system on the natural and human environment.
- **New Technology and Advancements.** Develop and deploy advanced transportation technologies and embrace a broad-based, comprehensive research program to plan for the future.
- **Strategic Policy Actions.** Address multiple goal areas through key policy initiatives.

3. PREVIOUS STUDIES

These previous studies are cited from among 26 documents provided by INDOT with its solicitation 1812s1, for NEPA Documentation Preparation Services for the Mid-States Corridor project. They document the history (spanning a period of decades) of the need for a major north-south transportation project in Southern Indiana. Several of these projects emphasize major transportation enhancements in the US 231 corridor. Four of these studies have been completed within the last five years (2014 and later).



3.1 Draft Environmental Impact Statement, US Highway 231, Dubois County Indiana (March 5, 2004) & Supplemental Draft Environmental Draft Impact Statement (January 2011)

A Draft Environmental Impact Statement (DEIS) was published in March 2004 to provide a US 231 bypass either to the west or east of Jasper and Huntingburg. The DEIS documented a planning history for such a project extending back to 1993. The Purpose and Need for the project documented the need to address substandard capacity/level of service on existing US 231 in Jasper and Huntingburg. It identified two alternatives carried forward for detailed study (designated as Alternative 27 and Alternative 28). It did not identify either as a single preferred alternative.

Both Alternative 27 and Alternative 28 consisted of a four-lane divided rural highway with 12-foot travel lanes, 4 foot paved inside shoulders, 10 foot paved outside shoulders and an 80-foot median. In addition to highway alternatives, the DEIS considered but dismissed Transportation System Management (TSM) and transit alternatives. It also considered and dismissed a widening of existing US 231. This alternative would have required a five-lane section impacting over 600 residential and commercial properties, including 16 structures eligible or potentially eligible for the National Register of Historic Places.

The 2004 DEIS was never finalized. A Supplemental DEIS was issued in January 2011. This SDEIS updated the previous purpose and need analysis based upon more recent traffic forecasts and other technical studies. It reaffirmed the inadequate capacity of the existing facility for a 2035 design year. It also documented continuing high crash rates within Jasper and Huntingburg.

A 2016 Federal Register Notice withdrew both the 2004 DEIS and the 2011 SDEIS. Information compiled about key environmental resources will be helpful in evaluating alternatives for this project. This project's regional traffic model will reassess forecasted congestion and congestion relief.

3.2 I-67 Corridor Study Feasibility Study (October 2, 2012)

This consultant study was prepared by Cambridge Systematics for the I-67 Development Corporation.² It supported the development of a limited access highway corridor between I-65 at Nashville, Tennessee and I-196 in Western Michigan. Many portions of this corridor exist or were planned for upgrades at that time. The report focused on the portion of the corridor between Bowling Green, Kentucky and Indianapolis.

For analysis purposes, this study assumed the facility would follow the Natchez Parkway (since designated as I-165) from Bowling Green to Owensboro, Kentucky; US 231 from Owensboro to I-64; bypass Huntingburg and Jasper to the east; and connect to I-69 at Washington.

² The I-67 Development Corporation was a private entity advocating better transportation connections for Southern Indiana to both Indianapolis and Kentucky. Its members primarily represented regional businesses.



The study included:

- Public and private stakeholder outreach
- Travel demand forecasts assuming both tolled and toll-free scenarios
- Current and forecasted highway safety
- Economic impact analysis
- Recommendation for implementation and next steps

Forecasted benefits included up to 910 reductions in annual crashes, up to \$1,300 million increases in regional economic input over 20 years, and up to 10,000 added job-years³.

The study concluded that the project would provide significant growth to existing businesses and attract a significant number of new businesses. Supporting factors included the region's highly skilled labor force, available land, synergy with existing industries, and availability of electrical power.

3.3 Conexus Indiana Southwest Regional Logistics Council – A Plan for Growing Southwest Indiana's Logistic Sector (June 2015)

Conexus Indiana is a not-for-profit organization which seeks to accelerate, promote, and grow Indiana's advanced manufacturing and logistics economy by leading innovative collaborations among industry, academic, and public-sector partners. It created a panel of leading members of the logistics community in Southwest Indiana to identify and prioritize major transportation investments which are needed to support the logistics and manufacturing economy in Southwest Indiana. It considered and prioritized capital investments in highway, port, air, and rail facilities.

This report identified the Mid-States Corridor as a "Tier 1" (top level) priority for the region. It defined two possible alternatives for the Mid-States Corridor. One alternative is an upgrade of US 231 from I-69 at NSA Crane to I-64 at Dale. It would include an eastern bypass of Loogootee, Jasper, and Huntingburg. The other alternative is a new highway between the Ohio River at Rockport and I-69 at Washington. Both alternatives are fully access-controlled freeways.

3.4 Midstate Corridor White Paper (August 2017)

This report was authored by the Lochmueller Group. It reviewed the studies described in **Section 2.2**, **Section 3.2**, and **Section 3.3**. It also summarized the widespread support for the Mid-State Corridor project by business leaders and government officials throughout Southern Indiana.

The report recommended that a Tiered EIS approach be used to advance the project. These recommendations were based upon the potential range of alternatives, the overall complexity of studying both a range of alternatives and facility types, and the flexibility of a tiered study structure to accommodate multi-year federal and state funding.

³ A "job-year" corresponds to one induced job in existence for one year. For example, a job which is added in the 6th year of a 30 year analysis period would produce 25 added job-years.



The report identified the following key issues which would be addressed by a Tier 1 study.

- **Where will the project connect with I-69?** Previous studies and input from project advocates recommended a variety of routes connecting with I-69 (either directly by going to the west or north, or via SR 37 by going to the east).
- **What will the facility type be?** Possible facility types include a fully-accessed controlled freeway, divided highway with partial access control, and a “super-2” rural arterial.⁴
- **How would the project be staged?** A tiered study includes identification of Sections of Independent Utility (SIUs) which would have independent Tier 2 NEPA studies.

3.5 US 231 Corridor Assessment (November 2018)

The report was prepared by WSP for INDOT. It compiled, examined and summarized historic information related to the US 231 corridor from the Ohio River to I-69 at Crane. It identified potential next steps to address needs in the US 231 corridor. These included the following:

- **Potential technical studies.** These included updating a vehicular O-D study documented in the US 231 2011 SDEIS, updated traffic modeling with a more detailed zone structure in Dubois County, updated cost estimates for a Mid-States Corridor, and completion of a Planning and Environmental Linkages study for the US 231 Corridor.
- **Potential short-term improvements in the existing US 231 Corridor.** These included the construction of some passing lanes, as well as Road Safety Assessments (RSAs) at spot locations.

The Introduction to this assessment noted that it was not connected to and was independent of the Mid-States Corridor project and the September 2018 agreement between INDOT and the Mid-States Corridor Regional Development Authority (RDA) to fund the Mid-States Corridor EIS.

3.6 Summary of Previous Studies

The follow key themes are prominent in these earlier studies:

- There is a longstanding identification of the need for major north-south highway in region.
- This highway is Identified as a multi-lane facility. That facility could be either a freeway with full access control or an expressway with partial access control.
- Freight and logistic needs are major drivers for project.
- These studies support the primary importance of freight/economic needs in a project Purpose and Need.

⁴ A “super-2” road is constructed to serve as one direction of a future multi-lane, divided highway. Initially, it serves two way traffic in adjacent, opposing lanes. As funds become available, the second, parallel roadway is constructed, and the initial roadway serves two lanes of traffic operating in the same direction.



4. NEEDS ASSESSMENT

The needs assessment uses a 12-county study area depicted in **Figure 4-1**. This study area consists of counties bounded by I-69 on the west and north, SR 37 on the east, and the Ohio River on the south. The Study Area includes the entirety of all counties through which either I-69 or SR 37 pass. It is specified on a county basis due to the widespread availability of economic and transportation data on the county level. This is the area within which the Mid-States Corridor project is expected to provide significant transportation and economic benefits. This is also the area within which highway alternatives will be located.

