



I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

Section 6 – Preliminary Alternatives Selection Report

**Preliminary Alternatives Selection Report**

**for Tier 2, Section 6**

**(Martinsville to Indianapolis)**

**of the I-69 Evansville to Indianapolis Project**

**June 30, 2015**



**CONTENTS**

**1.0 Introduction..... 1**

    1.1 Project Overview .....2

    1.2 Purpose and Need .....2

**2.0 Conceptual Alternatives Development..... 3**

**3.0 Conceptual Alternatives Evaluation Methodology ..... 4**

    3.1 Step 1 – Discussion of General Advantages and Disadvantages.....5

    3.2 Step 2 – Purpose and Need Evaluation .....6

    3.3 Step 3 – Relative Cost Evaluation.....6

    3.4 Step 4 – Environmental Impacts Assessment Based on GIS Data .....7

**4.0 Public, Stakeholder and Resource Agency Input ..... 9**

**5.0 Conceptual Alternatives Evaluation Results and Conclusions..... 11**

    5.1 East Alternatives F1, F2, G1, and G2.....12

    5.2 West Alternatives A1, A2, B, and D.....13

    5.3 Alternative P.....15

    5.4 Alternative C.....16

    5.5 Alternative N.....17

    5.6 Alternatives K1, K3, K4.....19

**6.0 Summary of Conceptual Alternatives Decisions..... 21**

**TABLES**

Table 1. I-69 Section 6 Draft Tier 2 Goals and Performance Measures ..... 3

Table 2: Frequent Topics Mentioned in Co<sup>11</sup>mmments for Consideration..... 10

Table 3: Preferences noted for Alternative Groups<sup>10</sup> ..... 11

Table 4. Summary of Conceptual Alternative Decisions..... 22



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 6 – Preliminary Alternatives Selection Report

#### **APPENDIX A. FIGURES AND TABLES**

Figure A-1 Alternative Screening and Evaluation Process

Figure A-2 Initial Conceptual Alternatives

Figure A-3 Conceptual Alternatives

Figure A-4 Low-Income, Census Tract Level

Figure A-5 Minority Status, Census Block Level

Figure A-6 Preliminary Alternatives

Table A-1 Summary of I-69 Section 6 Conceptual Alternatives

Table A-2 I-69 Section 6 Conceptual Alternatives Evaluation



## 1.0 Introduction

The analysis described in this report is being conducted as part of the Tier 2 EIS for Section 6 of the I-69 Evansville to Indianapolis project. The process of selecting a preferred alternative for design and construction includes a series of steps that define and evaluate alternatives in increasing detail as shown in **Figure A-1**. The major steps include:

1. Define and evaluate Conceptual Alternatives (ending summer 2015)
2. Select, develop and evaluate Preliminary Alternatives, screening to Reasonable Alternatives (ending late 2015)
3. Select, develop and evaluate Reasonable Alternatives, screening to Preferred Alternative in Draft Environmental Impact Statement (ending early 2017)
4. Select and refine the Preferred Alternative culminating with Final EIS and Record of Decision (ending early 2018)

This stepped approach, in which alternatives are defined, evaluated and screened using successively more detailed methods, allows for an efficient use of resources by reserving detailed data collection, engineering, and evaluation efforts for the most promising alternatives. This stepped approach will ultimately result in the selection of a preferred alternative for design and construction.

This report describes the first of these four major steps, which involves the definition and evaluation of Conceptual Alternatives for the Tier 2 Environmental Impact Statement (EIS) for Section 6 of I-69. The Conceptual Alternatives are defined by a right-of-way footprint based on the typical impact area for a new freeway facility. Their evaluation provides a general comparison of the potential benefits and impacts of various Section 6 alternatives using existing data. This report concludes with the selection of the most promising Conceptual Alternatives to be carried forward as Preliminary Alternatives. A subsequent report will describe how the selected Preliminary Alternatives will be defined and evaluated in more detail.

The I-69 Tier 1 EIS focused on the selection of a broad general corridor for I-69. The I-69 Tier 1 Record of Decision (ROD) selected a corridor that follows SR 37 through nearly the entirety of Section 6, from south of SR 39 to I-465. This corridor was defined as 2,000-foot wide and generally centered on SR 37. At least one alternative within the Tier 1 selected corridor will be carried forward throughout the Section 6 Tier 2 EIS process.

The Tier 2 EIS will identify one or more specific alignment alternatives for I-69 within this corridor, including the location of interchanges, overpasses and access roads. The Tier 1 SR 37 alternative (Alternative C) and the Conceptual Alternatives



that are selected for further analysis as Preliminary Alternatives will be developed and evaluated in more detail in the second half of 2015.

The Conceptual Alternatives reviewed in this report were selected from a larger group of initial alternatives. Twenty-six initial Conceptual Alternatives were developed while considering public comments. Of these, 13 were screened out qualitatively due to environmental or engineering flaws and the remaining 13 alternatives<sup>1</sup> were advanced to a quantitative comparison of transportation benefits, environmental impacts, and potential cost. **Figure A-2** shows the 26 initial Conceptual Alternatives. **Figure A-3** shows the remaining 13 Conceptual Alternatives, plus Alternative C, that were advanced to quantitative comparison. The best performing of these 13 Conceptual Alternatives are identified as Preliminary Alternatives and will undergo more detailed development and screening to ultimately determine the alternatives that will be considered in detail in the EIS along with a SR 37 alternative.

Costs, impacts, and the ability to meet the project purpose and need are evaluated at a broad level for the Conceptual Alternatives described in this report. Accordingly, these factors are considered in combination to identify Conceptual Alternatives which should be retained for further analysis as Preliminary Alternatives.

