



TABLE OF CONTENTS

2.1 Process Overview	4
2.2 Scoping and Development of Preliminary Alternatives	6
2.3 Screening of Preliminary Alternatives	14
2.3.1 Screening Approach	14
2.3.1.1 Fatal Flaw	14
2.3.1.2 Phased Assessment	14
2.3.2 Screening of Preliminary Alternatives Findings.....	16
2.3.3 Public and Agency Input	18
2.4 Finalizing Alternatives Carried Forward for Detailed Study.....	19
2.4.1 Evaluation of Eastern and Western Corridor in Dubois County	20
2.4.2 Consideration of Existing Highways for Alternatives Carried Forward.....	22
2.4.2.1 Evaluation of Existing Facility Upgrades for Alternatives	22
2.4.2.2 Consideration of Localized Improvements	25
2.5 Transition to Detailed Analysis of Alternatives	29
2.6 Detailed Performance and Cost Analysis of Alternatives.....	29
2.6.1 Alternative Performance Measures	29
2.6.1.1 Core Goal Performance Measures	31
2.6.1.2 Secondary Goal Performance Measures.....	36
2.6.1.3 Summary of Performance Measures	39
2.6.2 Alternative Costs	39
2.7 Tier 2 Sections	40
2.8 Preview of the Preferred Alternative.....	48

FIGURES

Figure 2-1: Overview of the Environmental Documentation Process.....	6
Figure 2-2: Mid-States Corridor Sections and Families.....	7
Figure 2-3: Seven Study Band Combinations for Section 2 Study Bands	8
Figure 2-4: Nine Corridor Combinations for Section 3 Study Bands.....	9
Figure 2-5: Routes for Preliminary Alternatives formed from Corridor Combinations.....	13
Figure 2-6: Transition from Study Bands to Working Alignments for Estimating Impacts	16
Figure 2-7: Section 2 Breaks	20
Figure 2-8: Comparison of Existing Transportation Corridors in Relation to Alternatives	24
Figure 2-9: Local Improvement Elements.....	28
Figure 2-10: Build Alternatives Carried Forward into Detailed Analysis	30

TABLES

Table 2-1: Routes for Preliminary Alternatives formed from Corridor Combinations 11

Table 2-2: Working Alignment Buffer Widths for Facility Types 15

Table 2-3: Comparison of Section 2 Impacts Between Eastern and Western Corridors 21

Table 2-4: Comparison of Eastern and Western Corridor Purpose and Need Performance..... 22

Table 2-5: Local Improvement Elements 27

Table 2-6: Reduction in Travel Time Between Business Centers and Key Destinations 32

Table 2-7: Increase in Labor Force with 30-Minute Access to Key Study Area Employment Centers..... 32

Table 2-8: Annual Savings in Truck VHT 33

Table 2-9: Travel Time Reduction to Key Intermodal Centers..... 33

Table 2-10: Peak Period Congestion 2045 Forecast Year (Dubois County, all vehicle types) 37

Table 2-11: Local Improvements Travel Time Savings 2045 Forecast Year
 (Dubois County, all vehicle types) 37

Table 2-12: Annual Crash Savings For Local Improvements, 2045 Forecast Year 37

Table 2-13: Economic Performance Measures 38

Table 2-14: Construction Cost by Alternative 40

Table 2-15: Proposed Sections of Independent Utility for Alt B 41

Table 2-16: Proposed Associated Local Improvements with Independent Utility for Alt B 41

Table 2-17: Proposed Sections of Independent Utility for Alt C 42

Table 2-18: Proposed Associated Local Improvements with Independent Utility for Alt C 42

Table 2-19: Proposed Sections of Independent Utility for Alt M 43

Table 2-20: Proposed Associated Local Improvements with Independent Utility for Alt M 44

Table 2-21: Proposed Sections of Independent Utility for Alt O 45

Table 2-22: Proposed Associated Local Improvements with Independent Utility for Alt O 46

Table 2-23: Proposed Sections of Independent Utility for Alt P 47

Table 2-24: Proposed Associated Local Improvements with Independent Utility for Alt P 48



INTRODUCTION

A clearly defined Purpose and Need facilitates the development of alternatives for comparison with their performance against the established goals and their related cost and environmental resource impacts. As outlined in 23 CFR 771.123 (Draft Environmental Impact Statements [DEIS]), a DEIS must evaluate a range of reasonable alternatives and provide documentation of those considered for the study, reasons for elimination from the study and a description of those carried forward for detailed study. A range of alternatives considered must include the No-Build (*also known as the no action*) and should provide consideration of non-highway alternatives, such as Transportation System Management (TSM) and mass transit to address the problem.

This chapter will describe the process for how alternatives were developed, eliminated from further consideration and selected to carry forward for detailed study. Additionally, those alternatives carried forward will be described in detail. **Chapter 3, Environmental Resources, Impacts, & Mitigation** will provide the detailed information for impacts to environmental resources for the alternatives carried forward. Each section of this chapter will capture a principal milestone in the progression of the project, from initiating consideration of alternatives to the identification of a preferred alternative:

- **Process Overview (Section 2.1).** Due to the complexity and broad scale of the project, it was initiated as a Tiered Environmental Document. This process impacts the level of detail included in each tier and how approvals occur. This section will identify the justification for selecting a tiered approach and the objectives within each tier.
- **Scoping and Development of Preliminary Alternatives (Section 2.2).** Determining alternatives appropriate for consideration must include a strong level of input from resource agencies and the public, in addition to a thorough review of environmental resources. This section will summarize the information used and steps taken to scope the project and develop preliminary alternatives.
- **Screening of Preliminary Alternatives (Section 2.3).** Refinement of alternatives continues through the length of project development; however, a process must be defined specific to the Mid-States Corridor for screening out ultimately unreasonable alternatives. This section will summarize how the screening criteria were established, identify those alternatives which exhibited “fatal flaws” and those alternatives which warranted continued investigation.
- **Selection of Alternatives Carried Forward (Section 2.4).** Screening alternatives is a multi-step process, and with each step the level of analysis increases. Ultimately, the screening must lead to the selection of a reasonable number of alternatives that can be carried forward for detailed analysis. This section will identify the alternatives carried forward and adjustments made after the preliminary screening occurred.
- **Detailed Impact Analysis (Section 2.5).** Preliminary alternatives are assigned broad footprints to provide an efficient way to identify corridors with higher densities of sensitive resources, which may be harder to avoid. Those alternatives selected for detailed analysis are refined to narrow their footprint and include further engineering design to present a corridor with more representative volumes of impacts. This section will briefly summarize and compare the findings of impacts which are presented in greater detail in Chapter 3.
- **Detailed Performance and Cost Analysis (Section 2.6).** The detailed impact analysis summarizes the potential negative impacts to environmental resources resulting from each alternative. This section will summarize the estimated benefits generated by enhancing the transportation infrastructure, and further evaluate the lifecycle costs for each. The analysis of benefits includes factors such as travel times and regional economic impact.



- **Sections of Independent Utility (Section 2.7).** A regional corridor project such as Mid-States would not feasibly be constructed all at once if a build alternative is determined to be the preferred. Each alternative must be evaluated to determine reasonable sections that could be fully funded, designed and constructed. This section identifies the division of each alternative carried forward for detailed analysis into sections of independent utility (SIUs).
- **Preview of Preferred Alternative (Section 2.8).** *Chapter 5, Comparison of Alternatives*, will present the full details of the preferred alternative; however, this section will preview the decision regarding its selection.

2.1 PROCESS OVERVIEW

Transportation planning is a requirement under federal law for states to be eligible to receive funds from the U.S. Department of Transportation (USDOT). Each state must develop and maintain a Statewide Transportation Improvement Plan (STIP) in cooperation with the Transportation Improvement Plans (TIP) prepared by the Metropolitan Planning Organizations (MPO) within the state. A STIP is required to cover a period of at least four years, be updated at least every four years and include regionally significant projects regardless of whether they are receiving federal funds.

An important connection exists between the STIP, and the environmental review process being conducted on the Mid-States Corridor. Projects included in the STIP must be fiscally constrained, meaning the state is required to include sufficient financial information to demonstrate the projects within can be implemented. The Mid-States Corridor is currently receiving no federal funds, but is considered a regionally significant project; thus, will be included in the STIP prior to approval of the Record of Decision. This project must remain fiscally constrained for implementation.

The National Environmental Policy Act (NEPA) established the framework to consider how federal actions may have an impact on the environment. From this framework, the Council on Environmental Quality (CEQ) created the three levels of environmental reviews, which are EIS, Environmental Assessments [EA] and Categorical Exclusions [CE]. Additionally, the CEQ provided the opportunity for major transportation actions processed as an EIS to be tiered (40 CFR 1508.28: Tiering). Tiering separates the broader issues such as selection of the general location and mode choice in Tier 1 from the more detailed site-specific impacts in Tier 2. For large, complex transportation projects tiering is beneficial for both the lead federal agency providing approval and the lead state agency planning the transportation improvement.

The Study Area for the Mid-States Corridor covers 12 counties. Without using tiering, this DEIS would need to conduct detailed field studies over much of the Study Area. The DEIS also would need to develop more detailed engineering plans for all the alternatives carried forward. These more detailed plans would need to provide a final alignment with an associated construction footprint. These activities would greatly increase the project costs and schedule. With tiering, the Tier 1 DEIS allows the focus to be on approving the Purpose and Need and determining the most appropriate corridor. Environmental studies remain in Tier 1; however, they are primarily a compilation of available public information and higher-level field reviews. The purpose in Tier 1 is to obtain enough information to present reasonable estimates for comparison of alternatives in the decision-making process. If the outcome of Tier 1 is a build alternative, then Tier 2 environmental documentation will continue and capture the specific volume of impacts within the selected corridor as the engineering design is refined. Tier 1 can only provide an estimate of impacts. This process allows the lead federal agency to determine if the action is warranted or whether the range of impacts of the build alternatives would result in the selection of the No-Build Alternative.



A component of tiering is conducting an analysis for Sections of Independent Utility (SIUs) that will be associated with Tier 2. For transportation projects being implemented at a regional scale, it is neither fiscally practical nor logistically feasible to construct all sections concurrently. After a build alternative is selected within a Tier 1 EIS, the corridor can be evaluated for identification of SIUs. An SIU is a portion of the overall project that can function without further construction on an adjoining road. Each SIU provides distinct value and require their termini to be logical; however, this acknowledges construction of a project at this scale will occur over a broader period of time. Returning to the requirement for implementation of the projects listed in the STIP, the use of a tiered approach allows for the Tier 2 projects to be programmed over a long-range planning period. Each Tier 2 project remains fiscally constrained and requires its own NEPA clearance; however, they are individually progressed forward and not included in the STIP until their funds are programmed. Spacing the projects also assists the resource agencies with impact evaluations and mitigation requirements, because there may be more than 10 years between some Tier 1 and Tier 2 documents. This ensures the information, coordination and commitments do not become outdated for the project.

Coordination between the Federal Highway Administration (FHWA) and Indiana Department of Transportation (INDOT) resulted in the determination of the Mid-States Corridor as appropriate for processing as a tiered EIS. The preliminary goals of the Tier 1 DEIS established in the scoping phase were to determine:

- a continuous corridor for the entire project,
- a facility type (fully access-control interstate freeway, partial access expressway, or a “Super-2” rural arterial)¹,
- how it will connect to I-69 and
- the number of SIUs, their logical termini and prioritization for Tier 2 staging.

If INDOT and FHWA determine a build alternative is the preferred, the Record of Decision (ROD) for the Tier 1 EIS would provide a geographically defined corridor for the project. The Tier 2 projects would develop an alignment and construction footprint within that corridor for determining environmental impacts. The anticipated level of environmental documentation, EIS, EA or CE, for each Tier 2 project would be determined later. Resource agencies were to be engaged during the Tier 1 process, and all environmental commitments made in Tier 1 are carried forward to Tier 2.

The overall process used for completion of this Tier 1 EIS can be divided into three primary levels of review actions: Scoping, Screening and Analysis (**Figure 2-1**).

¹ Section 2.4 will explain the decision to select a facility type was later deferred to Tier 2. It also explains that freeways were removed from consideration as a facility type.

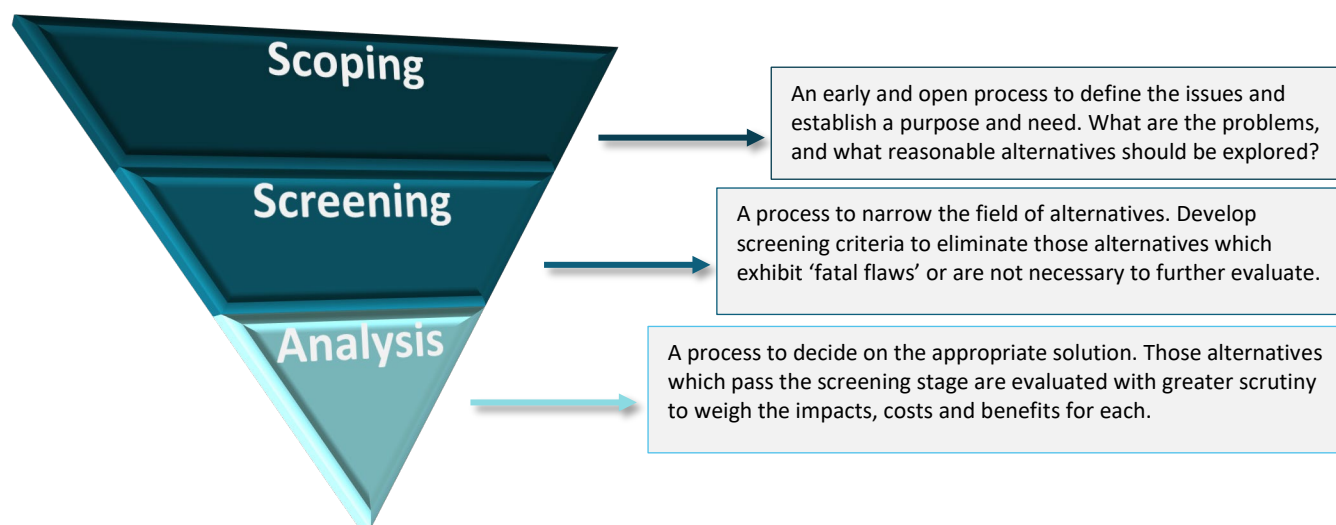


Figure 2-1: Overview of the Environmental Documentation Process

2.2 SCOPING AND DEVELOPMENT OF PRELIMINARY ALTERNATIVES

The project is intended to improve the transportation linkage of US 231 between SR 66 and I-69 in Southern Indiana. The Notice of Intent (NOI) was published in the Federal Register on July 5, 2019. Scoping for the project involved a robust review of previous studies, agency coordination and public outreach. The Preliminary Alternatives Development report is included as **Appendix C** of this EIS and includes a summary of all information reviewed and input received for the development of the conceptual corridors. The review of previous studies included four key items: *Conexus Indiana Southwest Regional Council – A Plan for Growing Southwest Indiana’s Logistic Sector* (2015); *Blue Ribbon Panel on Transportation Infrastructure – Final Report to Governor Pence* (2014); *I-67 Corridor Feasibility Study* (2012); and *US 231 Jasper/Huntingburg – 2004 DEIS and 2011 SDEIS*. A large amount of information was gathered from stakeholders, resource agencies and the public through the scoping process. The compilation of information from the previous studies and scoping input was used to prepare a Purpose and Need statement and generate/modify conceptual routes.

Geographically, the overall study area presented three distinct sections for consideration of alternatives (**Figure 2-2**):

- **Section 1 - SR 66 to I-64.** This section is within Spencer County where US 231 was upgraded to a four-lane expressway which opened to traffic in 2011. This section did not warrant consideration of new alignment. Any recommendations for build alternatives would be limited to spot improvements for access management.
- **Section 2 - I-64 to roughly CR 600N in Dubois County.** This section is predominantly within Dubois County and considers north-south mobility through and/or around Huntingburg and Jasper.



- **Section 3 - Dubois County to connection points accessing I-69.** This section includes the northern terminus for potential alternatives, but it covers a wide area where connection points to I-69 may occur to the west, north, or east. The location of the terminus influences the communities more directly served, the area of Section 3 was subdivided into Northwest, North Central and Northeast Families. The Northwest includes parts of Pike and Davies counties; the North Central includes parts of Daviess and Martin counties; the Northeast includes parts of Orange and Lawrence counties.

Although there are three distinct sections, new corridors were only developed for Sections 2 and 3. A single corridor representing the existing alignment of US 231 will be used for Section 1. While Section 1 will ultimately include evaluation for transportation improvements, they will be localized projects determined as part of Tier 2. The development of preliminary alternatives focused on receiving input for corridors separately for Sections 2 and 3. After corridors in each section were established, combinations of corridors between the three sections were created to form a single route between the termini.

Except for the existing US 231 facility, each corridor at the scoping level was composed of a two-mile wide study band for evaluation of resources and placement of a reasonable roadway alignment. The scoping phase included some pre-screening of conceptual corridors such as fatal flaws or creation of indirect travel. Fatal flaws involved concepts which did not meet the project's Purpose and Need and/or would have the potential for major impacts to key sensitive resources when other similar concepts would avoid those resources. The fatal-flaw pre-screening removed conceptual corridors from Sections 2 and 3 prior to the formation of routes, while the indirect travel pre-screening removed routes as the corridors were generated.