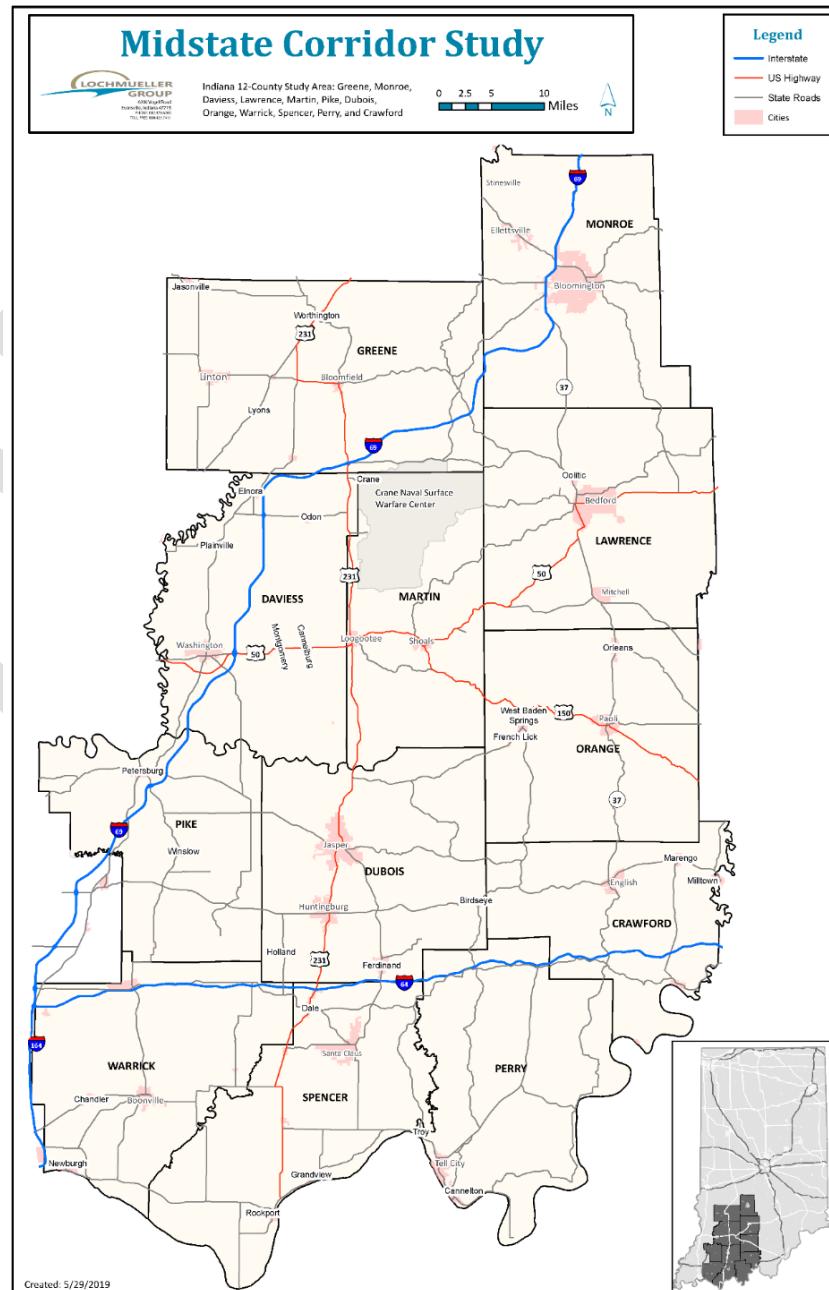


Figure 4-1: Mid-States Corridor Study Area



4.1 Transportation Needs

This section analyzes transportation needs within the project area. It assesses the level of need for improved safety, improved accessibility, and congestion relief.

4.1.1 Regional Safety

A safety analysis of roads in the 12 counties of the Project Study Area was performed using the Road Hazard Analysis Tool (RoadHAT⁵) version 3.0. It analyzed all state-jurisdictional roads⁶ in each county. One of its features compares crash frequencies and crash costs at specific locations with similar locations in Indiana. It identifies locations or road segments where the actual number of crashes and/or the costs of the actual crashes significantly exceed typical crash rates and costs on Indiana highways with similar geometrics and traffic volumes. If a road's crash index exceeds 0.0, then that highway has more frequent/more costly crashes than Indiana highways with similar geometrics and traffic volumes. If an index is 1.0 or higher, then that road has crash occurrences which are at least 1 standard deviation higher than comparable highways throughout Indiana.⁷

The crash data for this analysis was provided by INDOT's Traffic Safety Office from the Automated Reporting Information Exchange System (ARIES) database. The crash cost index in RoadHAT requires separate inputs for injury crashes which do and do not result in incapacitating injuries. The data did not distinguish these types of injury crashes. For this reason, only the index of crash frequency from RoadHAT is used in this analysis. Additional traffic data will be obtained from INDOT for use in the Purpose and Need statement in this project's DEIS.

The **Safety Appendix** contains full details about the calculations, including the indices calculated for each highway in each county. **Figure 4-2** shows indices of crash frequency for each county in the Study Area for non-interstate state jurisdictional roads. It is color-coded to show counties with above-average crash frequencies, as well as those with higher crash frequency indices (0.40 or higher). It shows that other than Pike and Daviess counties, counties in the Study Area have above-average crash frequencies.

Pike and Daviess counties are served by I-69. The lower-than-average crash rates in these counties may be attributed to the opening of I-69 in these counties in 2012. One of the purposes of building I-69 was to improve regional safety by diverting traffic to a higher-classification, safer facility. The I-69, Tier 1 FEIS Purpose and Need (**Section 2.3.1.4**) identified both Pike and Daviess counties as having high county-wide crash rates (**Figure 2-20**).⁸

The high county-wide crash rates for Monroe County are an anomaly which may be attributed to the ongoing construction along SR 37 to upgrade it to I-69.

⁵ Purdue University researchers developed RoadHAT for INDOT as a comprehensive and complete software-based tool for safety management related to road improvements. This program supports evaluation of crash hazards for road sections and intersections; identification of hazards causing road deficiencies and related safety countermeasures; estimations of economic effectiveness for proposed safety countermeasures; and estimations of effectiveness of implemented road improvements to increase safety.

⁶ "State-jurisdictional roads include Interstates, US-designated roads, and SR-designated roads. This analysis shows only crash indices for non-Interstate roads.

⁷ Crash frequency indices were calculated by INDOT's RoadHAT 3.0, using crash data for 2014 through 2018. Indices represent the difference between expected and reported number of crashes divided by the standard deviation of the difference.

⁸ The I-69 Tier 1 EIS was approved in 2004. Its crash analyses were based on the most current data available at that time.



Figure 4-2: Study Area Crash Frequency Indices (Non-Interstate Highways)