## ***1.1 Project Overview***

Section 6 of I-69 begins just south of the SR 39 / SR 37 interchange in Martinsville and continues northward to I-465 in Indianapolis. The corridor selected for Section 6 in the I-69 Tier 1 EIS is located along existing SR 37 in Morgan, Johnson, and Marion counties and is approximately 26 miles long.

## ***1.2 Purpose and Need***

The purpose and need of a project establishes the basis for developing a range of reasonable alternatives in a National Environmental Policy Act (NEPA) evaluation and assists with the selection of a preferred alternative. It describes the transportation and transportation-related needs which a project should address. It also provides performance measures which assess the relative ability of alternatives to address the project needs. A preferred alternative is determined by assessing the relative costs and impacts of alternatives, as well as their relative ability to satisfy the purpose and need.

---

<sup>1</sup> There are a total of 14 alternatives at this stage, 13 Conceptual Alternatives, plus the SR 37 alternative (Alternative C). A SR 37 alternative or alternatives will be carried forward for detailed study in the EIS



The Draft Purpose and Need Statement for I-69 Section 6 establishes goals and performance measures to be used in evaluating alternatives for this section of I-69.<sup>2</sup> These Section 6 goals and their performance measures are summarized in **Table 1**. Some or all of the alternatives may be similar in their ability to meet some of these goals.

<b>Table 1. I-69 Section 6 Draft Tier 2 Goals and Performance Measures</b>	
<b>Project Goal</b>	<b>Performance Measures</b>
Goal 1: Improve the transportation linkage between Martinsville and Indianapolis	Complete Section 6 of I-69.
	Travel time between northern limits of I-69 Section 5 and I-465 in Indianapolis.
Goal 2: Improve personal accessibility in the Section 6 Study Area	Travel time between major travel destinations in the Section 6 Study Area.
Goal 3: Reduce future traffic congestion on the highway network in the Section 6 Study Area	Reduction of traffic congestion on area roadways.
Goal 4: Improve traffic safety in the Section 6 Study Area	Reduction of crashes in the Section 6 Study Area.
Goal 5: Support growth in economic activity in the Section 6 Study Area	Increases in personal income, total employment, and employment in key employment categories in the Section 6 Study Area.*
Goal 6: Facilitate freight movements in the Section 6 Study Area	Reductions in daily truck vehicle hours of travel (VHT) in the Section 6 Study Area.
Goal 7: Support intermodal connectivity to locations in the Section 6 Study Area	Travel time between key entry points into the Study Area and major intermodal centers.

\*Performance measure was not assessed during Conceptual Alternatives evaluation

## 2.0 Conceptual Alternatives Development

The I-69 Section 6 Conceptual Alternatives were developed to connect the northern terminus of I-69 Section 5 near Martinsville to I-465 in Indianapolis. Each

<sup>2</sup> Draft Purpose & Need Statement for Tier 2, Section 6 (Martinsville to Indianapolis) of the I-69 Evansville to Indianapolis Project, April 16, 2015



Conceptual Alternative was drawn on a background of digital aerial photography and digital mapping of key environmental constraints that are discussed in **Section 3.4** of this document. Twenty-six Conceptual Alternatives (shown in **Figure A-2**) were initially developed by the project team. These initial alternatives included routes suggested by the public at public information meetings held on February 23, 2015 at Center Grove High School and on February 25, 2015 at Martinsville High School. Based on public input and changed conditions in the corridor, alternatives located in part or entirely outside the SR 37 corridor are being considered as Conceptual Alternatives. In addition to the 26 Conceptual Alternatives that deviate from the SR 37 corridor, Alternative C is identified and corresponds to the SR 37 corridor selected in Tier 1. One or more versions of Alternative C will be carried forward throughout the DEIS and FEIS.

Each Conceptual Alternative was developed using a 400-foot wide footprint to represent the potential impact area of both the I-69 mainline and local service roads. These footprints were widened to represent the impact areas of potential interchanges, which were identified at major road crossings and in consideration of appropriate interchange spacing standards.<sup>3</sup> Detailed highway alignments were not calculated at this early stage of development, but the route of each alternative was drawn to meet or exceed freeway curvature standards used by the Indiana Department of Transportation and to minimize impacts to human and natural environmental resources.

The environmental resources that were considered during initial development of footprints include wetlands, floodplains, forest, residential and businesses properties, and managed lands. Impacts to these resources were minimized where they either are known to exist or could be identified from available Geographic Information Systems (GIS) data and aerial photography. Systematic field investigations were not performed at this early stage of alternative development.

### 3.0 Conceptual Alternatives Evaluation Methodology

Evaluation of the I-69 Section 6 Conceptual Alternatives was a multi-step process. The first step involved a qualitative review and comparison of all 26 initial alternatives in order to screen out those alternatives that are flawed or are inferior to other alternatives. Alternatives that passed this qualitative review step were then

---

<sup>3</sup> During subsequent alternative refinements, potential right-of-way widths will vary based on different typical sections representing the number of lanes and local topography, and specific local access road locations. At this stage of the NEPA process, there is not sufficient information to recommend the number of roadway lanes, interchange locations beyond intersections with other state roads, interchange configurations, or the location of local access roads and overpasses.



compared based on quantitative assessments of their benefits, costs, and impacts. Specific details of the qualitative review and the quantitative assessments are described in the following sections of the report.