Removal of corridors related to indirect travel was associated with a combination of suggested corridors which would result in the formation of a route that produced illogical movement. The scoping activities resulted in seven study bands in Section 2 and nine in Section 3 (**Figure 2-3** and **2-4**). An example of a route that would result in indirect travel would be corridor E-1 in Section 2 combined with corridors W-1 or W-2 in Section 3. The resulting route would have to travel north around Huntingburg and Jasper only to turn west and south around Jasper to connect to Section 3.

These 16 study bands, plus the US 231 corridor in Section 1, were considered appropriate for use in the development of logical routes. The various combinations were formed, and each assigned a letter designation. Of the 18 end-to-

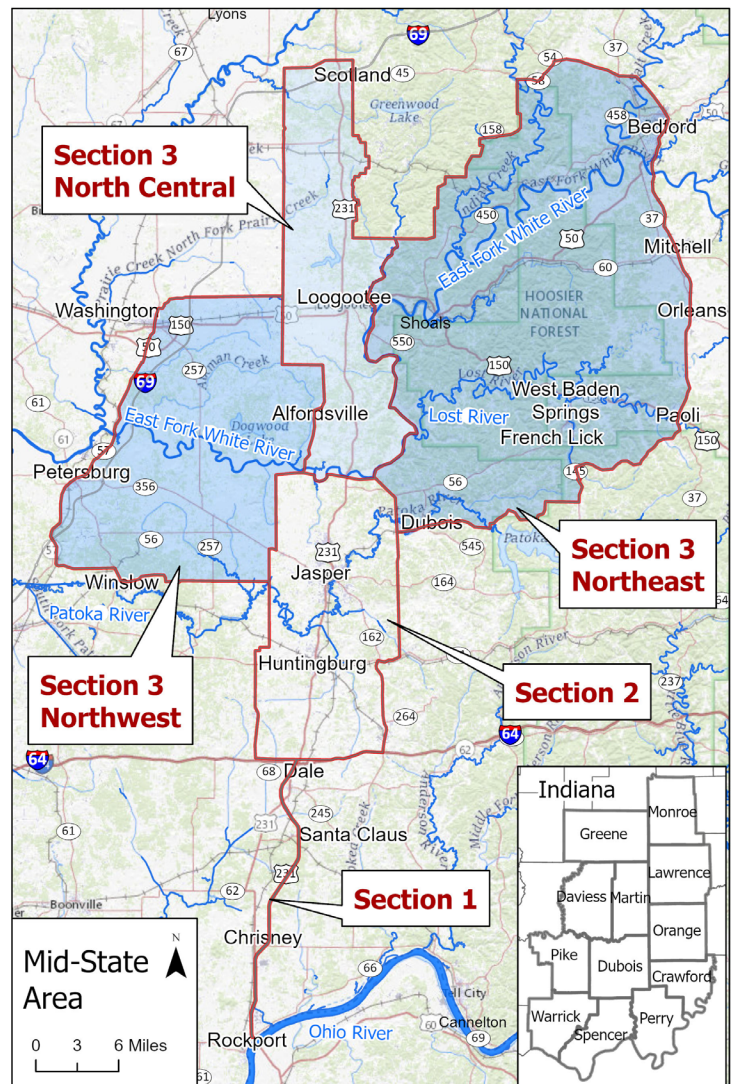


Figure 2-2: Mid-States Corridor Sections and Families

Draft Environmental Impact Statement



**MID-STATES
CORRIDOR**

end routes, 10 were recommended to be considered preliminary alternatives to move forward into the screening level (**Table 2-1, Figure 2-5**). The recommendations in the Preliminary Alternatives report included consideration of facility type to be evaluated in the screening process. It recommended evaluation of all three types of facilities for all routes except the US 231 upgrade, Corridor R. The consideration of both the route and facility type resulted in the recommendation to evaluate 28 preliminary alternatives from the 10 routes. Nine routes were evaluated for three facility types and the existing US 231 upgrade as a Super-2 only.

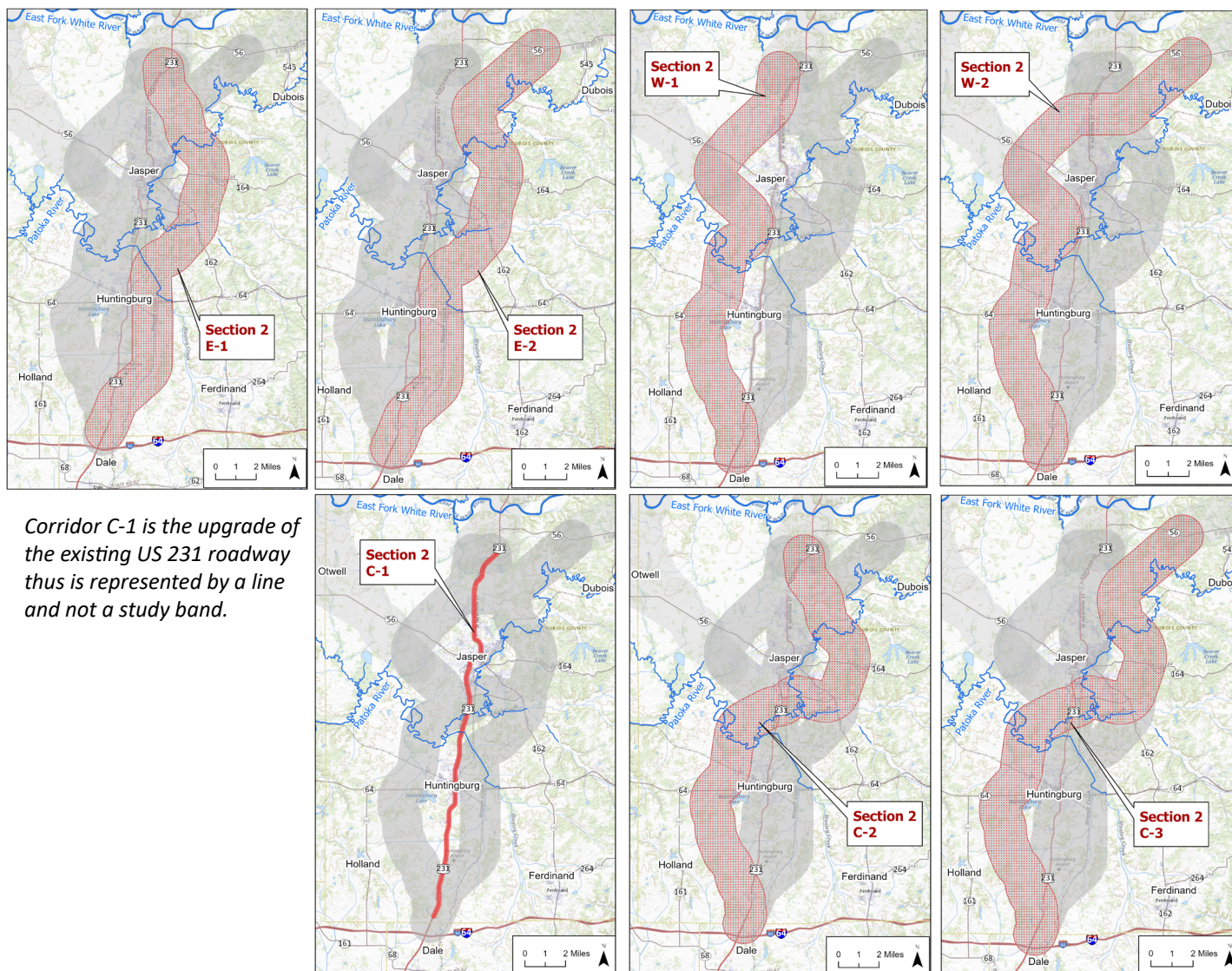


Figure 2-3. Seven Study Band Combinations for Section 2 Study Bands

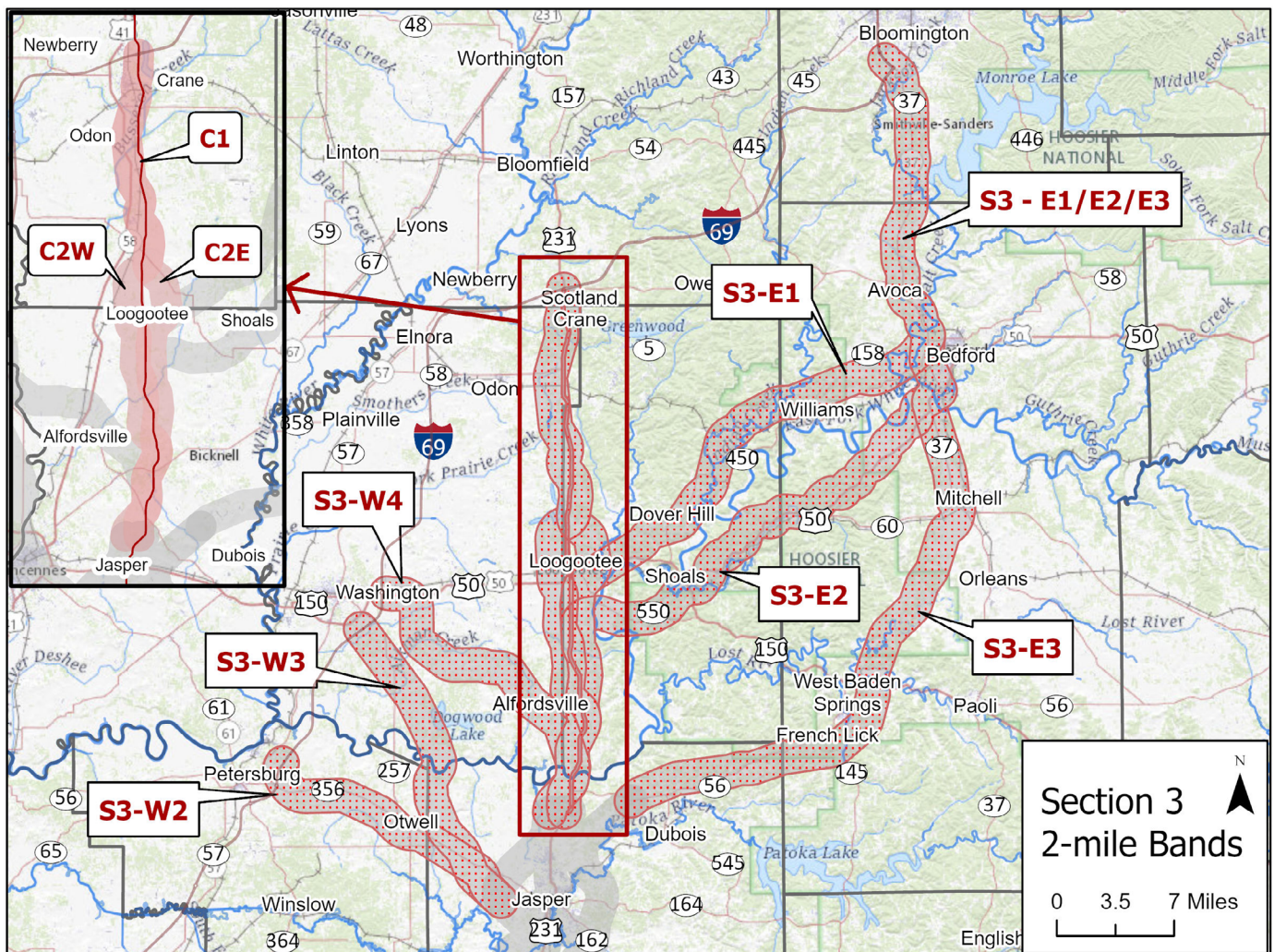


Figure 2-4: Nine Corridor Combinations for Section 3 Study Bands

The routes of potential alternatives formed were grouped into the three families within Section 3 based on their northern terminus. The Northwestern routes connect into I-69 west of Loogootee. The North Central routes connect into I-69 north of Loogootee near Crane. The Northeastern routes connect to I-69 via SR 37 east of Loogootee. The routes associated with each family are as follows and are shown in **Figure 2-5**:

- **Northwest Family = A, B, and C**
 - **Alternative A** extends 32 miles from I-64/US 231 to I-69 near Petersburg. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the west, avoiding developed areas near these cities. It then continues northwest either using, or paralleling, the existing SR 56 and SR 356 alignments. This alternative connects to I-69 using right-of-way that was previously acquired for an I-69 interchange that was never constructed.
 - **Alternative B** extends 34 miles from I-64/US 231 to I-69 near Washington. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the west, avoiding developed areas near these cities. It then continues northwest on a new route west of Glendale Fish and Wildlife Area and connects to I-69 at a new interchange south of the US 50 interchange.



- **Alternative C** extends 42 miles from I-64/US 231 to I-69 at the existing US 50 interchange. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the west, avoiding developed areas near these cities. It then continues northwest on a new route, east of Glendale Fish and Wildlife Area and connects to I-69 at the existing US 50 interchange, using a portion of US 50 east of the interchange.
- **North Central Family = G, K, P, and R**
 - **Alternative G** extends 55 miles from I-64/US 231 to I-69 at the existing US 231 interchange. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the west, avoiding developed areas near these cities. It then continues north, parallel to and west of the existing US 231 alignment. This alternative bypasses Loogootee to the west and West Boggs Park to the east and ends at the existing I-69 interchange at US 231.
 - **Alternative K** extends 56 miles from I-64/US 231 to I-69 at the existing US 231 interchange. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg to the west and Jasper to the east, using the existing US 231 and SR 162 alignments where possible. It then continues north, mostly parallel to the existing US 231 alignment. This alternative bypasses Loogootee and West Boggs Park to the east and ends at existing I-69 interchange at US 231.
 - **Alternative P** extends 54 miles from I-64/US 231 to I-69 at the existing US 231 interchange. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the east, avoiding developed areas near these cities. It then continues north, parallel to and east of the existing US 231 alignment. This alternative bypasses Loogootee to the east and ends at the existing I-69 interchange at US 231².
 - **Alternative R** extends 52 miles from I-64/US 231 to I-69 at the existing US 231 interchange. This alternative begins at the I-64/US 231 interchange and follows the existing US 231 route, going through Huntingburg, Jasper and Loogootee. This route uses the existing US 231 corridor. The route will be evaluated for the Super-2 facility type only. It would not be possible to construct an expressway or freeway through Huntingburg, Jasper and Loogootee and maintain appropriate design speeds without unacceptably high impacts.
- **Northeast Family = M, N, and O**
 - **Alternative M** extends 62 miles from I-64/US 231 to SR 37 near Bedford. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the east, avoiding developed areas near these cities. It then continues north, mostly parallel to the existing US 231 alignment. It bypasses Loogootee to the east and continues northeast either using or paralleling the existing SR 450 alignment. It continues to SR 37 at Bedford.
 - **Alternative N** extends 44 miles from I-64/US 231 to SR 37 near Bedford. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg to the west and Jasper to the east, using the existing US 231 and SR 162 alignments where possible. It then continues north, mostly parallel to the existing US 231 alignment. South of Loogootee it goes northeast along the SR 550 and US 50 corridors. It continues to SR 37 south of Bedford.

² Alternate P at this stage in the project only contains the eastern bypass of Loogootee, Alternate Q which was the combination of the eastern corridor in Section 2 and the western bypass of Loogootee was not recommended to carry forward into the screening stage.



- **Alternative O** extends 51 miles from I-64/US 231 to SR 37 near Mitchell. This alternative begins at the I-64/US 231 interchange and bypasses Huntingburg and Jasper to the east, avoiding developed areas near these cities. It then continues northeast parallel to the existing SR 56 alignment to French Lick. It bypasses French Lick and West Baden Springs to the south and then continues northeast, connecting to SR 37 south of Mitchell.