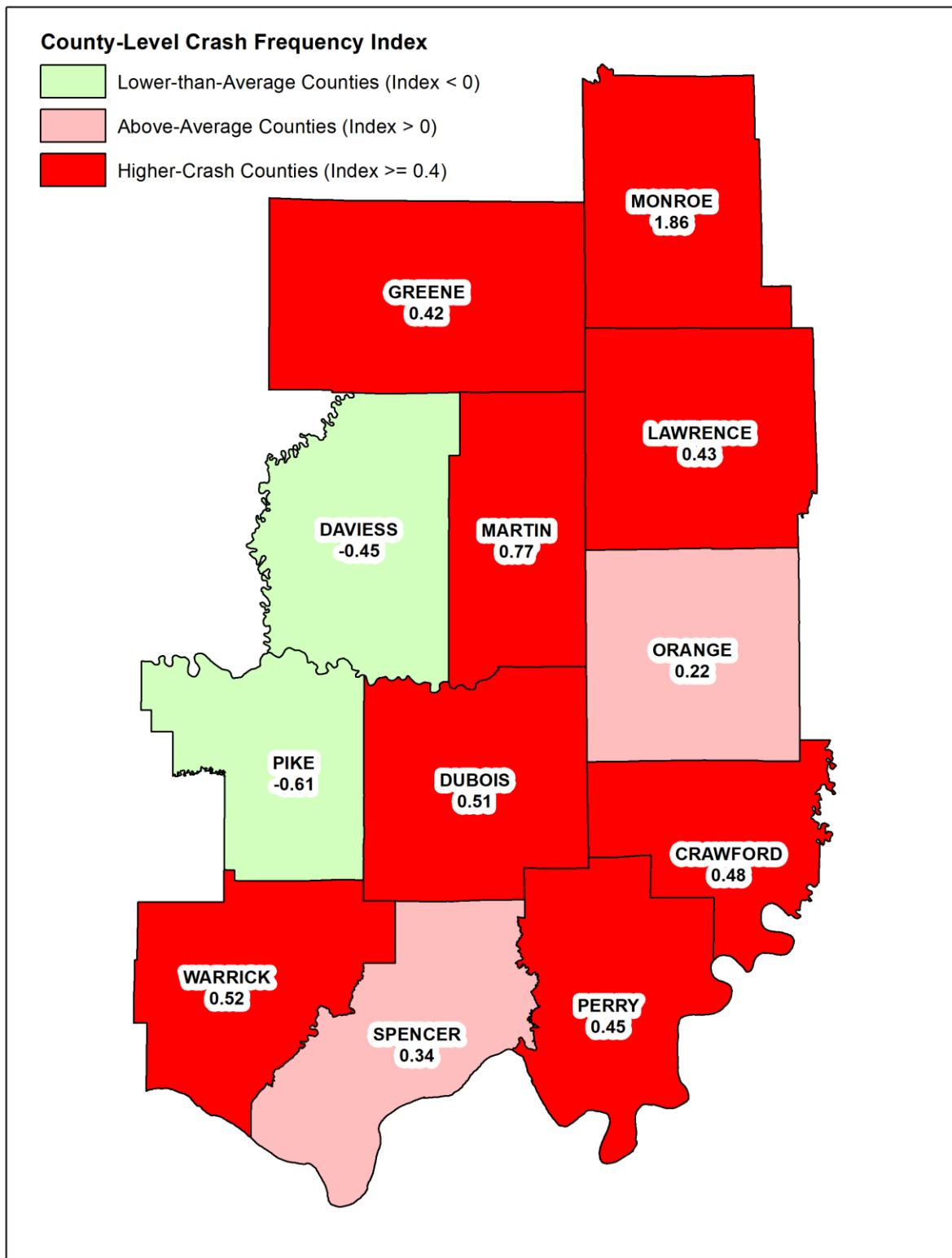




Figure 4-3 shows each highway with a crash frequency index of 1.0 or higher. These facilities are listed in Table 4-1. These are considered “higher crash” facilities for the entirety of each county.

Figure 4-3: Study Area “Higher Crash” Roads (Crash Frequency Indices 1.0 or Higher)

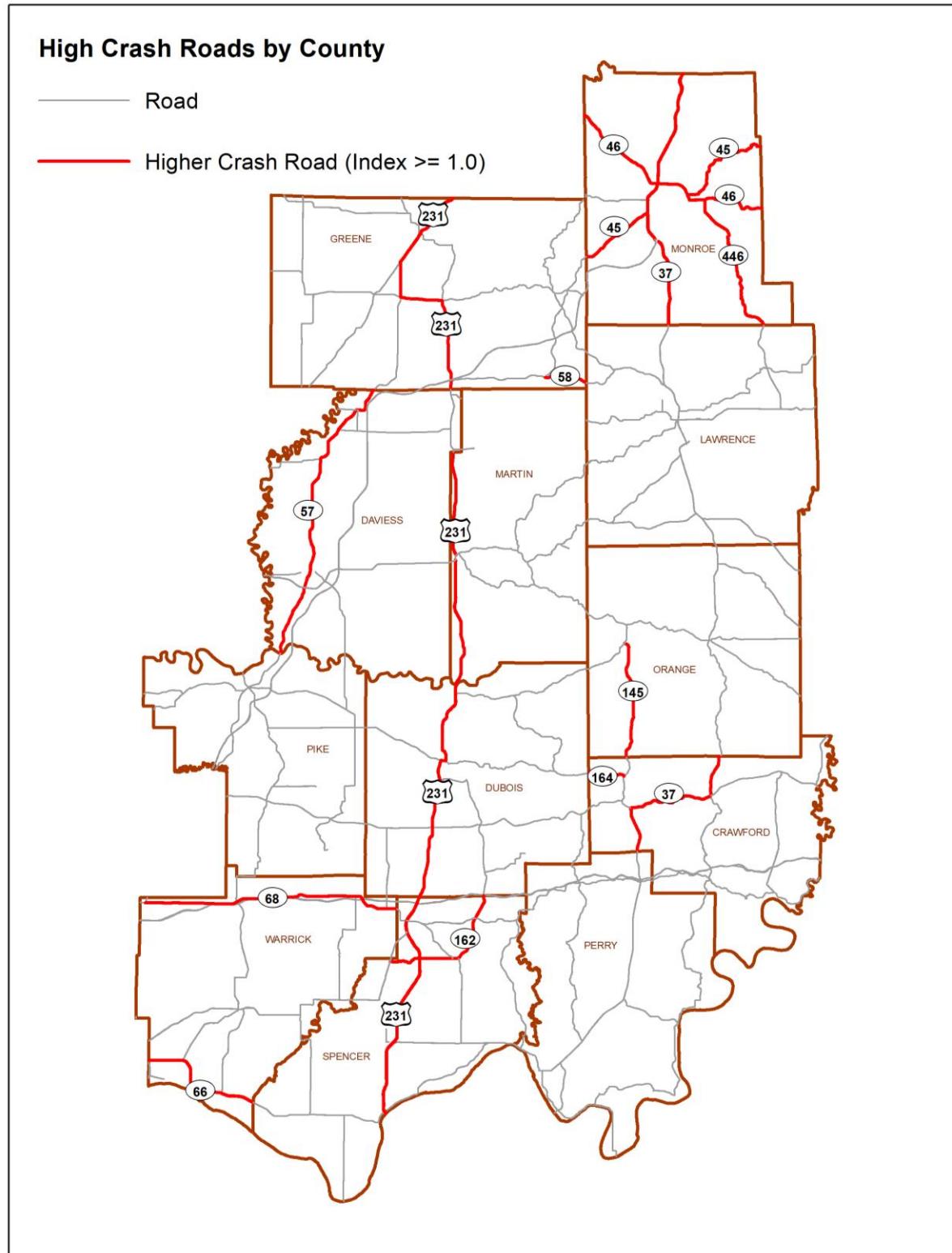




Table 4-1: Listing of Study Area High-Crash Roads by County

County	High-Crash Roads
Crawford	SR 37, SR 164
Daviess	SR 57
Dubois	US 231
Greene	US 231, SR 58
Lawrence	None
Martin	US 231
Monroe	SR 37, SR 45, SR 46, SR 446
Orange	SR 145
Perry	None
Pike	None
Spencer	US 231, SR 162
Warrick	SR 66, SR 68
INDOT's RoadHAT 3.0 was used to calculate crash frequency indices of 1.0 or higher for each of these facilities. This is based on an analysis of crash data between 2014 and 2018.	

US 231 was cited many times during the Regional Stakeholder Input (**Section 4.2.2**) as an especially dangerous facility. Multiple businesses and associations characterized it as unsafe, as well as unreliable and inadequate. Factors cited in the interviews included narrow shoulders, hilly topography, unrestricted county road access, and significant numbers of slow-moving farm equipment. See **Economic Interview Appendix** for details. **Table 4-2** shows both the indices of crash frequency for US 231 in the five counties of the Study Area. These findings support this input from area businesses and associations.

Table 4-2: US 231 in Project Study Area, Crash Frequency and Cost Indices by County

County	RoadHAT Frequency Index
Spencer	1.10
Dubois	2.71
Martin	2.66
Daviess	-0.37
Greene	1.20
INDOT's RoadHAT 3.0 was used to calculate crash frequency indices for each of these facilities. This is based on an analysis of crash data between 2014 and 2018.	

Given the widespread safety issues within the project area, improved regional safety has been identified as a **core goal** for this project.

4.1.2 Regional Accessibility

Accessibility refers to the ease with which private motorists and freight shippers can make personal and business trips between population and employment centers, as well to and from other important destinations (e.g., health care facilities, educational institutions, airports, and cultural venues). High-



quality roads are the primary means to provide accessibility to rural areas, even though those roads serve lower traffic volumes than similar roads in urban areas.

This analysis measures accessibility within the 12-county study area in the future year “no build” case. It includes the existing transportation network, as well as other committed projects. It does not assume that the Mid-States Corridor is built.

This analysis was conducted using a 2045 forecast year network for the Indiana Statewide Travel Demand Model (ISTDM). This network was prepared by the Lochmueller Group (with INDOT oversight) for the I-69 Tier 2 Section 6 EIS. A future-year “no build” ISTDM was used to calculate congested travel time between the major travel pairs shown in **Table 4-3**. These were identified based upon input received during 18 interviews of Study Area businesses and associations conducted in June 2019. The analysis of these interview summaries which identified these travel pairs is provided in the **Accessibility Analysis Appendix**.