### ***3.1 Step 1 – Discussion of General Advantages and Disadvantages***

A list of qualitative advantages and disadvantages and maps showing environmental resources were developed for each Conceptual Alternative. This list of advantages and disadvantages is included in **Conceptual Alternatives Evaluation Report Appendix E<sup>4</sup>**. Examples of potential advantages for an alternative include re-use of existing state owned right-of-way or infrastructure, lower impacts than the Tier 1 selected alternative or other Conceptual Alternatives, or better service to regional destinations, such as the Indianapolis International Airport.

The study team<sup>5</sup> conducted preliminary reviews of each of the 26 Conceptual Alternatives to determine if an alternative should be eliminated based on engineering or environmental flaws or because it has no advantage over other alternatives. At this stage, an alternative could be eliminated by consensus of the study team due to a single major flaw or due to an accumulation of flaws, especially if the alternative has no advantages over a similar alternative.

Examples of major flaws that contributed to elimination of alternatives include direct impacts to numerous residential or commercial properties, direct impacts to protected Indiana bat habitat mitigation areas, and freeway system interchange configurations that would be cost prohibitive and/or highly impactful to construct. A list of the alternatives that were eliminated qualitatively and the major flaws associated with each is shown in **Table A-1**. Based on this qualitative screening, the 13 Conceptual Alternatives<sup>6</sup> plus the SR 37 alternative (Alternative C) were retained.

The 13 Conceptual Alternatives were advanced for further quantitative evaluation as described in the following sections. These alternatives are indicated with a green check mark in **Table A-1** and are shown in **Figure A-3**. Maps of the Conceptual Alternatives, grouped by geographic location, are provided in **Conceptual Alternatives Evaluation Report Appendix B4**.

---

<sup>4</sup> *I-69 Tier 2, Section 6 Conceptual Alternatives Evaluation Report*, May 18, 2015, available on the I-69 Section 6 Project Website at <http://www.in.gov/indot/projects/i69/2343.htm>

<sup>5</sup> The study team consists of INDOT project management and engineering/environmental professionals from INDOT, FHWA, HNTB Corporation and Lochmueller Group.

<sup>6</sup> Conceptual Alternatives retained for further study were A1, A2, B, D, F1, F2, G1, G2, K1, K3, K4, N, and P. Alternative C uses the entire length of the Tier 1 Section 6 corridor and will be carried forward throughout the EIS process.



### ***3.2 Step 2 – Purpose and Need Evaluation***

Of the remaining 13 Conceptual Alternatives, any that significantly underperform on purpose and need of the I-69 Section 6 project (compared with other alternatives) will be eliminated from consideration. The 13 Conceptual Alternatives plus the SR 37 alternative (Alternative C) were divided into four groups based on geographic location. These groups include alternatives which travel west to I-70, travel west to the Mann Road corridor to I-465, remain on existing SR 37 to I-465, or travel east to I-65.

Travel demand modeling provided preliminary horizon year (2045) travel forecasts for each of the four alternative groups. The travel model analysis generated estimates for four measures of traffic-related benefits for each group when compared to the No Build condition: reductions in annual crashes, travel time savings between key travel pairs, reduction in traffic congestion, and improvements in regional truck travel. The No Build forecasts assume completion of I-69 between Evansville and Martinsville, as well as other transportation improvements included in fiscally-constrained INDOT and Indianapolis Metropolitan Planning Organization (MPO) transportation improvement programs. Construction of I-69 Section 6 was not included in the No Build forecast network.

The purpose and need evaluation criteria measure how well alternatives address the needs identified for the I-69 Section 6 project. Where any of the four alternative groups shows disproportionately less benefit across the four measures than the other groups, the alternatives within that group are discarded. At least one alternative in the SR 37 corridor selected in Tier 1 will be considered among the reasonable alternatives evaluated in detail in the Section 6 DEIS and FEIS. Key quantitative results from the purpose and need evaluation of the alternatives are shown in **Table A-2**. Additional detail on the travel demand modeling process, along with a summary of travel demand forecasts, is provided in **Conceptual Alternatives Evaluation Report Appendix C4**.

### ***3.3 Step 3 – Relative Cost Evaluation***

Preliminary cost estimates for major construction items were developed for each alternative<sup>7</sup>. These estimates do not represent the total expected cost for the project alternatives, since too little is known at this time to develop complete estimates. However, comparison of the major cost items provides for the identification of

---

<sup>7</sup> The following items were excluded from the Conceptual Alternative costs: local access, widening of existing interstates, adjacent interchange modifications, environmental mitigation, relocation/damages to property owners, selected utility costs, and cost savings from re-use of existing infrastructure on SR 37 or SR 67.



alternatives that are significantly more or less expensive than other alternatives. Based on the development of partial construction and right-of-way costs, the Conceptual Alternatives were rated on a scale from 1 to 5 to compare their relative project costs. The highest cost alternative was assigned a rating of 5 (\$\$\$\$\$) and the lowest cost alternative was assigned a rating of 1 (\$).

The cost ratings for each Conceptual Alternative are shown in **Table A-2**, and additional detail on the cost estimation methodology is provided in **Conceptual Alternatives Evaluation Report Appendix D4**. The Conceptual Alternatives with the highest relative cost will be eliminated unless they show other benefits such as high performance on the purpose and need measures or low environmental impacts.

Lane-miles added to the National Highway System beyond the existing condition were also computed for each Conceptual Alternative as an indication of additional future maintenance costs. Capital and maintenance costs will be evaluated in more detail for alternatives carried forward.