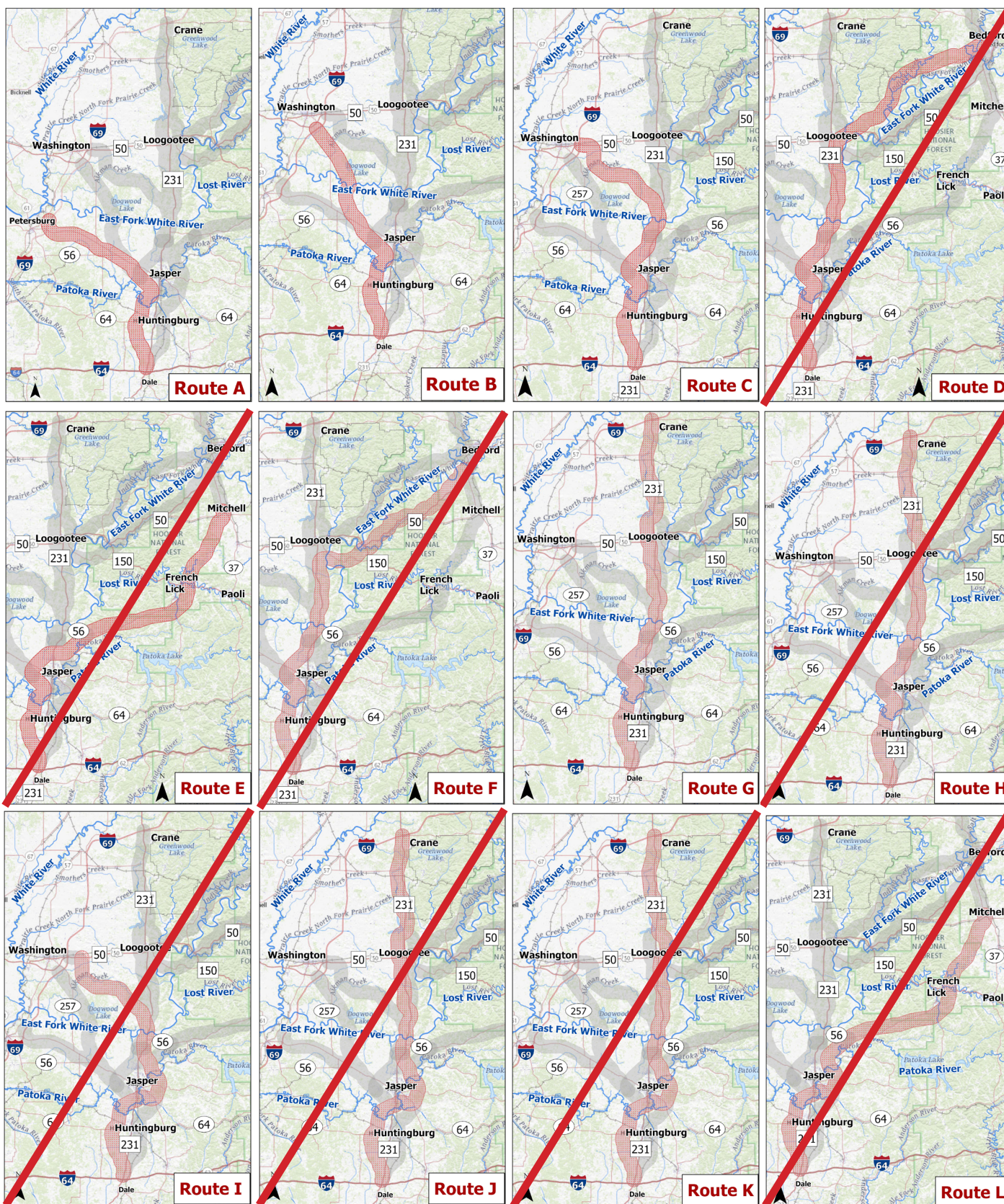
Assigned Route	Corridor References			Recommend for
Name	Section 1	Section 2	Section 3	Further Screening
A	S1-1	S2-W1	S3-W2	Yes
B	S1-1	S2-W1	S3-W3	Yes
C	S1-1	S2-W1	S3-W4	Yes
D	S1-1	S2-W1	S3-E1	No
E	S1-1	S2-W2	S3-E3	No
F	S1-1	S2-W1	S3-E2	No
G	S1-1	S2-W1	S3-C2W	Yes
H	S1-1	S2-W1	S3-C2E	No
I	S1-1	S2-C2	S3-W4	No
J	S1-1	S2-C2	S3-C2W	No
K	S1-1	S2-C2	S3-C2E	Yes
L	S1-1	S2-C3	S3-E3	No
M	S1-1	S2-E1	S3-E1	Yes
N	S1-1	S2-C2	S3-E2	Yes
O	S1-1	S2-E2	S3-E3	Yes
P	S1-1	S2-E1	S3-C2E	Yes
Q	S1-1	S2-E1	S3-C2W	No
R	S1-1	S2-C1	S3-C1	Yes

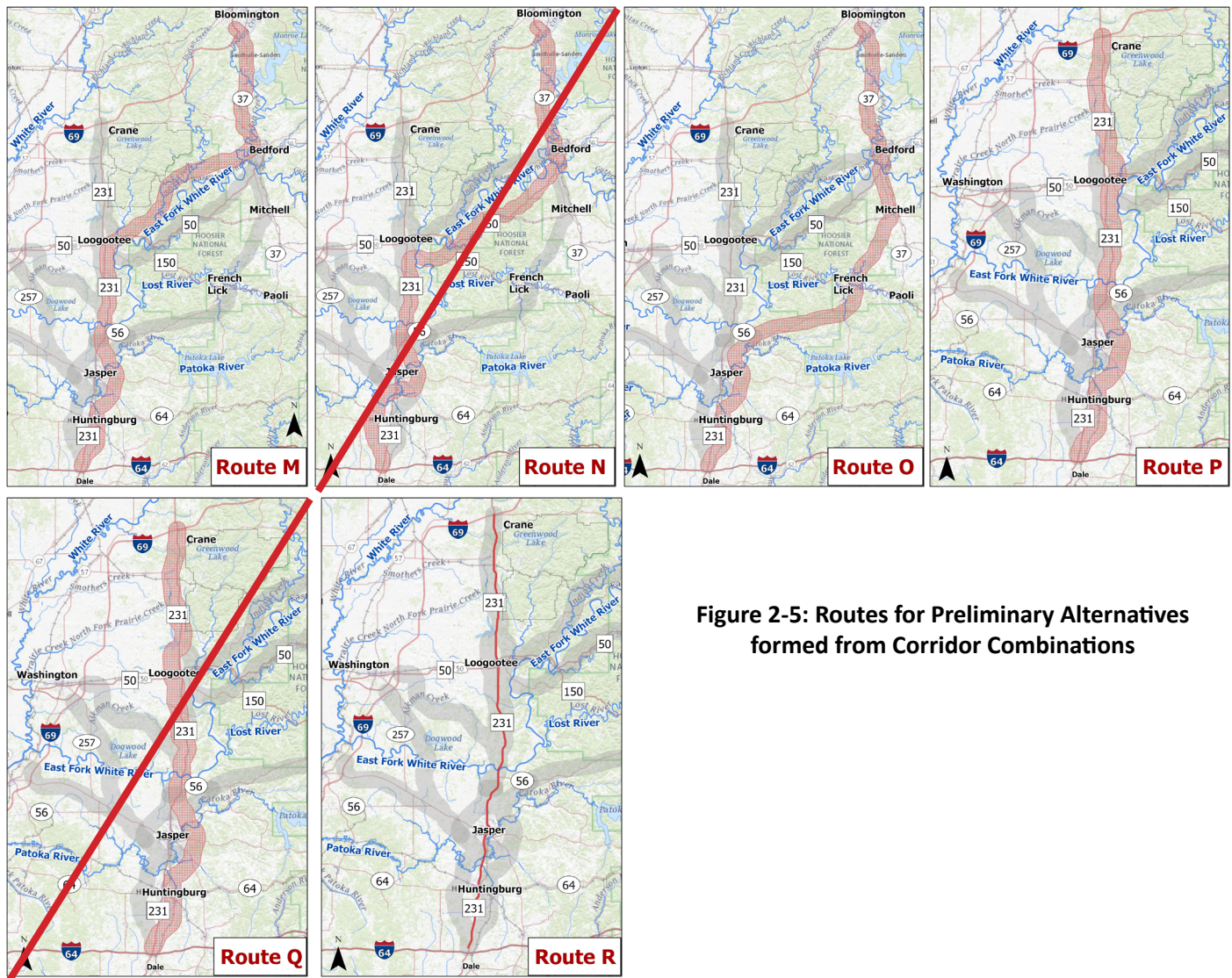
Table 2-1: Routes for Preliminary Alternatives formed from Corridor Combinations

Draft Environmental Impact Statement



MID-STATES CORRIDOR





**Figure 2-5: Routes for Preliminary Alternatives
formed from Corridor Combinations**



2.3 SCREENING OF PRELIMINARY ALTERNATIVES

This section will summarize the findings of the Screenings of Alternatives Report included as **Appendix D** of this EIS. The discussion within the scoping and development of preliminary alternatives section focused on build alternatives; however, a range of non-highway alternatives were also developed and included as part of the screening process. The 10 corridor routes, creating 28 preliminary build alternatives, no build and non-highway alternatives will be covered.

2.3.1 Screening Approach

The screening of alternatives included two primary steps to filter potential alternatives and generate recommendations for which to carry forward for detailed study. The first step is a fatal flaw analysis. The second is a phased assessment analysis.

2.3.1.1 Fatal Flaw

As discussed in Section 2.2, potential build alternatives were pre-screened for fatal flaws that would eliminate them from further consideration. A more detailed fatal flaw analysis was extended to the non-highway alternatives during the screening phase. A fatal flaw analysis was intentionally not applied to the No-Build Alternative as it will always be carried forward regardless of failing. The No-Build must remain the basis for comparison for the build alternatives.

2.3.1.2 Phased Assessment

Each of the preliminary alternatives recommended from the scoping period had passed the fatal flaw analysis and were progressed into a second level of screening. This included a phased assessment using performance measures in reference to the Purpose and Need, Estimated Impacts and Cost Estimates. These measures were evaluated as follows:

Core Goals of the Purpose and Need The Purpose and Need included seven goals (reference Section 1.6). Goals 3, 5 and 6 were not considered core goals and were not used for reference in the phased assessment. Goals 1, 2, 4³ and 7 served as the performance measures. They were: increase accessibility to major business markets; provide more efficient truck/freight travel in Southern Indiana; reduce crashes at key locations in Southern Indiana;⁴ and increase access to major intermodal centers from Southern Indiana. The analysis evaluated performance based on regional traffic forecasting and comparing the 2045 model between a build and No-Build alternative. The comparison for build alternatives did not include any potential induced growth due to economic development that may occur from a build condition.⁵

The large number of route and facility type combinations made it impractical to provide traffic assignments for all possible combinations. To provide meaningful comparison, a split approach was taken in the analysis. A traffic assignment was conducted for the expressway facility type for all alternatives. However, traffic assignments for the Super-2 and freeway facility types were reduced to one alternative within each route

³ See Chapter 1 for further detail, Goal 4 was reduced to a secondary goal after the screening report was released.

⁴ This is Goal 4 as stated at the time of the Screening of Alternatives. Subsequently this goal was revised. See **Section 1.5** and **Section 6.2**.

⁵ Induced growth was considered later as part of alternatives carried forward for further study, but not at the screening stage.



family (Northwest, North Central and Northeast) assuming variations in performance by facility type would be similar within each family. From this, ratios of performance measures among the facility types were applied to estimate performance for all routes in each route family.

For example, in a given family, Route X had traffic assignments for all three facility types. Suppose further that Route X showed 1,000 annual truck hours saved for the Super-2 facility type, 2,000 annual truck hours saved for the expressway facility type and 3,000 truck hours saved for the freeway facility type. Routes Y and Z in the same family had traffic assignments for only the expressway facility type. For Routes Y and Z, truck hours saved for the Super-2 facility type were estimated by multiplying the savings for the expressway facility type by $(1,000/2,000) = 0.5$. For Routes Y and Z, truck hours saved for the Super-2 facility type were estimated by multiplying the savings for the expressway facility type by $(3,000/2,000) = 1.5$ (please refer to the Screening of Alternatives Report and Purpose and Need for additional details).

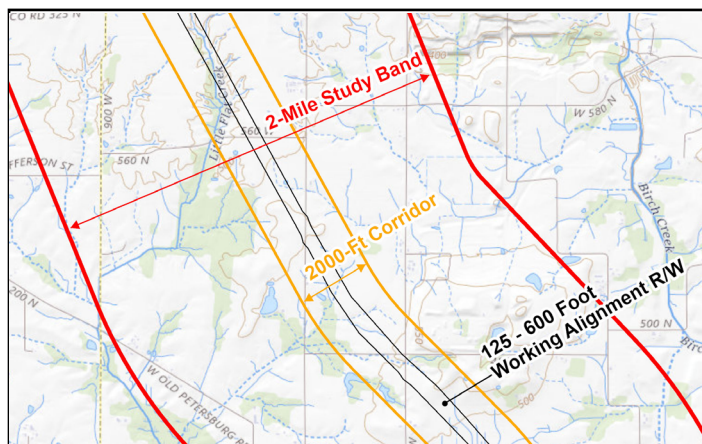
Estimated Impacts. A ‘working alignment’ was created within each study band and assigned a disturbance buffer as an impact zone for use in estimating potential impacts that could reasonably be expected to occur as a result of its construction. A working alignment references a generic centerline of a roadway. The buffers represent the total footprint covering the centerline (e.g., a 400-foot buffer extends 200-foot on both sides of the centerline to create a 400-foot impact zone). **Table 2-2** summarizes the buffer widths associated with each facility type and **Figure 2-6** presents a general representation of the transition from the two-mile study band to a working alignment. To reflect the variation which occurs between rural/urban land use and flat/hilly topography, different buffer widths were applied depending on the terrain. The key resources evaluated included: wetlands, floodplains, karst areas, residential buildings, commercial buildings, managed lands (natural areas), cultural resources, forests and protected species.

Cost Estimates. Construction costs for each alternative were calculated on a unit cost basis that considered facility type and terrain. The estimates included only construction costs and excluded additional costs such as right-of-way, relocations, design, construction management, utility relocation and contingencies. The construction costs were determined using previously constructed projects similar to the facility types being analyzed.

The chosen approach to the phased assessment limited the comparison to within each of the three families. The purpose was to select the top performing alternatives from within the families to ensure at least one representative from each family was carried forward for detailed study. This serves to evaluate a geographically diverse set of alternatives. It also provides a broader range of interests and viewpoints from the affected communities as the families would have stronger influences over different areas. The Northwest Family would more directly influence Petersburg and Washington, North Central would affect Loogootee and Crane and Northeast would affect Bedford and Mitchell.

Facility Type	Roadway Buffer Width Applied
Freeway & Expressway in Rural Hilly Terrain	600'
Super-2 in Rural Hilly Terrain	500'
Freeway & Expressway in Rural Flat Terrain	400'
Freeway & Expressway in Urban Flat Terrain	350'
Super-2 in Rural Flat Terrain	300'
Super-2 in Urban Flat Terrain	125'

Table 2-2: Working Alignment Buffer Widths for Facility Types



A two-mile study band was generated for evaluating resources and consideration of where a reasonable working alignment could be placed. For the screening report a center line for a potential roadway alignment was created, and depending on the terrain, land use and facility type, buffers of set distances were placed along the alignment to estimate impacts to resources. For alternatives carried forward after the screening report, the working alignment was further refined and provided more accurate construction footprints to estimate impacts. A selected build alternative would have a 2,000-feet corridor placed around the alignment as the corridor for Tier 2 design/studies.

Figure 2-6: Transition from Study Bands to Working Alignments for Estimating Impacts

2.3.2 Screening of Preliminary Alternatives Findings

The screening process evaluated the 28 build alternatives recommended from the scoping phase, a series of 18 non-highway alternatives and the No-Build alternative. The screening analysis resulted in 10 build alternatives and the No-Build recommended to be carried forward for further detailed studies. The 10 build alternatives represent combinations of facility types across five routes, two from the Northwest, one from the North Central and two from the Northeast Family. The 10 alternatives recommended to be carried forward were:

- Northwest Family
 - Route B as expressway
 - Route C as freeway
 - Route C as expressway
- North Central Family⁶
 - Route P as Super-2
 - Route P as freeway
 - Route P as expressway
- Northeast Family
 - Route M as Super-2
 - Route M as freeway
 - Route M as expressway
 - Route O as expressway

⁶ Only Route P was recommended; however, the screening report determined the variation of impacts associated with the Loo-gootee bypass warranted consideration of the P alternative as containing both an Eastern and Western bypass. This effectively combined Route P and Route Q, of which Route Q had not been carried forward from the preliminary report.



A further description of the complete findings for alternatives evaluated is as follows:

Non-Highway Alternatives An in-depth review of non-highway alternatives is included as an appendix of the Screening of Preliminary Alternatives Report (**Appendix D**). This review included 18 different non-highway alternatives:

- Opportunity Zones
- Tax Abatements
- Tax Increment Financing
- Community Development Financial Institutions (CDFIs)
- Job Training and Workforce Development
- Improving Business Access to Capital
- Revolving Loan Funds
- - Start-ups, Entrepreneurship and Innovation
- Funding for Industrial Development
- Tax Credits and Exemptions
- Urban Enterprise Zones
- United States Department of Agriculture (USDA) Funding and Programs
- Broadband Access and Development
- Energy Efficiency and Sustainability Initiatives
- 21st Century Talent Region
- Transit and Passenger Rail
- Freight Rail
- Autonomous Vehicles

The evaluation concluded all non-highway alternatives failed to meet at least one of the core goals of the Purpose and Need and thus failed the fatal flaw analysis. None of the non-highway alternatives were further considered.

No-Build Alternative The No-Build alternative represents the existing US 231 corridor with the inclusion of routine maintenance activities to preserve the route in its current condition and ongoing or programmed improvements that may influence the traffic on US 231. No current or programmed improvements are present on the US 231 corridor, but the I-69 corridor has two significant improvement projects that will influence regional traffic. These improvements include the new Ohio River Crossing at Evansville and the completion of I-69 between Martinsville and Indianapolis. The I-69 projects will impact traffic regionally; however, these do not address any of the performance measures of the Purpose and Need. Regardless, the No-Build alternative will be carried forward to serve as the basis of comparison with the build alternatives.