Table 4-3: Accessibility Analysis Origin-Destination Pairs

Accessibility O-D Pairs	
From	To
Jasper	Crane
	Bloomington
	Indianapolis
	Rockport
	Bedford
	French Lick
	Chicago
	Washington
Rockport	Crane
	Bloomington
	Indianapolis
	Chicago
Tell City	Crane
	Washington
	Bloomington
	Indianapolis

From interviews with Study Area businesses and associations, June 11 - 27, 2019

These forecasted times were compared with an “ideal” travel time. These ideal travel times are calculated assuming a “straight line” trip between the two locations at a range of highway speeds (50 to 60 miles per hour). The higher the ratio of actual to ideal travel times between the travel destinations, the greater the need to increase accessibility within the project area.

The accessibility analysis for the region is summarized in **Table 4-4**. It shows a need for increased accessibility between many major origin-destination pairs with one or both ends within the Study Area. Constructing the Mid-States Corridor has the potential to significantly shorten these trips. For example, the need for improved access between Jasper and Crane/I-69 was cited in many of the interviews



summarized in **Section 4.2.2**. The forecasted one-way travel time between Jasper and Crane of 54 minutes could be reduced by 12 to 20 minutes (one-way) by a high-quality highway connecting the two locations. The potential round-trip savings would be 24 to 40 minutes.

Table 4-4: Accessibility Analysis

Origin	Destination	Congested 2045 Travel Time (Minutes)	Straight Line Distance (miles)	Straight Line Travel Time at		Travel Time Ratio (Present/Ideal) at	
				50 mph	60 mph	50 mph	60 mph
Jasper	Crane	54	35	42	35	1.3	1.6
	Bloomington	89	58	69	58	1.3	1.5
	Indianapolis	142	104	124	104	1.1	1.4
	Rockport	51	36	43	36	1.2	1.4
	Bedford	75	41	49	41	1.5	1.8
	French Lick	36	20	24	20	1.5	1.8
	Chicago	330	226	272	226	1.2	1.5
	Washington	40	22	27	22	1.5	1.8
Rockport	Crane	100	70	84	70	1.2	1.4
	Bloomington	135	93	111	93	1.2	1.5
	Indianapolis	188	138	166	138	1.1	1.4
	Chicago	360	261	313	261	1.2	1.4
Tell City	Crane	103	65	78	65	1.3	1.6
	Washington	93	53	64	53	1.5	1.7
	Bloomington	135	85	102	85	1.3	1.6
	Indianapolis	180	129	155	129	1.2	1.4

Forecasts of 2045 point-to-point congested travel times using traffic assignments for Indiana Statewide Travel Demand Model (ISTDM) for 2045. Assigned network assumes that Mid-States Corridor project is *not* built.

4.1.3 Regional Congestion

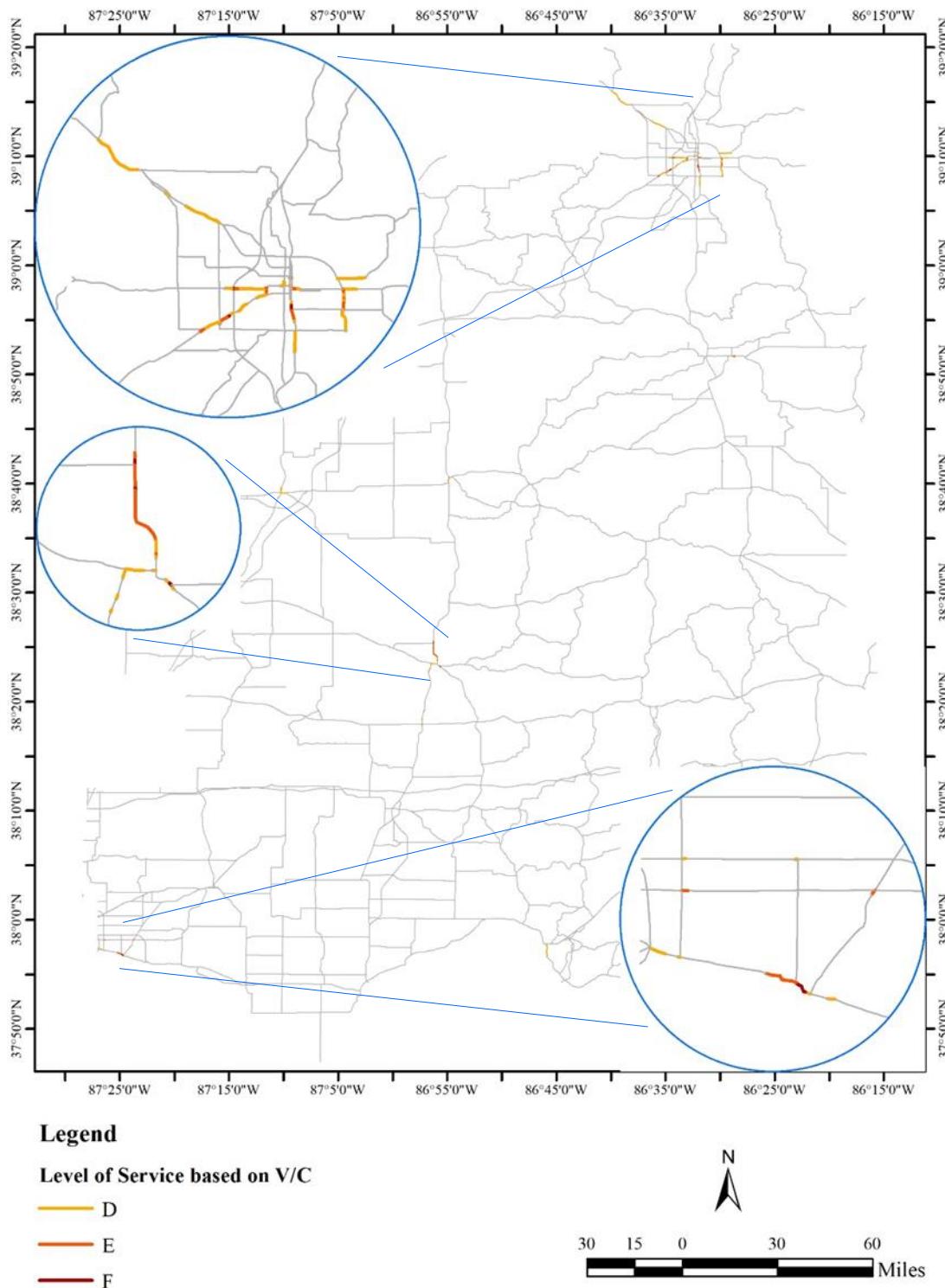
Forecasted congestion for the “No Build” network in the project area was forecasted for 2045 using the ISTDM Version described in **Section 4.1.2**. **Figure 4-4** shows facilities in the project area forecasted to be congested in the 2045 forecast year. Other than roads in the urbanized areas of Bloomington and Evansville, the only congested facilities are in Jasper, Washington, Loogootee, and Tell City.

The need for congestion relief on US 231 within central Dubois County (Jasper and Huntingburg) was identified in the Draft Environmental Impact Statement for US Highway 231 in Dubois County, Indiana (March 5, 2004) and Supplemental DEIS (January 2011). See **Section 3.1** for further discussion. The congestion analysis conducted for this study supports the need for congestion relief on US 231 within the Jasper/Huntingburg area.



Figure 4-4: Forecasted Study Area Congested Facilities (2045 Forecast Year)

Mid-State Corridor Study LOS 2045





4.2 Economic Development Needs

Economic development needs were identified by a time-series analysis of economic indicators for the project area. Economic data for the project study area were compared to Indiana data from Indiana and the United States over a period of up to 30 to 50 years (**Section 4.2.1**), depending upon the availability of data. This review showed that the economic performance of the Study Area has lagged for several decades compared with both Indiana and the entire United States.

In addition, 18 one-on-one interviews with major businesses and economic development associations were conducted to identify major logistical and freight transportation needs within the project area. These interviews (**Section 4.2.2**) identified serious shortcomings with north-south access for freight and personal travel in the project area. These shortcomings are acute to and from points north of Dubois County.