### ***3.4 Step 4 – Environmental Impacts Assessment Based on GIS Data***

Environmental impacts were assessed using existing GIS data from the IndianaMap website<sup>8</sup>, and GIS data and other resource location information provided by counties and resource agencies<sup>9</sup>. The resources identified below were considered during the evaluation process. They were selected to represent impacts that require avoidance or minimization during the Tier 2 NEPA process and / or permitting. Alternatives with relatively high impacts across many of the identified resources compared to other alternatives in their geographic group, especially impacts to potential Section 4(f) resources and impacts requiring permitting, were considered for elimination. If a geographic group of Conceptual Alternatives performed worse than the other Conceptual Alternatives for one or more of the following factors: cost, environmental impacts, or the ability to satisfy the purpose and need, that group of alternatives was considered for elimination.

#### **1. Potential Section 4(f) Resources**

Certain resources, mainly cultural and recreational resources, are afforded special protection under Section 4(f) of the US Department of Transportation Act of 1966. These resources will require analysis of avoidance alternatives. If an alternative appears completely unable to avoid a Section 4(f) resource, but other feasible

---

<sup>8</sup> <http://www.indianamap.org/>

<sup>9</sup> Some GIS data provided by resource agencies, such as recorded threatened or endangered species areas and wellhead protection areas are considered “Confidential” and are not publically available.



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 6 – Preliminary Alternatives Selection Report

alternatives do avoid the resource, this was a strong reason for eliminating that Conceptual Alternative. If an alternative which impacts a Section 4(f) resource could be shifted to avoid the resource, this was not considered a reason for elimination. Resources regarded as Section 4(f) resources include:

- Publically-owned managed lands (number and approximate acreage)
  - Publically-owned recreational facilities (number and approximate acreage)
  - Trails (number and length)
  - Historic and cultural sites & districts listed on the national register<sup>10</sup> (number)
2. Wetlands (size in acres)

The project must minimize impacts to certain water resources in order to have those impacts permitted by federal regulatory agencies. Within each grouping of alternatives, if a Conceptual Alternative has disproportionately higher wetland impacts than other alternatives and these impacts cannot be avoided, it had a higher likelihood of being discarded.

3. Streams (length in feet)

The project must minimize impacts to certain water resources in order to have those impacts permitted by federal regulatory agencies. Within a group of Conceptual Alternatives, any alternative with stream impacts much higher than other alternatives had a higher likelihood of being discarded.

4. Forest (size in acres)

In part, this serves as a surrogate for impacts to Indiana bats and northern long-eared bats. Alternatives that would directly impact Indiana bat mitigation areas were discarded in Step 1.

5. Floodplains (size in acres)

Floodplains often provide wetland and forested habitat, as well as travel corridors, for threatened and endangered species and other wildlife. Within a group of alternatives, substantively higher floodplain impacts compared to others in its group provided a higher likelihood for elimination.

6. Farmland (size in acres)

---

<sup>10</sup> Only sites and districts listed on the National Register of Historic Places were considered, based on data from the National Register website: [http://www.nps.gov/nr/research/data\\_downloads.htm](http://www.nps.gov/nr/research/data_downloads.htm). Sites potentially eligible for the National Register will be identified during the preliminary alternatives evaluation stage using data from the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and windshield field surveys of the alternative.



Within Conceptual Alternative groupings, an alternative impacting significantly greater amounts of farmland than others in the same group had a higher likelihood of being discarded.

7. Potential Environmental Justice (EJ) populations (number of US Census tracts with low-income status and number of US Census blocks with minority status)

US Census data have been used to identify potential populations of EJ concern. **Figures A-4 and A-5** show the location of these populations relative to the Conceptual Alternatives. This information was not used for evaluation of Conceptual Alternatives. As the alternatives progress into the Reasonable Alternatives stage, potential EJ communities will be consulted and more detailed EJ evaluations will be completed.

8. Property acquisition by zoned land use (number of parcels and acres)

At this level of screening, individual residential, commercial, or industrial structures which may be either acquired or impacted by the proposed project were not enumerated. Rather, the total number of parcels within each of these zoned land uses was quantified as a surrogate for number of structural relocations. Acreage of land by zoned land use was also utilized to determine preliminary land acquisition estimates.

9. Impacts to wellhead protection areas, cemeteries, and utility corridors were also assessed based on existing GIS data.

At this level of screening, resources which were either sensitive or could result in higher costs including wellhead protection areas, cemeteries, or those affecting major utility corridors were evaluated. Alternatives which impact a utility transmission line, water treatment facilities, or cemeteries have a higher likelihood of being discarded due to increased costs associated with those impacts. Alternatives which impact wellhead protection areas were reviewed for specific design considerations associated with construction in the wellhead protection area.

## 4.0 Public, Stakeholder and Resource Agency Input

The Conceptual Alternatives and evaluation results were presented to environmental resource agencies on April 30, 2015, to the Stakeholder Working Groups (SWG) and the Community Advisory Committee (CAC) on May 11 and 12, 2015, and at two public meetings on May 18 and 19, 2015 at Center Grove North Middle School and Martinsville High School respectively. All handout materials, project information, and public meeting information were also uploaded to the I-69 project website. The purpose of the meetings was to gather input on the project purpose and need and regarding which Conceptual Alternatives should be considered further. The public comment period began with the publication of the public meeting notices on May 6, 2015. Comments were requested by June 2, 2015; however, comments received until June 10, 2015 that



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 6 – Preliminary Alternatives Selection Report

pertained to this evaluation were taken into consideration in the results of this report.

A total of 28 comments were received on May 18, 2015 and 29 comments were received on May 19, 2015 at the public meetings. In addition, 64 comments were received via e-mail, 10 written comments, and 11 comments via phone were received. In total 142 comments were received from the public.

