



TABLE OF CONTENTS

2.1 Process Overview 6

2.2 Scoping and Development Of Preliminary Alternatives 8

2.3 Screening of Preliminary Alternatives 15

 2.3.1 Screening Approach 15

 2.3.1.1 Fatal Flaw 15

 2.3.1.2 Two-Phased Assessment 16

 2.3.1.3 Consideration of Facility Types 17

 2.3.2 Screening of Alternatives Findings 18

 2.3.3 Public and Agency Input 20

2.4 Finalizing Alternatives Carried Forward For Detailed Study 21

 2.4.1 Evaluation of Eastern and Western Routes in Dubois County 22

 2.4.2 Consideration of Existing Highways for Alternatives Carried Forward 24

 2.4.2.1 Evaluation of Existing Facility Upgrades for Alternatives 24

 2.4.2.2 Consideration of Localized System Improvements 27

2.5 Transition to Detailed Analysis of Alternatives 33

 2.5.1 Reconsideration of Alternative R 33

 2.5.2 Alternative Variations at Loogootee 33

2.6 Detailed Performance and Cost Analysis of Alternatives 36

 2.6.1 Alternative Performance Measures 36

 2.6.1.1 Core Goal Performance Measures 37

 2.6.1.2 Secondary Goal Performance Measures 42

 2.6.1.3 Summary of Performance Measures 46

 2.6.2 Alternative Costs 46

 2.6.2.1 Construction Costs 46

 2.6.2.2 Operating and Maintenance Costs 47

2.7 Tier 2 Sections 48

2.8 Preview of the Preferred Alternative 61



FIGURES

Figure 2-1: Overview of the Environmental Documentation Process.....	7
Figure 2-2: Mid-States Corridor Sections and Families.....	9
Figure 2-3. Seven Route Combinations for Section 2 Study Bands.....	10
Figure 2-4: Nine Route Combinations for Section 3 Study Bands.....	11
Figure 2-5: Alternatives formed from Combinations.....	14
Figure 2-6: Transition from Study Bands to Working Alignments for Estimating Impacts	17
Figure 2-7: Section 2 Breaks	22
Figure 2-8: Comparison of Existing Highways in Relation to Alternatives	26
Figure 2-9: Local Improvement Elements.....	31
Figure 2-9a: Local Improvement Elements (RPA P)	32
Figure 2-10: Build Alternatives Carried Forward into Detailed Analysis	34
Figure 2-11: Proposed Sections of Independent Utility for Alternative B	49
Figure 2-12: Proposed Sections of Independent Utility for Alternative C	51
Figure 2-13: Proposed Sections of Independent Utility for Alternative M	53
Figure 2-14: Proposed Sections of Independent Utility for Alternative O	55
Figure 2-15: Proposed Sections of Independent Utility for Alternative P.....	57
Figure 2-16: Proposed Sections of Independent Utility for RPA P	59
Figure 2-17: Proposed Sections of Independent Utility for Alternative R	61



TABLES

Table 2-1: Alternatives formed from Combinations	15
Table 2-2: Working Alignment Buffer Widths for Facility Types	17
Table 2-3: Comparison of Section 2 Impacts Between Eastern and Western Routes.....	23
Table 2-4: Comparison of Eastern and Western Routes Purpose and Need Performance	24
Table 2-5: Local Improvement Elements	30
Table 2-6: Reduction in Travel Time for Major Business Markets.....	37
Table 2-7: Increase in Labor Force with 30-Minute Access to Key Study Area Employment Centers.....	38
Table 2-8: Annual Savings in Truck VHT	39
Table 2-9: Travel Time Reduction to Key Intermodal Centers.....	39
Table 2-10: Peak Period Congestion 2045 Forecast Year (Dubois County, all vehicle types)	43
Table 2-11: Local Improvements Travel Time Savings 2045 Forecast Year (Dubois County, all vehicle types)	44
Table 2-12: Annual Crash Savings for Local Improvements, 2045 Forecast Year	44
Table 2-13: Economic Performance Measures	45
Table 2-14: Construction Cost by Alternative	47
Table 2-14a: Annual Increased O & M Cost by Alternative.....	47
Table 2-15: Proposed Sections of Independent Utility for Alternative B	48
Table 2-16: Proposed Associated Local Improvements with Independent Utility for Alternative B.....	50
Table 2-17: Proposed Sections of Independent Utility for Alternative C	50
Table 2-18: Proposed Associated Local Improvements with Independent Utility for Alternative C.....	52
Table 2-19: Proposed Sections of Independent Utility for Alternative M.....	53
Table 2-20: Proposed Associated Local Improvements with Independent Utility for Alternative M.....	54
Table 2-21: Proposed Sections of Independent Utility for Alternative O	55
Table 2-22: Proposed Associated Local Improvements with Independent Utility for Alternative O	56
Table 2-23: Proposed Sections of Independent Utility for Alternative P	57
Table 2-24: Proposed Associated Local Improvements with Independent Utility for Alternative P.....	58
Table 2-25: Proposed Sections of Independent Utility for Alternative R	60



INTRODUCTION

The following substantive changes have been made to this section since the Draft Environmental Impact Statement (DEIS) was published:

- During the Screening of Alternatives, preliminary Alternative R was evaluated before being removed from further consideration. Alternative R consists of upgrading US 231 from I-64 to I-69. Many comments on the DEIS requested further consideration of an upgrade of US 231 in addition to the five alternatives presented in the DEIS. In response to these comments, this FEIS further evaluates the costs, impacts and benefits of Alternative R. See **Section 2.5.1** for details about Alternative R.
- Multiple comments were received from local officials in Loogootee and Martin County about the alignment of Alternative P in Martin County, in particular in the vicinity of Loogootee. The DEIS showed Alternative P with an alignment west of Loogootee. Portions of this alignment are in Daviess County. These comments requested modifications to Alternative P to bring it through or to the east of Loogootee.
- In response to these comments, three additional variations of Alternative P have been added in Martin County. All variations of Alternative P are within Section of Independent Utility (SIU) 4. See **Section 2.7** for a discussion of Tier 2 sections for all alternatives. Alternative P with these variations has been designated as Refined Preferred Alternative P (RPA P). It is evaluated separately from any alternative considered in the DEIS. A single variation of RPA P will be selected in Tier 2 studies for SIU 4. See **Section 2.5.2** for details about the variations of RPA P near Loogootee.
- This chapter has been updated to reflect the new information associated with the development of RPA P and Alternative R.
- An additional performance measure is provided for Goal 1 of the Purpose and Need. See **Section 2.6.1.1**.
- Updated congestion performance measures to use Highway Capacity Manual (HCM) methodologies. See **Section 2.6.1.2.1**.
- Increases in highway operating and maintenance costs are provided for alternatives. See **Section 2.6.2.2**.

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, the basis for elimination of some detailed study and a description of those carried forward for detailed study. A range of alternatives considered must include the No-Build Alternative¹ (*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 how alternatives were developed, why some were not carried forward for detailed study and why others were carried forward for detailed study. Alternatives carried forward will be described in detail. **Chapter 3 - Environmental Resources, Impacts, & Mitigation** provides estimated impacts to environmental resources for the alternatives carried forward. Each section of this chapter describes a principal milestone in the progression

¹ A no-build highway alternative network is defined as the base year highway network plus committed projects. “Committed” projects are funded transportation projects programmed for construction in the state DOT’s fiscally constrained transportation plans. The No-Build Alternative highway network is the network of existing plus committed projects. The project analysis assumes it is in place in the project forecast year. See **Appendix T, Section 2.3.2** for details of the No-Build Alternative highway network.



of the project, from initiating consideration of alternatives to the identification of a preferred alternative. These sections include:

- **Process Overview (Section 2.1).** Due to the complexity and broad scale of the project, it was initiated as a Tiered Environmental Impact Statement (EIS). This process has different levels of analysis and levels of approval in the two tiers. 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).** Identifying alternatives requires a strong level of input from resource agencies and the public, as well as 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).** This section will summarize how the screening criteria were established, identify those routes which were removed from consideration after discovery of “fatal flaws” and describe 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 general footprints to provide an efficient way to identify alignments 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 working alignment with representative impacts. This section will briefly summarize and compare the estimated 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 by each alternative. This section will summarize the estimated benefits generated by enhancing the transportation infrastructure. The analysis of benefits includes factors such as system linkages, travel times and regional economic impact.
- **Sections of Independent Utility (Section 2.7).** A large project such as Mid-States would not feasibly be constructed all at once if a Build Alternative is determined to be the preferred. For a Tiered EIS, each alternative must be evaluated to determine reasonable sections that could be independently funded, designed and constructed. This section identifies the division of each alternative carried forward for detailed analysis into sections of independent utility (SIUs). This section describes that the SIUs were determined by applying guidance found in 23 CFR 771.111(f).
- **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

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 tiering, this EIS would need to conduct detailed field studies over much of the Study Area, and not rely upon GIS resource mapping. The EIS 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 EIS allows the focus to be on approving the Purpose and Need and determining the most appropriate alternative. 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. Tier 2 environmental documentation will continue and capture the specific volume of impacts of the selected alternative as the engineering design is refined. Tier 1 can only provide an estimate of impacts appropriate for making a decision on a single alternative. 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. When a Build Alternative is selected within a Tier 1 EIS, the selected alternative includes identification of SIUs. An SIU is a portion of the overall project that can function without further construction on an adjoining road. This is not to imply construction will not continue, rather that the termini of the sections are logical as they are constructed, and each provides distinct value. 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 decision; however, they progress individually and not included in the State Transportation Improvement Program (STIP)² 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)³,

² The State Transportation Improvement Program is INDOT’s fiscally-constrained plan which designates the funding level and fiscal year(s) of expenditure for individual projects.

³ 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.



- how it will connect to I-69 and
- the number of SIUs, their logical termini.

The Record of Decision (ROD) for the Tier 1 EIS does not provide a roadway right of way, only a defined corridor approximately 2,000 feet wide is approved in the ROD. The Tier 2 projects will develop an alignment and construction footprint for determining environmental impacts. The anticipated level of environmental documentation, EIS, EA or CE, for each Tier 2 project will be determined later. Resource agencies were engaged during the Tier 1 process, and commitments for the Tier 2 projects have been incorporated where appropriate. All environmental commitments must be carried forward from Tier 1 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**).

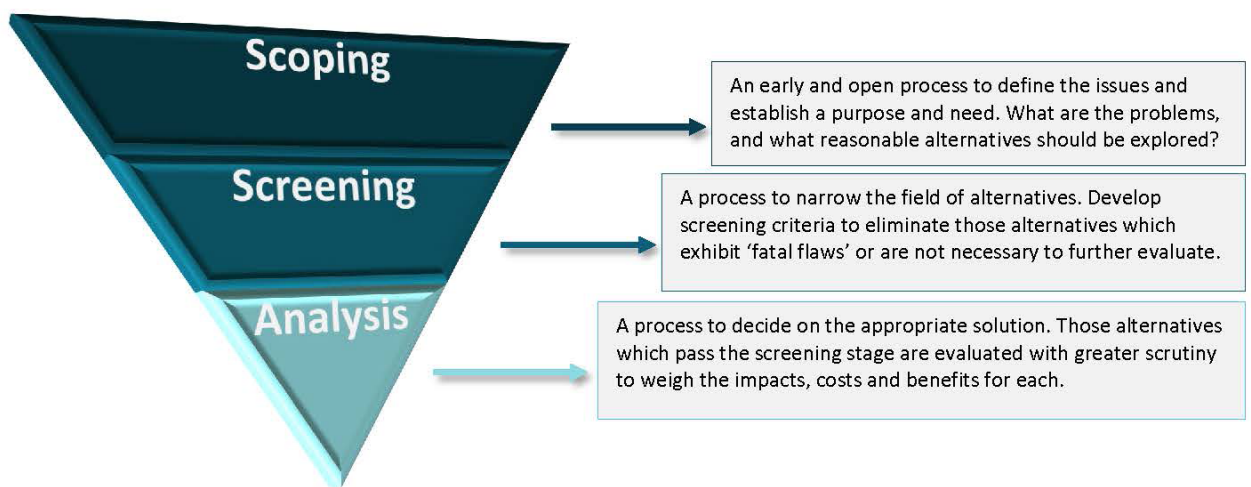


Figure 2-1: Overview of the Environmental Documentation Process

The following sections use several terms to describe the highway alignments considered. See also **Volume II, Appendices C and D**. These terms also are used throughout this FEIS.

- **Route.** In the conceptual and preliminary stages of this project, alignments were proposed by project staff, agencies and the public. These alignments were designated as “routes.” They were proposed as portions of an alignment connecting I-64 and I-69/SR 37. A two-mile wide Study Band was identified for each route, with the route in the center of the Study Band. See **Section 2.2**.
- **Alternative.** Routes which were combined to connect I-64 with I-69/SR 37 were designated as alternatives. The term “route” continued to be used to refer to portions of alternatives. When an end-to-end alignment was combined with a single facility type, it also was designated as an “Alternative.” In the detailed analysis of alternatives in the EIS “alternative” is used to designate and collectively refer to all facility types and variations associated with an alignment connecting I-64 with I-69/SR 37. For evaluation of costs, impacts and benefits in the EIS, alternatives were evaluated by considering both expressway and Super-2 facility types for each alternative (including alternative variations for Alternative P and RPA P) connecting I-64 with I-69/SR 37.
- **Corridor.** After identifying alternatives carried forward in the Screening of Alternatives, a corridor was identified for each alternative. That corridor is generally 2,000-foot wide, centered around the center line of the alternative. This Tier 1 study selects a preferred corridor. RPA P has four corridors in SIU 4 at Logootee.