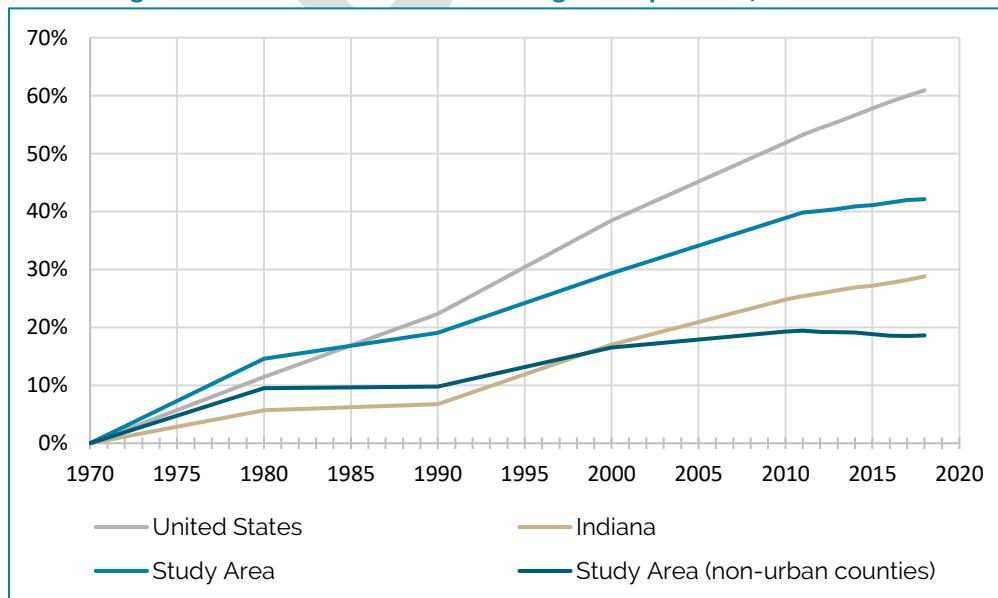
4.2.1 Study Area Economic Conditions

This section reviews a range of robust economic indicators for the 12-county study area. These show that economic activity in Southern Indiana has lagged the rest of Indiana and the United States for the last several decades.

4.2.1.1 Population Trends

Population trends are perhaps the single most meaningful indicator of the presence or lack of economic opportunity. Over the course of decades, people are attracted to live and remain in areas with good economic prospects. In the last half century (since 1970), Indiana as a whole has fallen behind the rest of the United States in population growth. These trends are shown in **Figure 4-5**. Between 1970 and 2018, U.S. population grew at an average decennial (per decade) rate of 10.4%. By contrast, between 1970 and 2018, the population of Indiana grew at an average decennial rate of 5.4%. The population of the Study Area grew at an average decennial rate of 7.6%, which was well below the national rate but exceeded that of the rest of Indiana. However, the non-urban counties in the Study Area (those other than Monroe and Warrick counties) had their populations increase at average decennial rate of only 3.1%.

Figure 4-5: Cumulative Percent Change in Population, 1970 – 2018





The Study Area, especially outside of urban regions near Bloomington and Evansville, have shown significantly less population growth for more than one-half century.

4.2.1.2 Net Migration

Table 4-5 shows the Study Area had only half the rate of net migration (4%) as the state of Indiana (8%) between 1990 and 2018. Net migration is the number of people moving out of a region subtracted from those moving into a region. “Migration” does not include births or deaths. A region’s population will tend to grow due to the tendency of births to exceed deaths. Thus, a region’s population can grow even when more people are moving out than are moving in. In that case, population growth will be slower than the average for other areas, or for the nation as a whole. Net migration is negative when more people move out of a region than move into it.

Table 4-5: Study Area Net Migration, 1990 - 2018

County	Net Migration 1990-2018	1990 Population	Cum. Net Migration as a % of 1990 Population
Crawford	293	9,914	3%
Daviess	-722	27,533	-3%
Dubois	1,052	36,616	3%
Greene	768	30,410	3%
Lawrence	1,870	42,836	4%
Martin	-1,304	10,369	-13%
Monroe	14,761	108,978	14%
Orange	631	18,409	3%
Perry	-586	19,107	-3%
Pike	-452	12,509	-4%
Spencer	-487	19,490	-2%
Warrick	11,642	44,920	26%
Study Area	30,255	381,091	8%
Study Area without Warrick and Monroe	3,852	227,193	2%
Indiana	208,603	5,544,159	4%

Source: STATS Indiana (www.stats.indiana.edu)

As in the case of population, positive net migration in the Study Area has been concentrated within Monroe and Warrick counties, reflecting growth in the Bloomington and Evansville urban areas. The other 10 Study Area Counties had net migration of 2%, which is half of that for Indiana as a whole.

Figure 4-6 graphically depicts the cumulative net migration of all counties in the Study Area as a percentage of the Study Area’s 1990 population. It shows that during this 28-year period, five of the 12 Study Area counties had negative net migration, with more people moving out than moving in.



Figure 4-6: Study Area Cumulative Net Migration by County (1990 – 2018) as Percentage of 1990 Population

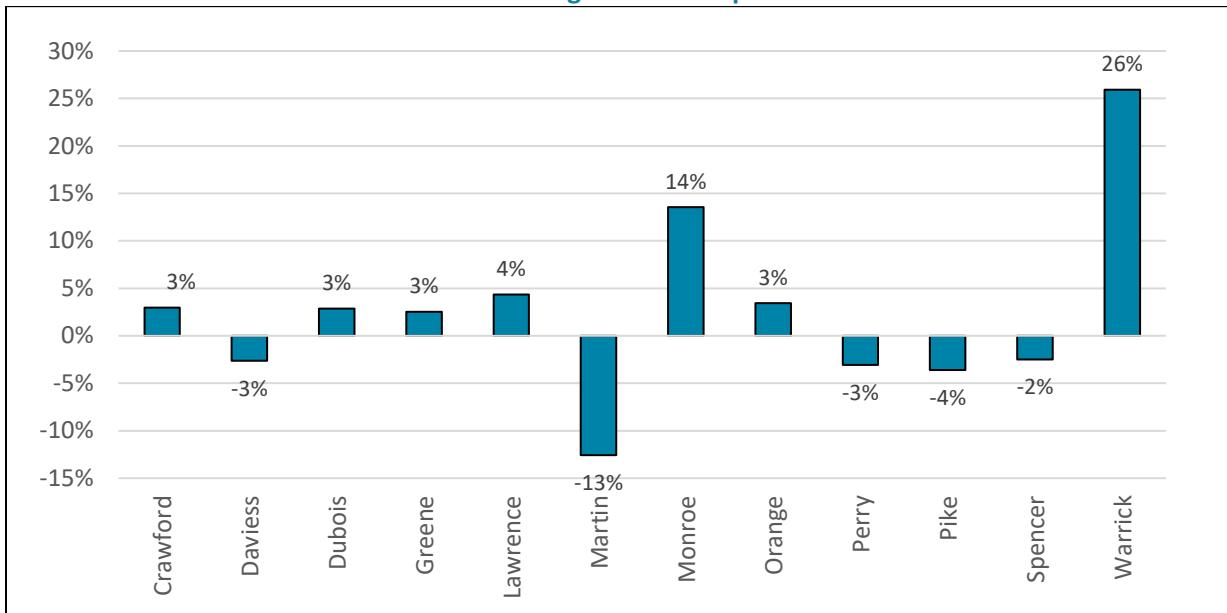
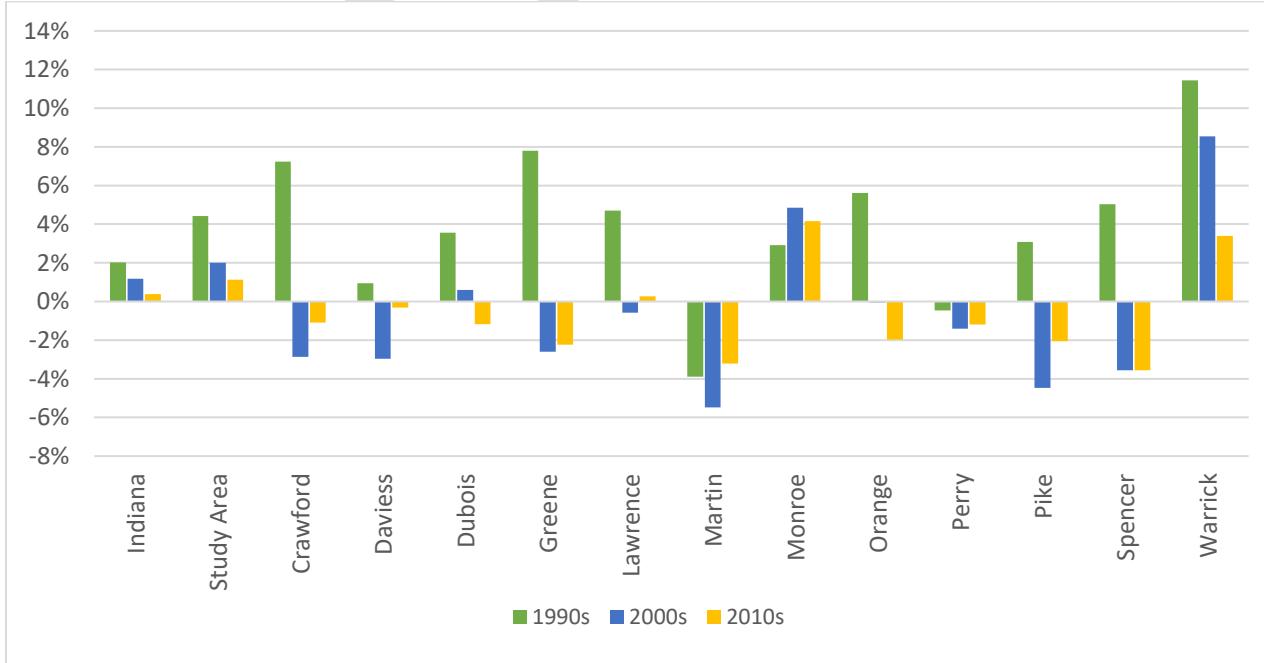