All comments received were reviewed by the project team. Comments varied widely in specificity and included support or opposition to alternative groups and/or specific alternatives, concerns with regards to impacts, and design suggestions and recommendations. The following summary includes comments from the two public meetings and written comments received from the project office, emails, and phone calls. This summary is intended to demonstrate general trends noted with regards to comments in support or opposition to alternative(s). The majority of comments did not specify specific alternatives or differentiate between alternatives in an alternative group.

Comments were generally categorized if they supported or were opposed to a particular set of alternatives, if they supported or were opposed to a particular alternative(s), or concerned with a specific topic. The following tables summarize the preference for alternative groups, alternatives, and topics of concern. Support for specific Conceptual Alternatives is summarized in Section 5.0.

<b>Topic</b>	<b>Number of Times Mentioned</b>
Existing/Forecasted Traffic	21
Community Impacts	17
Environmental Impacts	13
Cost Efficiency	12
Access/Location of Grade Separations	11
Land Acquisition Impacts	9
Economic Development Opportunities	9

<sup>11</sup> From comments received during public comment period between May 6, 2015 and June 10, 2015



Impacts to Farmland	8
Interchange Locations	8
Impacts to Existing Business	7
Existing/Future Flooding/Construction in Floodplain	5
Commerce Connector Consideration	5
Potential Harm to Existing Economic Development	4
Project Schedule Acceleration Opportunities	4

<b>Table 2: Frequent Topics Mentioned in Comments for Consideration<sup>11</sup></b>	
<b>Topic</b>	<b>Number of Times Mentioned</b>
Airport Access	4
Pedestrian Access/Traffic	3

<b>Table 3: Preferences noted for Alternative Groups<sup>11</sup></b>		
<b>Alternative Groups</b>	<b>Support</b>	<b>Opposed</b>
Central	59 <sup>12</sup>	18
East	3	11
West	25	14

## 5.0 Conceptual Alternatives Evaluation Results and Conclusions

Results of the quantitative evaluation of Conceptual Alternatives are presented in **Table A-2**. This section provides a summary of the quantitative evaluation results and the comments received from resource agencies, stakeholders, and the public regarding each of the Conceptual Alternatives. The Conceptual Alternatives are evaluated in

<sup>12</sup> Of the 59 comments in support of the central Alternatives, nine specifically mentioned one of the K Alternatives, two specifically mentioned Alternative N, and six specifically mentioned Alternative C. The remaining 42 comments did not specify an alternative rather expressed support for central Alternatives or SR 37 alternatives.



comparison to each other and to Alternative C, which represents the Tier 1 selected Alternative 3C. Conceptual Alternatives could be eliminated from further consideration for not meeting the purpose and need goals, for excessive costs, lack of public support, or for significantly large impacts to natural and community resources. Conceptual Alternatives that overall are more impactful than other similar alternatives were also eliminated. The remaining alternatives will be advanced for more detailed development and evaluation as Preliminary Alternatives. A summary table that identifies which Conceptual Alternatives will be advanced to Preliminary Alternatives is provided in Section 6.0.

### ***5.1 East Alternatives F1, F2, G1, and G2***

1. Satisfaction of Purpose and Need
  - Crash reduction 19 percent less than Alternative C, similar to other alternatives deviating from SR 37.
  - Least travel time savings to downtown Indianapolis and Indianapolis International Airport. Travel times to I-69 northeast of Indianapolis same as west alternatives, but 3 to 4 minutes longer than central alternatives.
  - No improvement in regional congested travel over No Build. (Extensive congestion on I-65 would cause local trip diversion to parallel routes such as US 31 and SR 135.)
  - Lowest benefit to truck travel of any alternative.
2. Impacts and Costs
  - Lowest wetlands and open waters impacts.
  - Lower residential impacts than Alternative C and other central alternatives.
  - Most agricultural acres and most overall acres of property acquisition.
  - Relatively low construction cost due to absence of White River crossing and lower land acquisition cost of undeveloped property.
  - Most added lane miles, resulting in increased maintenance expense.
3. Comments Received

The US Environmental Protection Agency (US EPA) noted that Alternatives F1, F2, G1, and G2 would require the most new-terrain freeway and do not perform as well as other alternatives in meeting project purpose and need. The US Fish and Wildlife Service and Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife also cited the poor performance of these alternatives in meeting project purpose and need. The agencies were not supportive of retaining these alternatives.



Three public comments were received specifically in support of the east alternatives and 11 comments were received in opposition to the east alternatives.

4. Conclusion

Conceptual Alternatives F1, F2, G1, and G2 perform poorly in satisfying the I-69 Section 6 project purpose and need, which is the first conceptual alternative screening criterion. These alternatives also result in the most agricultural acreage impacts and lack support from stakeholders, resource agencies and the public. These alternatives will be eliminated from consideration.

## ***5.2 West Alternatives A1, A2, B, and D***

1. Satisfaction of Purpose and Need

- Crash reduction 19 percent less than Alternative C, similar to other alternatives deviating from SR 37.
- Best travel time to the Indianapolis International Airport of any alternative. Martinsville to airport travel time reduced by 35 percent compared to no-build and 20 percent compared to Alternative C. Travel time from Martinsville to downtown Indianapolis similar to Alternative C (one minute difference). Travel time to I-69 northeast of Indianapolis same as east alternatives but longer than central alternatives.
- No improvement in regional congested travel.
- Twice as much benefit to truck travel as east alternatives, but less than 10 percent as much benefit as central alternatives.

2. Impacts and Costs

- Higher wetland impacts than Alternative C. Alternatives A1 and A2 among the highest wetland impacts of any alternative.
- Lower stream impacts with Alternatives B and D than Alternatives A1 and A2.
- Floodway impacts higher than Alternative C with all west alternatives due to White River crossing. More floodway impacts with Alternatives B and D than Alternatives A1 and A2.
- Agricultural and forested land impacts greater than Alternative C. Alternative A1 and A2 have higher forest impacts but lower agricultural impacts than Alternatives B and D.
- Lower residential and commercial property impacts than Alternative C. Impacts of Alternatives A1 and A2 higher than Alternatives B and D.