During Tier 2 studies, a final alignment and facility type(s) will be selected within its Tier 1 corridor. This will include selecting a single corridor at Loogootee in SIU 4.

- **Alignment.** This general term designates the path of a road or other transportation improvement. A related term is **working alignment**. In this Tier 1 EIS, this is the conceptual footprint of the right-of-way within a corridor used solely to estimate and compare the environmental impacts of the various alternatives. This is not a final alignment, which would be determined in the design phase.
- **Discontinuing Use of Route.** Subsequent to the Screening of Alternatives, the decision was made to defer selection of specific facility type(s) until Tier 2 studies. The decision was also made to remove the freeway facility type from consideration. At this point, the use of “route” was discontinued. In the detailed analysis of alternatives in **Chapters 3 through 6**, only “alternative” is used to designate alignments connecting I-64 with I-69/SR 37. Each alternative was evaluated using a range of costs, impacts and benefits for both the expressway and Super-2 facility types.
- **Variation.** This term is used to refer to individual discrete elements within an alternative in this EIS. It is used to refer to a single corridor location where multiple corridors occur as part of the same alternative. It also is used to refer to a single facility type for a given alternative. For example, “Super-2 variation of Alternative X.”

2.2 SCOPING AND DEVELOPMENT OF PRELIMINARY ALTERNATIVES

The project is intended to improve transportation linkage between US 231/SR 66 at the Indiana end of the Natcher Bridge over the Ohio River and I-69 (either directly or via SR 37) 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 alternatives. 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 substantial 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 alternatives.

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 has been upgraded to a four-lane expressway in the last 10 years. 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 spreads out in a radius from Section 2 to establish a northern terminus. Because this section radiates out from Section 2, and 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 routes were only developed for Sections 2 and 3. A single route representing the existing alignment of US 231 will be used for Section 1. The development of preliminary alternatives focused on receiving input for routes separately for Sections 2 and 3. After routes in each section were established, combinations of routes between the three sections were created to form a single alternative between the termini.

Except for the existing US 231 facility, each route 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 screening process for the alternatives will be discussed in **Section 2.3**; however, the scoping phase did include some pre-screening of conceptual routes. These pre-screening factors included fatal flaws or the creation of indirect travel. Fatal flaws involved concepts which did not meet the project’s Purpose & 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 routes from Sections 2 and 3 prior to the formation of alternatives. The indirect travel pre-screening removed routes with indirect travel.

Indirect travel was associated with a combination of suggested routes which would result in the formation of an alternative 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 Route E-1 in Section 2 combined with Routes W-1 or W-2 in Section 3. The resulting alternative would 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 route in Section 1, were considered appropriate for use in the development of alternatives. The various combinations were formed, and each assigned a letter designation. Of the 18 end-to-end alternatives, 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 alternatives except the US 231 upgrade, Alternative R. The consideration of both the alternative and facility type resulted in the recommendation to evaluate 28 preliminary alternatives from the initial 10 preliminary alternatives. Nine alternatives were evaluated for three facility types and the existing US 231 upgrade as a Super-2 only.

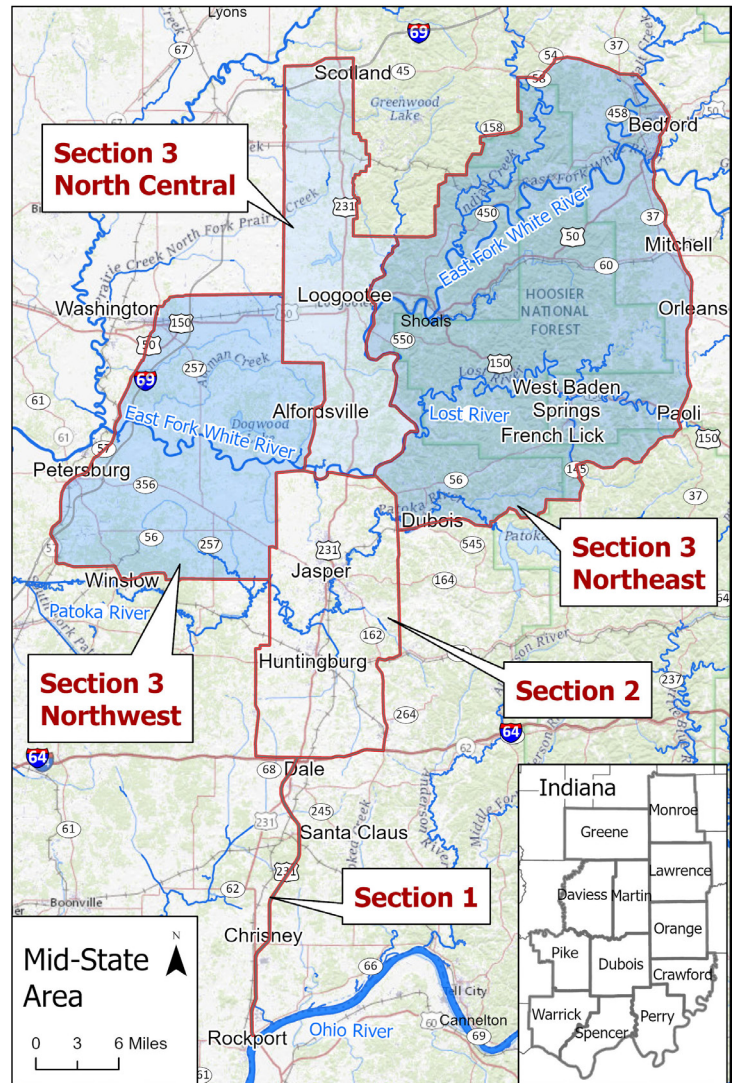


Figure 2-2: Mid-States Corridor Sections and Families

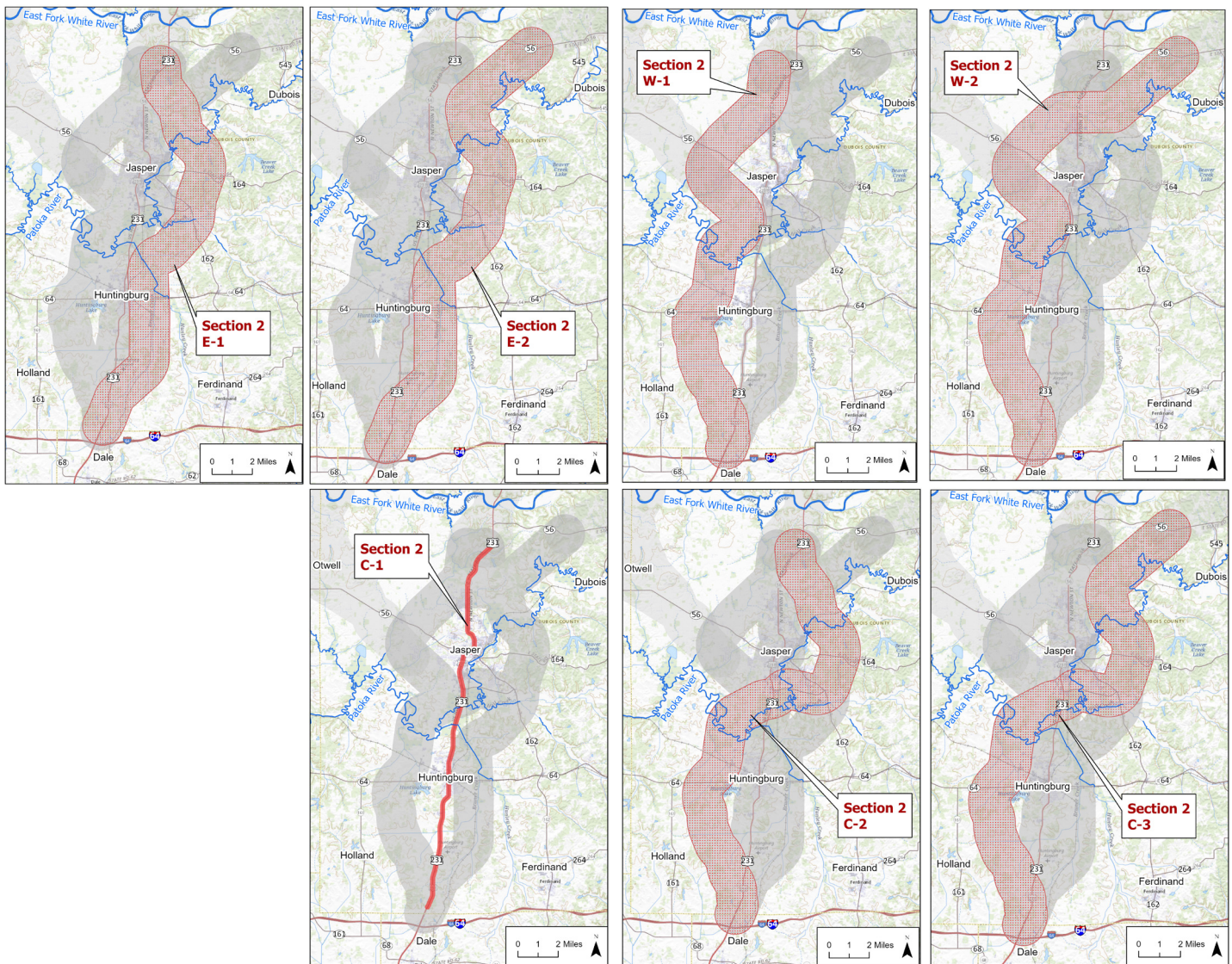


Figure 2-3. Seven Route Combinations for Section 2 Study Bands

The alternatives were grouped into the three families within Section 3 to categorize their northern termini. The Northwestern alternatives connect to I-69 west of Loogootee. The North Central alternatives connect into I-69 north of Loogootee near Crane. The Northeastern alternatives connect to I-69 via SR 37 east of Loogootee. The alternatives in each family are listed below and shown in **Figure 2-5**. Alternatives with a red slash through their maps are those alternatives which were not carried forward as preliminary alternatives.

- **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.