Build Alternatives In the Northwest Family (Routes A, B, and C), Route A underperformed in most of the Purpose and Need categories compared to Routes B and C. For this reason, it was not recommended to be carried forward. Route C was the best performer in the Purpose and Need categories, but it is a longer route, and this resulted in more impacts to forests and required more right-of-way. Despite the longer length of C, overall costs were similar and both routes were recommended to be carried forward. With respect to recommended facility types for each route, the freeway and expressway performed better than the Super-2, and the costs for the Super-2 and expressway were similar. Thus, the Super-2 was not recommended to be carried forward for either. Given these alternatives had the shortest length of new terrain roadway of all alternatives, the freeway facility type was considered; however, it was determined only appropriate to recommend for Route C due to higher performance on project goals than Route B. The increased impacts for Route B as a freeway did not outweigh the benefits in performance.

In the North Central Family (Routes G, K, P, and R), Route R was removed from further consideration due to the combination of poor performance in the Purpose and Need and impacts categories. Although Route R remained on existing alignment, it had higher community resource impacts. Route K was removed



from further consideration because it performed similarly to Route P, but it had higher wetland impacts. Under the Clean Water Act, the U.S. Army Corps of Engineers must evaluate for the Least Environmentally Damaging Practical Alternative (LEPDA) for regulated waters. With similar performance to Route P but greater impacts, Route K was eliminated from further consideration. Routes P and G had similar performance in the total impact and cost categories; however, this similarity was in terms of an overall tradeoff in resources impacted. For instance, Route P had more forest and stream impacts while Route G had more wetland and residential. Route P did outperform Route G in three of the four Purpose and Need categories. Given the overall lower performance and higher wetland impacts, Route G was removed from further consideration. The analysis identified a series of trade-offs between performance in the three categories for Route P in consideration of facility type. As such, it was recommended to carry forward all three types for Route P. Additionally, Route P was recommended to be carried forward giving consideration of both the Eastern and Western bypass option of Loogootee within the corridor.

In the Northeast Family (Routes M, N, and O), Route N was removed from further consideration because it performed the worst in all three performance categories. Routes M and O performed similar overall, though they each performed better or worse in different sub-categories. For this reason, both M and O were recommended to carry forward. Route O's best performance measure related to the saving in truck vehicle hours and labor force access, which were more sensitive to the variation between the Super-2 and expressway and freeway. However, Route O had more potential to impact karst resources, and the freeway costs were comparatively higher. For these reasons, only the expressway facility type was recommended to be carried forward for Route O. Regarding Route M, impacts were high for all facility types but there were greater sensitivities observed in the performance measures between freeway and expressway. Trade-offs were observed for each facility type between performance and impacts. Thus, it was determined appropriate to carry all three facility types forward for further study for Route M.

2.3.3 Public and Agency Input

Sections 2.3.1 and 2.3.2 present the information from the Screening of Alternatives Report as it was prepared. The report was released early in 2020 as the public was increasingly aware of the COVID-19 pandemic. Three public meetings, four regional issues involvement team meetings, an agency coordination meeting and bus tour, plus four targeted community/stakeholder meetings, were held prior to the public health declarations and restrictions enacted in late March. See **Chapter 7, Comments, Agency Coordination, & Public Involvement** for more information on engagement activities. The targeted stakeholder meetings were to capture input from two Amish communities, the Huntingburg Airport and a large commercial/industrial farming operation. As the pandemic worsened, traffic patterns and volumes were reduced or altered significantly.

The Mid-States Corridor project schedule was paused as the project team and agencies adjusted to the impacts of the pandemic. During this period, several key decisions were made regarding the alternatives. These decisions incorporated public and agency responses to the Screening Report and adjustment in consideration for what was included with each alternative to provide additional flexibility for Tier 2 project development. Section 2.4 will provide greater detail for these decisions; however, a summary of the input received during the February/March engagement period is:

Public, Including Stakeholders The primary concerns expressed by the public to the various preliminary alternatives focused on access and impacts to property and resources. Access issues related to connectivity to local roads and for agricultural equipment. The Amish communities had additional sensitivity to mobility of non-motorized traffic on and crossing the corridors. Across the Study Area, preference and concerns for



routes were consistent within each community being served. The overall issues were similar within each community, but engagement regarding impacts and benefits tended to align with the proximity of the route to their community.

Agency Those agencies that provided comments specific to corridors consistently requested the Northeast Family be removed from further consideration due to their higher impacts to sensitive environmental resources. Multiple agencies requested both the Western and Eastern corridors around Jasper and Huntingburg be carried forward for detailed study as combinations for the Northwest and North Central route families. Additional key comments were the request to further evaluate alternatives which increase use of existing transportation corridors, and to consider combinations of facility types for individual alternatives.

2.4 FINALIZING ALTERNATIVES CARRIED FORWARD FOR DETAILED STUDY

The extended restrictions and collateral effects of the COVID-19 pandemic significantly impacted economic activities globally and caused altered driving patterns nationally well into 2021. These reductions in vehicle travel resulted in large reductions in motor fuel tax revenue during 2020. The uncertainty regarding how long this pattern would last, or whether further travel reductions would occur, led INDOT to evaluate future capital spending plans. To provide the agency with greater flexibility, two key decisions were made regarding the Mid-States Corridor project: removing consideration of freeways as a facility type and deferring a decision on the selection of facility type, either expressway or Super-2, until Tier 2.

Removing freeways from consideration for this project ensures a reduced capital expenditure and affords further flexibility for localized access. This aligned with a major public comment theme. Costs are an average of 40 percent greater for freeways compared to expressways, requiring greater infrastructure and right-of-way to maintain access control. Freeways have the largest footprint and hence the greatest impacts of all facility types considered.

The deferral of facility types addresses concerns expressed by the resource agencies regarding consideration of facility type combinations. This would afford additional avoidance and minimization options in Tier 2 while also providing a greater range of design options. This approach consolidates the number of alternatives carried forward. However, it requires the analysis to evaluate a range of impacts, cost and benefits to accommodate for both types of facilities within a single route. Consequently, this does result in the modification of nomenclature for reference to routes and alternatives. Prior to these decisions, 'Route' was used to reference the contiguous path between termini and 'Alternatives' were the specific facility types within those routes. For instance, an alternative specifically described the facility type and the route. With deferring the selection of the facility type, the route and alternative become synonymous.

Focusing on flexibility in Tier 2, managing capital expenditure and being responsive to public and agency input resulted in two additional points of analysis, one of which resulted in the inclusion of additional project elements within each alternative. These additional points were:



- Further consideration of Eastern and Western corridors around Jasper and Huntingburg
- Further exploration of existing highways as variations for routes carried forward

2.4.1 Evaluation of Eastern and Western Corridor in Dubois County

As noted in Section 2.3.3, several review agencies requested the Eastern and Western corridors around Jasper and Huntingburg in Section 2 be evaluated as combinations with Section 3 corridors carried forward. This action would have created a considerable amount of additional detailed analysis to account for all potential route combinations. Coordination between INDOT and FHWA resulted in an interim step to conduct further detailed analysis of the Eastern and Western corridors to select a preferred Section 2 corridor.

This interim analysis evaluated costs, impacts and Purpose and Need benefits similar to the screening process but with enhanced analysis. The evaluation did not include all combinations, rather it selected the expressway facility type and evaluated Routes C, P, M and O⁷ with both an Eastern and Western corridor in Section 2. With respect to Route P, only the western Loogootee bypass was used for the comparison. This analysis provided eight combinations of four routes to establish a baseline comparison. To create consistency with reference to the separation of the sections, break points along the working alignments were created generally using the White River as a reference feature to delineate impacts between Section 2 and Section 3. These were generated for all routes recommended to carry forward to provide the ability to evaluate this level of detail on all future analyses (**Figure 2-7**).

Costs, impacts and benefits were assigned scores based upon these criteria.

- When the measures is less than 20 percent between the two corridors, each is given a rating of “- - -”. This corresponds to the performance of the two corridors being relatively equal.

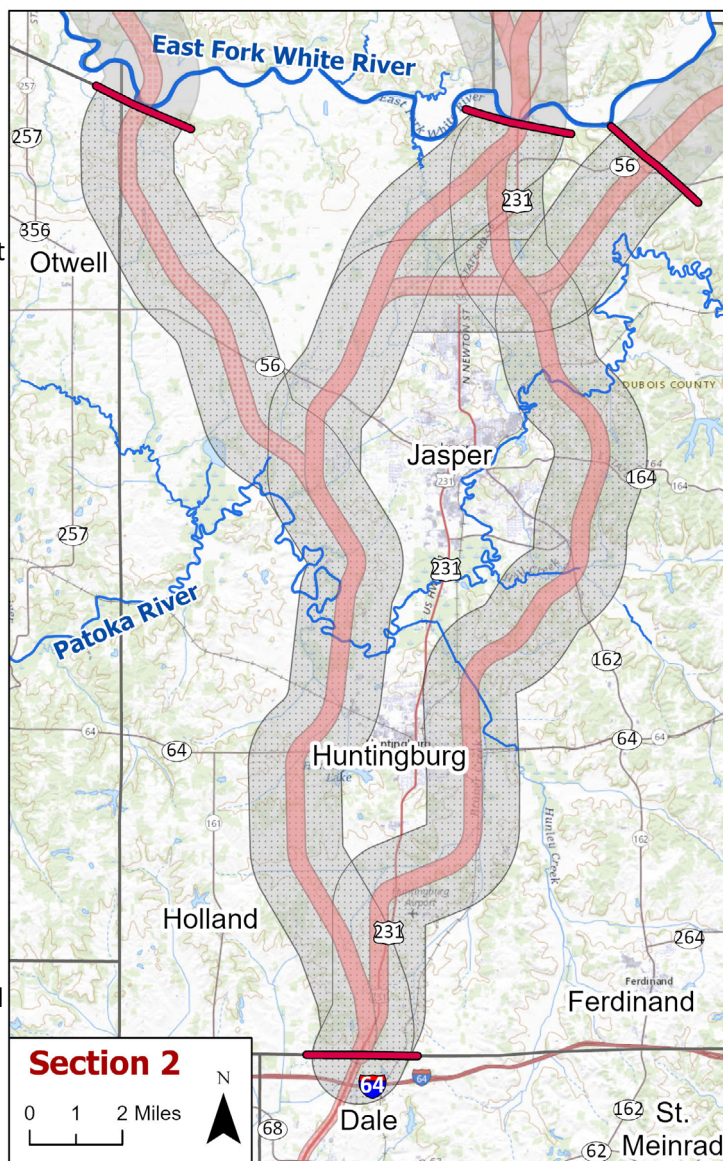


Figure 2-7: Section 2 Breaks

⁷ One or more facility type of these routes were identified as carried forward in the Screening of Alternatives Report. Route B also was identified as carried forward. It was not included in this analysis because it cannot be joined with an Eastern Corridor in Dubois County without additional alignment development. Route B was identified as being analyzed in detail in the DEIS regardless of the findings of this analysis.



- Performance which is between 20 percent and 50 percent better than that for the other corridor is given a rating of W+ or E+. These correspond to the Western/Eastern corridor performance being between 20 percent and 50 percent better than that for the other corridor.
- Performance which is at least 50% better than that for the other corridor is given a rating of W++ or E++. These correspond to the western/eastern corridor performance being at least 50% better than that for the other corridor.

Estimated costs were shown to be near equal and were not a deciding factor to the corridors. The Western Corridor routes had an average construction cost of \$966 million. Costs of Eastern Corridor routes averaged \$1,028 million. For impacts, the analysis differed in three ways from the screening report methodology. Relocations were not differentiated between commercial and residential. Notable and contributing potential cultural resources were added to provide a more robust analysis. And acres of prime farmland was added as a criterion.

The request from the agencies to carry both corridors forward was to maintain documentation of the differences in impacts. Results of the side-by-side analysis found that the impacts were relatively similar, with neither corridor outperforming the other in terms of overall environmental resources (**Table 2-3**). The Eastern Corridor did have approximately 100 more acres of forest impacts, but the Western Corridor had 11 more acres of wetland impacts and almost a mile of additional stream impacts. The Western Corridor also had over 100 acres more impact to prime farmland.

While there was no clear separation between the cost and impact measures, there was a clear difference regarding the Purpose and Need performance measures. The Eastern Corridor strongly outperformed the Western Corridor in almost all categories (**Table 2-4**).

Based on the additional analysis, the decision was made to retain the Eastern Corridor for Routes P, M and O, shift Route C to the Eastern Corridor, but retain the Western Corridor for Route B.

Impact Resource*	Eastern Routes	Western Routes**	Performance ***
New Right-of-Way (Acres)	3,091	3,036	---
Total Parcels with Relocations (Count)	117	121	---
Floodplain Impacts (Acres)	534	465	---
Ponds (Acres)	17	21	E+
Wetland (Acres)	39	50	E+
Streams (Linear Feet)	70,200	75,000	---
Karst Areas (Acres)	234	234	---
Historic Sites (NRHP Listed or Eligible)	1	1	---
Historic Sites (Notable and Contributing Locations)	36	16	W++
Federally Listed Species (Miles within TES buffers)	22	20	---
Managed Lands (Acres)	20	10	W++
Forests (Acres)	1,308	1,104	---
Agricultural (Acres)	1,521	1,648	---
Prime Farmland (Acres)	493	623	E+

*Impacts are reported as averages for combined routes to the east and west

**Excludes Route B which diverts west to I-69

***Assigned weights to denote performance outcome: --- =not strongly separated, X+ =performance edge, X++ =strong performance edge

Table 2-3: Comparison of Section 2 Impacts Between Eastern and Western Corridors



Purpose and Need Factor*	Eastern Routes	Western Routes**	Performance ***
Accessibility, City Pairs (Total Minutes Saved, Six City Pairs)	19	17	---
Labor Force Access (Total Population Added within 30 Minutes, Five Cities)	13,500	8,000	E++
Accessibility, Major Intermodal Facilities (Total Minutes Saved, 12 City-Facility Pairs)	17	6	E++
Annual Truck Hours Saved (Average, Four Alternatives)	37,400	11,100	E++
Job Year Increases (2038 - 2050 – Average, Four Alternatives)	780	570	E+
Increases in Regional GDP (2038-2050 – Average Four Alternatives)	\$60	\$40	E++

*Factors are reported as averages for combined routes to the east and west.

**Excludes Route B which diverts west to I-69

***Assigned weights to denote performance outcome: --- =not strongly separated, X+ =performance edge, X++ =strong performance edge

Table 2-4: Comparison of Eastern and Western Corridor Purpose and Need Performance

2.4.2 Consideration of Existing Highways for Alternatives Carried Forward

The elimination of the freeway facility type afforded the study team opportunity for consideration of route combinations and the use of existing facilities based on elimination of access constraints associated with that facility type. In addition, comments received during both the preliminary alternatives and screening reports included requests for further consideration of improvements to existing facilities over new roadway alignment. For example:

- USEPA's Sept. 12, 2019 comment letter suggested that the project "... add passing lanes, increase shoulder widths, add turn lanes and traffic lights at intersections."
- IDNR's March 27, 2020 comment letter stated, "It is strongly recommended that few new highways be created, while existing highways and major roads are enhanced."
- IDEM's September 12, 2019 comment letter stated, "IDEM prefers alternatives that restrict as much of the project as possible to existing road alignments as the best option for avoiding and minimizing impacts to waters."

Based on these considerations, an additional evaluation was conducted to explore these opportunities.

2.4.2.1 Evaluation of Existing Facility Upgrades for Alternatives

Creating a facility on new alignment has the potential to be less impactful than upgrading an existing roadway network. This is often the case for important subsets of the categories analyzed. NEPA analysis must consider impacts to both the built (human) and natural environment. Whether in an urban or rural area, most commercial, industrial or residential structures are near the roadway. A major facility upgrade includes design parameters that impact the roadway footprint beyond just changing the width of lanes. For example, higher classification roadways require geometry with wider turning radii and tighter allowances on vertical curvature. Meeting the increased roadway standards in certain areas may result in changes to the existing roadway alignment and/or earthwork to cut through hills or fill in valleys. Maintenance of traffic through an existing corridor during construction is another



important factor. Where changes are necessary to the horizontal and/or vertical alignment, the lack of detour options require providing sections of new alignment adjacent to the existing corridor for maintenance of traffic over a long construction period.

Each of the routes developed were primarily based on capturing the traffic patterns of an existing roadway, or combination of existing roadways, increasing their efficiency while balancing impacts. A summary of this is listed below and presented in **Figure 2-8**.

- **Route B** This corridor parallels portions of US 231, SR 56, and SR 257. Shifting the corridor to align with SR 56 and SR 257 added several miles to the corridor and would require bypass of Otwell. The upgraded facilities would increase the number of relocations. Based on these issues, there were few options to incorporate more existing roadways without decreasing performance and increasing certain impacts.
- **Route C** This corridor does not parallel any existing route other than US 231. However, it serves traffic which would use US 50 to access US 231. The corridor combination of US 50 and US 231 was explored as part of the scoping process, but it was eliminated because it increased the mileage of the route and generated a higher level of east-west movement than was desired for the north-south linkage goal.
- **Route P** This corridor generally parallels US 231 for the entire route. High impacts to certain resources were concentrated in the communities along the route. The route uses very little of the existing roadway attempting to avoid urban areas, limit relocations in rural areas and providing geometry that can be conducive to providing access to local roads and property.
- **Route M** This corridor parallels portions of US 231, US 50, and SR 450⁸. SR 450 traverses hilly topography. Its existing alignment would require extensive modification of both horizontal and vertical profiles to satisfy design standards. Additionally, SR 450 is proximate to several waterways which would increase floodplain impacts. This corridor would impact several rural communities, cultural centers and increase relocations. It is in an area with the highest density records for protected/sensitive species. Based on these issues there were few options to incorporate more existing roadways.
- **Route O** This corridor parallels portions of US 231 and SR 56. SR 56 was avoided not only due to potential relocations, but because an extensive portion of SR 56 is in or adjacent to the floodplain of Davis Creek. This route would still need to bypass French Lick and does not have an existing facility to utilize north of Prospect. Based on these issues there were few options to incorporate more existing roadways.