- Lower construction costs than Alternative C and other central alternatives.
- New local access roads along SR 67 would be required with Alternatives A1 and A2, which would be anticipated to be expensive and affect a large number of parcels. These costs are not yet considered in this evaluation.

### 3. Comments Received

Comments from the US Fish and Wildlife Service, US EPA, and IDNR Division of Fish and Wildlife were not supportive of any of the Alternatives A1, A2, B, or D. The comments cited potential impacts to wetlands and forested areas and threatened and endangered species, especially the Indiana bat and northern long-eared bat. The US Fish and Wildlife Service and the IDNR Division of Fish and Wildlife both expressed concern at the potential impacts of any new White River bridge crossing. Additional concerns specifically regarding Alternatives A1 and A2 were provided by the IDNR Divisions of Nature Preserves and Fish and Wildlife. These comments cited potential impacts to forested areas west of Brooklyn, including the Meyer Nature Preserve.

Twenty-five public comments were received indicating a preference for a western alternative. Of these, two expressed a preference for Alternatives A1, A2, or P, and nine comments indicated a preference for Alternative P, or an alternative to the far west, or one that bypassed Martinsville. Multiple comments referenced a preference for connecting to the airport, the Commerce Connector, or economic development in Morgan County and Martinsville. One comment specifically indicated a preference to avoid impacts to Bradford Woods which is affected by Alternative A1, A2, and P. Fourteen comments were received in opposition to the west alternatives.

Some CAC representatives were interested in the economic development potential of a west alternative. Four comments were received which opposed the west alternatives and one comment opposed the use of SR 67.

### 4. Conclusion

The west alternatives provide the fastest travel times to the Indianapolis International Airport and travel times that are within one minute of Alternative C to downtown Indianapolis, while also providing safety benefits and marginal truck travel benefits. The west alternatives show potential for lower cost than the central alternatives.

Environmental impacts are generally higher for the west alternatives, with increased wetland, floodway and forest impacts relative to Alternative C, although they do have lower floodplain and property impacts than Alternative C. The resource agencies expressed concern with the potential impacts of the west alternatives, while public comments show some support for evaluation of a west alternative.

Due to their potential to best meet two purpose and need goals (intermodal connectivity and economic development), their potentially lower cost and impacts to residential, commercial and industrial properties compared to the Tier 1 selected



alternative, and the public interest shown for a west alternative, Alternatives B and D will be retained as Preliminary Alternatives. Given the similarities in the routes used by Alternatives B and D, these alternatives may be combined into one during Preliminary Alternative development. Both alternatives will be reviewed to minimize impacts, which may result in a single combined alternative.

Alternatives A1 and A2 will be eliminated from consideration because they have benefits that are similar to Alternatives B and D but have higher impacts to wetlands, streams, forested areas and residential and commercial property. They would also require the construction of new local access along SR 67.

### ***5.3 Alternative P***

1. Satisfaction of Purpose and Need
  - Same as other west alternatives: A1, A2, B, and D at this level of screening.
2. Impacts and Costs
  - Highest impacts of all alternatives to wetlands, open waters and floodways--vital permitting considerations when determining the least environmentally damaging preferred alternative (LEDPA) for Section 401/404 permitting.
  - Lower impacts to streams and rivers than other western alternatives.
  - Among the highest impacts to forested areas; 27 acres more than Alternative B, 53 acres more than Alternative D.
  - Impacts Bradford Woods, Meyer Nature Preserve, Sycamore Creek Fishing Area, and Three Rivers Fishing Area. The nature preserve and fishing areas are Section 4(f) resources; Bradford Woods is potentially a Section 4(f) resource.
  - Impacts the fewest parcels and acres of property.
  - Among the lowest estimated construction cost of any alternative, although the cost of new local access roads along SR 67 has not yet been quantified. These are potentially expensive and affect a large number of parcels.
3. Comments Received

Comments from the US Fish and Wildlife Service, US EPA, and IDNR were not supportive of Alternative P. The comments cited potential impacts to wetlands, forested areas, and threatened and endangered species, especially the Indiana bat and northern long-eared bat. The US Fish and Wildlife Service indicated that “Alternative P would particularly result in significant impacts to a tributary with bat foraging records”. The US Fish and Wildlife Service and the IDNR Division of Fish and Wildlife both expressed concern at the potential impacts of any new White River



bridge crossing. This alternative was cited as having impacts to known bat foraging habitat and impacts to Bradford Woods, the Three Rivers Public Fishing Area, and Blue Bluff Nature Preserve. (Further review of Alternative P indicated it would not impact the Blue Bluff Nature Preserve.)

Twenty-five public comments were received indicating a preference for a western alternative. Of these, nine comments indicated a preference for Alternative P or an alternative to the far west or that bypassed Martinsville identified. One comment was received that specifically indicated a preference to avoid impacts to Bradford Woods, which is affected by Alternative A1, A2, and P, and two comments indicated opposition to Alternative P.

Both the Mayor of Martinsville and the Martinsville Redevelopment Commission submitted letters supporting an alternative that follows existing SR 37 through Martinsville rather than a bypass.

The Director of Bradford Woods indicated "...I am against the one route that passes the entrance of Bradford Woods".