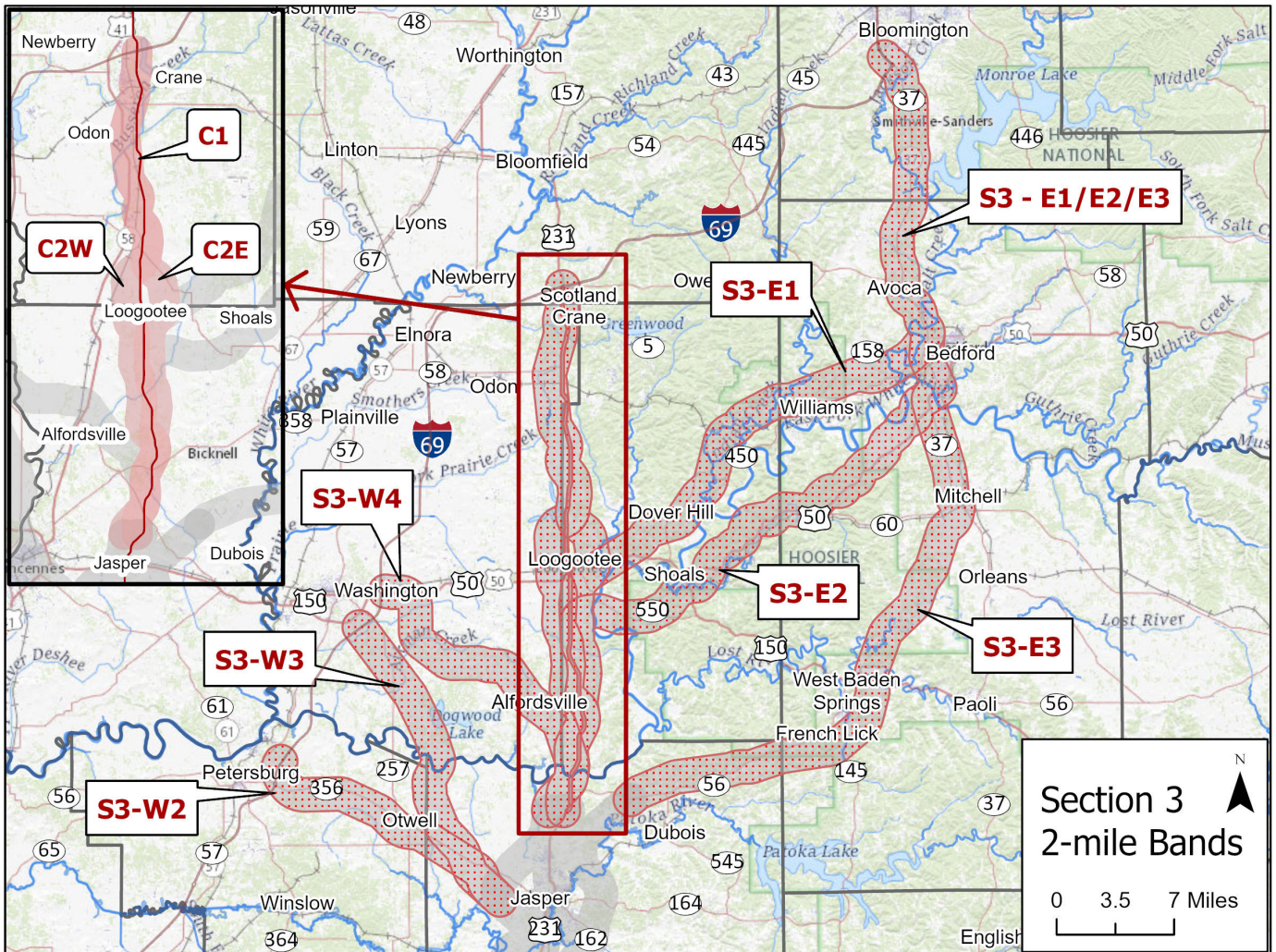


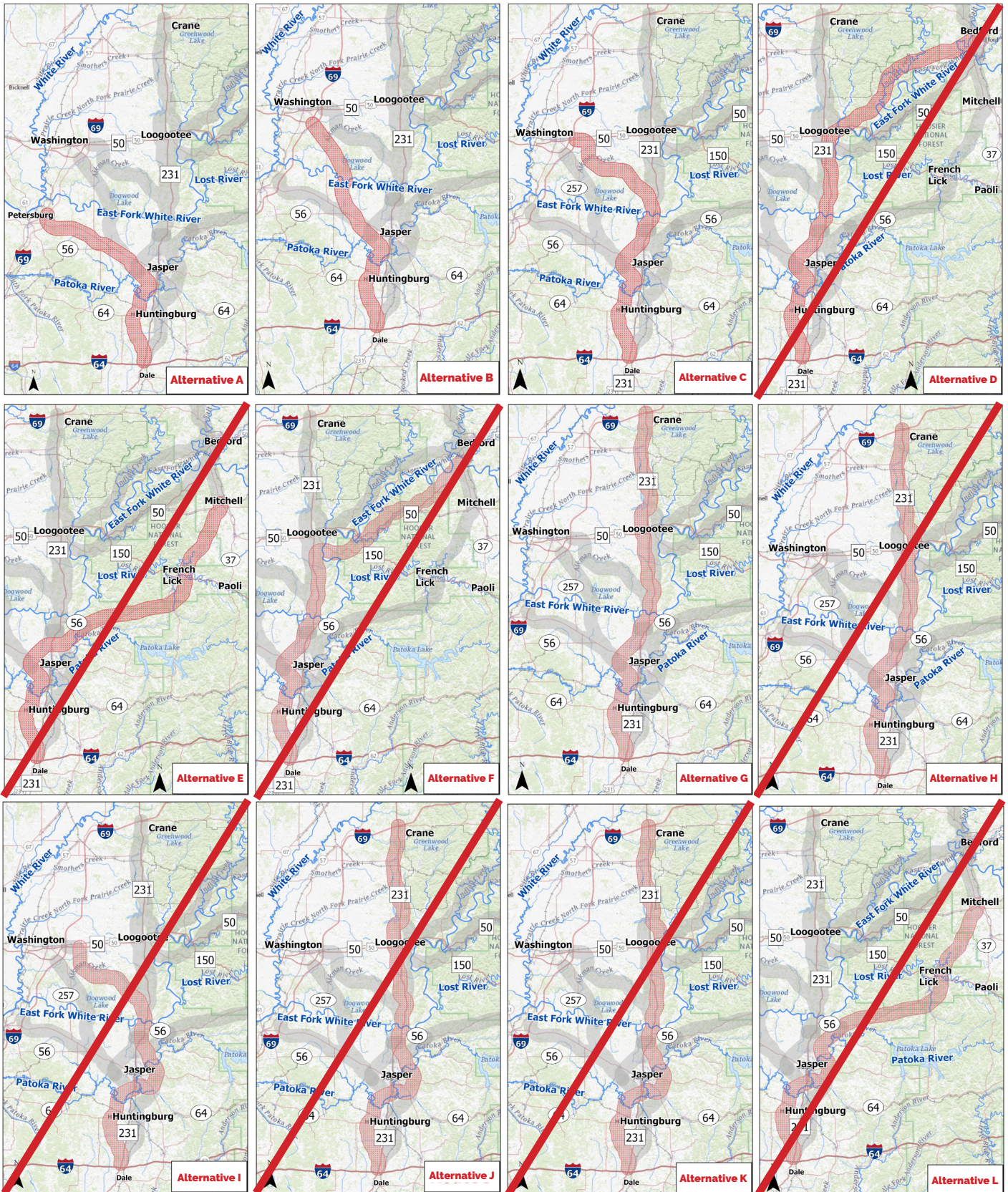
Figure 2-4: Nine Route Combinations for Section 3 Study Bands

- 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 alignment 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 alignment, 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 231⁴.
- 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 alignment, going through Huntingburg, Jasper and Loogootee. This alternative uses the existing US 231. The alternative 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 40 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.
 - 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.

⁴ Alternative P at this stage in the project only contained the eastern bypass of Loogootee, Alternative Q which was the combination of the eastern route in Section 2 and the western bypass of Loogootee was not recommended to carry forward into the screening stage; however, it was effectively revived as a variation of Alternative P as the DEIS evolved. It was determined appropriate to carry forward as the P-West variation rather than a standalone alternative.



Final Environmental Impact Statement



MID-STATES CORRIDOR

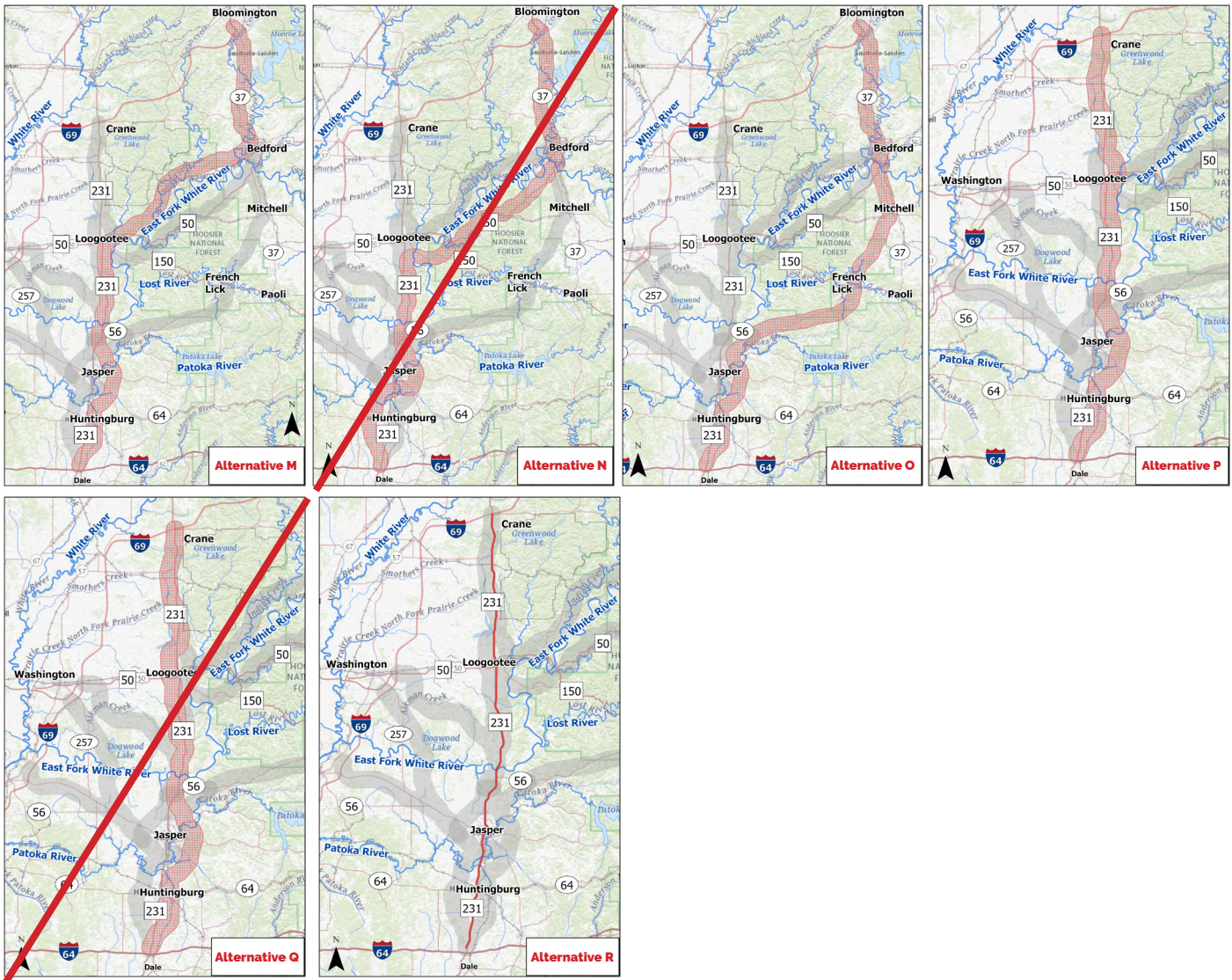


Figure 2-5: Alternatives formed from Combinations



Alternative Name	Preliminary Route References by Section			Recommend for Further Screening
	Section 1	Section 2	Section 3	
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: Alternatives formed from 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 alternatives, creating 28 Preliminary Build Alternatives, No-Build Alternative 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 through the alternatives analysis. The No-Build Alternative remains the basis for comparison for the Build Alternatives.

2.3.1.2 Two-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. Goals 3, 5 and 6 were not considered core goals and were not used for reference in the phased assessment. Goals 1, 2, 4⁵ and 7 served as the performance measures. The performance measures are increasing accessibility to major business markets, providing more efficient truck/freight travel in Southern Indiana, reducing crashes in Southern Indiana, and increasing access to major rail and air intermodal centers. The analysis evaluated performance based on regional traffic forecasting and the 2045 traffic model assignments for each Build Alternative and the No-Build Alternative. The comparison for Build Alternatives includes forecasted induced growth due to economic development that may occur from a Build Alternative.

The large number of alternative 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 alternative family (Northwest, North Central and Northeast) assuming differences 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 alternatives in each alternative family.

For example, in a given family, Alternative X had traffic assignments for all three facility types. Suppose further that Alternative 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. Alternatives Y and Z in the same family had traffic assignments for only the expressway facility type. For Alternatives 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 Alternatives 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 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 differences 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.

⁵ See **Chapter 1** for further detail, Goal 4 was reduced to a secondary goal after the screening report was released.

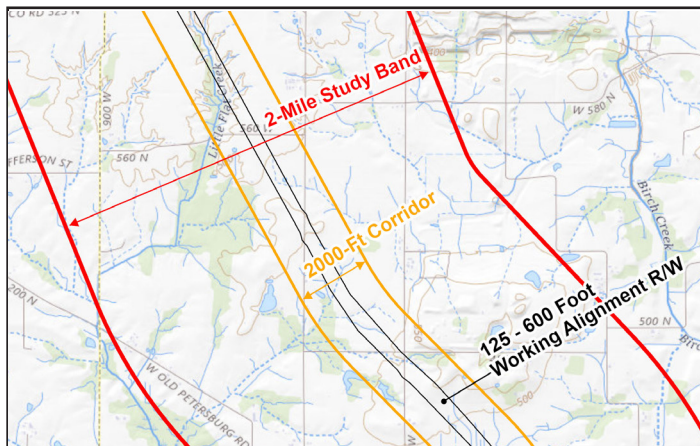


Cost Estimates. Construction costs for each alternative were calculated on a unit cost basis that considered facility type and terrain. The estimates included only construction costs and excluded additional costs such as right-of-way, relocations, design, construction management, utility relocation and contingencies.⁶ 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 Logoootee and Crane and Northeast would affect Bedford, French Lick 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





narrower medians may be warranted to assist in avoidance of impacts, and access is provided by either interchanges or at-grade intersections depending on the connecting road. The Super-2 facility assumes one lane of travel in each direction but includes additional passing or auxiliary lanes along the length of the alternative. The Super-2 facility type used in this Tier 1 study meets current INDOT design standards, which existing US 231 does not meet in some circumstances. Access to a Super-2 is provided at-grade for all alternatives.

2.3.2 Screening of 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 Alternative recommended to be carried forward for further detailed studies. The 10 Build Alternatives represent combinations of facility types across five alternatives, 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
 - Alternative B as expressway
 - Alternative C as freeway
 - Alternative C as expressway
- North Central Family ⁷
 - Alternative P as Super-2
 - Alternative P as freeway
 - Alternative P as expressway
- Northeast Family
 - Alternative M as Super-2
 - Alternative M as freeway
 - Alternative M as expressway
 - Alternative O as expressway

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

⁷ Only Alternative P was recommended; however, the screening report determined the variation of impacts associated with the Loogootee bypass warranted consideration of Alternative P as containing both an Eastern and Western bypass. This effectively combined Alternative P and Alternative Q, of which Alternative Q had not been carried forward from the preliminary report.