During the development of the Preliminary Alternatives, Alternative R was the only one proposed to be predominantly an upgrade of an existing facility, US 231. US 231 is a state jurisdictional route and offered the most reasonable corridor between the project termini to propose doing so. As described in the Screening Report, it was not feasible to upgrade the roadway to either an expressway or freeway due to the magnitude of impacts to the communities along the route. This meant the facility type upgrades were limited to a Super 2. These restrictions caused the performance of Alternative R to be very low, and it was not advanced for detailed study.

The impacts and performance issues along US 231 were most acute in the Jasper and Huntingburg area in Section 2. With the removal of freeways as a facility type and an increased focus on flexibility, a hybrid alternative for Route P was proposed combining the new alignment in Section 2 paired with upgrades and a Western bypass of Loogootee in Section 3. This hybrid alternative was coined the 'P-231' variation and sought to maximize performance and use

⁸ Route N was eliminated from further consideration because it was similar to Route M but followed US 231 and US 50. Route N had higher impacts, especially to natural resources. Further consideration of Route N using a US 50 corridor would not be advised due to the volume of historically sensitive resources on this route, high quality natural areas and managed lands.

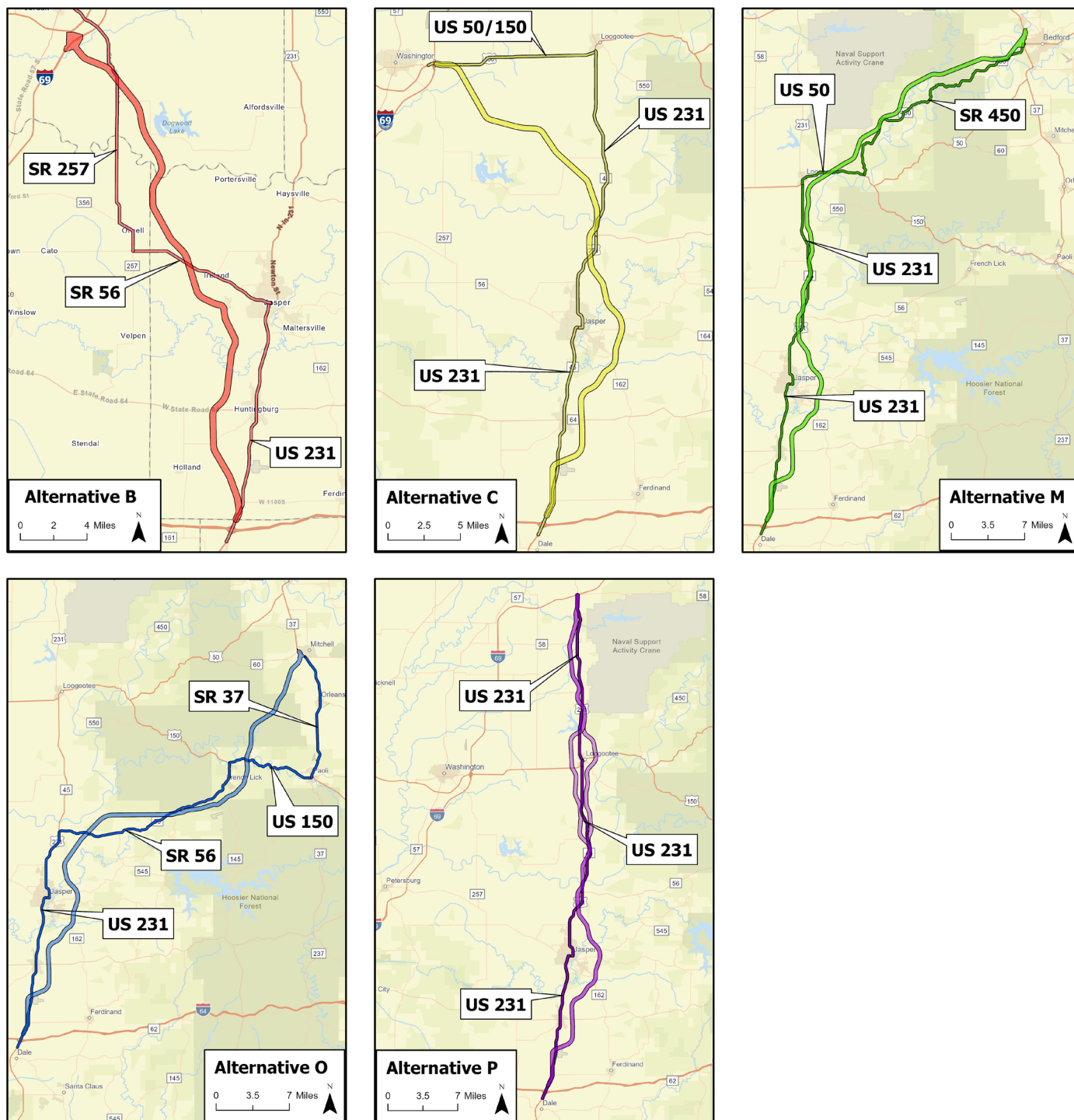


Figure 2-8: Comparison of Existing Transportation Corridors in Relation to Alternatives



of existing roadways while reducing the capital costs and impacts to the greatest extent possible. This variation did reduce many natural resource impacts due to its smaller new right-of-way. However, with respect to the performance limitations, it was found to consistently underperform in comparison to the other alternatives carried forward. This analysis showed underperformance on the measures of increased labor force access and efficiency of freight travel, low performance for the measure of overall travel time savings and only moderate performance on increased access to intermodal centers. The details of the comparative performance on core goal measures for the hybrid P-231 alternative is provided in **Appendix V**.

The hybrid P-231 alternative offered the best opportunity to incorporate a large portion of an existing roadway corridor into an alternative. It still underperformed on core goals compared to other alternatives. A key reason for the poor performance related to the limitations placed on locating the upgrades to existing US 231. An expressway was not considered viable due to the number of relocations it would cause, and the added passing lanes for the Super-2 option were located where impacts could be minimized. The limitations for inclusion of passing lanes reduces the overall performance. Based on the outcome of the hybrid P-231 alternative analysis, INDOT concluded further consideration of incorporating existing roadway corridors into the routes developed was not warranted.

2.4.2.2 Consideration of Localized Improvements

The process of investigating combinations of existing facilities upgrades did identify certain benefits that could be produced in terms of localized safety and congestion for the Mid-States corridor. The study determined localized improvements could be incorporated into the proposed new facility alignments to produce a corridor wide enhancement. This evolved into a two-pronged approach of matching a series of upgrades to existing roadways in conjunction with each of the routes to produce short- and long-term enhancements to the transportation system. These smaller scale upgrades on existing facilities could also be realized faster than the overall project and provide an important interim performance enhancement as the new route is constructed. The localized improvements presented here are illustrative and further project development may result in modifications.

As a major regional transportation project, the Mid-States Corridor project will require major capital investment and an extended schedule to complete. As a Tiered Study, the selection of a preferred build alternative would be divided into multiple Sections of Independent Utility (SIUs). These SIUs will be detailed in **Section 2.7**, but as mentioned in **Section 2.1**, a primary purpose of creating SIUs is to produce a ROD for a preferred corridor that can be fiscally implemented in a responsible manner. Completion of the Tier 2 studies and construction of the SIUs will be asynchronous, not concurrent. This means a portion of the new route will be in operation while others are in stages of planning or under construction. Implementation of selected local improvements to existing roads would increase the performance of the system while the new route is under construction.

Each alternative was evaluated for combinations of localized improvements along existing roadway corridors that would serve to generate performance benefits focused on the secondary goals of the Purpose and Need, safety and congestion relief. Although these improvements would be off alignment for each, they become a part of their associated build alternative. Important features of these system enhancements are listed below and are further defined in **Appendix V**.

- Do not constitute standalone alternatives. By themselves they would not satisfy the core goals of the Purpose and Need.⁹
- Would not be considered part of a No-Build Alternative.

⁹ The selected alternative must show adequate benefits for all core goals. See **Chapter 1 – Purpose and Need, Section 1.5**.

Draft Environmental Impact Statement



**MID-STATES
CORRIDOR**

- Must produce minimal impacts while improving performance on the secondary performance goals.
- Must not conflict with their associated Tier 2 alignment corridor.
- Must continue to provide performance benefits after the full alternative is complete.

The evaluation identified 18 local improvements. Each alternative had five to nine individual local improvement elements. These three common elements were in Section 2 within and south of Jasper along US 231. **Table 2-5** identifies and describes each element. **Figure 2-9** presents their locations. The locations and nature of improvements were identified based on review of the existing network traffic volumes of the associated facilities for each route as well as associated environmental and design constraints. Based on the identified benefits from the previous evaluations of safety and congestion relief, the improvements focused on lower impact upgrades providing safety benefits within a potentially shorter project development time.

These local improvements are illustrative based on the level of analysis performed in the Tier 1 analysis. Each of these improvements would provide benefits as documented in **Appendix V** and have independent utility. These local improvement elements would be prioritized elements of the overall project for Tier 2 development. Because these local improvements were not analyzed at a level to clearly define the safety performance measures, they are anticipated to be adjusted during subsequent Tier 2 development to further optimize the local benefits of each local improvement element. With the addition of the local elements, each alternative is defined as the combination of the Route and Local Improvements.

Identifier	Route Associated	Existing Roadway	Description
+1	B, C, M, O, P	US 231	Approximately one mile of an added passing lane from near the Huntingburg Airport to CR 750 S in Dubois County, the primary benefits are safety and localized congestion. Anticipate only a southbound passing lane is necessary. Tier 2 studies would be necessary to determine optimal design.
+2	B, C, M, O, P	US 231	Approximately three miles of added passing lanes between Huntingburg and Jasper in Dubois County, primary benefits are safety and localized congestion. Anticipate southbound and northbound passing lanes necessary. Tier 2 studies would be necessary to determine optimal design.
+3	B, C, M, O, P	US 231	Approximately one and-a-half miles of added lanes from SR 162 to Indiana Street in Jasper, Dubois County. Primary benefits are safety and localized congestion. Added lane may be limited to shared center turn lanes to facilitate left turns, or combination of added through lanes with access control and/or added turn lanes. Tier 2 studies would be necessary to determine optimal design.
+4	C, M, O, P	US 231	Approximately three miles of access management evaluation in Jasper, Dubois County, roughly from Bartley Street to Common Drive. Primary benefits are safety and localized congestion. Tier 2 studies would be necessary to determine optimal design.
+5	C, M, O, P	US 231	Approximately two and-a-half miles of an added passing lane between Jasper and Haysville, Dubois County, roughly from W 400 N to W 600 N. Primary benefit safety. Anticipate only a northbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+6	M, P	US 231	Approximately three miles of an added passing lane north of the White River near Alfordsville, Martin County, roughly between CR 22 and CR 162. Primary benefit is safety. Anticipate only a northbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.



Identifier	Route Associated	Existing Roadway	Description
+7	M, P	US 231	Approximately two miles of an added passing lane south of Loogootee, Martin County, roughly between CR 158 and US 50. Primary benefit is safety. Anticipate only a southbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+8	P	US 231	Approximately one mile of an added passing lane north of Loogootee, Martin County, extending from Loogootee and tying into Route P. Primary benefit is safety. Anticipate only a northbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+9	P	US 231	Approximately two miles of an added passing lane south of the I-69 interchange, includes Greene and Martin counties. Primary benefit is safety. Anticipate only a southbound passing lane necessary. This would tie into Route P. The total length and location would be determined in Tier 2 studies for optimal design.
+10	B	SR 56	Approximately two miles of an added passing lane west of Ireland, Dubois County. Primary benefit is safety. Anticipate only a westbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+11	B	SR 257	Approximately two miles of an added passing lane north of the intersection of SR 356 and SR 257, Pike County. Primary benefit is safety. Anticipate only a northbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+12	B	SR 257	Approximately one and-a-half miles of an added passing lane north of the intersection of CR 600 S, Daviess County. Primary benefit is safety. Anticipate only a southbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+13	M	SR 450	Approximately two miles of an added passing lane east of Dover Hill, Martin County. Primary benefit is safety. Anticipate only an eastbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+14	M	SR 450	Approximately one and-a-half miles of an added passing lane west of Bedford, Lawrence County. Primary benefits are safety. Anticipated only a westbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+15	O	SR 56	Approximately two miles of an added passing lane west of intersection of SR 56 and SR 545, Dubois County. Primary benefit is safety. Anticipate only an eastbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+16	O	SR 56	Approximately one mile of an added passing lane between Crystal and Cuzco Road, Dubois County. Primary benefit is safety. Anticipate only an eastbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+17	O	SR 145	Approximately two miles of an added passing lane south of French Lick, Orange County. Primary benefit is safety. Anticipate only a southbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
+18	O	US 150	Approximately one mile of an added passing lane east of West Baden, Orange County. Primary benefit is safety. Anticipate only an eastbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.

Table 2-5: Local Improvement Elements

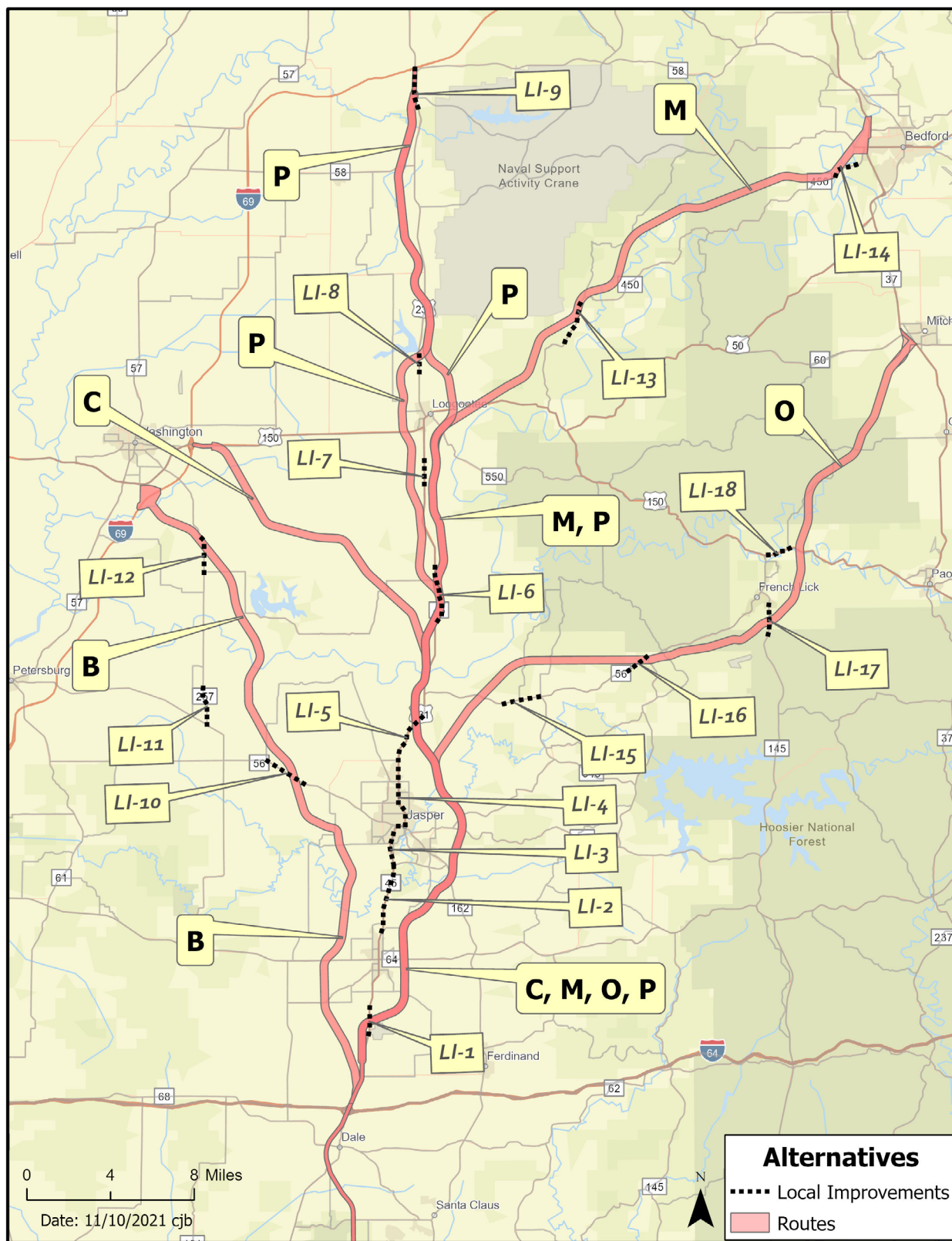


Figure 2-9: Local Improvement Elements



2.5 TRANSITION TO DETAILED ANALYSIS OF ALTERNATIVES

The result of the combined screening process, agency and public input, and secondary analysis to address the input received was the reduction of ten recommended build alternatives carried forward to five alternatives with a range of facility types, and a corresponding range of impacts. For the selected alternative, Tier 2 studies would finalize the facility type(s). These five alternatives, plus the no build, were carried forward for detailed analysis of their performance, impacts, and costs. **Chapter 3** summarizes and documents the detailed analysis of the environmental resources in the study area; **Chapter 5** summarizes the detailed analysis of the performance measures in combination with the environmental impacts to present a full comparison of the alternatives. Each alternative also is carried forward with associated local road improvements shown in **Figure 2-6** and described in **Table 2-5**.