Figure 4-7 shows the cumulative net migration for counties in the Study Area by decade as a percentage of the population for the decade year (1990, 2000, 2010). Most counties in the study area as well as the state of Indiana experienced positive net migration in the 1990s. Only Martin county saw negative net migration in this decade. In contrast, 10 of the 12 Study Area counties experienced negative net migration in the 2000s and 2010s. Only Monroe and Warrick experienced positive migration, and those numbers were high enough to reflect as a positive net migration for the Study Area as a whole in these decades.

Figure 4-7: Cumulative Net Migration by Decade and Population





The statistics on net migration show that over a 30-year period, the Study Area (outside of Monroe and Warrick counties) has had one-half the net migration of Indiana as a whole. Within the last two decades, this trend has turned significantly **downward** for the Study Area outside of Monroe and Warrick Counties. For all 10 counties, **more people moved out than moved in between 2000 and 2010, and between 2010 and 2018**. This consistent trend in net outmigration is consistent with the lack of economic opportunity.

4.2.1.3 Per-Capita Income

Figure 4-8 shows that the per-capita income of the Study Area (expressed in constant year 2017 dollars) tracks with statewide trends, but is consistently lower than state and national per-capita income. Currently it is \$26,700, compared with the national average of \$31,200. Both the Study Area and Indiana per-capita income were higher than the US figures until the mid-1990s where they began falling. The study area and Indiana both had per capita incomes which exceeded the national average until the 1990's. Within recent decades the Study Area per-capita income has fallen far below national averages.

Table 4-7 compares county-level per-capita incomes to statewide averages. In both 1980 and 2017, all except Dubois and Warrick counties are below statewide averages. Spencer County is above the statewide average in 2017 only. Crawford has the lowest per-capita income (\$19,400), averaging nearly 29% lower than the statewide average in 2017. Spencer had the largest increase (24%) between 1980 and 2017. The average per-capita of the entire study area (\$26,600) is below the state average (\$27,300), but this gap has narrowed between 1980 and 2017.

Figure 4-8: Per-Capita Income Trends, 1980 – 2017 (in Constant Year 2017 Dollars)

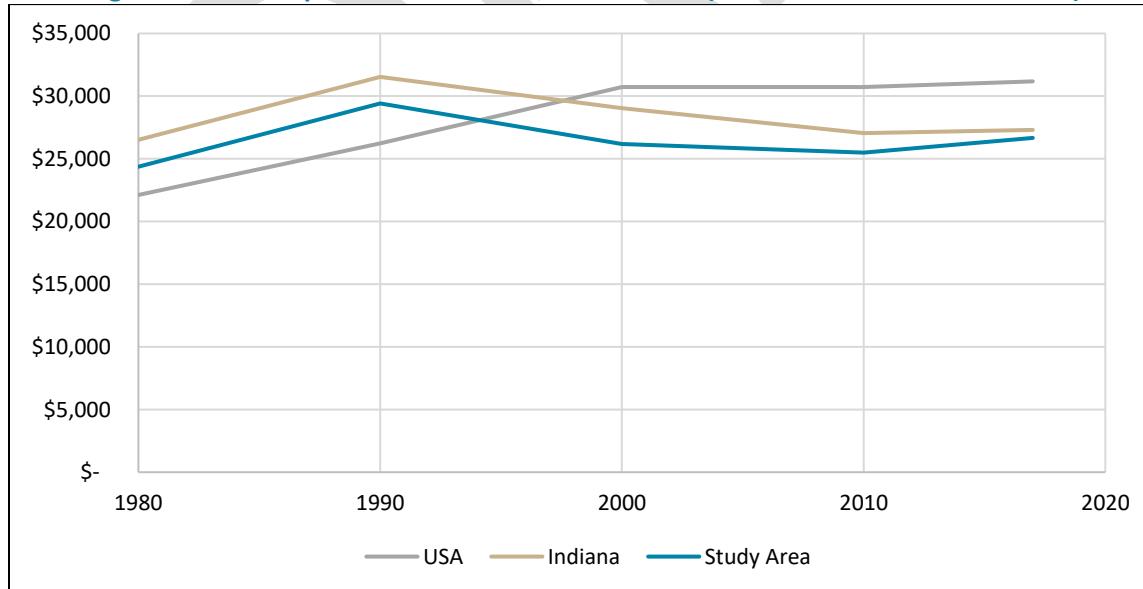




Table 4-6: County Level Per-Capita Income Comparisons (in Constant Year 2017 Dollars)

County	Per-Capita Income 1980	Per-Capita Income 2017	% Change in Per-Capita Income
Crawford	\$19,839	\$19,424	-2%
Daviess	\$23,191	\$21,794	-6%
Dubois	\$27,207	\$28,302	4%
Greene	\$23,483	\$24,744	5%
Lawrence	\$24,917	\$25,036	0%
Martin	\$20,969	\$25,138	20%
Monroe	\$22,772	\$26,738	17%
Orange	\$21,573	\$22,715	5%
Perry	\$24,006	\$23,003	-4%
Pike	\$25,952	\$25,648	-1%
Spencer	\$23,408	\$29,114	24%
Warrick	\$30,057	\$33,528	12%
Study Area	\$24,370	\$26,673	9%
Indiana	\$26,517	\$27,305	3%
United States	\$22,117	\$31,177	41%

Source: STATS Indiana (www.stats.indiana.edu), US Census, InfoPlease

In addition to being lower than Indiana, the Study Area has shown a significant decrease in per-capita income relative to the rest of the United States. In 1980, Study Area per-capita income was **10% higher** than the United States Average. In 2017, the Study Area per-capita income was **14% lower** than the United States average.

Per-capita income trends in the Study Area have been significantly negative over the past three decades. Several counties have had decreases in real (inflation-adjusted) per-capita income during the past three decades. The Study Area lags the rest of Indiana, and is far behind the United States as a whole. This is another finding which supports the need for economic development within the region.

4.2.1.4 Poverty

Figure 4-9 shows that poverty rates⁹ in the Study Area were higher than those of the state for the entire period of 1980 -2017, and higher than the US rate after 2005.

⁹ Poverty rates provided by US Census Bureau. The Census Bureau compares each person or family to one out of 48 possible poverty thresholds. Thresholds vary by family size and age of its members. Thresholds are updated annually using the Consumer Price Index for All Urban Consumers (CPI-U).