- 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.⁸

No-Build Alternative The No-Build Alternative includes the existing US 231 with routine maintenance activities to preserve the facility in its current condition. It includes programmed improvements throughout the entire modeled area, as well as areas south of the Ohio River. No current or programmed improvements are present on the US 231 corridor. Major “other” projects in the No-Build Alternative include the new I-69 Ohio River Crossing connecting Evansville and Henderson, and the completion of I-69 between Martinsville and Indianapolis. 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 (Alternatives A, B, and C), Alternative A underperformed in most of the Purpose and Need categories compared to Alternatives B and C. For this reason, it was not recommended to be carried forward. Alternative C was the best performer in the Purpose and Need categories, but it is a longer alternative, and this resulted in more impact to forests and required more right-of-way. Despite the longer length of Alternative C, overall costs were similar and both alternatives were recommended to be carried forward. With respect to recommended facility types for each alternative, the freeway and expressway performed substantially better than the Super-2, and the costs 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 Alternative C due to higher performance on project goals than Alternative B. The increased impacts for Alternative B as a freeway did not outweigh the benefits in performance.

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

⁸ Based on comments received on the DEIS, all Tier 2 studies will be required to consider strategies to both mitigate impacts to and incorporate connectivity with existing and planned trails.



impacts. Alternative K was removed from further consideration because it performed similarly to Alternative P, but it had substantially 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 Alternative P, it was anticipated Alternative K would be unacceptable to the agency. Alternatives 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, Alternative P had more forest and stream impacts while Alternative G had more wetland and residential impacts. Alternative P did outperform Alternative G in three of the four purpose and need categories. Given the overall lower performance and higher wetland impacts, Alternative G was removed from further consideration. The analysis identified a series of trade-offs between performance in the three categories for Alternative P in consideration of facility type. As such, it was recommended to carry forward all three types for Alternative P. Additionally, Alternative P was recommended to be carried forward giving consideration of both the Eastern and Western bypass variation of Loogootee within the alternative.

In the Northeast Family (Alternatives M, N, and O), Alternative N was removed from further consideration because it performed the worst in all three performance categories. Alternatives 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. Alternative 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, Alternative O had more potential to impact karst resources, and the freeway costs were significantly more. For these reasons, only the expressway facility type was recommended to be carried forward for Alternative O. Regarding Alternative 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 Alternative 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, the effects transformed the economy and 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 summarization of the input received during the February/March engagement period is:

Public, Including Stakeholders The primary concerns expressed by the public to the various 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 alternatives. Across the Study Area, preference and concerns for



alternatives 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 alternative to their community.

Agency Those agencies that provided comments specific to alternatives 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 routes around Jasper and Huntingburg be carried forward for detailed study as combinations for the Northeast and North Central alternative families. Additional key comments were the request to further evaluate alternatives which increase use of existing highways, 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, costs, and benefits to accommodate for both types of facilities within a single alternative. Going forward, the use of “route” was discontinued following the Dubois County (Section 2) route selection described below, since only alternatives between I-64 and I-69/SR 37 were considered.

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 routes around Jasper and Huntingburg
- Further exploration of existing highway upgrades for alternatives carried forward



2.4.1 Evaluation of Eastern and Western Routes in Dubois County

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

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 Alternatives C, P, M and O⁹ with both an Eastern and Western route in Section 2. For Alternative P, only the western Loogootee bypass was used for the comparison. This analysis provided eight combinations of four Alternatives 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 Alternatives recommended to carry forward to provide the ability to evaluate this level of detail on all future analyses (Figure 2-7).

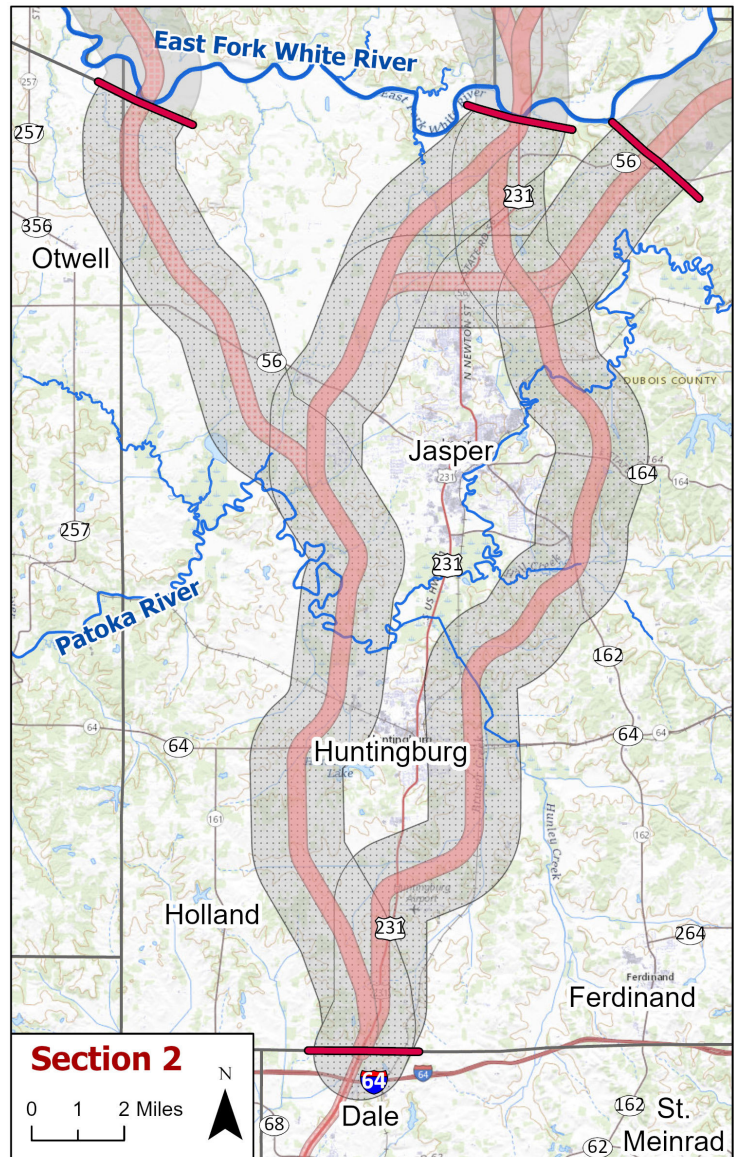


Figure 2-7: Section 2 Breaks

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

- When the measure is less than 20 percent between the two routes, each is given a rating of “- - -”. This corresponds to the performance of the two routes being relatively equal.
- Performance which is between 20 percent and 50 percent better than that for the other route is given a rating of W+ or E+. These correspond to the Western/Eastern routes’ performance being between 20 percent and 50 percent better than that for the other route.

⁹ One or more facility types of these routes were identified as carried forward in the Screening of Alternatives Report. Alternative B also was identified as carried forward. It was not included in this analysis because it cannot be joined with an Eastern Route in Dubois County without substantial additional alignment development. Alternative B was identified as being analyzed in detail in the DEIS regardless of the findings of this analysis.



- Performance which is at least 50 percent better than that for the other route is given a rating of W++ or E++. These correspond to the western/eastern route’s performance being at least 50 percent better than that for the other route.

Estimated costs were shown to be near equal and were not a deciding factor for the routes. The Western Alternatives had an average construction cost of \$966 million. The costs of Eastern Alternatives 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 prime farmland was added as a criterion.

The request from the agencies to carry both routes 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 route outperforming the other in terms of overall environmental resources (**Table 2-3**). The Eastern Route did have approximately 100 more acres of forest impacts, but the Western Route had 11 more acres of wetland impacts and almost a mile of additional stream impacts. The Western Route also had over 100 acres more impact to prime farmland.

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

Based on the additional analysis, the decision was made to retain the Eastern Route for Alternatives C, P, M and O; Alternative B retains the Western Route.¹⁰

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 Routes

¹⁰ This analysis also is applicable to RPA P to retain the Eastern Route.



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 Routes 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 2 Evaluation of Existing Facility Upgrades for Alternatives

Creating a facility on new alignment often is less impactful than upgrading an existing roadway network 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. This is seen in the level of relocations for the hybrid alternative considered in **Appendix V** (discussed later in this section) as well as the post-DEIS reconsideration of Alternative R. 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 less steep vertical grades. Meeting the increased roadway standards in certain areas may result in substantial changes to the existing roadway alignment and/or substantial earthwork to cut through hills or fill in valleys. Maintenance of traffic through an existing corridor



during construction is another important factor. Where substantial 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 Alternatives 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**.

- **Alternative B** This alternative parallels portions of US 231, SR 56, and SR 257. Shifting the alternative to align with SR 56 and SR 257 added several miles to the alternative and would require a bypass of Otwell. The upgraded facilities would substantially 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.
- **Alternative C** This alternative does not parallel any existing road other than US 231. However, it serves traffic which would use US 50 to access US 231. The alternative 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 alternative and generated a higher level of east-west movement than was desired for the north-south linkage goal.
- **Alternative P** This alternative generally parallels US 231 for the entire its entire length. High impacts to certain resources were concentrated in the communities along the alternative. The alternative uses very little of the existing roadway attempting to avoid urban areas, limiting relocations in rural areas and providing geometry that can be conducive to providing access to local roads and property.¹¹
- **Alternative M** This alternative parallels portions of US 231, US 50, and SR 450¹². 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 substantially increase floodplain impacts. This alternative would substantially 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.
- **Alternative O** This alternative 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 alternative 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.

This analysis did identify that there were some improvements to existing highways associated with each alternative which would offer local safety and congestion benefits. These local improvements were included as part of each alternative. They are listed in **Section 2.7 – Tier 2 Sections**. The costs, benefits and impacts of each alternative include those of their associated local improvements. Details of their costs, benefits and impacts are provided in **Appendix V**.

The location of the local improvements is conceptual in this Tier 1 EIS. The actual location and configuration of local improvements will be determined during Tier 2 studies.

¹¹ This description is consistent with RPA P.

¹² Alternative N was eliminated from further consideration because it was similar to Alternative M but followed US 231 and US 50. Alternative N had higher impacts, especially to natural resources. Further consideration of Alternative N using a US 50 corridor would not be advised due to the volume of sensitive resources on this route, high quality natural areas and managed lands.

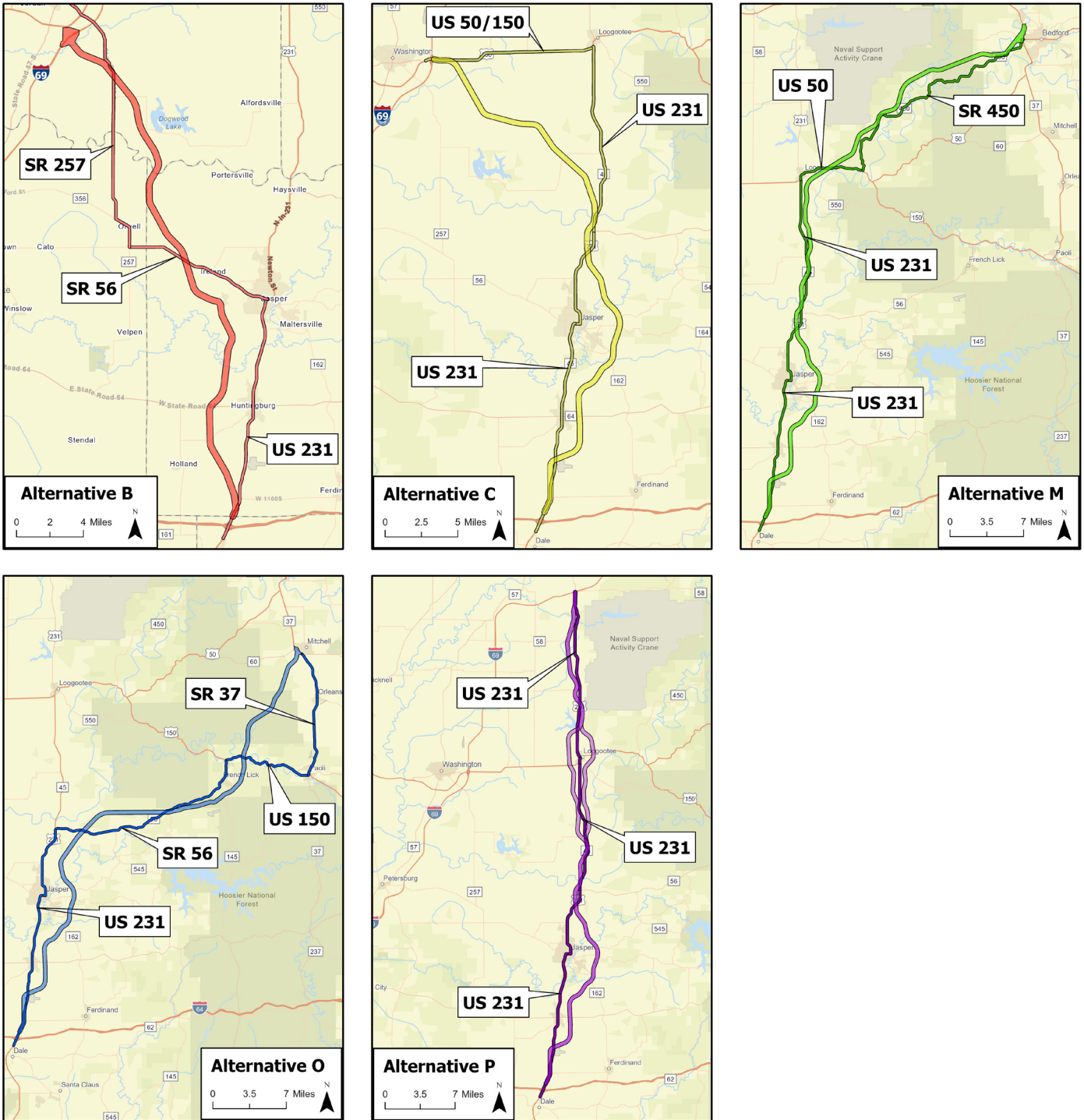


Figure 2-8: Comparison of Existing Highways in Relation to Alternatives



During the development of the Preliminary Alternatives, Alternative R was the only one proposed as an upgrade of an existing facility, US 231. US 231 is on the National Highway System and offered the most reasonable facility between the project termini to propose doing so. As described in the Screening of Alternatives 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 existing facility. 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 in the DEIS.