#### 4. Conclusion

Conceptual Alternative P will be eliminated from consideration due to its impacts to Bradford Woods, Meyer Nature Preserve, Sycamore Creek Fishing Area, and Three Rivers Fishing Area, combined with its high impacts to wetlands, floodways, and forested areas. This conclusion is consistent with the local government preference to not bypass Martinsville. While similar to other western alternatives for purpose and need and cost, Alternative P would have more impacts to public lands than any other alternative. The need for significant new local access along SR 67 was also a consideration. Alternatives B and D would provide similar benefits as Alternative P with fewer adverse impacts.

### ***5.4 Alternative C***

#### 1. Satisfaction of Purpose and Need

- Most crash reduction benefits of any Conceptual Alternative.
- Reduces regional travel under congested conditions.
- Fastest travel time from SR 39 to I-69 northeast of Indianapolis; second fastest travel time from SR 39 to downtown Indianapolis (within 1 minute of the K alternatives); and better travel time from SR 39 to the Indianapolis International Airport than east alternatives, but slower than west alternatives or K alternatives.
- Greater benefit to regional truck travel than east or west alternatives, and approximately the same benefit as the K alternatives.



2. Impacts and Costs

- Wetland impacts of 5 acres similar to east alternatives and Alternative K3; less than other central or west alternatives.
- Less floodway impact than all other Conceptual Alternatives except G1.
- Lowest impacts to agricultural land and forested land of any Conceptual Alternative.
- Fewer residential properties impacted than other central alternatives but more than any of the east or west alternatives. Impacts more commercial and industrial properties than any other Conceptual Alternative.
- Higher construction cost than any of the east or west alternatives, but similar or somewhat less than other central alternatives. (Potential cost savings of using portions of the existing SR 37 pavement not yet determined.)

3. Comments Received

US Fish and Wildlife Service and the IDNR Division of Fish and Wildlife both recommend Alternative C rather than any other alternative. The US Environmental Protection Agency recommends advancing Alternative C along with Alternatives K3 and K4.

Fifty-nine comments were received in support of central alternatives and 18 were received in opposition to central alternatives. Of the 59 comments in support of the central alternatives, nine specifically mentioned one of the K Alternatives, two specifically mentioned Alternative N, and six specifically mentioned Alternative C. The remaining 42 comments did not specify an alternative rather expressed support for alternatives or SR 37 alternatives. Eighteen comments indicated their opposition specifically to central alternatives.

4. Conclusion

As the alternative selected in the I-69 Tier 1 EIS, Alternative C will be advanced as a Preliminary Alternative for additional refinement and evaluation. This analysis identified it as among the best alternatives for satisfaction of purpose and need. It also has among the lowest impacts on wetlands, floodway, agricultural land, and forested land. Alternative C does, however, have potentially higher cost and higher impacts to developed property than many other alternatives.

## ***5.5 Alternative N***

1. Satisfaction of Purpose and Need

- Equivalent to Alternative C at this level of screening.

2. Impacts and Costs



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 6 – Preliminary Alternatives Selection Report

- Fewer commercial properties and more residential properties impacted than Alternative C.
- Reduced cost and impact of maintaining access across and along I-69 since it would not further separate the existing commercial area west of SR 37 from the rest of Martinsville.
- More impacts to streams, wetlands, agricultural and forested areas than Alternative C.



3. Comments Received

Comments from the US Fish and Wildlife Service and the US EPA were not supportive of Alternative N, citing higher wetland, stream, and forest impacts when compared to Alternative C. This includes impacts to certain rare high-quality wetlands. The IDNR Division of Fish and Wildlife stated that Alternative N would be preferred to other alternatives that leave the SR 37 corridor and cited the potential to minimize the wetland impacts of this alternative.

Two public comments were received that specifically supported Alternative N and one public comment was opposed to Alternative N.

The Mayor of Martinsville and the Martinsville Redevelopment Commission both submitted letters supporting an alternative that follows existing SR 37 through Martinsville rather than following a bypass.

4. Conclusion

The purpose and need satisfaction of Alternative N is indistinguishable from Alternative C at this level of screening. However, this alternative would have more impacts to wetlands, streams, and forested areas. Alternative N did not receive support from the public, stakeholders, or environmental resource agencies, and has received letters of opposition from the City of Martinsville. Based on its environmental impacts and lack of support from stakeholders and the public, Alternative N will be eliminated from consideration.

**5.6 Alternatives K1, K3, K4**

1. Satisfaction of Purpose and Need

- Travel time savings, congestion reduction and truck travel benefits similar to Alternative C.

2. Impacts and Costs

- Alternative K1 impacts the Amos Butler Heron Sanctuary on the White River. These impacts cannot be avoided without a substantial relocation of this alternative.
- Wetlands impacts similar to Alternative C with Alternative K3, and higher with Alternatives K1 and K4.
- Stream impacts similar to Alternative C with Alternative K1, and somewhat lower with Alternatives K3 and K4.
- Lower floodway impacts with Alternative K3 than with other K alternatives; all higher than Alternative C.



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 6 – Preliminary Alternatives Selection Report

- Higher impacts to residential parcels and acreage and lower impacts to commercial parcels and acreage than Alternative C. Alternative K3 impacts more residential parcels and more total parcels than any other alternative, although the total acreage impacted is lower than the east alternatives.
- Construction costs of Alternatives K3 and K4 similar to Alternative C; Alternative K1 is estimated to be the most expensive of any alternative considered.
- Loss of direct access between I-465 and Mann Road. (Mann Road access to the Interstate system would be via a new I-69 interchange at Southport Road.)
- Reconfiguration of the existing SR 67/I-465 interchange required due to the proximity of the new I-69/I-465 interchange. The cost and traffic operations impacts of this reconfiguration have not yet been quantified.