Figure 4-9: Poverty Rates, 1980 - 2017

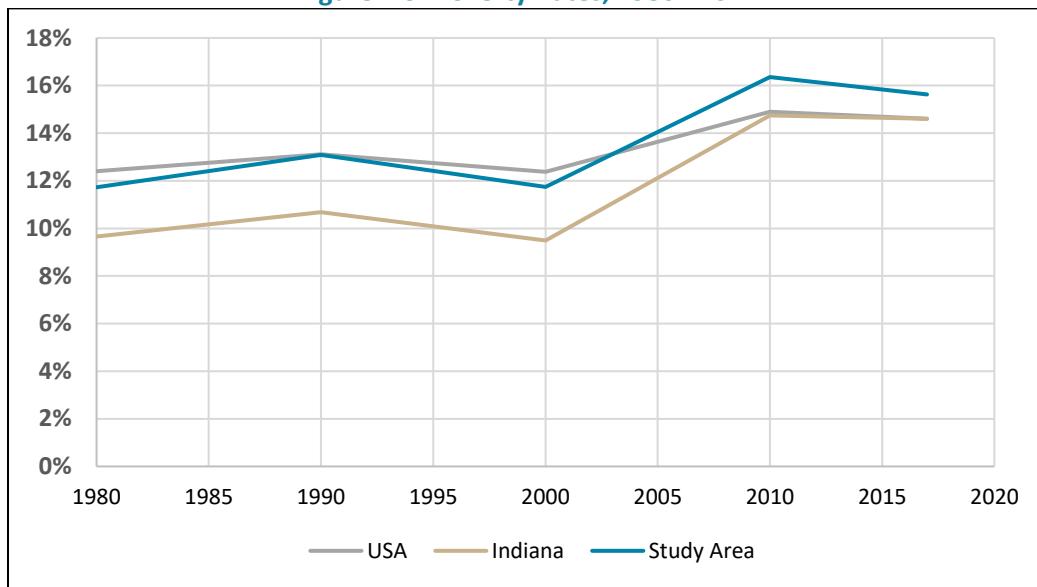


Table 4-8 shows poverty rates by Study Area county in 1980 and 2017. Counties where the poverty rate stayed nearly flat or decreased include Daviess, Martin, Spencer, and Warrick. Spencer had the largest drop in poverty, by 3.7%. Pike had the largest increase in poverty at 9.7%

Table 4-7: Poverty Rates by County, 1980 - 2017

County	Poverty (%) 1980	Poverty (%) 2017	Change in Poverty %
Crawford	6.7%	10.0%	3.3%
Daviess	6.9%	7.7%	0.8%
Dubois	8.8%	11.5%	2.7%
Greene	9.4%	10.6%	1.2%
Lawrence	10.6%	14.5%	3.9%
Martin	10.9%	9.7%	-1.2%
Monroe	12.2%	12.9%	0.7%
Orange	12.2%	13.3%	1.1%
Perry	14.8%	15.0%	0.2%
Pike	15.0%	24.7%	9.7%
Spencer	16.7%	13.0%	-3.7%
Warrick	18.8%	17.8%	-1.0%
Study Area	11.7%	15.6%	3.9%
Indiana	9.7%	14.6%	4.9%
United States	12.4%	14.6%	2.2%

Source: STATS Indiana (www.stats.indiana.edu), US Census, InfoPlease

While there is a range of county-level poverty rates within the Study Area, as a whole its poverty rates have consistently exceeded those for Indiana as a whole. Further, in the last 15 years, the poverty rate in the Study Area has become higher than the United States' rate. This further illustrates the need to support economic development within the Study Area.



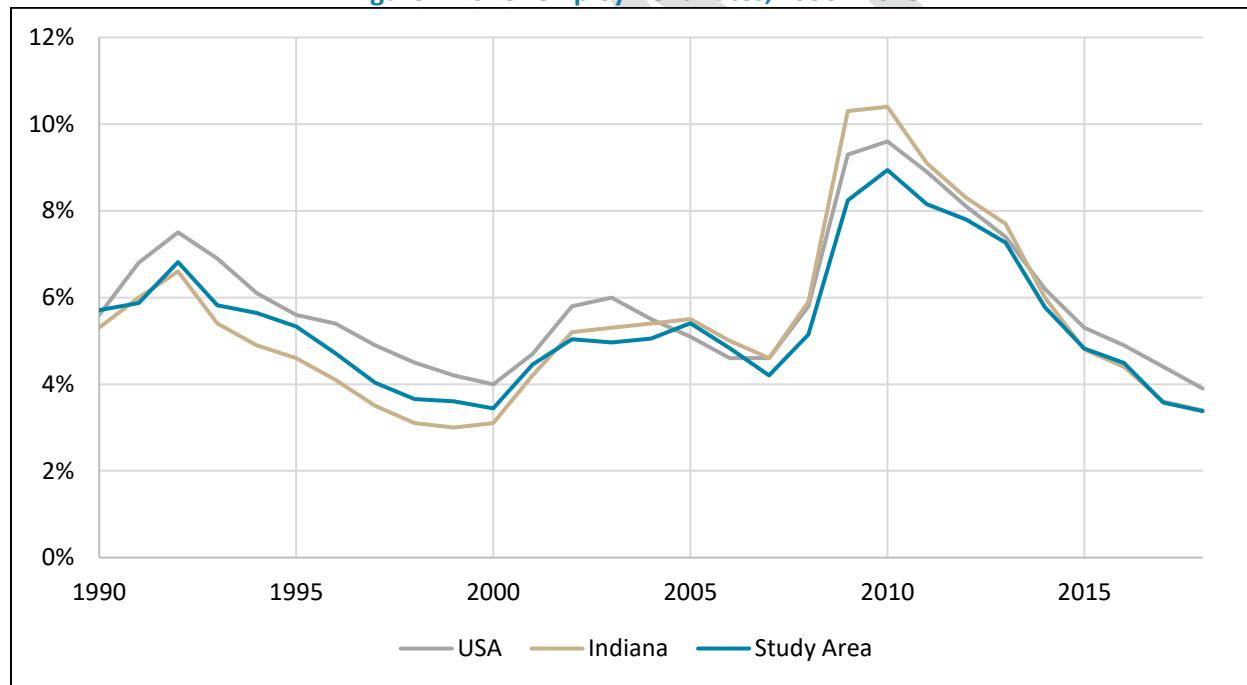
4.2.1.5 Unemployment

Currently unemployment statistics offer fewer insights into regional economic differences within the United States than in the past. Unemployment rates for the United States, Indiana, and the Study Area all are at or below 4%, which U.S. Federal Reserve economists characterize as “full employment.”¹⁰

Figure 4-10 shows trends in unemployment rates in the Study Area, compared with all of Indiana and the United States. The Study Area unemployment rate was higher than that of the state until the mid-2000s. Since that time, unemployment in the study area has been lower than both the state and national averages. However, area business and development leaders (**Section 4.2.2.4**) consistently cite workforce availability as the single largest barrier to business development and economic growth.

Recent year unemployment data reflect national trends toward “full employment” in the economy. Economists generally regard “full employment” as the rate which the economy can sustain without experiencing wage-related inflation.

Figure 4-10: Unemployment Rates, 1990 - 2018



4.2.1.6 Study Area Economic Conditions – Summary

A range of economic indicators show the need to support economic development within the project Study Area.

- **Population trends have lagged behind those in Indiana and the United States.** In the Study Area counties outside of the urban regions of Evansville and Bloomington, population has increased at a rate of 3.1% per decade since 1970. By comparison, population in all of Indiana and the United States increased at rates of 5.4% and 10.4% per decade, respectively.

¹⁰ <https://www.bloomberg.com/quicktake/full-employment>. US. Federal Reserve economists currently put the natural rate of unemployment (which corresponds to full employment) at 4.1% -- 4.7%.



- **Net migration (people moving into the Study Area less those leaving) has been much less than Indiana's rate.** In the Study Area counties outside of the urban regions of Evansville and Bloomington, net migration has been only 2% since 1980, versus 4% in all of Indiana. Five study area counties (Daviess, Martin, Perry, Pike, and Spencer) had **negative** net migration since 1980. This means that more people moved out of these counties than moved in.
- **Per-capita income trends in the Study Area have consistently worsened since 1980.** The Study Area lags behind the rest of Indiana, and lags far below the United States per-capita income. Four study area counties (Crawford, Daviess, Perry, and Pike) experienced **decreased** per-capita income over the last four decades, even as the United States saw a 41% increase in per-capita income.
- **The Study Area has higher poverty rates than Indiana and the United States.** Between 1980 and 2017, poverty rates increased in nine of the 12 Study Area counties.

The ability of transportation improvements to support economic development is well-understood. Federal policies support transportation planning to improve the economic development of rural areas (**Section 2.1**). The current draft INDOT Statewide Transportation Plan supports transportation investments to improve economic competitiveness and quality of life (**Section 2.3**).

The Mid-States Corridor will support economic development in Southern Indiana. The interview summaries in **Section 4.2.2** describe lack of accessibility as the region's primary transportation obstacle to economic development. Highway capacity is not a significant issue (see **Section 4.1.3**).

4.2.2 Regional Business & Economic Input

This section discusses key themes from 18 interviews spanning from June 11 – June 27, 2019 with both businesses and economic development organizations in the 12-county study region. A more detailed summary, including individual interview summaries, are provided in the **Economic Development Appendix**.