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 Alternative 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 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, it was found to consistently underperform in comparison to the other alternatives carried forward. This analysis showed substantial 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 are provided in **Appendix V**.

The hybrid P-231 alternative offered the best opportunity to incorporate a substantial portion of an existing roadway into an alternative. It still significantly 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 variation were located where impacts could be minimized. This balance for efficiency and impacts reduces the overall performance. Based on the outcome of the hybrid P-231 alternative analysis, INDOT concluded further consideration of incorporating existing roadways into the Alternatives developed was not warranted for the DEIS.

Following the release of the DEIS, many of the comments received returned to the question of why an upgraded US 231 alternative was not carried forward. Although the screening process identified the combination of reduced performance and potential for high impacts to a subset of key resources, public comments indicated there was insufficient direct comparison without advancing the alternative forward for detailed study. A decision was made to perform the detailed analysis of Alternative R for comparison with the new alignment alternatives in the FEIS. This is further discussed in **Section 2.5.1**.

2.4.2.2 Consideration of Localized System Improvements

The process of investigating combinations of existing facility 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 accompany the proposed new facility alignments to produce an alternative-wide enhancement. This evolved into a two-pronged approach of matching a series of upgrades to existing roadways in conjunction with each of the Alternatives 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 highway is constructed. These localized improvements are illustrative but supported by this study and through funding announcements. Incorporation of these localized elements into the alternatives serves to disclose the needs within the study area and identify potential impacts of both.

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 alternative that can be fiscally implemented in a responsible manner. Completion of the Tier 2 studies and construction of the SIUs will be staggered over time, and not be concurrent. This means a portion of the new highway 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 highway is under construction.

The complete fiscal programming for the overall construction has not been defined for the Mid-States Corridor project, but as noted will extend over multiple budget cycles. There are benefits to each alternative for shorter-term local improvements to be paired with new terrain alternatives. These local improvements can be constructed more quickly. Thus, these local improvements will provide immediate benefits and enhance system function while the new terrain alternative is designed, planned and constructed.

Each alternative was evaluated incorporating combinations of localized improvements along existing roadways 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.¹³
- Would not be considered part of a No-Build Alternative.
- 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 (**Figure 2-9a** presents the RPA P). The locations and nature of improvements were identified based on review of the existing network traffic volumes of the associated facilities for each alternative 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 low impact upgrades providing safety benefits while reducing time to address these performance benefits.

To be further responsive to agency comments, all 18 local improvements were analyzed in **Appendix V** as a stand-alone alternative, named the Upgrade Alternative. This analysis showed that the Upgrade Alternative performed poorly on core goals and would not merit further consideration. See **Section 4** in **Appendix V**.

These local improvements are defined based on the Tier 1 analysis and are considered to be representative elements to improve the benefits of each alternative. 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 and based on their scale could be processed as lower level NEPA documents for subsequent development. These local improvements are anticipated to be adjusted during this 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 new highway alternative and associated Local Improvements.

¹³ The selected alternative must show significant benefits for all core goals. See **Chapter 1 – Purpose and Need, Section 1.5**.



Identifier	Alternatives Associated	Existing Roadway	Description
LI-1	B, C, M, O, P (RPA 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.
LI-2	B, C, M, O, P (RPA 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.
LI-3	B, C, M, O, P (RPA 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.
LI-4	C, M, O, P (RPA 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.
LI-5	C, M, O, P (RPA 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.
LI-6	M, P (RPA 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.
LI-7	M, P (RPA 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.
LI-8	P (RPA P)	US 231	Approximately one mile of an added passing lane north of Loogootee, Martin County, extending from Loogootee and tying into Alternative P. Primary benefit is safety. Anticipate only a northbound passing lane necessary. Tier 2 studies would be necessary to determine optimal design.
LI-9	P (RPA 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 Alternative P. The total length and location would be determined in Tier 2 studies for optimal design.
LI-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.
LI-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.



Identifier	Alternatives Associated	Existing Roadway	Description
LI-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.
LI-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.
LI-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.
LI-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.
LI-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.
LI-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.
LI-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

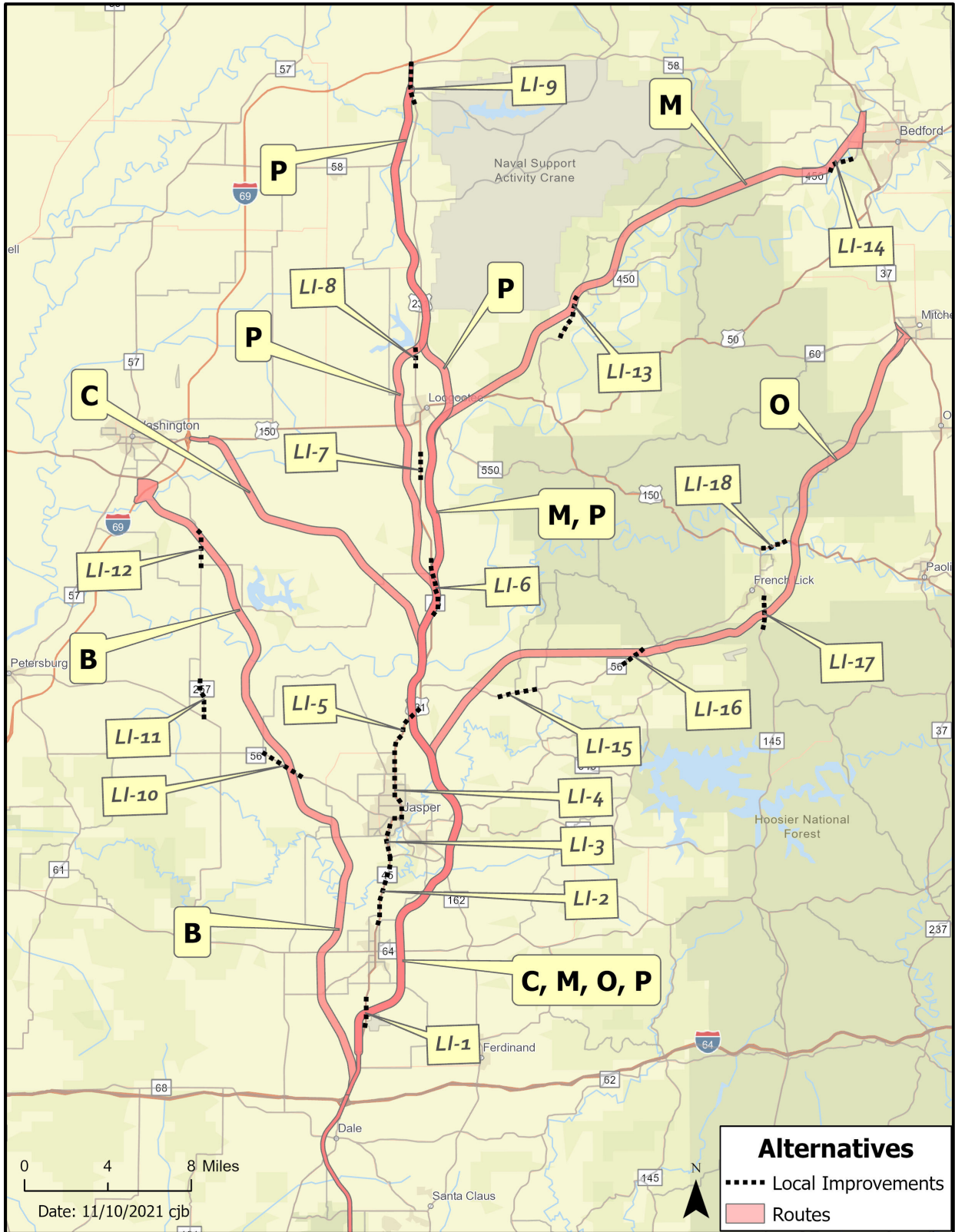


Figure 2-9: Local Improvement Elements

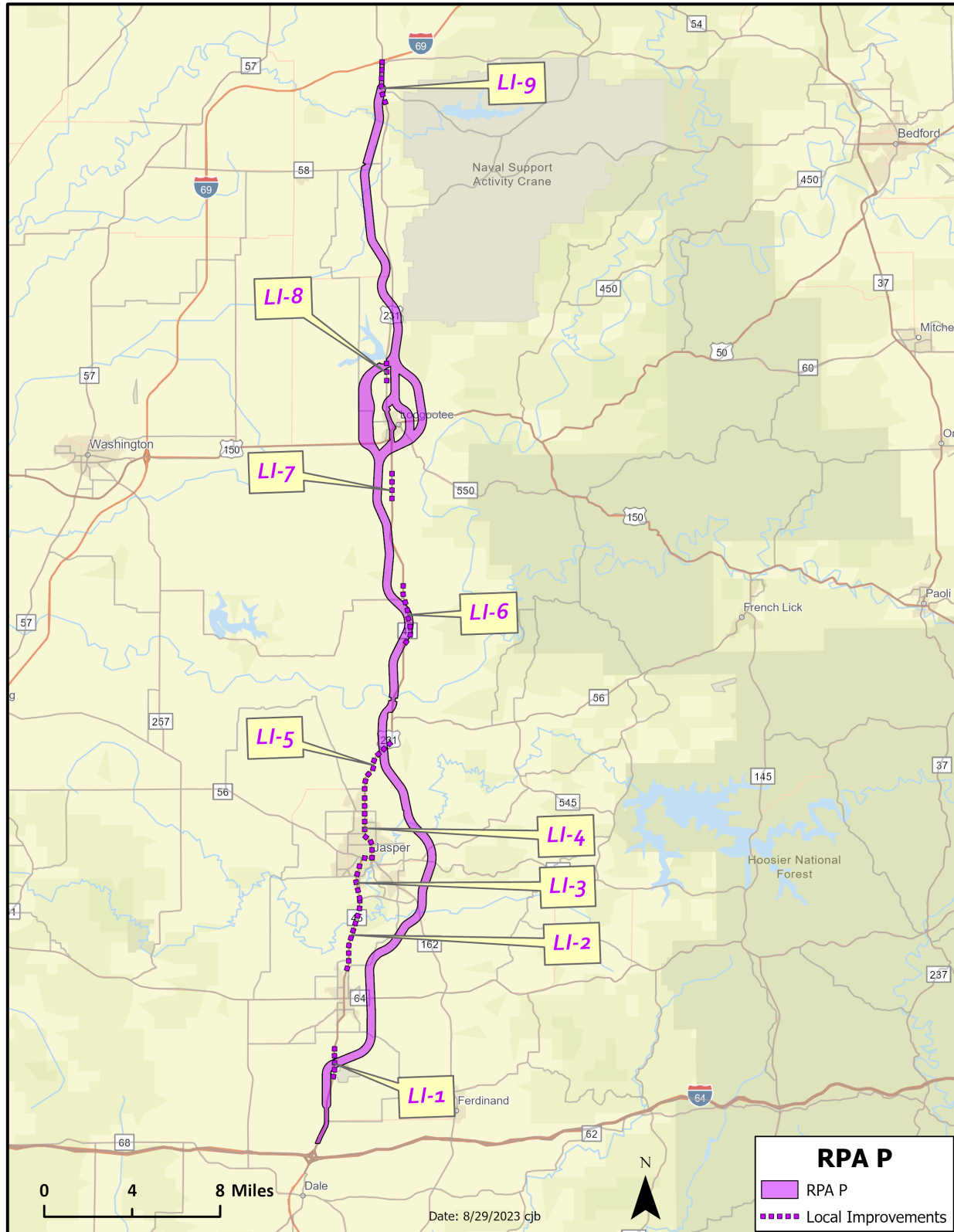


Figure 2-9a: Local Improvement Elements (RPA P)



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 10 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 Build Alternatives, plus the No-Build Alternative, were carried forward for detailed analysis of their performance, impacts and costs in the DEIS. This FEIS presents two additional alternatives for detailed analysis in Chapter 3 resulting from input received following release of the DEIS: Alternative R and RPA P. Alternative R was originally considered and not carried forward during Alternative Screening. However, in response to comments on the DEIS, it was reevaluated with more detailed analysis. **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 with a new alignment is also 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 roadways. The impacts are reported as a range associated with variations including a Super-2 and expressway facility type within the new corridor and include other local enhancements to nearby existing highways. **Figure 2-10** presents the alternatives carried forward.¹⁴

2.5.1 Reconsideration of Alternative R

At least 100 comments were received on the DEIS which advocated upgrading existing US 231 between I-64 and I-69. These comments stated this would be preferable to any of the alternatives presented in the DEIS. Common themes in these comments were that such an alternative:

- Would be significantly less impactful than those presented in the DEIS,
- Would be much less costly than those presented in the DEIS, and
- Would offer a similar level of benefits as other DEIS alternatives.