As noted in **Figure 2-6**, the analysis of impacts and costs for the alternatives carried forward were developed from reasonable right-of-way footprints based on the terrain and connections to local routes. Although each alternative will include a single route, the impacts are reported as a range associated with a Super-2 and expressway facility type within the new corridor route and include other local enhancements to nearby existing highways. **Figure 2-10** presents the alternatives carried forward.

2.6 DETAILED PERFORMANCE AND COST ANALYSIS OF ALTERNATIVES

This section summarizes performance of each alternative on each Purpose and Need performance measure. It also provides construction cost estimates for each alternative. The results are identified as ranges which include the combination of local improvements and new alignment as a Super-2 and expressway.

2.6.1 Alternative Performance Measures

Alternatives are evaluated based upon their performance on the seven Purpose and Need goals. The Purpose and Need is presented in **Chapter 1 – Purpose and Need** and **Appendix CC – Purpose and Need Appendix**. The Purpose and Need was identified in a four-part process. These include:

1. **A review of Federal and State policies.** These included current Federal transportation policies established in the *Moving Ahead for Progress in the 21st Century (MAP-21) Act* and the *Fixing America's Surface Transportation (FAST) Act*. These also included Indiana's *2018 – 2045 Future Transportation Needs Report* (INDOT's current long-range transportation plan) and *Blue Ribbon Panel on Transportation Infrastructure Report*.
2. **A review of previous studies.** These included *U.S. 231, Dubois County, Indiana Draft Environmental Impact Statement (2004)*; *U.S. 231, Dubois County, Indiana Supplemental Draft Environmental Impact Statement (2011)*; *I-67 Corridor Feasibility Study Final Report (2012)*; *A Plan for Growing Southwest Indiana's Logistics Sector (2015)*; *Mid-States Corridor White Paper (2017)* and *U.S. 231 Corridor Assessment (2018)*.

Draft Environmental Impact Statement



**MID-STATES
CORRIDOR**

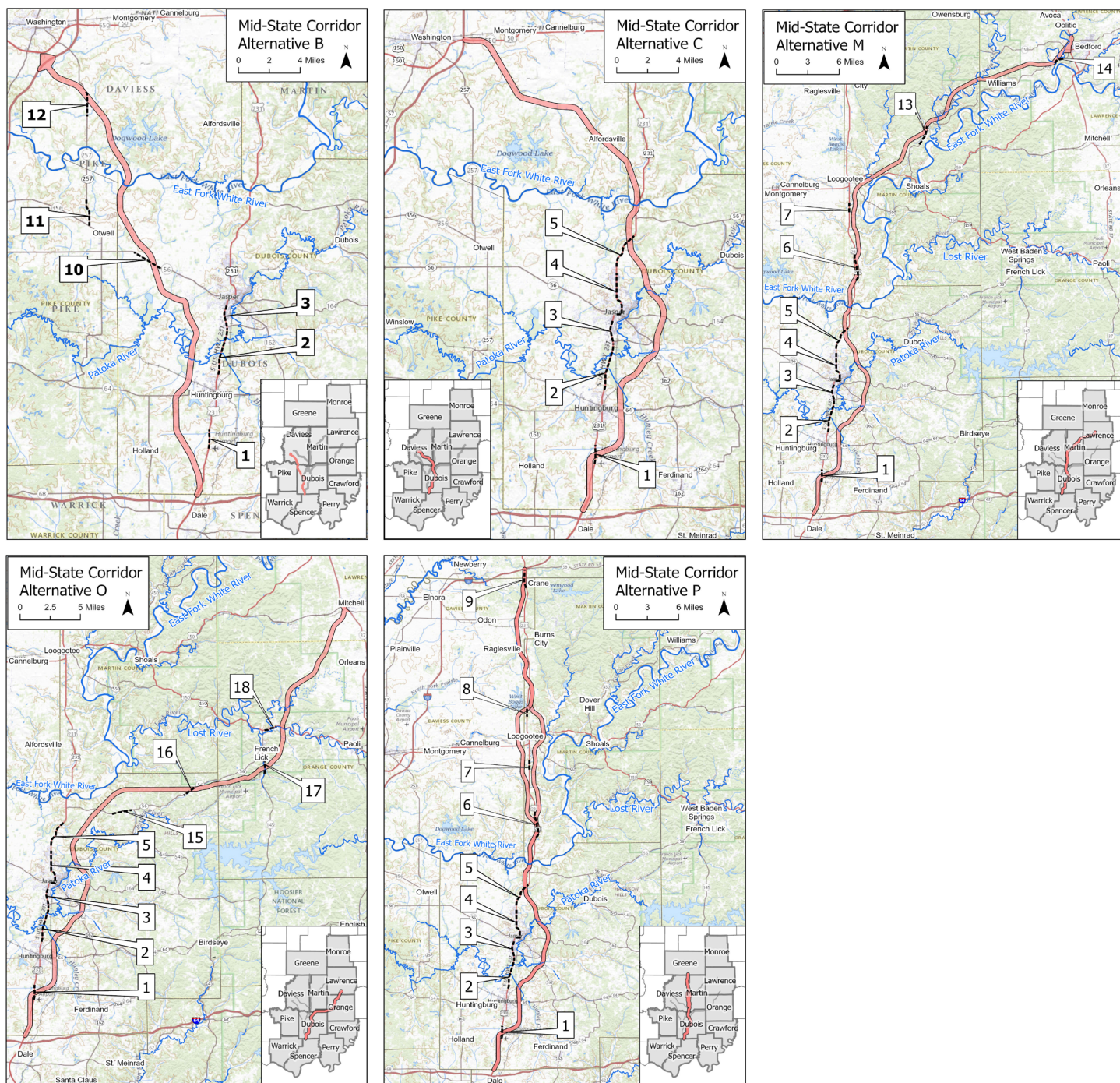


Figure 2-10: Build Alternatives Carried Forward into Detailed Analysis



3. **Technical needs assessment of transportation and economic development needs in Southern Indiana.** This needs analysis used transportation network models and analysis of published historical data for economic indicators.
4. **Public and Agency Input.** The Purpose and Need underwent an extensive public and agency review over a period of approximately six months. Feedback included comment letters by a number of agencies, review by FHWA Indiana Division and Washington DC staff and 244 public comments. There were eight primary categories for public and agency input.

This performance measure evaluation has two parts. **Section 2.6.1.1** summarizes performance on each of the three core goals. **Section 2.6.1.2** summarizes performance on the other four, non-core goals. The single preferred alternative must provide adequate benefits for each of the three core goals. Details of performance measure calculations are provided in **Appendix A – Transportation Performance Measures Analysis**, **Appendix B – Economic Development Performance Measures Analysis** and **Appendix V – Local Improvements Analysis**.

The performance measures for each alternative are provided as a range of values. These correspond to the range of performance for the Super-2 and expressway variations of each alternative.

All performance measures are calculated for the 2045 Forecast Year.

2.6.1.1 Core Goal Performance Measures

There are three core goals. Performance of project alternatives on each is presented in the following subsections. These goals are:

- **Goal 1 – Increase Accessibility to Major Business Markets**
- **Goal 2 – Provide More Efficient Truck/Freight Travel in Southern Indiana**
- **Goal 7 – Increase Access to Major Intermodal Centers from Southern Indiana**

2.6.1.1.1 Increase Accessibility to Major Business Markets

Goal 1 of the Purpose and Need is **Increase Accessibility to Major Business Markets**. It has two performance measures. These include:

1. Reduction in travel time between business centers and key destinations.
2. Increase in labor force with 30-minutes access to key Study Area employment centers.¹⁰

The performance of each alternative on these measures is provided in **Table 2-6** and **Table 2-7**.

¹⁰ Average 2019 one-way commute time in the United States was 28 minutes (<https://www.census.gov/library/publications/2021/acs/acs-47.html>). TREDIS (see **Section 2.6.1.2.3**) assumes 40 minutes as its one-way travel to work time threshold.

Draft Environmental Impact Statement



**MID-STATES
CORRIDOR**

Origin-Destination Pair	2045 No-Build Travel Time (Minutes)	Travel Time Savings (Minutes)				
		B	C	M	O	P
Jasper - Indianapolis	143	1	1	1-2	0	2-5
Jasper - Chicago	272	1-2	1-2	2	0	2-5
Jasper - Louisville	103	2	0-1	2-3	3	2-3
NSA Crane - Jasper	48	1	1	1-2	1-2	3-5
NSA Crane - Rockport	90	2	6	11-12	7-8	9-15
NSA Crane - Louisville	131	1-2	0	0	0	0-1
Bedford - Louisville	88	0	0	0	0	0
Bedford - Rockport	114	0	3-4	9-10	1-3	4-5
French Lick - Indianapolis	136	0	0	0	1-2	0
French Lick - Louisville	77	0	0	0	0	0
French Lick - Rockport	73	0	3	4	5-6	3-4
Total		8-10	12-15	26-31	15-19	22-39

Source: Mid-States Corridor Regional Travel Demand Model

Table 2-6: Reduction in Travel Time Between Business Centers and Key Destinations

Access From	2045 No-Build Labor Access* (Persons)	Added Labor Force Access (Persons)				
		B	C	M	O	P
Jasper	77,800	2,100-4,300	1,700-2,200	7,600-7,800	8,400-8,600	8,700-8,900
Crane	73,500	200-300	0	100-200	0	500-900
Washington	88,200	12,900-13,000	2,000	0-200	0	300-400
French Lick	64,600	0-100	800	600-800	17,000-17,200	900-1,000
Bedford	95,300	0	0	1,900-2,000	900-1,100	0
Total		15,300-17,600	4,500-5,000	10,200-11,000	26,300-26,900	10,400-11,200

Source: Mid-States Corridor Regional Travel Demand Model

*Labor force defined as residents at least 16 years of age, access range used is 30 minute travel time

Table 2-7: Increase in Labor Force with 30-Minute Access to Key Study Area Employment Centers

2.6.1.1.2 Provide More Efficient Truck/Freight Travel in Southern Indiana

Goal 2 of the Purpose and Need is **Provide More Efficient Truck/Freight Travel in Southern Indiana**. It has one performance measure. This measure is:

1. Reduction in annual hours of truck VHT in the 12-county Study Area.¹¹

The performance of each alternative on this measure is provided in **Table 2-8**. Note that of all the core goal performance measures, this measure shows the greatest variance between the Super-2 and expressway facility types. Note that **Alternatives B and O** both have **poorer** performance for the Super-2 facility type than the No-Build. This is attributable to the tendency of truck travel to be diverted to a higher classification facility even in the absence of a travel time savings.

¹¹ As explained in **Appendix A**, this calculation includes truck trips which have one or both trip ends within the Study Area. Forecasts for the No-Build and each Build Alternative exclude trips which have both trip ends outside of the Study Area.



2045 No-Build Annual Vehicle Hours Traveled (VHT) for Truck Traffic*	Annual Savings in Truck VHT				
	B	C	M	O	P
3,565,700	(11,100)-150	1,800-34,150	7,800-35,900	3,000-18,250	8,400-36,850

Source: Mid-States Corridor Regional Travel Demand Model

*Where parenthesis used, indication of increases in time rather than savings

Table 2-8: Annual Savings in Truck VHT

2.6.1.1.3 Increase Access to Major Intermodal Centers from Southern Indiana

Goal 7 of the Purpose and Need is **Increase Access to Major Intermodal Centers**. It has one performance measure.¹² This measure is:

1. Reduction in travel time from Jasper and Crane NSA to key intermodal centers.

The performance of alternatives on this measure is provided in **Table 2-9**.

Origin-Destination Pair	2045 No-Build Travel Time (Minutes)	Travel Time Savings (Minutes)				
		B	C	M	O	P
Jasper - CSX Avon Yard	145	1	1	1-2	0	4-5
Jasper - Senate Ave Yard	140	0-1	0	1-2	0	4-5
Jasper - Tell City River Port	54	0	0	2	2	1-2
Jasper - Port of Indiana	96	0-1	0	2-3	2-3	1-2
Jasper - Louisville Airport	102	0-1	0	2-3	2-3	2
Jasper - Indianapolis Airport	135	1	0-1	1-2	0-1	2-5
NSA Crane - CSX Avon Yard	102	0-1	0	0	0	0
NSA Crane - Senate Ave Yard	97	0	0	0	0-1	0
NSA Crane - Tell City River Port	97	1	2	8	4	8-12
NSA Crane - Port of Indiana	125	1	0	0	0	1
NSA Crane - Indianapolis Airport	91	0-1	0	0	0	0-1
Jasper - Louisville Airport	130	0	0	0	0	1
	Total	4-8	3-4	17-22	10-13	24-35

Source: Mid-States Corridor Regional Travel Demand Model

Table 2-9: Travel Time Reduction to Key Intermodal Centers

2.6.1.1.4 Comparison of Core Goal Performance

The DEIS Preferred Alternative must show adequate benefits as shown by the performance measures on each of the three core goals. In **Table 2-6** through **Table 2-9** higher performance generally corresponds to the expressway facility type. In some cases, a route will show notable benefits on the higher end of the performance range, while showing little (or in some cases negative) benefits at the lower end of the performance range. The following subsections discuss and analyze the performance of each alternative on the core goals.

¹² In **Chapter 1**, improved intermodal access to Jasper and improved intermodal access to Crane are stated as individual performance measures. All business center access measures are combined into a single chart.



These comparisons do not differentiate between performance of different alternatives which is numerically similar.

2.6.1.1.4.1 ALTERNATIVE B

- **Goal 1, Business Center Travel Time Reduction.** Performance is the lowest of the five alternatives. Alternative B's performance is one-third to one-quarter that of the highest performing alternatives (Alternative M and Alternative P).
- **Goal 1, Labor Force Access.** Performance is the second-highest of the five alternatives. This is due to the improvement it affords to labor force access to Washington.
- **Goal 2, Annual Truck VHT Savings.** Performance is the lowest of all alternatives. It provides essentially no savings in truck hours of travel. The Super-2 variation results in an *increase* in truck hours of travel. This stems from the tendency for a higher-classification facility to attract truck travel even if it results in increased travel time.
- **Goal 7, Intermodal Center Travel Time Reduction.** Performance is the second lowest of all alternatives. Alternative B's performance is only one-half to one-quarter of Alternatives M, O and P.
- **Overall Assessment, Core Goal Performance.** Alternative B provides adequate benefits for only two of the four core goal performance measures. It offers little improvement in Labor Force Access, and offers *no* improvement on truck hour savings. It fails to provide adequate benefits for all core goals.

2.6.1.1.4.2 ALTERNATIVE C

- **Goal 1, Business Center Travel Time Reduction.** Performance is the second-lowest of the five alternatives. Alternative C's performance is one-half or less the performance of the highest performing alternatives (Alternative M and Alternative P).
- **Goal 1, Labor Force Access.** Performance is the lowest of the five alternatives. It provides only one-third to one-quarter of the increase in labor force access provided by Alternative M, Alternative O and Alternative P.
- **Goal 2, Annual Truck VHT Savings.** The Super-2 variation provides very little benefit. However, the expressway version provides high benefits, only slightly lower than the benefits for Alternative M and Alternative P.
- **Goal 7, Intermodal Center Travel Time Reduction.** Performance is the lowest of all alternatives. It provides virtually no benefit on this measure.
- **Overall Assessment, Core Goal Performance.** Alternative C provides the lowest benefits on two of the four core goal performance measures, and the second-lowest benefit on a third. It has adequate benefits for only one of the four core goal performance measures, and that for only one variation. It fails to provide adequate benefits for all core goals.

2.6.1.1.4.3 ALTERNATIVE M

- **Goal 1, Business Center Travel Time Reduction.** Performance of Alternative M is the highest of all alternatives. The Super-2 variation of Alternative M performs higher, while the expressway variation of Alternative P performs higher.
- **Goal 1, Labor Force Access.** Performance of Alternative M and Alternative P are similar. Both offer increases in labor force access of about 10,000 to 11,000 workers. Their performance is less than those of Alternative B and Alternative O.
- **Goal 2, Annual Truck VHT Savings.** Both Alternative M and Alternative P offer higher performance than other alternatives. Their performance is similar. As with all alternatives, the expressway variation offers greater benefits than the Super-2 variation.



- **Goal 7, Intermodal Center Travel Time Reduction.** Alternative M offers a similar level of performance as Alternative O. Its performance is less than Alternative P, but two to three times the performance of Alternatives B and C. The performance of the expressway version is nearly two and a half times greater than that of the Super-2 version. This degree of difference is the highest for all Alternatives.
- **Overall Assessment, Core Goal Performance.** Alternative M provides (along with Alternative P) the highest level on performance on travel time to business centers and truck VHT savings; the second highest performance (along with Alternative O) on travel time to intermodal centers; and the third highest performance (along with Alternative P) on increased labor force access. It provides adequate benefits for all core goals.