These narratives summarize the input provided by interviewees. As such, they are used in conjunction with the technical analyses in the Purpose and Need to determine project goals and performance measures.

4.2.2.1 Economic Significance of Dubois County

Dubois County is a major economic center in Southern Indiana. Several large national corporations are located here, including large furniture manufacturers (OFS Brands, Masterbrand Cabinets, Best Home Furnishings, Jasper Group, Kimball International), two of the nation's leading poultry producers (Wabash Valley Produce, Farbest Foods, Inc.), and other industries with significant employment and economic impacts (Jasper Engines and Transmissions, Jasper Rubber, Meyer Distributing, Kimball Electronics). Access to northern and southern markets has significant logistical handicaps due to design and capacity of US 231. Access to I-64 is inefficient, also due to congestion and unreliability of US 231. Current logistical inefficiencies inhibit business growth and business attraction, lead to unpredictability in delivery times, increase freight costs, inhibit access to Crane Naval Surface Warfare Center and its supporting contractors. Access is limited to intermodal facilities such as large airports, the FedEx center in Indianapolis, the UPS center in Louisville, and rail operations in Indianapolis and Chicago.



4.2.2.2 Poor Safety, Unreliability & Inadequacy of US 231

The existing north/south transportation “spine” for the study region is US 231 from Crane to US 231/SR 66 intersection in Rockport. Most of the 18 interviewees described this road as having poor safety, speed, congestion, and travel time predictability. The majority of US 231 in the study region is a 2-lane road with narrow shoulders, hilly topography, unrestricted county road access, and the presence of slow-moving seasonal farm equipment. These features lead to reduced speed and travel time variability. This severely restricts its use for motor freight.

Concerns also were expressed regarding US 231 in Spencer County. Anticipated development near the current US 231/I-64 interchange at Dale is a safety concern due to nearby at-grade cross road access. The safety analysis (**Section 4.1.1**) showed US 231 in Spencer County has elevated crash rates, even though it was recently upgraded.

4.2.2.3 Lack of North-South Connectivity throughout 12-County Study Area

Counties east of I-69 and west of I-65 generally lack adequate access to northern and southern markets. Dubois County faces challenges due to US 231 constraints outlined previously. Many businesses choose to avoid using US 231 to reach northern markets, and instead go south to I-64 to then go north on I-69 or I-65. This added travel time raises freight costs significantly for businesses. Orange County also faces constraints from visitors traveling from the north and west. The area receives 1,100,000+ visitors a year, a large portion of whom are traveling from within Indiana. A north-south connection in this region could serve as the “missing link” in a major transportation artery connecting Northern Indiana with Kentucky, Nashville, and as far south as Mobile, Alabama.

4.2.2.4 Workforce Availability Issues

Workforce availability and workforce attraction were issues that were cited in nearly every interview. Many stated it was the number one issue which limits business growth and economic development. With one of the lowest unemployment rates in Indiana (2.1%), representatives from Dubois County consistently stated that it has more jobs than people available to work. Similar issues were also cited in Perry County, Daviess County, and at Crane.

Presently commuter access is constricted by the same accessibility issues businesses face in freight deliveries. Increasing the commuter shed expands workforce availability. Decreasing commuting time not only helps in workforce attraction, but also improves the quality of life for those already commuting and aids in workforce retention. Quicker access to urban centers such as Bloomington, Indianapolis, and Evansville are also important in improving quality of life and workforce retention.

4.2.2.5 Housing Availability Issues

Housing availability and workforce attraction are inseparable issues in this region. Manufacturing employers require large numbers of entry-level workers. These entry-level workers typically look for apartments or single-family homes. However, such housing is in short supply due to the lower profit margins and higher financial risks for builders. While it is outside the scope of a transportation project to address, this need is described here because it was cited repeatedly in interviews.

4.2.2.6 Importance of Improved Intermodal Access to Business Expansion & Attraction

Access to large airports capable of providing air freight services, such as FedEx in Indianapolis or UPS in Louisville, provides advantages to businesses. Currently, air freight opportunities for this region are limited by poor connections to intermodal centers. Improved access to rail centers such as Indianapolis and Chicago also would be advantageous to businesses.



4.2.2.7 Effects of Implementation of Electronic Trucking Logs

In December of 2017, trucks made after 2000 were required to switch from paper logs to electronic logging devices. This was intended to keep exhausted drivers off the road and eliminate paperwork costs for motor carriers and law enforcement agencies. This implementation has affected businesses with freight operations differently. Some regional representatives expressed that it has made travel safer because many drivers were running more miles than they should have been. It also is easier to manage and view fleet data. Other businesses expressed that the electronic logs have had unintended consequences. Due to the stricter enforcement of hours of service and required rest time, drivers are traveling more during weekday peak periods, which has led to an increase in serious trucking accidents. Rest time requirements are also forcing drivers to pull off on the side of the road, regardless of how close they are to a rest station or their homes. There is no flexibility with shut downs or short moves. There also has been an increase in retirements by older, experienced drivers, leading to a relative increase in inexperienced drivers. Some businesses, especially those with unpredictable shipping locations and smaller fleet contractors, saw as much as a 50% cost increase in freight shipping.

Added costs and operating constraints have occurred due to this initiative. These costs and constraints make access to multi-lane roads with predictable travel time even more important to business success.

4.2.2.8 Importance of Transportation for Business Attraction

Indiana has an attractive business climate due to relatively low taxation and flexible regulatory practices. The region also is attractive due to its eight-hour travel distance from two-thirds of the US population. Business development specialists attempt to leverage this proximity as a recruiting tool for business attraction.

However good infrastructure is necessary to attract both business and workforce. One of the first considerations in business location decisions is the presence of high-level, multi-lane roads. Regional representatives stated that the combination of poor access/logistics to the north along with the competitive labor market presently discourage business attraction.

5. PUBLIC & AGENCY INPUT

This is a placeholder for input received during the public and agency input process.

6. PROJECT GOALS & PERFORMANCE MEASURES

The following goals and performance measures will be used to evaluate project alternatives in their ability to satisfy the project's Purpose and Need. They are grouped by the individual points in the Statement of Purpose and Need (**Section 1**). The four sections below correspond to the four goals enumerated in **Section 1**.



Certain goals are designated as **core goals**. This designation is based upon the level of need documented for each of these goals, as well as the associated federal and state transportation policies which they support. To be selected, the Preferred Alternative will need to show a significant improvement on each core goal.

Performance measures will be provided using the Mid-States Corridor regional travel model, post-processors which analyze travel model assignments, and the TREDIS economic forecasting model.

6.1 Improved Business and Personal Regional Connectivity in Dubois County & Southern Indiana

Goal 1 – Increase accessibility to major business markets (core goal)

Performance Measures

- Reduction in travel time between Jasper and Indianapolis, Chicago and Louisville.
- Reduction in travel time between NSA Crane and Jasper, Rockport and Louisville.
- Increase in labor force with 30-minute access to Jasper, Crane, Washington, French Lick, and Bedford (increase measured separately for each city).

Goal 2 – Provide more efficient truck/freight travel in Southern Indiana (core goal)

Performance Measures

- Reduction in truck vehicle hours of travel (VHT) in 12-county study area.
- Reduction in truck vehicle miles of travel (VMT) in 12-county study area.

Goal 3 – Reduction in localized congestion within Dubois County

Performance Measures

- Levels of reduced congestion at key locations within Jasper and Huntingburg

6.2 Improved Regional Traffic Safety in Southern Indiana

Goal 4 – Reduce crashes in Southern Indiana (core goal)

Performance Measures

- Reduction in serious crashes (fatal and serious injury) in 12-county study area
- Reduction in total crashes in 12-county study area



6.3 Support Economic Development in Southern Indiana

Goal 5 – Increase Levels of Business Activity within Southern Indiana

Performance Measures

- Increase in regional gross domestic product within 12-county study area
- Increase in total employment within 12-county study area
- Increase in employment in high-wage industries in 12-county study area
- Increase in employment in high-growth industries in 12-county study area

Goal 6 – Increase Personal Economic Well-Being in Southern Indiana

Performance Measure

- Increase in personal income within 12-county study area

6.4 Improve Highway Connections to Existing Major Multi-Modal Locations from Southern Indiana

Goal 7 – Increase access to major rail and air intermodal centers (core goal)

- Reduction in travel time to major rail and air intermodal centers from Jasper
- Reduction in travel time to major rail and intermodal centers from NSA Crane