This alternative had been considered as a preliminary alternative but was not carried forward in the Screening of Alternatives. See **Section 2.3.2 – Screening of Alternatives Findings** and **Appendix D – Screening of Alternatives, Section 3 – Alternatives Carried Forward for Detailed Study** for details.

Based on this level of public interest, Alternative R was analyzed in this FEIS to fully evaluate its costs, impacts and benefits in comparison to other alternatives. See **Chapter 2** through **Chapter 5**. The reconsideration of Alternative R is intended to provide further transparency in the NEPA analysis process.

2.5.2 Alternative Variations at Loogootee

Comments on the DEIS stated that Alternative P, especially its western bypass of Loogootee, would have negative impacts on the Loogootee area. Several of these comments were received from local officials.

¹⁴ Figure 2-10 has been updated to include RPA P and Alternative R

Final Environmental Impact Statement



**MID-STATES
CORRIDOR**

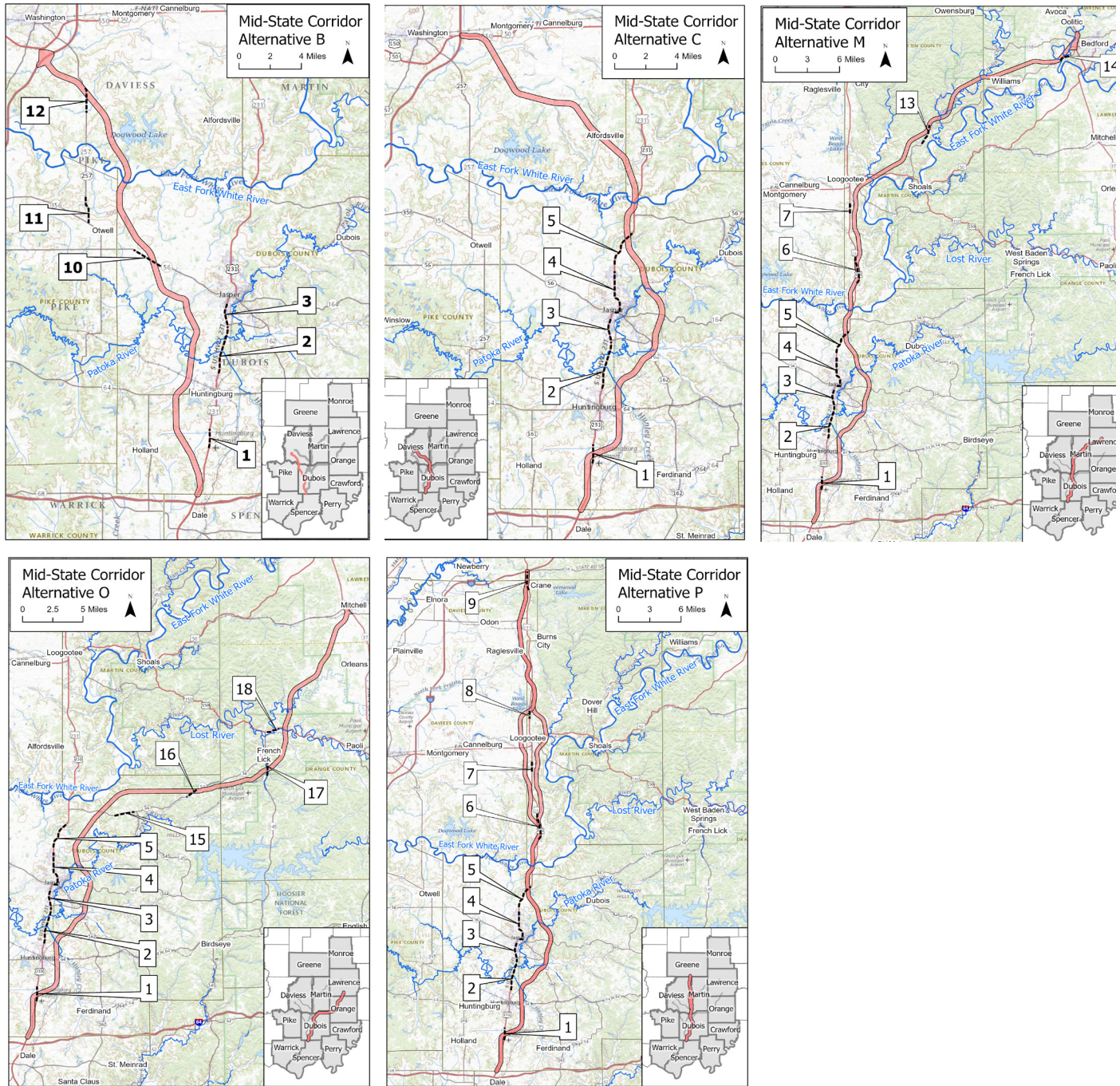


Figure 2-10: Build Alternatives Carried Forward into Detailed Analysis



The Collective of Legislative and Executive Governing Bodies of Martin County Indiana submitted a comment (Comment 0732 in Volume IV of this FEIS). It stated that the DEIS preferred alignment would divert traffic from Loogootee, be inconsistent with local Comprehensive Planning and Land Use Zoning and would impact housing and education initiatives. The comment also noted that the Amish community in eastern Martin and Western Daviess counties could be significantly impacted by the project. The signees included all members of the Martin County Board of Commissioners, Martin County Council and the City of Loogootee Executive and Legislative Bodies.

Other key comments are summarized here. The full versions are available in Volume IV, Responses to Comments, of this FEIS.

- Greg Jones, Southern Indiana Development Corporation, shared in Comment 0525 his concerns for Loogootee and Martin County businesses. He stated, “I believe that there is the potential for Loogootee and Shoals to lose necessary customers traffic that keep their fragile business ecosystem surviving.”
- Paul George, Martin County Farm Bureau, wrote on behalf of the more than 1,000 members of his organization that Alternative P is strongly opposed. In Comment 1000 he shares, “our farm ground is working land that is essential to the local and state economy, and INDOT has selected a route that has the highest potential impact on our land. Farmers would be irreparably damaged by Preferred Alternative Route P, a route that will split farms, plowing through hundreds of acres of farmland, forest, and wetlands.”

Based on this level of public interest and the specificity of the input received, Alternative P was modified to produce Refined Preferred Alternative P (RPA P). This FEIS retains Alternative P as presented in the DEIS as well as RPA P. This provides a comparison between the original range of performance and impacts for Alternative P and its refinement for the FEIS. RPA P does not represent a substantive change or the development of an entirely new alternative. Its performance, cost and impacts are evaluated and compared to other alternatives at the same level of detail in **Chapter 2** through **Chapter 5**.

The modifications to produce RPA P are focused in SIU 4 (see **Section 2.7** for descriptions of SIUs) and its alignment near Loogootee. RPA P maintains the western bypass of Loogootee but includes a variation through Loogootee and two modified eastern bypass variations. The additional eastern bypass variation (RPA P3) was included to address the request to consider an eastern bypass closer to the downtown area. The “through Loogootee” variation (RPA P2) will not consider an expressway facility type. Each of these variations will branch from the same location north and south of Loogootee.

Based on this input, it is not yet appropriate to identify a single variation at Loogootee during this Tier 1 Study. These multiple comments could not be addressed during this Tier 1 Study. Based on these comments, three variations were added in SIU 4. The Tier 2 Study in SIU 4 is the appropriate means to conduct a detailed evaluation of the environmental, economic, engineering and other impacts and benefits in the Loogootee area.

For details about post-DEIS interactions with residents and officials of Loogootee and Martin County, refer to **Appendix NN – Post-DEIS Loogootee Outreach**.



2.6 DETAILED PERFORMANCE AND COST ANALYSIS OF ALTERNATIVES

This section summarizes performance of all alternatives on each Purpose and Need performance measure. It also provides construction cost estimates for each alternative.

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)*.
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 and 244 public comments. There were eight primary categories for public and agency input. These are described in **Section 1.6 – 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 preferred alternative must provide significant 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. Note that Alternative R has only a Super-2 facility type. For this reason, its performance measures do not have ranges.

The performance measures assess benefits to regional travel flows both within the Study Area as well as to and from outside of the Study Area. RPA P and Alternative P in most instances have the same alignment and access points. They differ slightly only in Section of Independent Utility (SIU) 4 near Loogootee. These slight differences do not affect their comparative performance. The following tables reflect that RPA P and Alternative P have the same performance.



All performance measures are calculated for the 2045 Forecast Year in the Mid-States Regional Travel Demand Model.

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**

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. Reductions in travel time between business centers and key destinations, as well as between I-64 and I-69 via the US 231 corridor.
2. Increases in labor force with 30-minutes access to key Study Area employment centers.

The performance of each alternative on these measures is provided in **Table 2-6** and **Table 2-7**. Since the DEIS, an additional travel time comparison has been added to the first performance measure. It measures the improvement in travel time between US 231/I-64 and US 231/I-69.

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

Source: Mid-States Corridor Regional Travel Demand Model

Table 2-6: Reduction in Travel Time for Major Business Markets



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

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 vehicle hours traveled (VHT) in the Study Area.¹⁵

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 Alternative. Alternative R, which has only the Super-2 facility type, also has slightly poorer performance than the No-Build Alternative. This is due to a small number of trucks making slightly longer trips to use a Super-2 Alternative, while not receiving an offsetting time savings. These increases are attributable to the tendency of truck travel to be diverted to a higher classification facility even in the absence of travel time savings.

To respond to comments on the DEIS, a second row has been added to this table, showing the financial impacts of these savings in truck hours. These were calculated using cost factors in the TREDIS Version 5 tool used for this project. The financial impacts are proportional to the changes in truck VHT. See **Section 2.6.1.2.3** and **Appendix B** for details about TREDIS.

These highlight the financial component of truck operating efficiencies. It shows that expressway facility types provide higher levels of benefits, especially for Alternatives C, M and P. It also illustrates that the benefits provided by Super-2 facility types are much lower than those provided by expressway facility types. Two of the Super-2 facility types, Alternative B and Alternative O, result in increases in truck operating costs stemming from factors discussed earlier in this subsection. Alternative R and the expressway version of Alternative B provide negligible benefits.

¹⁵ 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 Alternative and each Build Alternative exclude trips which “pass through” the Study Area, with 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 & RPA P	R
3,565,700	(11,100)-150	1,800-34,150	7,800-35,900	(3,000)-18,250	8,400-36,850	(250)
Operating Cost Savings	(\$695,000)-\$10,000	\$113,000-\$2,139,000	\$489,000-\$2,249,000	(\$188,000)-\$1,143,000	\$526,000-\$2,308,000	\$16,000

Source: Mid-States Corridor Regional Travel Demand Model

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

Table 2-8: Annual Savings in Truck VHT

2.6.1.1.3 Increase Access to Major Intermodal Centers

Goal 7 of the Purpose and Need is **Increase Access to Major Intermodal Centers**. It has one performance measure.¹⁶ 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 & RPA P	R
Jasper - CSX Avon Yard	145	1	1	1-2	0	4-5	1
Jasper - Senate Ave Yard	140	0-1	0	1-2	0	4-5	1
Jasper - Tell City River Port	54	0	0	2	2	1-2	0
Jasper - Port of Indiana	96	0-1	0	2-3	2-3	1-2	0
Jasper - Louisville Airport	102	0-1	0	2-3	2-3	2	0
Jasper - Indianapolis Airport	135	1	0-1	1-2	0-1	2-5	1
NSA Crane - CSX Avon Yard	102	0-1	0	0	0	0	0
NSA Crane - Senate Ave Yard	97	0	0	0	0-1	0	0
NSA Crane - Tell City River Port	97	1	2	8	4	8-12	1
NSA Crane - Port of Indiana	125	1	0	0	0	1	0
NSA Crane - Indianapolis Airport	91	0-1	0	0	0	0-1	0
NSA Crane - Louisville Airport	130	0	0	0	0	1	0
	<i>Total</i>	4-8	3-4	17-22	10-13	24-35	4

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 significant 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, an alternative will show significant benefits on the higher end of the performance range,

¹⁶ 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.



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.