2.6.1.1.4.4 ALTERNATIVE O

- **Goal 1, Business Center Travel Time Reduction.** Performance of Alternative O is the third highest of all alternatives. It performs better than Alternatives B and C. Alternatives M and P have higher performance than Alternative O.
- **Goal 1, Labor Force Access.** Alternative O is the highest performer on this measure. Its increase of over 26,000 workers is more than two-thirds higher than the next best performer, Alternative B.
- **Goal 2, Annual Truck VHT Savings.** Alternative O is the second-lowest performer on this measure. It actually has increases in Truck VHT for the Super-2 variation. Its performance for the expressway variation is roughly half the performance of Alternatives C, M and P.
- **Goal 7, Intermodal Center Travel Time Reduction.** Alternative O offers a similar level of performance as Alternative M. Its performance is less than Alternative P, but two to three times the performance of Alternatives B and C.
- **Overall Assessment, Core Goal Performance.** Alternative O provides the highest level of performance on the labor force measure. It provides the third-highest level of performance on both the business center access and intermodal access measures. It is the fourth highest performer on truck VHT savings. Given the range of improvements offered on the truck VHT savings measure, it is questionable as to whether it offers a adequate improvement on this core goal. It is recommended that it be designated as offering enough improvement on the core goals to be regarded as providing adequate benefits for all core goals. Its costs and impacts will need to be closely scrutinized, given that its performance on core goals is less than the performance of Alternatives M and P.

2.6.1.1.4.5 ALTERNATIVE P

- **Goal 1, Business Center Travel Time Reduction.** Performance of Alternative P is the highest of all alternatives along with Alternative M. The Super-2 variation of Alternative M performs higher, while the expressway variation of Alternative P performs higher.
- **Goal 1, Labor Force Access.** Performance of Alternative P and Alternative M are similar. Both offer increases in labor force access of about 10,000 to 11,000 workers. Their performance is less than those of Alternative B and Alternative O.
- **Goal 2, Annual Truck VHT Savings.** Both Alternative P and Alternative M offer higher performance than other alternatives. Their performance is similar. As with all alternatives, the expressway variation offers greater benefits than the Super-2 variation.
- **Goal 7, Intermodal Center Travel Time Reduction.** Alternative P offers the highest level of performance by a large margin. Its performance is two or more times greater than other alternatives.



- **Overall Assessment, Core Goal Performance.** Alternative P provides (along with Alternative M) the highest level on performance on travel time to business centers and truck VHT savings; the highest performance on travel time to intermodal centers; and the third highest performance (along with Alternative M) on increased labor force access. It provides adequate benefits for all core goals.

2.6.1.2 Secondary Goal Performance Measures.

These secondary goals represent other desirable outcomes. The determination of whether an alternative performs sufficiently well to be identified as the Preferred Alternative is based upon its performance on core goals, as described in **Section 2.6.1.1**.

There are four secondary goals. Performance of the project alternatives on each is presented in the following subsections. These goals are:

- **Goal 3 – Reduction in Localized Congestion in Dubois County**
- **Goal 4 – Reduce Crashes at Key Locations in Southern Indiana**
- **Goal 5 – Increase Levels of Business Activity within Southern Indiana**
- **Goal 6 – Increase Personal Economic Well-Being in Southern Indiana**

For **Goal 3** and **Goal 4**, the Local Improvements were evaluated on measures related to these goals. The performance of the Local Improvements is provided as part of the discussion for these goals. The benefits shown for the Local Improvements are in addition to the benefits shown for the new-terrain alternatives. For details on these performance measures, see **Appendix V, Table 8** through **Table 12**.

2.6.1.2.1 Reduction in Localized Congestion in Dubois County

Goal 3 of the Purpose and Need is to achieve the **Reduction in localized congestion in Dubois County**. The Purpose and Need Analysis forecasted congestion in the Forecast Year (2045) within the urban areas of Dubois County. It has one performance measure:

1. The number of locations forecasted to be congested in the Forecast Year which will not be congested due to the construction of an alternative.

For urban areas, Level of Service (LOS) E or F represent congested conditions. **Table 2-10** shows the four urban road segments in Dubois County (all within the City of Jasper) forecasted to be congested in the PM peak period. It compares the Level of Service for the No-Build condition with that for each Build alternative. A road segment which goes from a LOS E or F to a LOS D (or higher) represents a segment for which that alternative provides congestion relief.



Corridor	From	To	2045 No- Build LOS (PM)	LOS Under Mid-States Alternatives*				
				B	C	M	O	P
US 231	47th St	300 N	E	E	D	D	D	D
	300 N	Schutter Rd	E	D/E	D	D	D	D
	15th St	6th St	E	E	D	D	D	D
	SR 56	Newton St	F	F	E	E	E	F

Source: Mid-States Corridor Regional Travel Demand Model

*Highlighted cells represent congestion relief provided

Table 2-10: Peak Period Congestion 2045 Forecast Year (Dubois County, all vehicle types)

Table 2-10 shows that all variations of Alternatives C, M, P and O provide identical levels of congestion relief. By comparison, Alternative B provides very little congestion relief.

While the Local Improvements do not provide congestion relief per se, they do offer travel time savings. The Local Improvements provide added passing opportunities, allowing both autos and trucks to pass slower-moving vehicles and complete trips more quickly. **Table 2-11** shows the annual travel time savings (in Vehicle Hours of Travel (VHT)) for all travel (both auto and truck) from the Local Improvements which are part of each alternative.

Annual Savings in VHT (Truck & Auto)				
B	C	M	O	P
35,500	29,200	33,000	43,100	44,200

Source: Highway Capacity Manual Analysis and Mid-States Corridor Regional Travel Demand Model

Table 2-11: Local Improvements Travel Time Savings 2045 Forecast Year (Dubois County, all vehicle types)

The Local Improvements of all alternatives provide travel time savings. **Alternative O** and **Alternative P** provide the greatest benefit. Their savings are similar and are approximately 20 percent greater than the next best-performing alternative (**Alternative B**).

2.6.1.2.2 Reduce Crashes at Key Locations in Southern Indiana

Goal 4 of the Purpose and Need is **Reduce crashes at key locations in Southern Indiana**. It has one performance measure:

1. Reduction in annual crash costs at key locations in Southern Indiana.

Future detailed studies in Tier 2 will provide more detailed crash reduction performance; however, safety evaluations were made for the local improvements for the purposes of evaluating potential reductions at this Tier.

The Local Improvements were evaluated using Highway Safety Manual (HSM) techniques for their ability to reduce crashes. **Appendix V** provides more information. Key factors in the HSM evaluation include AADT, lane width, shoulder width, driveway density and curve lengths/radii (if any). **Table 2-12** provides the annual crash savings for the Local Improvements associated with each alternative.

Annual Crash Savings (Millions of Dollars)				
B	C	M	O	P
\$5.86	\$6.40	\$7.12	\$8.66	\$8.36

Source: Highway Capacity Manual Analysis and Mid-States Corridor Regional Travel Demand Model

Table 2-12: Annual Crash Savings For Local Improvements, 2045 Forecast Year



Alternative O and **Alternative P** provide the greatest crash savings. Their higher crash savings are in part due to the greater length of improvements associated with these routes. The improvements associated with these two alternatives are 18 to 19 miles in total length. By comparison, the improvements associated with **Alternative B** are just over 11 miles in total length. This variance also is explained by higher levels of traffic on improvements associated with **Alternative O** and **Alternative P**.

2.6.1.2.3 Increase Levels of Business Activity within Southern Indiana; Increase in Personal Economic Well-Being in Southern Indiana

Goal 5 of the Purpose and Need is **Increase Levels of Business Activity within Southern Indiana**. It has four performance measures:

1. Increase in regional gross domestic product within the Study Area.
2. Increase in total employment within the Study Area.
3. Increase in employment in high-wage industries within the Study Area.
4. Increase in employment in high-growth industries within the Study Area.

Goal 6 of the Purpose and Need is **Increase Personal Economic Well-Being in Southern Indiana**. It has one performance measure:

1. Increase in personal income within the 12-county Study Area.

The economic development performance measures are provided by TREDIS - Transportation Economic Development Impact System. TREDIS is designed to enable evaluation (appraisal) of proposed transportation investment projects, policies and programs. See **Appendix B** for a detailed explanation of the TREDIS tool.

TREDIS calculates the economic impacts, benefits and costs of proposed projects, programs and policies. It is a comprehensive decision support system that spans economic impact analysis, benefit-cost analysis and financial analysis, as well as freight and trade impact analysis. It is used throughout the United States, Canada and Australia. For the Mid States project, INDOT used a TREDIS license which Purdue University has purchased for INDOT's use. This license allows INDOT to use TREDIS for projects throughout Indiana. It INDOT's standard tool for evaluating the economic impacts of transportation projects. These performance measures were calculated using TREDIS.

Table 2-13 provides the range of performance measures for each alternative.

Mid-States Corridor Economic Performance Measures					
Alternative	Increase in regional GDP (Millions)	Increase in total employment	Increase in employment in high-wage jobs	Increase in employment in high-growth jobs	Increase in personal income (Millions)
B	(\$25) – \$9	248 – 282	56 – 73	30 – 102	\$10 – \$16
C	(\$14) – \$112	259 – 863	44 – 182	(7) – 274	\$12 – \$46
M	\$218 – \$259	1,269 – 1,535	300 – 353	533 – 652	\$71 – \$83
O	(\$32) – \$25	228 – 429	26 – 98	(79) – 114	\$9 – \$21
P	\$314 – \$451	1,710 – 2,453	397 – 547	731 – 1,024	\$96 – \$136

Source: TREDIS Economic Forecasting Model. Performance measures are in job-years and dollar years for 2038-2057 in the 12-county Study Area

Table 2-13: Economic Performance Measures



Only **Alternative M** and **Alternative P** provide positive economic benefits for all variations. **Alternative B**, **Alternative C** and **Alternative O** provide positive benefits for expressway facility types and a mixture of positive and negative benefits for Super-2 facility types. These three alternatives have more indirect connections between Jasper/Huntingburg and points north.

2.6.1.2.4 Comparison of Secondary Goal Performance

As noted above, secondary goals represent other desirable outcomes. They do not directly influence the identification of the Preferred Alternative. Nevertheless, it should be noted that of the three alternatives which show adequate benefits for core goals, **Alternative O** performs poorly on these secondary goals. Below is a summary of the performance of each alternative on the secondary goals.

- **Alternative B** does not provide congestion relief, does not provide crash reductions, and provides low to negative economic growth.
- **Alternative C** provides congestion relief and a moderate level of crash savings. It has low, sometimes negative, economic development performance.
- **Alternative M** provides congestion relief and some level of crash savings. It is one of two alternatives which provide adequate levels of economic growth.
- **Alternative O** provides congestion relief, high levels of truck VHT savings and higher levels of crash savings. However, it provides negative economic development benefits on nearly all measures.
- **Alternative P** overall is the highest performer on the secondary goals. It provides congestion relief, has the highest levels of truck VHT savings and moderate levels of crash savings. Its performance on economic development measures is generally 50% better than the next best-performing alternative (**Alternative M**).

2.6.1.3 Summary of Performance Measures

Alternative M and P are the best-performers both for the project core goals and secondary goals. **Alternative B and C** perform relatively poorly on core goals and secondary goals. **Alternative O** performs poorer on core goals than **Alternative M and P**. While it performs well on most secondary goals, it has the lowest performance for economic development goals.

2.6.2 Alternative Costs

This section gives the total construction costs for all alternatives, including their associated Local Improvements. Please consult **Appendix E – Working Alignment Typical Sections and Cost Estimates** for details. **Table 2-14** provides construction costs for each alternative. These costs include:

- Quantified construction costs based on recent INDOT bid prices
- Lump sum construction costs
- Construction contingencies and
- Estimates for non-construction costs (right-of-way/relocations, utility relocations, preliminary engineering, construction inspection and environmental).



Alternative	Construction Cost (\$ Millions)			
	Super-2	Expressway	Local Improvements	Cost Range w/ Local Improvements
B	\$368	\$495	\$81	\$449 - \$576
C	\$484	\$689	\$70	\$554 - \$759
M	\$1,022	\$1,312	\$83	\$1,105 - \$1,395
O	\$963	\$1,209	\$111	\$1,074 - \$1,320
P	\$620-\$689	\$901-\$937	\$115	\$735 - \$1,052

Sources: Construction Cost Calculations in **Appendix E**

Table 2-14: Construction Cost by Alternative

Alternatives' construction costs fall into three general ranges, corresponding to the three Alternative Families. The construction costs for the Northwest Family are the lowest, ranging from approximately \$450 to \$750 million. Construction costs for the North Central Family are in a higher range, ranging from approximately \$740 to \$1,050 million. Construction costs for the Northeast Family are the highest, ranging from approximately \$1,070 to \$1,395 million. The lower construction costs for the Northwest Family reflect their being shorter (33 to 40 miles) and being situated on relatively flat terrain. The higher construction costs for the North Central Family reflect their being longer (54 miles). The highest construction costs for the Northeast Family reflect their length (53 to 62 miles) and construction on much hillier terrain.

The range of costs for the new terrain portion of Alternative P reflects two bypass options at Loogootee.

2.7 TIER 2 SECTIONS

The Tier 2 NEPA studies will be conducted for individual sections of the Tier 1 selected alternative. These shorter sections must conform to certain regulatory criteria to ensure that each section would perform a useful transportation purpose if none of the other sections were to be built. These criteria, specified in 23 CFR 771.111(f), require that the project:

- connect logical termini and be of sufficient length to address environmental matters on a broad scope,
- have independent utility or independent significance, and
- not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The Notice of Intent (NOI) for the Mid-States project was published in the July 5, 2019 Federal Register. It states, "The southern terminus of the proposed action will be US 231 at the Indiana end of the Natcher Bridge crossing of the Ohio River near Rockport. The northern terminus will be at either I-69 or SR 37 at a location south of the intersection of these two routes in Monroe County, Indiana." The Sections of Independent Utility (SIUs) identify Tier 2 sections for all alternatives which connect the project termini as described in the NOI. A more detailed description of the Tier 2 sections will be provided in **Chapter 5, Comparison of Routes**. A summary of these SIUs are as follows:

Alternative B

Alternative B includes a route composed of a portion of existing US 231, a portion constructed on new alignment, and series of six localized system enhancements. The portion of the existing expressway facility of US 231 from SR 66 near Rockport to I-64 represents SIU #1. With the removal of freeways as a facility type, anticipated improvements within this SIU are limited to signage. The portion of new alignment will extend from I-64 to I-69 and contain 2 SIUs.



SIU #2 contains new alignment between I-64 and SR 56 west of Jasper; this represents logical interim termini for the corridor as it connects the expressway facility of US 231 to a state road. If constructed prior to SIU #3, traffic would access I-69 via SR 56/SR257. SIU #3 contains new alignment between I-69 near Petersburg and SR 56 west of Jasper; this represents logical interim termini for the corridor as it connects the northern terminus of the alternative to a state road. If constructed prior to SIU #2, traffic would access US 231 via SR 56.

Route	SIU #	Section Location	Rationale
B	1	US 231: SR 66 to I-64	This section of US 231 between Rockport and Dale is currently a four-lane expressway facility. No physical modifications to the existing facility are anticipated.
	2	New Alignment: I-64 to SR 56	This corridor is west of Huntingburg and Jasper. This section has logical termini connecting I-64 at Dale to SR 56 at Jasper.
	3	New Alignment: SR 56 to I-69	This corridor is west of Jasper and east of Washington. This section has logical interim termini connecting SR 56 at Jasper to I-69 at Washington.

Table 2-15: Proposed Sections of Independent Utility for Alt B

Alternative B also includes six localized improvements with independent utility. These improvements may be evaluated in NEPA evaluations separate from the NEPA evaluations of the Sections of Independent Utility (SIU). These illustrative local improvements provide for features such as added passing lanes, added turn lanes or access management on US 231 south of SR 56, on SR 56, and on SR 257. Based on the scale of these local improvements, the additional analysis is anticipated to be categorical exclusion (CE) level documents.

Identifier	Local Roadway	Rationale
LI-1	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and I-64 prior to construction of SIU 2. Approximately one-mile section of US 231 south of CR 750 S in Dubois County.
LI-2	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and Jasper prior to construction of SIU 2. Approximately three-mile section of US 231 south of SR 162 in Dubois County.
LI-3	US 231	Currently a two-lane federal route with a limited number of left and/or right turn lanes at intersections. Increases passing opportunities and queuing storage within this section prior to the construction of SIU 2. Approximately one-and-a-half-mile section of US 231 north of SR 162 in Dubois County.
LI-10	SR 56	Currently a two-lane state route. Increases passing opportunities between Otwell and Jasper prior to the construction of SIU 3. Approximately two-mile section of SR 56 west of Ireland in Dubois County.
LI-11	SR 257	Currently a two-lane state route. Increases passing opportunities north of Otwell prior to the construction of SIU 3. Approximately two-mile section of SR 257 north of the intersection of SR 356 and SR 257 in Pike County.
LI-12	SR 257	Currently a two-lane state route. Increases passing opportunities south of I-69 prior to the construction of SIU 3. Approximately one-and-a-half-mile section of SR 257 north of the intersection of CR 600 S in Daviess County.