#### 3. Comments Received

IDNR and the US EPA comments support the elimination of Alternative K1 due to its impacts to the Amos Butler Heron Sanctuary and other wetlands.

The US Fish and Wildlife Service and the IDNR do not support any of the K alternatives due to their requirement for a new White River crossing and their impacts to forested areas, threatened and endangered species and commercial and residential properties.

The US EPA recommends that Alternatives K3 and K4 be carried forward for further refinement and analysis.

A Mann Road Variation to the SR 37 corridor was considered as a possible variation in the 3C Corridor eventually selected in the Tier 1 ROD. This variation followed a route similar to current Alternatives K3 and K4, but proposed an interchange with SR 37 between these two alternatives. During the Tier 1 evaluation, the Indianapolis Metropolitan Planning Organization cited concerns with the Mann Road Variation due to potentially inefficient operation of the adjacent I-465 interchanges at I-70 and SR 67, impacts to Indianapolis International Airport access, potential impacts to Southwestway Park, and inconsistencies with the Marion County Comprehensive Plan. No comments regarding these K alternatives were received from the Indianapolis MPO during the recent public comment period. The MPO is on the project's Stakeholder Working Group and additional comments will be solicited if any K alternatives are advanced.

#### 4. Conclusion

Additional alternatives to SR37, including the K alternatives which follow a route similar to the Mann Road variation analyzed in Tier 1 are being evaluated in Tier 2 as discussed in Section 2.6 of the Draft Purpose and Need. The current K3 Conceptual



Alternative, in particular, may alleviate some of the concerns expressed during the Tier 1 evaluation as its wetland and floodplain impacts would be equal to or less than Alternative C, while travel times to the airport would be shorter than Alternative C. Further investigation would be needed regarding traffic operations and impacts to comprehensive plans.

Alternative K1 will be eliminated from further consideration due to high wetland, stream and floodplain impacts as well as its impacts to the Amos Butler Heron Sanctuary. Due to utility impacts and other considerations, K1 is also estimated to be the most expensive alternative.

Due to the strong purpose and need performance, Alternatives K3 and K4 will be retained for additional development and evaluation as Preliminary Alternatives. Alternative K3 has low natural resource impacts while Alternative K4 has lower community resource impacts. Refinement of these Preliminary Alternatives may indicate that one alternative is clearly preferred over the other or that some combination of the two should be advanced.

As Alternatives K3 and K4 are refined, the project team will seek additional input to determine whether the reasons cited for elimination of the Mann Road Variation from the I-69 Tier 1 EIS apply to the these two alternatives.

## 6.0 Summary of Conceptual Alternatives Decisions

Based on the development and evaluation of Conceptual Alternatives described in this report, Alternatives B, C, D, K3 and K4 will be advanced as Preliminary Alternatives. **Table 4** identifies each of the Conceptual Alternatives that underwent quantitative evaluation, along with the reasons that each was advanced or eliminated from consideration. **Figure A-6** identifies the Preliminary Alternatives that will be advanced for additional development and evaluation during the remainder of 2015.

At the completion of the evaluation of Preliminary Alternatives, some or all of these alternatives will be identified as Reasonable and Feasible Alternatives and will be advanced for analysis in the Draft Environmental Impact Study. As the selected alternative from the Tier 1 EIS, Alternative C will automatically be considered a Reasonable and Feasible Alternative.



Table 4. Summary of Conceptual Alternative Decisions		
Conceptual Alternative	Advance as Preliminary Alternative?	Reason
B	✓	Advance as Preliminary Alternative due to travel time benefits, low cost, residential and commercial impacts lower than Alternative C, and public input. May be combined with D if a hybrid can be developed that best minimizes impacts.
C	✓	Advance as Tier 1 selected alternative. Meets purpose and need while having relatively low natural resource impacts.
D	✓	Advance as Preliminary Alternative due to travel time benefits, low cost, residential and commercial impacts lower than Alternative C, and public input. May be combined with B if a hybrid can be developed that best minimizes impacts.
K3	✓	Advance as Preliminary Alternative due to performance and cost similar to Alternative C, with lower commercial impacts. Will be investigated along with K4 to potentially develop a hybrid K alternative with fewest impacts.
K4	✓	Advance as Preliminary Alternative due to performance and cost similar to Alternative C, with lower commercial impacts. Will be investigated along with K4 to potentially develop a hybrid K alternative with fewest impacts.
A1	✗	Eliminate due to impacts to wetlands, forested lands, and floodways and Meyer Nature Preserve. Lacks advantages over Alternatives B and D
A2	✗	Eliminate due to impacts to wetlands, forested lands, and floodways and Meyer Nature Preserve. Lack significant advantages over Alternatives B and D
F1	✗	Eliminate due to low performance on purpose and need, lack of support, and high farmland impacts.



<b>Table 4. Summary of Conceptual Alternative Decisions</b>		
<b>Conceptual Alternative</b>	<b>Advance as Preliminary Alternative?</b>	<b>Reason</b>
F2	✘	Eliminate due to low performance on purpose and need, lack of support, and high farmland impacts
G1	✘	Eliminate due to low performance on purpose and need, lack of support, and high farmland impacts.
G2	✘	Eliminate due to low performance on purpose and need, lack of support, and high farmland impacts.
K1	✘	Eliminate due to high cost and impacts to wetlands, streams, floodplains, and Amos Butler Heron Sanctuary.
N	✘	Eliminate due to wetland, stream and forested land impacts and lack of support from stakeholders and the public.
P	✘	Eliminate due to impacts to wetlands, floodways, forested areas and managed lands and lack of significant advantage over Alternatives B and D