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

2.6.1.1.4.1 Alternative B

- **Goal 1, Major Business Markets Travel Time Reduction.** Performance is the third highest of the six alternatives for business center access and access between I-64 and I-69. For business center access, Alternative B's performance is one-third to one-quarter that of the highest performing alternatives (Alternative M, Alternative P and RPA P). For access between I-64 and I-69, its performance is generally slightly greater than one-half the performance of Alternative P and RPA P.
- **Goal 1, Labor Force Access.** Performance is the second highest of the six alternatives. This primarily is due to the significant improvement it affords to labor force access to Washington.
- **Goal 2, Annual Truck VHT Savings.** Performance is the second lowest of all alternatives. It provides essentially no savings on truck hours of travel. The Super-2 variation results in a significant *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 third lowest of all alternatives. Alternative B's performance is only one-half to one-quarter of Alternatives M, P and RPA P.
- **Overall Assessment, Core Goal Performance.** Alternative B provides significant benefits for only two of the four core goal performance measures. It offers little improvement in Major Business Markets Access and offers no improvement on truck hour savings. It fails to provide significant benefits for all core goals.

2.6.1.1.4.2 Alternative C

- **Goal 1, Major Business Markets Travel Time Reduction.** Its performance is the lowest of the six alternatives for business center access, tied with Alternative R. Its performance is the second lowest of the six alternatives for access between I-64 and I-69. Alternative C's performance is a small fraction, less than 20 percent of the highest performing alternatives (Alternative M, Alternative P and RPA P) on business center access. Its performance is half or less of the highest performing alternatives (Alternative M, Alternative P and RPA P) for access between I-64 and I-69.
- **Goal 1, Labor Force Access.** Performance is the second lowest of the six alternatives. It provides only one-third to one-quarter of the increase in labor force access provided by Alternative M, Alternative O, Alternative P and RPA 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, Alternative P and RPA P.
- **Goal 7, Intermodal Center Travel Time Reduction.** Along with Alternative B and Alternative R, Alternative C's performance is among the lowest of all alternatives. It provides virtually no benefit on this measure.
- **Overall Assessment, Core Goal Performance.** Alternative C provides the second lowest benefits on two of the four core goal performance measures, and the third-lowest benefit on a third. It has significant benefits for only one of the four core goal performance measures, for only one variation. It fails to provide significant benefits for all core goals.



2.6.1.1.4.3 Alternative M

- **Goal 1, Major Business Markets Travel Time Reduction.** Performance of Alternative M, Alternative P and RPA is the highest of all alternatives on business center access. It has the second-highest performance on improved access between I-64 and I-69. The Super-2 variation of Alternative M performs higher, while the expressway variation of Alternative P and RPA P performs higher.
- **Goal 1, Labor Force Access.** Performance of Alternative M, Alternative P and RPA P are similar. They offer increases in labor force access of about 10,000 to 11,000 workers. Their performance is significantly less than those of Alternative B and Alternative O.
- **Goal 2, Annual Truck VHT Savings.** Alternative M, Alternative P and RPA 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 performs high on this measure. Only Alternative P and RPA P perform higher on this measure. Alternative M has two to three times the performance of Alternatives B and C.
- **Overall Assessment, Core Goal Performance.** Alternative M provides (along with Alternative P and RPA P) the highest level on performance on travel time to Major Business Markets 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 and RPA P) on increased labor force access. It provides significant benefits for all core goals.

2.6.1.1.4.4 Alternative O

- **Goal 1, Major Business Markets Travel Time Reduction.** Performance of Alternative O is the third highest of all alternatives on business center access. It is tied with Alternative B for the third best performance in improved access between I-64 and I-69.
- **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. It provides significant increases in labor force access to both Jasper and French Lick.
- **Goal 2, Annual Truck VHT Savings.** Alternative O is the third 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 Alternative C, Alternative M, Alternative P and RPA P.
- **Goal 7, Intermodal Center Travel Time Reduction.** Alternative O has the third highest level of performance on this measure. Its performance is less than Alternative P and RPA P, but two to three times the performance of Alternative B and Alternative 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 market 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 significant 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 significant 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 Alternative M, Alternative P and RPA P.



2.6.1.1.4.5 Alternative R

- **Goal 1, Major Business Markets Travel Time Reduction.** Alternative R along with Alternative C have the lowest performance on business center access. For access between I-64 and I-69, it has the lowest performance. It offers very little benefit, showing only a one-minute improvement. The highest performing alternatives, Alternative P and RPA P, and Alternative M show reduced travel time of nine to 15 minutes and seven to 12 minutes, respectively.
- **Goal 1, Labor Force Access.** Alternative R provides essentially no benefits on this measure. It provides a 100 person increase in labor force access to Jasper, and no benefits to other cities. By comparison, the next-lowest performing alternative, Alternative C, provides up to a 5,000 person increase in labor force access.
- **Goal 2, Annual Truck VHT Savings.** Alternative R provides essentially no benefits on this measure. It actually shows a small increase of 250 hours per year for truck VHT. As noted earlier, this is due to a small number of trucks making slightly longer trips to use Alternative R, without there being an offsetting time savings.
- **Goal 7, Intermodal Center Travel Time Reduction.** Alternative R, along with Alternative C, has the lowest performance on this measure.
- **Overall Assessment, Core Goal Performance.** Alternative R has the lowest performance on all core goal performance measures. It fails to provide significant benefits for all core goals. It does provide added local congestion relief and has much lower added operating and maintenance costs than other alternatives.

2.6.1.1.4.6 Alternative P and RPA P

- **Goal 1, Major Business Markets Travel Time Reduction.** Performance of Alternative P and RPA P are 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 and RPA P performs higher.
- **Goal 1, Labor Force Access.** Performance of Alternative P, RPA P and Alternative M are similar. All offer increases in labor force access of about 10,000 to 11,000 workers. Their performance is significantly less than those of Alternative B and Alternative O.
- **Goal 2, Annual Truck VHT Savings.** Alternative P and RPA P along with 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 and RPA P offer the highest level of performance by a significant margin. Performance is at least fifty percent greater than any other alternative.
- **Overall Assessment, Core Goal Performance.** Alternative P and RPA P provide (along with Alternative M) the highest level on performance on travel time for business markets 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. RPA P provides significant 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 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 of 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 within 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 in the 2045 Forecast Year. It compares the Level of Service for the No-Build Alternative with that for each Build Alternative. A road segment which improves from LOS E or F to LOS D (or higher) represents a segment for which that alternative provides congestion relief. Note also that most road segments are forecasted to operate at an acceptable level of service in the forecast year.

In the DEIS, congestion performance measures were calculated using volume-to-capacity (V/C) ratios using traffic flows on links in the Mid-States Regional Travel Demand Model. In the FEIS, these have been updated to provide a more detailed analysis using Highway Capacity Manual methods.

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

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. Alternative R provides greater congestion relief in northern Jasper, although it results in additional congestion near downtown Jasper. This is due to added traffic attracted to existing US 231 without any change in the existing five-lane



typical section. Alternative R also is the only alternative to address congestion deficiencies on US 231 between 47th Street and Schutter Road in the forecast year. By comparison, Alternative B provides very little congestion relief.

While the Local Improvements do not provide congestion relief per se, they do offer significant 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. These are part of all alternatives except for Alternative R. Some local improvements along US 231 are associated with all other alternatives. These generally coincide with improvements to US 231 which occur for Alternative R, and so are not included with that alternative.

Annual Savings in VHT (Truck & Auto)					
B	C	M	O	P & RPA P	R*
35,500	29,200	33,000	43,100	44,200	0

*Local improvements are not associated with Alt R

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 significant travel time savings. Alternative O, Alternative P and RPA 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 in Southern Indiana

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

1. Reduction in serious crash rates on highways 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 & RPA P	R*
\$5.86	\$6.40	\$7.12	\$8.66	\$8.36	\$0.00

*Local improvements are not associated with Alt R

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, Alternative P and RPA P provide the greatest crash savings. Their higher crash savings are in part due to the greater length of improvements associated with these alternatives. 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, Alternative P and RPA 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 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 is used by INDOT 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 & RPA P	\$314 - \$451	1,710 – 2,453	397 – 547	731 – 1,024	\$96 – \$136
R	\$117	773	193	346	\$42

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

Table 2-13: Economic Performance Measures

Only Alternative M, Alternative P and RPA P provide significant economic benefits. Alternative R provides positive benefits which are half or less of the highest-performing alternatives. Alternative B, Alternative C and Alternative O provide smaller benefits, which are slightly negative for a few measures for Super-2 facilities. These are more indirect routes connecting Jasper and points north. They attract freight travel to make longer trips on higher classification facilities. This results in higher truck VMT for Super-2 facility types on these alternatives.



2.6.1.2.4 Comparison of Secondary Goal Performance

As noted above, secondary goals represent other desirable outcomes. They are not considered for identifying the Preferred Alternative. Nevertheless, it should be noted that of the three alternatives which show significant 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, provides the lowest level of crash reductions and provides low to slightly 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 the highest levels of economic growth.
- **Alternative O** provides congestion relief and higher levels of crash savings. It has low, sometimes negative, economic development performance.
- **Alternative P** and **RPA P** are the highest performers on the secondary goals. They provide congestion relief and moderate levels of crash savings. Their performance on economic development measures is up to 50 percent better than the next best-performing alternative (Alternative M).
- **Alternative R** provides higher overall levels of congestion relief. It provides no forecasted crash savings. It provides moderate levels of economic growth.

2.6.1.3 Summary of Performance Measures

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

2.6.2 Alternative Costs

This section provides construction costs, as well as added operating and maintenance costs, for each alternative.

2.6.2.1 Construction 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 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
RPA P	\$615 - \$642	\$901 - \$946	\$115	\$730 - \$1,061
R	\$599	\$0	\$0	\$0

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 variations at Loogootee. The range of costs for the new terrain portion of RPA P reflects four variations at Loogootee.

2.6.2.2 Operating and Maintenance Costs

Table 2-14a provides annual increases in operating and maintenance (O & M) costs. These reflect the costs of maintaining added lane miles of roadway for each alternative, including its associated local improvements. Please refer to **Appendix E – Working Alignment Typical Sections and Cost Estimating** for details.

Alternative	Operation & Maintenance Cost (\$ Thousands)			
	Super-2	Expressway	Local Improvements	Cost Range w/ Local Improvements
B	\$822	\$1,097	\$90	\$912-\$1,187
C	\$994	\$1,325	\$70	\$1,064-\$1,395
M	\$1,535	\$2,883	\$127	\$1,662-\$3,010
O	\$1,309	\$1,746	\$114	\$1,423-\$1,860
P	\$1,330	\$1,773	\$137	\$1,467-\$1,910
RPA P	\$1,259-\$1,347	\$1,745-\$1,796	\$137	\$1,396-\$1,933
R	\$161	\$0	\$0	\$161

Source: Cost Calculations in **Appendix E**

Table 2-14a: Annual Increased O & M Cost by Alternative

Added O & M costs are higher for longer alternatives. All costs cited here are annual. Alternative M has the highest increase in O & M costs at \$1.6 million to \$3.0 million. Alternative P, RPA P and Alternative O have added O & M costs between \$1.4 million and \$1.9 million. Alternative B and Alternative C have added O & M costs ranging from \$0.9 million to \$1.4 million. Alternative R has the lowest increase in O & M costs of \$0.2 million.



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 Alternatives**. A summary of these SIUs is shown in **Figures 2-11 thru 2-17** and are described as follows:

Alternative B

Alternative B includes a corridor composed of a portion of existing US 231, a portion constructed on new alignment, and a 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 a 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 a 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.

Alternative	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 Alternative B

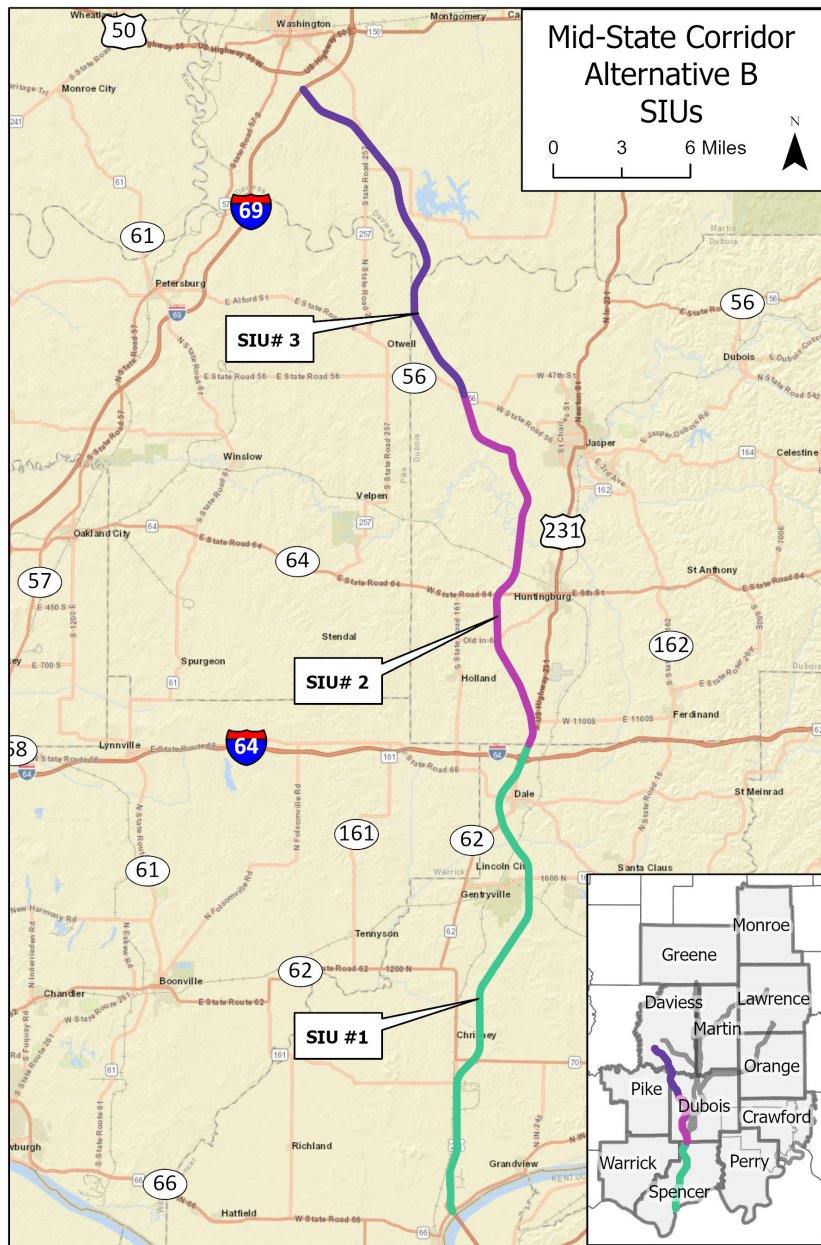


Figure 2-11: Proposed Sections of Independent Utility for Alternative B

Alternative B also includes six localized improvements with independent utility. These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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.