Table 2-16. Proposed Associated Local Improvements with Independent Utility for Alt B



Alternative C

Alternative C includes a route composed of a portion of existing US 231, a portion constructed on new alignment, and series of five localized system enhancements. The portion of the existing expressway facility of US 231 from SR 66 near Rockport to I-64 represents SIU #1. With the removal of freeways as a facility type, anticipated improvements within this SIU are limited to signage. The portion of new alignment will extend from I-64 to I-69 and contain 2 SIUs. SIU #2 contains new alignment between I-64 and SR 56 near Haysville; this represents logical interim termini for the corridor as it connects the expressway facility of US 231 to a state road and completes the eastern corridor around Huntingburg and Jasper. If constructed prior to SIU #3, traffic would access I-69 via existing US 231 near Crane. SIU #3 contains new alignment between I-69 near Washington and SR 56 near Haysville; this represents logical interim termini for the corridor as it connects the northern terminus of the alternative to a state road. If constructed prior to SIU #2, traffic would access US 231 via US 231 near Haysville.

Route	SIU #	Section Location	Rationale
C	1	US 231: SR 66 to I-64	This section of US 231 between Rockport and Dale is currently a four-lane expressway facility. No physical modifications to the existing facility are anticipated.
	2	New Alignment: I-64 to SR 56	This corridor is east of Huntingburg and Jasper. This section has logical termini connecting I-64 at Dale to SR 56 at Haysville.
	3	New Alignment: SR 56 to I-69	This section has logical termini connecting SR 56 at Haysville with I-69 at Washington.

Table 2-17: Proposed Sections of Independent Utility for Alt C

Alternative C also includes five localized improvements with independent utility. These improvements may be evaluated in NEPA evaluations separate from the NEPA evaluations of the Sections of Independent Utility (SIU). These illustrative local improvements provide for features such as added passing lanes, added turn lanes or access management on US 231 south of Haysville. Based on the scale of these local improvements, the additional analysis is anticipated to be categorical exclusion (CE) level documents.

Identifier	Local Roadway	Rationale
LI-1	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and I-64 prior to construction of SIU 2. Approximately one-mile section of US 231 south of CR 750 S in Dubois County.
LI-2	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and Jasper prior to construction of SIU 2. Approximately three-mile section of US 231 south of SR 162 in Dubois County.
LI-3	US 231	Currently a two-lane federal route with a limited number of left and/or right turn lanes at intersections. Increases passing opportunities and queuing storage within this section prior to the construction of SIU 2. Approximately one-and-a-half-mile section of US 231 north of SR 162 in Dubois County.
LI-4	US 231	Currently has varied cross sections through Jasper. Increases safety and efficiency of movement through access management of an approximately three-mile urban section in Dubois County (roughly from Bartley St to Common Dr in Jasper). Greatest benefits occur prior to construction of SIU 2.
LI-5	US 231	Currently a two-lane federal route. Increases passing opportunities between Jasper and Haysville prior to construction of SIU 2. Approximately two and-a-half-mile section of US 231 in Dubois County (roughly from W 400 N to W 600 N).

Table 2-18: Proposed Associated Local Improvements with Independent Utility for Alt C



Alternative M

Alternative M includes a route composed of a portion of existing US 231, a portion constructed on new alignment, and series of 9 localized system enhancements. The portion of the existing expressway facility of US 231 from SR 66 near Rockport to I-64 represents SIU #1. With the removal of freeways as a facility type, anticipated improvements within this SIU are limited to signage. The portion of new alignment will extend from I-64 to SR 37 and contain 3 SIUs (SIUs 2-4). SIU #2 contains new alignment between I-64 and SR 56 near of Haysville; this represents logical interim termini for the corridor as it connects the expressway facility of US 231 to a state road and completes the eastern corridor around Huntingburg and Jasper. If constructed prior to SIU #3 and #4, traffic would access I-69 via existing US 231 near Crane or via SR 37 from US 50/SR 450. If constructed prior to SIU #3 but after SIU #4, traffic would connect to US 231 near Haysville then access I-69 via SIU #4 near Loogootee. SIU #3 contains new alignment between US 50 near Loogootee and SR 56 near Haysville; this represents logical interim termini for the corridor as it connects midpoints of the alternative. If constructed prior to SIU #4, traffic would access I-69 near crane via existing US 231. SIU #4 contains new alignment between US 50 near Loogootee and SR 37 near Bedford; this represents logical interim termini for the corridor as it connects the northern terminus to US 231 via US 50 at Loogootee.

Route	SIU #	Section Location	Rationale
M	1	US 231: SR 66 to I-64	This section of US 231 between Rockport and Dale is currently a four-lane expressway facility. No physical modifications to the existing facility are anticipated.
	2	New Alignment: I-64 to SR 56	This corridor is east of Huntingburg and Jasper. This section has logical termini connecting I-64 at Dale to SR 56 at Haysville.
	3	New Alignment: SR 56 to US 50	This section has logical termini connecting SR 56 at Haysville to US 50 at Loogootee.
	4	New Alignment: US 50 to SR 37	This section has logical termini connecting US 50 at Loogootee to SR 37 at Bedford.

Table 2-19: Proposed Sections of Independent Utility for Alt M

Alternative M also includes nine localized improvements with independent utility. These improvements may be evaluated in NEPA evaluations separate from the NEPA evaluations of the Sections of Independent Utility (SIU). These illustrative local improvements provide for features such as added passing lanes, added turn lanes or access management on US 231 south of Loogootee and on SR 450 between Loogootee and Bedford. Based on the scale of these local improvements, the additional analysis is anticipated to be categorical exclusion (CE) level documents.



Identifier	Local Roadway	Rationale
LI-1	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and I-64 prior to construction of SIU 2. Approximately one-mile section of US 231 south of CR 750 S in Dubois County.
LI-2	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and Jasper prior to construction of SIU 2. Approximately three-mile section of US 231 south of SR 162 in Dubois County.
LI-3	US 231	Currently a two-lane federal route with a limited number of left and/or right turn lanes at intersections. Increases passing opportunities and queuing storage within this section prior to the construction of SIU 2. Approximately one-and-a-half-mile section of US 231 north of SR 162 in Dubois County.
LI-4	US 231	Currently has varied cross sections through Jasper. Increases safety and efficiency of movement through access management of an approximately three-mile urban section in Dubois County (roughly from Bartley St to Common Dr in Jasper). Greatest benefits occur prior to construction of SIU 2.
LI-5	US 231	Currently a two-lane federal route. Increases passing opportunities between Jasper and Haysville prior to construction of SIU 2. Approximately two and-a-half-mile section of US 231 in Dubois County (roughly from W 400 N to W 600 N).
LI-6	US 231	Currently a two-lane federal route. Increases passing opportunities north of East Fork White River prior to the construction of SIU 3. Approximately three-mile section of US 231 in Martin County (roughly between CR 22 and CR 162).
LI-7	US 231	Currently a two-lane federal route. Increases passing opportunities north of East Fork White River and south of Loogootee prior to the construction of SIU 3. Approximately two-mile section of US 231 in Martin County (roughly between CR 158 and US 50).
LI-13	SR 450	Currently a two-lane state route. Increases passing opportunities north of US 50 on SR 450 near Dover Hill prior to the construction of SIU 4. Approximately two-mile section of SR 450 east of Dover Hill in Martin County.
LI-14	SR 450	Currently a two-lane state route. Increases passing opportunities on SR 450 near Bedford prior to the construction of SIU 4. Approximately one-and-a-half-mile section of SR 450 west of Bedford in Lawrence County.

Table 2-20: Proposed Associated Local Improvements with Independent Utility for Alt M

Alternative O

Alternative O includes a route composed of a portion of existing US 231, a portion constructed on new alignment, and series of 9 localized system enhancements. The portion of the existing expressway facility of US 231 from SR 66 near Rockport to I-64 represents SIU #1. With the removal of freeways as a facility type, anticipated improvements within this SIU are limited to signage. The portion of new alignment will extend from I-64 to SR 37 near Mitchell and contains 3 SIUs (SIU 2-4). SIU #2 contains new alignment between I-64 and SR 56 near Haysville; this represents logical interim termini for the corridor as it connects the expressway facility of US 231 to a state road and completes the eastern corridor around Huntingburg and Jasper. If constructed prior to SIU #3 and #4, traffic would access I-69 via existing US 231 near Crane or via SR 37 from SR 56/SR 145/US 150. If constructed after either SIU #3 or #4, traffic would access I-69 through SR 37. Depending on whether SIU #3 or #4 was in service would dictate the access points. SIU #3 contains new alignment between SR 56 near Haysville and SR 145 near French Lick; this represents logical interim termini for the corridor as it connects midpoints of the alternative. If constructed first, SIU #3 would access I-69 via US 150/SR 37 and US 231 via SR 56. SIU #4 contains new alignment between SR 37 near Mitchell and SR 145 near French Lick; this represents logical interim termini for the corridor as it connects the northern terminus to a state road. If constructed prior to SIU #3, it was use SR 145 and SR 56 to connect to US 231.



Route	SIU #	Section Location	Rationale
O	1	US 231: SR 66 to I-64	This section of US 231 between Rockport and Dale is currently a four-lane expressway facility. No physical modifications to the existing facility are anticipated.
	2	New Alignment: I-64 to SR 56	This corridor is east of Huntingburg and Jasper. This section provides logical termini connecting I-64 at Dale to SR 56 at Haysville.
	3	New Alignment: SR 56 to SR 145	This corridor has logical termini connecting SR 56 at Haysville to SR 145 at French Lick.
	4	New Alignment: SR 145 to SR 37	This corridor has logical termini connecting SR 145 at French Lick to SR 37 at Mitchell.

Table 2-21: Proposed Sections of Independent Utility for Alt O

Alternative O also includes nine localized improvements with independent utility. These improvements may be evaluated in NEPA evaluations separate from the NEPA evaluations of the Sections of Independent Utility (SIU). These illustrative local improvements provide for features such as added passing lanes, added turn lanes or access management on US 231 south of Haysville, on SR 56 between Haysville and French Lick, and SR 145 near French Lick. Based on the scale of these local improvements, the additional analysis is anticipated to be categorical exclusion (CE) level documents.



Identifier	Local Roadway	Rationale
LI-1	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and I-64 prior to construction of SIU 2. Approximately one-mile section of US 231 south of CR 750 S in Dubois County.
LI-2	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and Jasper prior to construction of SIU 2. Approximately three-mile section of US 231 south of SR 162 in Dubois County.
LI-3	US 231	Currently a two-lane federal route with a limited number of left and/or right turn lanes at intersections. Increases passing opportunities and queuing storage within this section prior to the construction of SIU 2. Approximately one-and-a-half-mile section of US 231 north of SR 162 in Dubois County.
LI-4	US 231	Currently has varied cross sections through Jasper. Increases safety and efficiency of movement through access management of an approximately three-mile urban section in Dubois County (roughly from Bartley St to Common Dr in Jasper). Greatest benefits occur prior to construction of SIU 2.
LI-5	US 231	Currently a two-lane federal route. Increases passing opportunities between Jasper and Haysville prior to construction of SIU 2. Approximately two and-a-half-mile section of US 231 in Dubois County (roughly from W 400 N to W 600 N).
LI-15	SR 56	Currently a two-lane state route. Increases passing opportunities west of intersection of SR 56 and SR 545 prior to the construction of SIU 3. Approximately two-mile section SR 56 in Dubois County.
LI-16	SR 56	Currently a two-lane state route. Increases passing opportunities on SR 56 prior to the construction of SIU 3. Approximately one-mile section of SR 56 between Crystal and Cuzco Road in Dubois County.
LI-17	SR 145	Currently a two-lane state route. Increases passing opportunities on SR 145 prior to the construction of SIU 3. Approximately two-mile section of SR 145 south of French Lick in Orange County.
LI-18	US 150	Currently a two-lane federal route. Increases passing opportunities prior to the construction of SIU 4. Approximately one-mile section of US 150 east of West Baden in Orange County.

Table 2-22: Proposed Associated Local Improvements with Independent Utility for Alt O

Alternative P

Alternative P includes a route composed of a portion of existing US 231, a portion constructed on new alignment, and series of 9 localized system enhancements. The portion of the existing expressway facility of US 231 from SR 66 near Rockport to I-64 represents SIU #1. With the removal of freeways as a facility type, anticipated improvements within this SIU are limited to signage. The portion of new alignment will extend from I-64 to I-69 near Crane and contains 4 SIUs (SIU 2-5). All SIUs would use portions of existing US 231 to access the northern or southern terminus until all sections are constructed. SIU #2 contains new alignment between I-64 and SR 56 near Haysville; this represents logical interim termini for the corridor as it connects the expressway facility of US 231 to a state road and completes the eastern corridor around Huntingburg and Jasper. SIU #3 contains new alignment between SR 56 near Haysville and US 231 south of Loogootee; this represents logical interim termini for the corridor as it connects midpoints of the alternative and stops where the determination for an eastern or western bypass of Loogootee would be required. SIU #4 contains new alignment for a western or eastern bypass of Loogootee; this represents logical interim termini for the corridor as refinement of the bypass will be determined in Tier 2. SIU #5 contains new



alignment for the connection between the I-69 and the Loogootee bypass; this represents logical interim termini for the corridor as it connects the northern terminus of the alternative to the decision point for a Loogootee bypass.

Route	SIU #	Section Location	Rationale
P	1	US 231: SR 66 to I-64	This section of US 231 between Rockport and Dale is currently a four-lane expressway facility. No physical modifications to the existing facility are anticipated.
	2	New Alignment: I-64 to SR 56	This corridor is east of Huntingburg and Jasper. This section provides logical termini connecting I-64 at Dale to SR 56 at Haysville.
	3	New Alignment: SR 56 to US 231 south of Loogootee	This section provides logical termini connecting SR 56 at Haysville to US 231 south of Loogootee.
	4	New Alignment: US 231 south of Loogootee to US 231 north of Loogootee	This section provides a bypass route around the city of Loogootee. Selection of either an eastern or western bypass route would be made in Tier 2 studies. This bypass of Loogootee serves an independent transportation purpose.
	5	New Alignment: US 231 to I-69	This section provides logical termini connecting US 231 north of Loogootee with I-69 at Crane.

Table 2-23: Proposed Sections of Independent Utility for Alt P

Alternative P also includes nine localized improvements with independent utility. These improvements may be evaluated in NEPA evaluations separate from the NEPA evaluations of the Sections of Independent Utility (SIU). These illustrative local improvements provide for features such as added passing lanes, added turn lanes or access management on US 231 between I-64 and I-69. Based on the scale of these local improvements, the additional analysis is anticipated to be categorical exclusion (CE) level documents.



Identifier	Local Roadway	Rationale
LI-1	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and I-64 prior to construction of SIU 2. Approximately one-mile section of US 231 south of CR 750 S in Dubois County.
LI-2	US 231	Currently a two-lane federal route. Increases passing opportunities between Huntingburg and Jasper prior to construction of SIU 2. Approximately three-mile section of US 231 south of SR 162 in Dubois County.
LI-3	US 231	Currently a two-lane federal route with a limited number of left and/or right turn lanes at intersections. Increases passing opportunities and queuing storage within this section prior to the construction of SIU 2. Approximately one-and-a-half-mile section of US 231 north of SR 162 in Dubois County.
LI-4	US 231	Currently has varied cross sections through Jasper. Increases safety and efficiency of movement through access management of an approximately three-mile urban section in Dubois County (roughly from Bartley St to Common Dr in Jasper). Greatest benefits occur prior to construction of SIU 2.
LI-5	US 231	Currently a two-lane federal route. Increases passing opportunities between Jasper and Haysville prior to construction of SIU 2. Approximately two and-a-half-mile section of US 231 in Dubois County (roughly from W 400 N to W 600 N).
LI-6	US 231	Currently a two-lane federal route. Increases passing opportunities north of East Fork White River prior to the construction of SIU 3. Approximately three-mile section of US 231 in Martin County (roughly between CR 22 and CR 162).
LI-7	US 231	Currently a two-lane federal route. Increases passing opportunities north of East Fork White River and south of Loogootee prior to the construction of SIU 3 and 4. Approximately two-mile section of US 231 in Martin County (roughly between CR 158 and US 50).
LI-8	US 231	Currently a two-lane federal route. Increases passing opportunities north of Loogootee prior to the construction of SIU 4. Approximately one-mile section of US 231 in Martin County.
LI-9	US 231	Currently a two-lane federal route. Increases passing opportunities south of I-69 prior to the construction of SIU 5. Approximately two-mile section of US 231 within Greene and Martin counties.

Table 2-24: Proposed Associated Local Improvements with Independent Utility for Alt P

2.8 PREVIEW OF THE PREFERRED ALTERNATIVE

Chapter 3, *Environmental Resources, Impacts and Mitigation* will include a description of the environmental resources within the study area and identify the resource impacts associated with each alternative carried forward for detailed study. As noted in this section, the impacts will be provided as a potential range of impacts to account for multiple facility types. The alternatives described in the section and selected to carry forward are B, C, M, O, and P. **Chapter 5** will present further comparison of alternatives and explains the selection of Alternative P as the single preferred alternative.