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 Alternative B

Alternative C

Alternative C includes a corridor 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 a 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 a 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.

Alternative	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 Alternative C



Figure 2-12: Proposed Sections of Independent Utility for Alternative C

Alternative C also includes five localized improvements with independent utility. These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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.



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 Alternative C

Alternative M

Alternative M includes a corridor 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 three 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 a 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.

Alternative M also includes nine localized improvements with independent utility. These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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.



Alternative	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 Alternative M

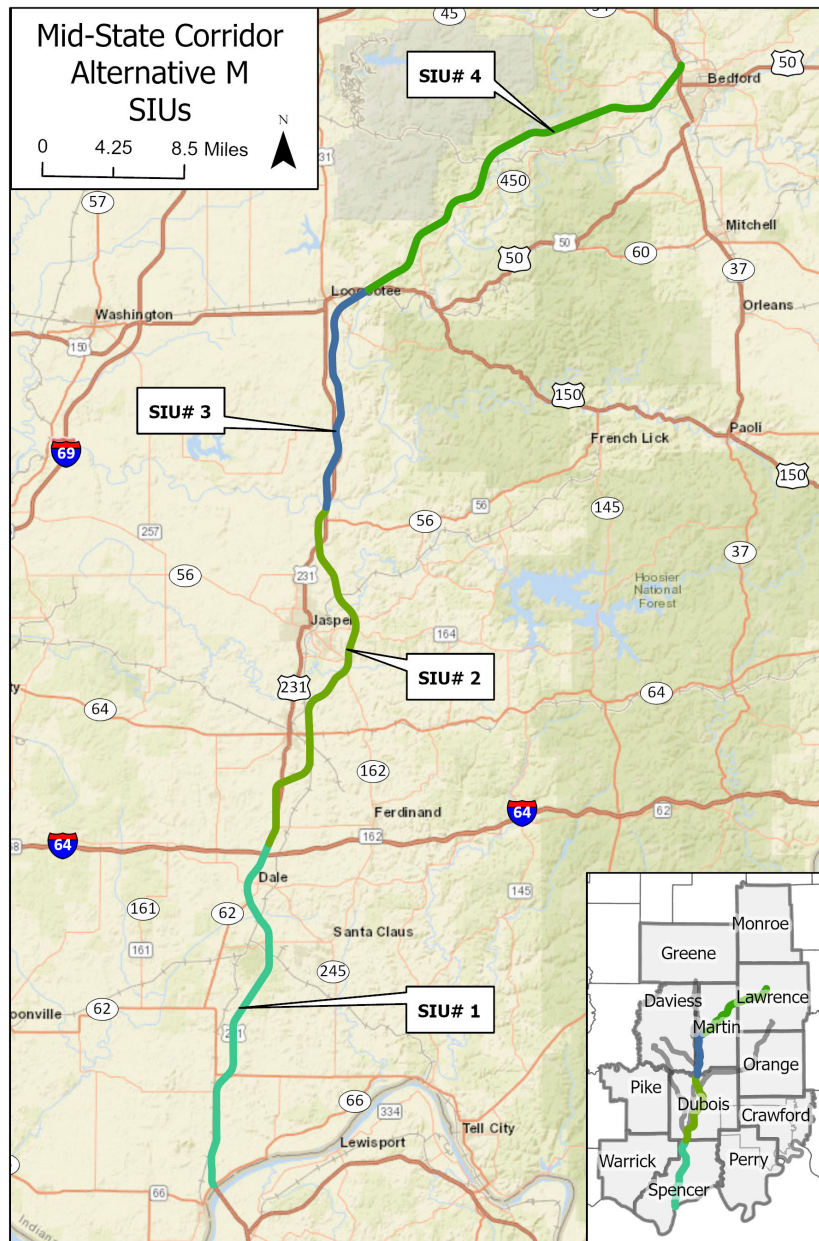


Figure 2-13: Proposed Sections of Independent Utility for Alternative M



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 Alternative M

Alternative O

Alternative O includes a corridor composed of a portion of existing US 231, a portion constructed on new alignment, and a series of nine 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 the new alignment will extend from I-64 to SR 37 near Mitchell and contains three SIUs (SIU 2-4). SIU 2 contains a 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 would be using SR 145 and SR 56 to connect to US 231.



Alternative	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 Alternative O

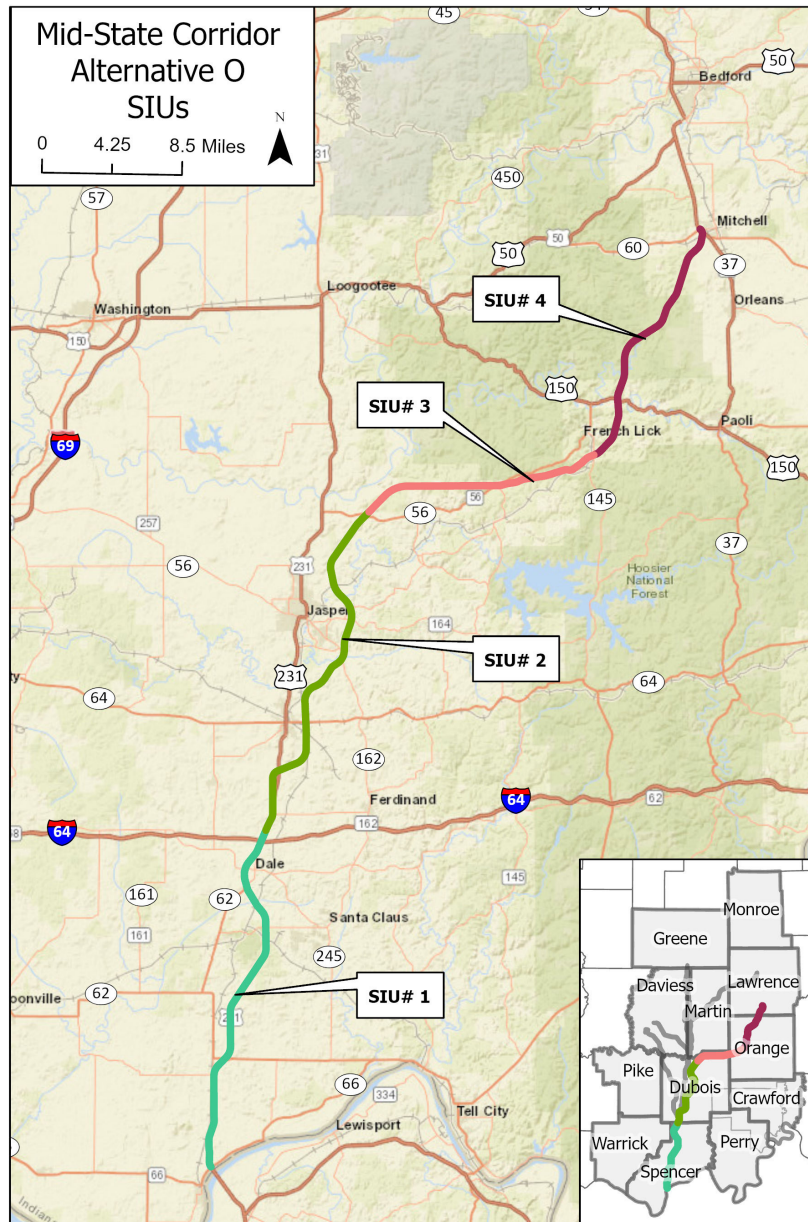


Figure 2-14: Proposed Sections of Independent Utility for Alternative O



Alternative O also includes nine localized improvements with independent utility. These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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 Hayesville and French Lick and SR 145 near French Lick.

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 Alternative O

Alternative P

Alternative P includes a corridor composed of a portion of existing US 231, a portion constructed on new alignment, and series of nine 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 a 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



Alternative	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 western bypass route around the city of Loogootee. 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 Alternative P

midpoints of the alternative and stops where the bypass of Loogootee would be required. SIU 4 contains new alignment for a bypass of Loogootee; this represents logical interim termini for the corridor. SIU 5 contains a 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.

Alternative P also includes nine localized improvements with independent utility. These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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.



Figure 2-15: Proposed Sections of Independent Utility for Alternative P



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 Alternative P

RPA P

RPA P maintains the same description of SIUs as Alternative P (**Table 2-23**) except for SIU 4, the section associated with the Loogootee variations. The section location and termini for RPA P and Alternative P do not vary; however, the RPA P alternative defers the selection of the preferred corridor for this SIU to Tier 2. The corridor variations include the western variation as defined in Alternative P, a through town variation and two eastern variations. This alternative also shares the same nine localized improvements with independent utility as Alternative P (**Table 2-24**). These improvements would be evaluated in NEPA evaluations separate from the NEPA evaluations of the 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.



Figure 2-16: Proposed Sections of Independent Utility for RPA P

Alternative R

Alternative R includes the corridor composed entirely of upgrading the existing US 231 facility. As the alternative is the upgrade of US 231, no localized system enhancements are associated with this alternative. The local improvements on US 231 generally coincide with upgrades associated with Alternative R. 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 the alignment extending from I-64 to I-69 near Crane will contain 7 SIUs (SIU 2-8). Facility upgrades would vary between urban and rural conditions; however, overall facility improvements would be limited to a Super-2 facility type (no consideration for freeway or expressway facilities). SIU 2 would connect I-64 to SR 64 in downtown Huntingburg; this represents logical termini for the corridor as it connects midpoints of the alternative and two substantive highways. SIU 3



would connect SR 64 to SR 56 in downtown Jasper; this represents logical termini for the corridor as it connects two major urban centers. SIU 4 would connect SR 56 in Jasper to the junction of SR 56 in Haysville; this represents logical termini for the corridor as it connects midpoints of the alternative and two substantive highways. SIU 5 would connect SR 56 at Haysville to US 50/150 on the south side of Loogootee; this represents logical termini for the corridor as it would connect two substantive highways and reserve improvements through Loogootee to SIU 6. SIU 6 would be limited to improvements through Loogootee from US 50/150 to roughly CR 250; this represents logical termini as the improvements through the community will be temporarily disruptive and this section will result in the full system improvements through Loogootee. SIU 7 would connect the north side of Loogootee to SR 58 near Odon; this represents logical termini for the corridor as it connects two population centers between two substantive highways. SIU 8 would connect I-69 to SR 58 near Odon; this represents logical termini as it connects midpoints along the corridor and two substantive highways.

Alternative	SIU #	Section Location	Rationale
R	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	US 231: I-64 to SR 64 in Huntingburg	This section provides logical termini connecting I-64 to SR 64 in Huntingburg.
	3	US 231: SR 64 to SR 56 in Jasper	This section provides logical termini connecting SR 64 in downtown Huntingburg to SR 56 in downtown Jasper.
	4	US 231: SR 56 in Jasper to SR 56 in Haysville	This section provides logical termini connecting SR 56 in downtown Jasper to SR 56 in Haysville.
	5	US 231: SR 56 in Haysville to US 50/150 in Loogootee	This section provides logical termini connecting SR 56 in Haysville to US 50/150 on the south side of Loogootee.
	6	US 231: US 50/150 in Loogootee to CR 250	This section provides logical termini by providing improvements through Loogootee connecting US 50/150 on the south side of the community to CR 250 on the north side of the community.
	7	US 231: CR 250 to SR 58	This section provides logical termini connecting Loogootee to SR 58 servicing the community of Odon.
	8	US 231: SR 58 to I-69	This section provides logical termini connecting SR 58 to I-69.

Table 2-25: Proposed Sections of Independent Utility for Alternative R



Figure 2-17: Proposed Sections of Independent Utility for Alternative R

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, P, RPA P and R. **Chapter 5** will present further comparison of alternatives and explain the selection of RPA P as the single preferred alternative.

